SOCIAL PSYCHOLOGY

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SOCIAL PSYCHOLOGY

BY
JOSEPH K. FOLSOM

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To My Colleague

Gladys Dickason

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EDITORIAL INTRODUCTION

THIS book contributes to our understanding of social behavior by its vigorous attempt to recombine known elements into a new thought structure to explain human relations. A careful survey of such individual factors as attitudes, conditioned responses and wishes, is followed by a skillful analysis of the social factors of personality organization, measurement of personality differences, language as symbolic behavior, configurational social stimuli, group relations, interaction, and culture. The author's treatment of the subject matter of social psychology is refreshingly new and full of helpful insights. Some time-worn categories are discarded in favor of new formulations indicated by the trend of contemporary research. Categories that have remained as serviceable tools of understanding are given new vigor when reinterpreted in the light of recent research. Many suggestive hypotheses of human relations are made possible for the first time by combining our recently acquired knowledge of social factors with the older findings of individual psychology. The result is a new social psychology.

F. STUART CHAPIN.

PREFACE

A TEXTBOOK in any human science should do three things: first, build a framework or pattern of thought; second, fit into this framework all the important discoveries and conclusions of research in the field; third, stimulate the student toward thinking, toward further study or research, and toward the practical application of the principles he has learned to the problems of actual life.

These are the aims of my book.

(1) In pursuing the first aim, I have tried to build a framework of thought which will harmonize and satisfy the requirements of what seem to me the three major approaches to social psychology—the individual behavior approach, the social interaction approach, and the cultural approach.

The first point of view is typically represented by Allport, who contends that social psychology is merely a specialized extension of individual psychology. He says: "Social Psychology is the science which studies the behavior of the individual in so far as his behavior stimulates other individuals, or is itself a reaction to their behavior; and which describes the consciousness of the individual in so far as it is a consciousness of social objects and social reactions." The second is typified by Park and Burgess, who build their sociology upon the processes of *interaction among individuals*, which processes many believe to be the proper subject matter of social psychology. When one individual stimulates and another reacts, phenomena of a higher order come into being. We cannot describe and classify these phenomena, nor formulate generalizations concerning them, in terms of "stimulus" and "reaction," "behavior," "consciousness," "repression" and other such concepts of individual psychology. We require a new set of concepts, such as "conversation," "imitation," "conflict," "rivalry," "accommodation," and so on. Many writers contend that these interactional phenomena, and not the individual stimuli and responses involved in them, are the proper subject matter of *social* psy-

chology. The third approach emphasizes the relation between culture (or society) and individuals in general, rather than the relations between one individual and another. According to Kantor, who represents this view, social psychology studies the reactions of specific groups of individuals to *cultural* stimuli. Social psychology should psychoanalyze, as it were, the mechanisms by which culture functions, and by which it changes.

I hope the book will prove equally acceptable to the psychologist who thinks in terms of stimulus and response, the sociologist who thinks in terms of social interaction processes, and the cultural anthropologist who thinks in terms of culture traits and patterns, invention, diffusion, cultural functions and transvaluations. I have tried to integrate the three approaches into a well organized whole.

At several points I have tried to make more trenchant analyses than those conventionally followed, and in so doing have been obliged to invent a few new terms. But throughout I have tried to make my definitions without excess verbiage and to drive them home with concrete illustrations. I have tried to define each new term where it is first used.

Many, if not most students, in getting hold of abstract ideas, are helped by visual thinking. This book does not load the entire responsibility upon the student's understanding of *words*; it contains over forty analytic diagrams and charts, which to many students may prove more meaningful than page upon page of verbal text.

Each chapter is concluded with a terse summary of the whole train of thought of the chapter.

(2) In pursuing the second aim, I have tried to present social psychology as an infant, but genuine *science*. The day is past when social psychology may be regarded as merely a thought-pattern, a philosophy, a system of theory. A large mass of facts and tentative conclusions have been derived from inductive research. Most of this research material which seems to be significant I have woven into the framework. I have called attention to the various techniques used in this varied body of research, and hope the student will gain some concrete

idea of how research scholars have arrived at the generalizations so briefly presented.

(3) In pursuit of the third aim, stimulating the student, I have tried to put as much "life" and concreteness into the style of this book as the requirements of careful thinking will allow. I have used technical terms where technical terms are necessary and appropriate, and elsewhere, plain English.

In Chapter XIV and the Appendix many concrete suggestions are made as to what is worth while doing by the student who has time and inclination for research, and also as to how the student may follow up in the future the development of the knowledge to which this book is merely an introduction. Many a student will forever close his pursuit of social psychology when he reads the last page of this book; but many others, I hope, will be stimulated to keep in touch with important discoveries and changes in the field as they occur in the future.

I make no pretense to a complete survey of the practical applications of social psychology. This book is primarily a book of pure science, of fundamental principles. But I have devoted one chapter to what I consider the most important application, namely, social psychiatry or social-mental hygiene. Of course an acquaintance with the discoveries and thought-patterns of social psychology should help the advertiser, the sales manager, the personnel manager, the propagandist, the politician, the statesman, the journalist, and the educator. But I regard culture and every institution of culture not as an end in itself, but as a means to the fullness of human life. Therefore I believe that in the last analysis the science of social psychology is destined to serve primarily that vitally important movement we call mental hygiene, or in other words, the promotion of the happiness of individual human beings.

I am indebted to the many thinkers and research scholars who have written before me, to my students at Sweet Briar College who have listened to my experimental presentations of social psychology. To the editor much personal credit is due for the painstaking criticism of the original manuscript. To Professor Ernest R. Groves, of the University of North

Carolina, I am indebted for valuable assistance and stimulation. I am especially indebted to my father, the Reverend Joseph Fulford Folsom, for his careful reading of the manuscript and his helpful literary advice.

JOSEPH K. FOLSOM

Sweet Briar, Va.
Dec. 1, 1930.

SOCIAL PSYCHOLOGY

CHAPTER I

A BIRD'S-EYE VIEW OF HUMAN SOCIETY

LET us imagine ourselves aviators from some distant world, coming without preconception or prejudice to observe human life on this earth. From a lofty altitude we catch sight of a "typical" American city. Lower and lower we circle, taking in smaller and smaller details. Finally we land, walk about, and examine this human beehive from within.

Material Culture and Activities.—We have four pairs of magic glasses. Our first pair differs from the naked eye only in that it renders everything transparent. It reveals to us only those things which are tangible and concrete. The picture we see contains (1) human beings, (2) their material equipment or tools, and (3) the activities of human beings.

The whole kit of tools which these humans have made for themselves, including everything from locomotives and Masonic temples to needles and toothbrushes, is known as their *material culture.* The framework of this material culture would seem to consist of large boxes called "buildings," averaging perhaps 30 feet on a side and 30 feet high, each having many small openings. Some buildings of course are much larger. The buildings are arranged in quadrangles, between which run passageways known as "streets." Along these streets human beings on foot and in various kinds of boxes on wheels move at various rates of speed. By watching from one sunrise until the next we learn that these movements of human beings follow certain time cycles. During the period of darkness and the first few hours of daylight the great majority of these human ants, as they appear from our airplane, are inside the smaller buildings which make up the large outlying areas of the city, and which are known as "residences" or "homes." They are, moreover, quite inactive, sleeping on flat soft platforms called beds.

But after sunrise these creatures become active. They

arise from their cloth-covered platforms, uncover their bodies, then cover them again with more numerous and complicated garments of woven fibers, assume sitting postures on small squarish objects called "chairs," next to larger and higher flat surfaces supported by uprights. On these "table" surfaces are small masses of organic material, which humans, more delicately than other animals, load in tiny shovelsful into the openings in their faces.

Then more than half of these humans leave the "homes" and, mostly by means of vehicles, move toward other larger buildings, inside of which they spend the greater part of the daytime. In general, these buildings which are occupied by day are located about the center of the city and about various sub-centers; they are equipped with other kinds of furniture than are the residences. The undersized humans, called children, concentrate in buildings of still another type, called "schools," distributed at intervals throughout the city.

During the hours when these movements are occurring, the streets are unusually congested with vehicles and human beings; at other times they show more clear space and the vehicles move faster.

We note furthermore, if we are as observing as were the Lynds in their study of Middletown,[1] that these human inhabitants fall roughly into two classes. Class number one rises earlier in the morning, is covered with garments of denim and gingham, and commonly eats breakfast in the same room where the food is cooked. Its males and some of its females go, largely on foot, to certain very large buildings with tall smokestacks, within which huge machines operate with sometimes deafening noise. Class number two rises later, dresses in finer-woven, more accurately fitting garments, lives in larger houses and in smaller families. Most of its females remain at home all morning, while the males spend the day mostly in tall buildings near the center of the city. In these buildings are no machines, no massive piles and bins of "raw

[1] LYND, R. S., and H. M., *Middletown, a Study in Contemporary American Culture*, Harcourt, Brace. 1929.

materials"; but only pieces of paper, devices to make marks upon paper, and furniture to conceal and store the paper.

Toward sunset there is a reverse movement of population, with another bustle of street traffic, toward the homes. After darkness many persons go into large buildings where they listen to musical sounds and see flashed upon screens the pictures of various human activities. Others get into those small fast vehicles they call automobiles, each preceded by two powerful searchlights which illuminate the road for many hundreds of feet ahead, and scatter themselves widely through the city and the surrounding areas. These outer areas, by the way, are covered mainly by vegetation, with buildings only at wide intervals. Through the night the city and its environs, viewed from above, are a kaleidoscope of ever flashing, moving, changing lights.

But what is the meaning of it all?

Social Organization.—Seeking an answer, we put on our second pair of glasses. This dims our view of material things; it enables us to see that which is more abstract and intangible. It reveals certain *relations* which exist between the activities of various individuals, certain invisible threads of *organization* which bind them into coöperating groups. In our previous picture we could, of course, see the *space* groupings of people: a mass of men and women milling about a street car, rows of children sitting almost motionless before a blackboard, packed thousands in a grandstand. But these new glasses tell us that these space groups do not always correspond with the organization groups. For instance, there seem to be no threads of coöperation and interdependence uniting these people who are crowding one another into the street car. On the other hand, there are many such lines of connection between the men and women in this room on the twentieth story of the skyscraper, and the men in this sprawling, smokestacked factory at the edge of town.

We note strong bonds of connection between all who inhabit any one of the residence buildings. No matter how far away and for how long a time some one of them may wander, he always comes back to this same group and not to some

other. Almost invariably each person who leaves his home in the morning comes back to the same place at night, although there are thousands of homes to choose from. People make many unnecessary trips in order to be in some particular place at some particular time, when to all appearances the desired activities could be performed equally well in some similar but nearer place. Closer scrutiny reveals that some personal relationship, rather than the particular place, is the controlling factor, for whole groups are seen to change their residences, afterward behaving toward the new residence exactly as they did toward the old.

In every "office" and "factory" certain persons appear to control the movements of others. After careful observation we can pick out these leaders or "bosses." As a rule, they wear cleaner, neater clothes, they do not touch dirty or greasy materials, but spend their time talking or handling pieces of paper. But we note also that there seem to be no general leaders who control the work of the city as a whole. There is a man who directs the work of the city government, a special organization which performs a great variety of tasks, from operating schools to collecting garbage. But this "mayor" has no power over the great bulk of the activities carried on within the city. And yet these separate activities are closely coördinated with one another. Goods made in a factory are carried on tracks to "stores," from which people take them little by little into their residences. There must be some general coördination of all these activities, or there would be much greater shortage and wastage of materials, much more interference and wasted time. Our suspicion is that the mechanism of this general control is somehow connected with certain little pieces of green paper which people are seen to carry in their pockets.

Our glasses reveal also that there are intangible bonds between persons and the material culture. When a family group moves to another residence, it takes all its furniture along, although the same results would seem to be gained by less effort if furniture, like doors and electric wires, could be permanently connected with the house itself. In fact, every

single piece of goods or equipment in this community has a vital relation to some person or group of persons, known as its "owner." Goods without owners are rarer than children without parents. We might see a good biological reason for the latter scarcity, but what explains the former? Is the owner of something the person who uses it and lives nearest to it? At first it would seem so, but we find many puzzling exceptions which point to some other principle. Whenever one person takes or uses a thing which has these invisible lines of ownership leading to someone else, we note that one of several events always happens: the user has a conversation with the owner, the user gives green paper to the owner, the user belongs to the same family group as the owner, or finally, in a few cases, the irregular seizure calls into activity certain bluecoated men known as policemen, and in exceedingly rare cases the seizer of the goods is locked up behind iron gratings.

This network of social bonds falls into certain definite patterns. Behold, the picture clears; we no longer see men and activities and goods; we see families, business firms, property rights, laws, government bodies, church organizations, a school system, associations and clubs of many kinds. The first glasses revealed space and time relationships, the second glasses show us the *social* rather than the space-time arrangement of men and things. In other words, we see institutions, social structure, social organization.

Social Attitudes.—But still our curiosity remains unsatisfied. Though we see the invisible threads of organization which control all these things and activities and persons, we do not understand what these bonds are made of. Try to break one of them. Suggest to the Blank family, as it emerges yawning from the theater, that it park itself for the night in the Hanks' vacant apartment nearby instead of going to the other side of town to its own residence. Urge the overflow crowd from the church with the cross and altar into the half-vacant church with the open book just round the corner. Threads? They stand up more like the wire cables of a suspension bridge.

So let us put on our third pair of glasses. This shuts out the

rest of the picture, but reveals the nature of these connecting threads or bonds. Let us examine minutely, for example, the social bond which exists between this man and the woman who lives with him and shares most of his leisure activities. It is something like the intangible force which pulls the iron bar to the magnet. It does not exist in thin air but is the result of forces organized inside the physical bodies of the two persons. The two are connected like two radio instruments rather than like two telephones. There are no wires; the connection depends upon forces set up within the instruments themselves and transmitted by air or ether. Let the mechanism at either end get out of order, and the bond is broken.

The intricate mechanisms at the two ends, which are responsible for organizing this invisible bond, are two nervous systems. The bond-creating system of forces which is organized in each nervous system is called an *attitude*. In this case there is an attitude we call love. Or, more precisely, there are two attitudes of love, one organized in the man's nervous system, the other in the woman's.

Every social bond in our community is maintained by attitudes in the nervous systems of the persons who are thus connected. Bonds between persons and things are maintained by attitudes in the persons. Thus each citizen has toward certain objects an attitude we call ownership. Toward all other objects he has, not a neutral or uncertain attitude, but, if he is well brought up, a very definite attitude of "don't disturb." All the objects toward which he takes an owning attitude are exactly the same objects toward which all other persons take an attitude of "don't disturb." With rare exceptions, these reciprocating attitudes are consistent with one another all around, so that we have a common consent as to what belongs to whom. Ask a lawyer to define "property" and he probably will fail to mention this most important and obvious fact, this harmonious agreement of attitudes. He will give you elaborate definitions of property rights in terms of history and of legal documents, and of various "what-would-happen-if's." But only in cases of dispute is the legal test actually applied;

otherwise ownership still depends, as it did in primitive groups, upon common consent.

This third pair of glasses helps to explain the first picture as well as the second. We can understand now why humans use these many varied utensils for conveying food to their mouths, when the bare hands would seem to be quite adequate, and certainly easier and quicker. To convey food to their mouths is not the only purpose of these utensils. They have also another less tangible purpose, which can be discerned only by seeing the attitudes which function in the nervous systems of those who watch the eating process. Namely, the animal method of conveyance arouses an attitude of *disgust* in the beholders. We can see that this attitude is absent in the babies, and very imperfectly formed in the children, but that in adults it functions vigorously and brings various unpleasant consequences to those who provoke it. A less disastrous attitude, called *contempt*, goes out toward the person who uses eating utensils but uses them in the wrong way. The "right way," we discover, is based on a very intricate set of rules.

We discover also that clothing has other purposes than adjusting temperature at the wearer's skin. In fact, that purpose seems to play a very minor rôle. By far the most conspicuous results of clothing are the attitudes it arouses through eyes rather than through skins. When not working, these humans look at each other more than they look at anything else. We note that what each person puts on is governed largely by the attitudes aroused in the nervous systems of those who see—her.

Symbols and Their Relation to Attitudes.—Yet some facts puzzle us. Through our third pair of glasses we can discern the attitudes toward every clothing situation which actually occurs. But what explains the fact that many apparently very reasonable and convenient clothing situations never do occur? It is easy to explain by attitudes why people do what they do, but very difficult to find the reasons for what they don't do. For how can we discover an attitude toward what does not exist?

For example, why are the comfortable costumes of the athletic field and the bathing beach never seen in the ballroom, business office, or church? Why do we never see men in feminine garments? On the basis of mere chance, one might expect a normal costume for each activity, but always with some individual variations in every possible direction. It is no more natural for the seaside hotel dining room to be entirely free from bathing suits and the beach the next morning utterly free from tuxedos, than for a garden to be completely free from weeds and the neighboring ground utterly free from stray garden plants.

On closer examination, we find that humans have attitudes not only toward what is, but also toward what is not. This seeming impossibility is made possible by the use of *symbols*. Perhaps we should put on a fourth pair of glasses and look at these symbols. We find that a symbol is something which is small and insignificant in itself, but which stands for something usually (but not always) bigger and more important. An invisible bond of "symbolism," the relation which is called "it stands for," "it means," "it represents," connects each symbol with its object. Symbols include words, pictures, gestures, maps, blue prints. Some symbols, like the word "house," represent tangible objects. Some, such as "walks," represent relations, activities; some, such as "under," represent space relations; some represent such abstract situations as "justice," and some represent groups of objects, such as "trees" or "forest." Curiously enough, some symbol combinations, such as "no bananas," represent the absence or nonexistence of an object.

Symbols exist in various forms. Some, consisting of various marks on paper, on signboards, and so on, can be seen without any magic glasses. Others, such as spoken words, bells, whistles, can be heard but not seen. But there are also internal symbols within human beings: faint movements of speaking words which are not actually spoken, "images" of things, "ideas." In fact, we note that no external symbol, such as a spoken or written word, ever produces any effect whatever

until it is converted into an internal symbol in somebody's nervous system. That is, it has to be seen or heard by someone, and then "understood." After being thus converted, the symbol may arouse the person to an action or to some attitude, usually the same attitude that would occur if he had seen or heard the real object which the symbol represents. To hear and understand the excitedly spoken symbol "fire!" arouses the same action as to see the actual fire. And by the use of a symbol one sometimes gets action even when there is no fire, as mischievous boys have discovered, to the annoyance of the fire department and the police.

Now the most important thing about symbols is that you can put them together in any possible combination. You cannot do this with the objects they represent. Although the *elementary* symbols refer mostly to realities, we can make any number of *combinations* of symbols for which there are no corresponding combinations of objects in reality. It is perfectly easy to arrange the symbol combination: "yawning pastor in bathrobe preaches to church-filling congregation clad in bathing suits and munching hot dogs," yet there is no record, so far as we know, that such a combination ever took place in reality. Having then constructed a symbol combination which represents a rare or non-existent situation, we can arouse and train attitudes toward this imaginary situation. We of course know what *our* attitude would be in this case, although that attitude might seem quite unreasonable to a South Sea Islander. Our attitude toward the symbols (*i.e.*, the "idea") of such a situation is a faint copy of what our attitude would be if the situation became a reality. And it is this attitude which, when everything else fails, will prevent the situation's becoming real. We form attitudes toward the "what isn't," and these very attitudes prevent the "what isn't" from becoming "what is."

Because of the laws of chance, the situation we just imagined would rarely occur, even if there were no disapproving attitude against it. It would be rare simply for the reason that churches are seldom located near bathing beaches and

refreshment stands. But sometimes, were there no disapproval attitude, it might occur. In understanding society, it is important to distinguish between situations which are rare or non-existent because of mere *chance*, and those which are rare or non-existent because of a definite attitude against them. Therefore it is necessary not only to observe what is, but to observe the attitudes of men toward what is not, what rarely is, or what might be.

So attitudes are not only the forces which explain human activities and maintain the bonds of social organization, but they are also the check reins which prevent human activities from going in certain directions.

What Social Psychology Is.—Our various pairs of glasses have now given us four pictures of a human community. The first was a concrete picture of the people themselves, the material things they use, and the activities they perform. Our second picture showed us the social structure or the bonds of social organization. The third showed us the attitudes which exist within these human beings and which explain and control everything we saw in the first two pictures. Through a fourth pair of glasses we took a look at symbols, which are necessary for the explanation of some parts of the other pictures. Now it is this third main picture, the attitudes, which we shall look at for the most part through the remainder of this book. What we have seen is only the roughest sort of sketch. If we were to write about the second picture we should entitle our book "Social Organization" or "Social Anatomy" or, perhaps, "General Sociology." Our book about the third picture is "Social Psychology." Social psychology is, in a sense, the central or the key science which explains human social life. It deals not so much with the forms of organization and activity themselves as with the mental attitudes which lie back of them.

However, a flashlight photograph of all the attitudes existing in all the individuals of a society at any given moment would not be all there is to social psychology. Rather we should have a motion picture, showing how these attitudes are changing. The motion picture would reveal that attitudes

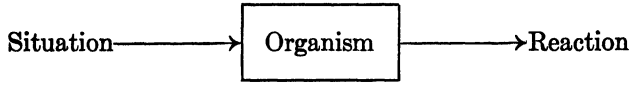
are formed mainly through *social contacts,* and changed through social contacts. To get a complete social psychology we should flash on the screen every situation in which one human being sees, hears, talks with, influences, or is influenced by, another. Social contacts do not necessarily mean physical proximity. The relation of Brown of New York talking over the long-distance telephone with Thompson of San Francisco, and that of Mary Jones in Atlanta reading a magazine article about a theory enunciated by Professor Einstein in Berlin, are both more worthy to be called social contacts than is the relation between Mr. Tired Business Man in a commuters' train and his unknown seatmate behind the newspaper. In fact, we may eliminate from the picture all facts, all activities, which do not involve social contacts of some sort.

Social psychology, then, is the study of the attitudes of human beings in society and of the social contacts which produce these attitudes and are in turn influenced by them. In short, it is the study of the action of human personalities upon one another.

The Nature of Attitudes.—Exactly what is an attitude? As we look about the room, hoping perhaps to find one, our eyes fasten upon a shapely green tree outside the window to the left. We sit idly looking at it for some moments as we try to think. We then look toward the blank wall of the room toward our right, but our eyes will stay there but an instant. Almost we feel a pull as they turn back again to the left and gaze at the tree. Already we have found some attitudes—namely, we like to look at trees, and we do not like to look at a blank wall. Both the act of looking and the feeling of pleasure which goes with the looking are *reactions* or *responses.* Reactions of what? Of the brain, of the mind, of the eyes, of the body? Modern psychology makes no distinction here. The whole human being reacts. His brain, nerves, eyes, and other parts of his body are all quite necessary to the act of looking. It is foolish to attribute this looking to any one part; the whole human body reacts.

An attitude, then, is a reaction of a human being or other animal organism. But that is not all. The reaction must take place to or toward something, must be aroused by something. That something is called the *situation.*

An attitude thus may be pictured as follows:



The situation may be a single object, such as the tree or the wall. It may be a group of objects, or it may be some complex set of relationships between objects and circumstances, such as the situation "three men on base, two out, myself at the bat, with two strikes."

The *situation* may contain internal as well as external factors. My attitude toward a savory dinner is sometimes one of eager approach, and at other times one of avoidance. Outwardly the situation is the same in both cases, but in the first case there is a condition known as hunger in my stomach, while in the second case this condition does not exist. The second case is really a different situation because the internal conditions are different. The attitude depends on the *whole situation,* external and internal.

What is the *unit* of attitude? In other words, when is it proper to speak of "an attitude," when to speak of "attitudes"? Was my looking at the tree one attitude, and my pleasure in so doing another, or were both parts of one attitude? Is each attitude a reaction, or part of a reaction, or may it be several reactions combined?

We may as well clear up once for all the confusion which hinges upon this point. Situations, reactions, attitudes, and several other psychological data are not separate units like apples in a barrel. They are rather (without the modern slang implication) like lumps of apple sauce, which may cohere in loose masses of various sizes, but which may be subdivided, according to our convenience, into indefinitely small units. A reaction is any convenient piece or lump of *behavior*; a situation is any convenient piece of *environment.* Let us not be confused by mere language.

In general, "an attitude" is whatever piece of behavior (of a certain kind, to be specified later) goes with any given situation. My looking at and my pleasure in the tree might be considered as two reactions, and each of these might again be subdivided into many smaller elements of behavior. But as a rule we would say that the two reactions constituted one attitude. If the tree be considered a unit situation, then all the reactions (of a certain kind) which that tree arouses at any one moment may be considered as one attitude.

Now to get down to that "certain kind." Not all reactions to situations are attitudes. If I should climb that tree, my climbing act would not be what we call an attitude. It would be a complicated reaction consisting of a series of movements. But before actually climbing, there would be a moment when I first formed the purpose of so doing, when my muscles took

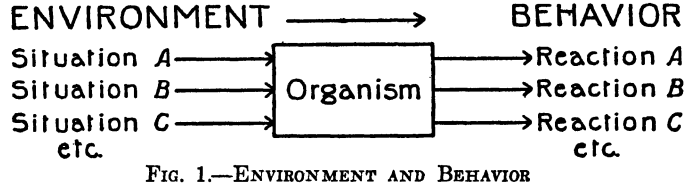


FIG. 1.—ENVIRONMENT AND BEHAVIOR

a certain posture, or set, preparatory to climbing. That posture or set would be an attitude, a climbing attitude. Actually, something might happen to prevent my carrying out the *act,* but nevertheless I would have had the *attitude.*

An attitude, says Ellsworth Faris,[2] may be a gesture, an incomplete act, a tendency to act. We might say that it is the key to action, the initial set which determines what the action would be if it were carried out. An attitude may also be emotional. The most important and controlling attitudes in our lives are emotional. To say "John is afraid of dogs" is equivalent to saying "John has a timid attitude toward dogs." This is almost equivalent to "John reacts to dogs with the emotion of fear," except that this latter expression refers to the complete carrying out of the fear reaction, perhaps at some length, while the "attitude" is the faintest shade of actual

[2] "The Concept of Social Attitudes," *Jour. Appl. Soc.,* vol. ix, p. 404 (1925).

fear or the very beginning of the fear, just enough to show what the action would be if the dog came near enough.

W. I. Thomas says that an attitude is the "individual consciousness which determines real or possible activity in the social world": again, that it is "a psychic process not taken by itself, but with reference to the objective world." He is using the old-fashioned psychological language, which is phrased in terms of "consciousness," instead of the "behavioristic" language we have been using. The difference between these will be explained in a later chapter. Whichever terms we use, it should now be clear that attitudes are the small key reactions (*postural* and *emotional-postural*) which control our larger, *kinetic* behavior, or real actions. Much of our behavior consists in assuming attitudes which we never carry out into real action or thoroughgoing emotion.

An attitude, though it be but a faint copy of a more vigorous "act," is always a physiological process which could be observed by an outsider if he had sufficiently delicate instruments. An attitude is not a philosophical abstraction, not a "would be" or a "might be," not a purpose or goal of activity, but an actual reaction of the body to an actual situation.

Human behavior can be analyzed, as we shall see later, into larger, more fundamental patterns known as "wishes." A wish is an underlying organization of attitudes considered apart from any particular situation or any particular reaction. But an attitude is always specific. For example, a man may have a wish to marry a certain girl. The wish may, on various occasions, involve an attitude of love toward the girl, an attitude of temporary anger toward the girl, an attitude of anxiety toward a rival, an attitude of watchful waiting toward the daily mail, an attitude of generosity toward the waiter after a pleasant dinner, and so on. These attitudes we can actually observe; the wish we merely infer, or accept upon the man's own say-so.

Kinds of Attitudes.—Though of numerous varieties, most attitudes, think Park and Burgess,[3] can be put into a few

[3] *Introduction to the Science of Sociology*, University of Chicago Press, 1924, pp. 439-441.

general classes. The most important of these are approaching, avoiding, superordination, subordination. An *approaching* attitude is a reaction which tends to bring the subject toward the situation, or to continue or repeat the situation. It might be called a favorable, positive, pleasant attitude, a "like." An *avoiding* attitude is a reaction which tends toward escaping from, removing, or discontinuing the situation. It is unfavorable, negative, unpleasant, a "dislike." An attitude of *superordination* is a reaction tending to place the subject metaphorically "over" or "above" the situation, such as the attitude of superior scorn toward foreigners. *Subordination* is the reverse. It is illustrated by the attitude of the Southern-trained Negro servant toward his employer.

Of many of our attitudes we are fully aware. We talk about them freely. We have other attitudes of which we are conscious only dimly if at all. They seem as much a part of us as our own bodies. We take them for granted as we do our breathing. But just as swimming under water makes us acutely aware of this breathing function, so the experience of running up against contrary attitudes awakens us to the existence of our own unconscious attitudes. Perhaps no experience along this line is more illuminating than living in a foreign country, especially if one will cut loose from the colonies of his own kind and really mix with the "natives."

An American scholar with a string of degrees after his name is not aware of any particular attitude which permits him, if he feels so inclined, to walk daily to his work. He takes it for granted. But if he were to sojourn in China, where scholars and dignitaries always travel in carrying chairs and consider physical exercise quite unseemly, he would become aware of his own attitude.

A Chuckchee from Siberia, who allows his neighbors as a matter of course to use his boat when he does not need it, would be greatly shocked were he to come to America and on the same principle try to appropriate his neighbor's car which was standing idle in the garage.

The American débutante would be surprised to learn that

in Nigeria a young man places a higher value upon a bride who already has a child.

The Polish peasant is surprised by the fact that an American farmer may use the money obtained from selling land in repairing his barn. According to Polish traditions, that money is merely a temporary substitute for land and should be used to purchase more land; it is not a liquid fund to be turned into any form of property.[4]

For many attitudes, however, we need not go abroad to find variations. Some attitudes do vary mainly with geography, such as those toward the Negro, toward polygamy, toward nudity. Others may vary with nationality or with religion, such as the attitudes toward pork or Sunday recreation. Some vary with sex, such as the attitudes toward sewing and children. Some, like the attitudes toward roller skates and genealogy, vary with age. There are occupational attitudes, such as that of the trained nurse toward the excited sick person. There are attitudes which vary with social and economic class, such as the attitude toward dining in one's shirt sleeves and toward the question of working after 5 P.M. Other attitudes belong to communities, such as the attitude of Tacoma toward the name "Mt. Rainier." In the protective attitude of Boy Scouts toward wild flowers we see an attitude peculiar to a limited special-interest group. There are attitudes shared by all members of a certain family or kinship group, but not by others: the hatred of the Blanks for the Shanks. A certain family may take an attitude against having its lawn used as a playground, although all its neighbors permit their lawns to be so used, even by the children of that same fastidious family.

Finally, there are personal attitudes, of which each of us has many. Perhaps, in the case of each such attitude, we could find others who share it with us, but we would have to search them out individually. We would not find our sympathizers concentrated in any particular sex, age, occupation, religion, or other social group. Such attitudes, for example,

[4] THOMAS, W. I., and ZNANIECKI, F., *The Polish Peasant,* Knopf, 1927, vol. i, pp. 164-165.

would include fear of dogs, dislike of Sunday afternoons, interest in playing chess, special fondness for McDowell's "To a Wild Rose," and so on. In contrast with these *personal attitudes*, we shall designate as *group attitudes* those which are shared by a whole social group, such as a community, class, occupation, or age group; and as *regional attitudes* those which are shared by the mass of people in a given area.

Can we go still farther and find attitudes which are shared by all mankind? Evidently, yes. Fear of high places, surprise at seeing an unfamiliar animal, love toward offspring, and attraction toward the opposite sex, are substantially *universal attitudes.* There may be a few individual exceptions, but no group exceptions. Heretofore many of these universal attitudes have been misleadingly called *instincts.* As will be seen in Chapter III, they can be explained, like other attitudes, by experience and training, and hence are not necessarily inborn. Their mere universality does not prove that they are instinctive. Of this, more later.

Having taken this brief glimpse of society, we now turn our attention to the individual.

CHAPTER II

THE NATIVE ORGANIZATION OF BEHAVIOR

Behavior and the Nervous System

Mind as Neurally Organized Behavior.—In our childhood we were taught that "the brain is the organ of the mind." The brain was pictured as a physical structure, the mind as an inner, spiritual something which operates it.

This traditional view is misleading. It causes us to regard the brain as a thing, and the mind as another thing, of different substance, to be sure, but still a thing. Modern psychology regards mind not as a thing but as a *function.* Mind is what the brain does. This is no more a metaphysical problem than is the relation of locomotion to a locomotive. The locomotion is not inside the locomotive, nor outside it, nor beneath it, nor part of it, nor is it a "mysterious essence which permeates it." It is simply what the locomotive does.

Instead of saying "the brain is the organ of the mind," we now say "mind is the function of the brain." But the brain is not a separate organ. It is really only a large knob at the upper end of the *nervous system.* A very important and potent knob, to be sure, but it would be quite useless except for that complicated system of nerve fibers which ramifies to every part of the body, and of which the brain forms merely the central headquarters.

More accurately speaking, mind is the function not only of the brain, but of the whole nervous system. This function is the organization of behavior. Behavior is adaptive. Adaptation means fitting an action to the needs of a situation. If behavior were not adaptive, the organism which practised it would speedily have perished, and ceased behaving. Non-adaptive behavior, except in minor details, could not survive.

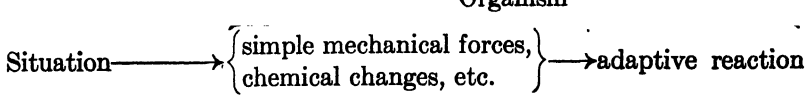
Not all behavior takes place through the medium of a nervous system. Plants grow toward the light, they send their

roots downward toward the moisture rather than along the surface of the ground. Much-used muscles enlarge, preparing themselves better to meet the strain put upon them. These reactions are physical and chemical processes produced directly and not through a neural medium. One-celled animals, such as the amœba, swim away from water which is too hot or contains some noxious chemical; they envelop particles of food substance with which they come into contact, and make other reactions conducive to their own life and health. But since such an animal consists of only one cell, there is no specialized nervous system. The same bit of protoplasm eats, respires, excretes, and conducts messages. Protoplasm in general is sensitive to stimuli and responds to them by adaptive contractions, movements, chemical reactions, and so on.

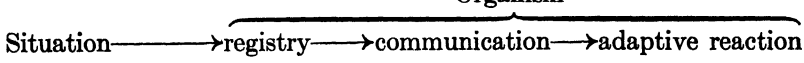
When, ascending the scale of animal evolution, we come to the jellyfish, we find a certain group of cells specializing in the work of conveying impulses. When such an animal responds to an outside stimulus of food or heat, its adaptive action is not a direct act of its protoplasm in general, but is mediated through the special channels of its nervous system. The behavior of all but the simplest animals is neurally mediated. Without nervous systems they would not only be helpless but they could not even exist.

Machines as well as living organisms behave. When a steam engine slows down because we have neglected the fire under the boiler and thus allowed the steam pressure to fall, it is making a simple, direct reaction to the situation, analogous to the behavior of plants and one-celled animals. But when the engine slows down because the automatic "governor" has risen beyond a certain point, pulling a rod which partially closes the throttle, its slowing-down reaction is indirect, wholly dependent upon the governor-and-rod mechanism. This behavior is analogous to the neurally mediated behavior of the higher animals. There is now an intermediate mechanism (governor and rod) between the situation "excessive speed" and the reaction "slowing down." This mechanism is analogous to the animal nervous system

This is behavior without a nervous system:



This is neurally mediated behavior:



Neurons and Nerves.—The nervous system is composed of several billion *neurons*, or nerve cells. These cells are shaped more like the individual pieces in a mass of spaghetti than like those in rice or tapioca. Each cell is a long thread, with an enlargement called the cell body near one end, and with many branches at both ends. So slender are they that the optic nerve, leading from eye to brain, and no thicker than a piece of heavy cord, contains upward of 100,000 separate nerve fibers.

A nerve is not a single neuron, but a bundle of many neuron fibers or axones. Commonly the cell bodies of these neurons are bunched in a nerve center or *ganglion* near one end of the nerve, or in the spinal cord or brain. The nerve itself contains only axones. Usually a nerve contains both *afferent* and *efferent* fibers (leading toward the brain and from the brain, respectively).

Receptors and Effectors.—The animal must react *adaptively* to the situation in which it finds itself; that is, it must do the right thing under the given circumstances. Right, of course, means what is good for the animal. Behavior involves three steps: registration, communication, reaction. First, consider registration. Obviously a situation cannot lead to a proper reaction unless it can in some way register its peculiar nature and needs upon the animal which is to do the reacting. The thirsty horse does not just happen to walk toward the nearby pool and drink. Nature provides a mechanism which compels him to do so, for otherwise he never would have lived to be a horse. This means that there must be some way

in which "thirst" may register itself upon his nervous system as distinct from "non-thirst." Also the existence of the nearby pool must register itself in such unmistakable manner that it cannot be confused with a bonfire or a deep hole in the ground. Situations which are important to the animal must register themselves *selectively*; in other words, the animal must be able to *discriminate* between them.

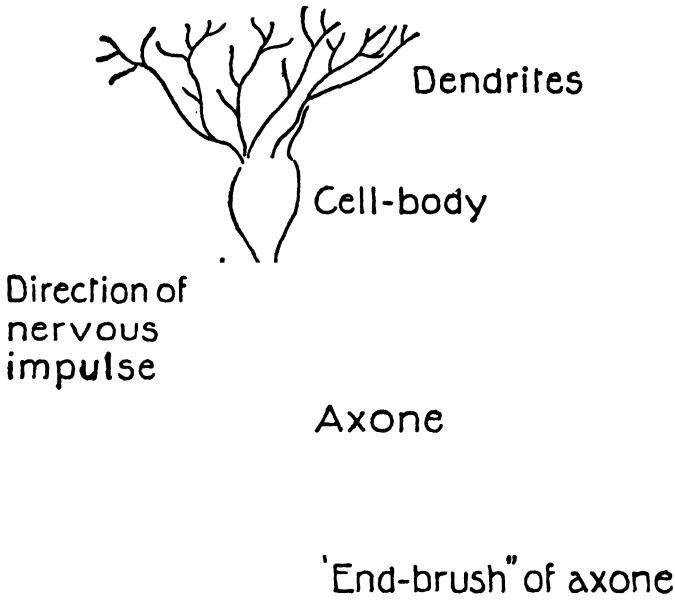


FIG. 2.—SCHEMATIC DIAGRAM OF A NEURON
(Axone Much Shortened)

Ordinary neurons will not serve for registration. They are all too much alike. We must have specialized receiving organs, each sensitive to a particular kind of situation and not to others. These organs are known as *receptors* or sense organs. The process by which the situation registers itself upon, or arouses, the sense organ is known as *stimulation.* The situation sends forth a *stimulus.* Light waves (vibrations) are the stimuli by which the situation "automobile rapidly moving toward me" registers itself upon me, and the cells in the retina of my eye are the only receptors which are sensitive to

this kind of stimulus. (Of course if the car honks or actually hits me, there is another kind of stimulus.)

But mere registration will not save me from the onrushing car. It is not enough that this situation registers as something distinct from the situation "car moving away from me." It must provoke action. Now the eye, of course, is powerless to do anything about the situation. It is purely a receiving organ. In my legs, however, are powerful muscles which can do something. They are *effectors* or organs of action. On the other hand, these muscles have no power to discriminate "car moving toward" from "car moving away." Alone they would be quite as useless as the eye. Now let the eye's power to register and discriminate between situations be put in connection with the muscles' power to act, and we have behavior. The connecting link is the nervous system. From the receptor leads an afferent nerve fiber which carries the impulse inward toward the brain or spinal cord. There the nervous impulse or "message" passes into a *central* neuron or a series of several central neurons, then out through an efferent neuron to the effector organ, which then acts. This complete pathway of nerve tissue from receptor to effector is called a *reflex arc.*

The stimuli which register upon the sense organs are of widely different kinds: air vibrations upon the ear, effluvia upon the nose, chemical stimuli upon the tongue, etc. But by the receptors all stimulation is transformed into the same kind of process, which we call *nervous impulse.* It is crudely analogous to a current of electricity, travels at the rate of about one hundred yards per second, and is believed to be chemical in nature. The nervous impulse flowing into the brain over the auditory neurons when we hear a loud sound is exactly the same kind of process as the nervous impulse flowing in through the optic nerve when we see a flash of light. The sense organs, therefore, are instruments for converting various kinds of stimuli from the environment into one uniform kind of process, nervous impulse or nervous excitation. The effectors, on the other hand, receive only one kind of process or stimulation, the nervous impulse, from the efferent neurons. They convert this into various forms accord-

ing to the nature of the effector. The biceps muscle converts it into pulling, rowing, chinning-the-bar movements; the heart muscle, into blood-pumping movements; the eye muscles, into eye-turning movements; the salivary glands, into juice secretion.

The basic mechanism of behavior may be summarized in the following diagram.

For simplicity, we shall use the formula *S*—*R* to represent a reflex arc. *S* represents the situation and its stimuli; *R*, the reaction; and the dash, the connecting nervous pathway.

Synapses and Resistance.—Even the simplest pathways from receptors to effectors involve at least three neurons: an afferent neuron which takes the impulse from the receptor and carries it inward to the spinal cord or brain, a central

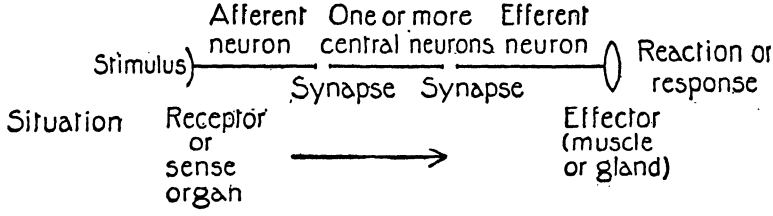


FIG. 3.—THE REFLEX ARC

neuron in the brain or cord, and an efferent neuron which carries the impulse outward to the effector (see Fig. 1). The tiny gap between the end of one neuron and the beginning of the next is called a *synapse*. A synapse offers some resistance to the flow of nervous excitation but does not entirely block it. The important thing is that the resistance at the synapse varies from time to time. Just how this variation takes place we do not know. It is helpful to imagine the synapse as a spark gap whose points can approach or separate at will. At times they move, metaphorically, so far apart that no current can get across, and at other times they come close together and allow the spark to jump with ease. But it is not certain that this variability of resistance is accomplished by actual movements of the dendrites, or ends of the neurons. It may be brought about rather by some kind of chemical

THE RECEPTORS OR SENSE ORGANS

- Exteroceptors
  - distance ceptors
    - eye
    - ear
    - organs of smell (in part)
  - contact ceptors (skin senses)
    - organs of pressure or touch
    - organs of heat
    - organs of cold
    - organs of external pain
    - organs of chemical sensibility
- Proprioceptors or kinæsthetic sense organs, in the
  - muscles
  - tendons
  - joints
  - labyrinth of inner ear
- Interoceptors or visceral (organic) sense organs
  - organs of hunger
  - thirst
  - nausea
  - respiratory sensations
  - circulatory sensations
  - sexual sensations
  - sensation of distention of various cavities
  - visceral pain
  - obscure abdominal sensation (felt in strong emotions, when falling, etc.)
  - organs of taste
  - organs of smell (in part)

THE EFFECTORS

Somatic—"Striped" or "voluntary" muscles

Visceral
- "Smooth" or "involuntary" muscles (heart, arteries, stomach muscles, etc.)
- Glands

change. But in any case the synapses are the crucial points in the nervous pathway; they are the only points where resistances can be set up and impulses shunted from one track

to another. Once an impulse enters the dendrite of any neuron, it passes clear through that neuron rapidly and without resistance till it reaches the ends of the axone. There it may be more or less held up again by the next synapse.

It has been shown by physiological experiments that nervous impulses traveling through certain pathways may *facilitate*, that is, intensify or help impulses flowing through other pathways at the same time, and that they may *inhibit*, or hinder the operation of these other pathways.

Nervous Energy Not Bodily Energy.—The nervous system controls the action of the muscles but it does not provide them with energy. It merely releases energy. The total energy expended by the human body in the course of a day is considerable. This energy is of course derived ultimately from food and air interacting in the muscles in a process known as oxidation. Nervous impulses or "messages" serve as triggers to release this muscular energy on the proper occasion. To be sure, some energy is used in the nerves themselves; but in comparison with the muscular energy it controls, this nervous energy is as infinitesimal as the exertion of the President of the United States in pushing a button in the White House, compared with the explosion thereby produced in some railway tunnel in the Rocky Mountains. Not only is the total energy used by the nerves themselves very small, but its amount bears no relation to the muscular energy released. The thundering voice of the professor in the classroom is a large and energetic stimulus as stimuli go, but it produces a far less energetic reaction than would a distant cry of "Help," heard faintly in the direction of a lonely millpond.

When the tired brainworker comes home, his fatigue is the result of hours of shallow breathing, his excessive use of his smaller muscles, and the sluggish action of his vital organs. We shall not find any overheating in the brain itself. In car trouble, melted ignition wires and an overheated switchboard are about the last things to look for. What people call "nervous fatigue" or "brain fag" is rarely exhaustion of nerve tissue itself. It is rather a general bodily condition which might be

relieved by *continuing* to exercise the brain and nerves, but in a different kind of activity.

Structure of the Nervous System

Cerebro-spinal and Autonomic.—The nervous system consists of two subsystems, the *cerebro-spinal* and the *autonomic.* The cerebro-spinal is the main system and controls the *soma* directly. The autonomic is, as its name suggests, somewhat, but not wholly, independent in its action. It controls the *viscera.* It is really an afferent and efferent extension of the cerebro-spinal system, for the impulses which pass through it usually have the central portions of their pathways in the brain or cord. The first stage of their journey inward and the last stage of their journey outward lie in autonomic pathways.

The *soma* consists of the "striped" or voluntary muscles, the bones, and the skin. It includes the limbs, the exterior, the body walls; in general, the parts under "voluntary" control. The *viscera* are the internal organs, including "smooth" or involuntary muscles, and glands.

Certain parts of the body may seem difficult to classify as somatic or visceral. The test is: what part of the nervous system is connected with them? For example, the tear glands, salivary glands, the muscle regulating the pupil of the eye, the muscular tissue of the blood vessels, the sweat glands, the tiny muscles which erect the hairs, the muscles of the bladder, rectum, and genital organs, although near the surface and under some degree of voluntary control, nevertheless belong to the viscera, for their nervous connections are with the autonomic system.

Certain everyday experiences may help us to realize more vividly the difference between these two parts of the nervous system. If I wish to raise my arm, I merely "will" to raise it, and the event happens immediately. This "willing" process consists in the passage of certain nervous impulses from the areas of the brain which are involved in the *idea* of arm raising, into the motor area which controls the arm muscles. From there an impulse passes directly down through the brain stem

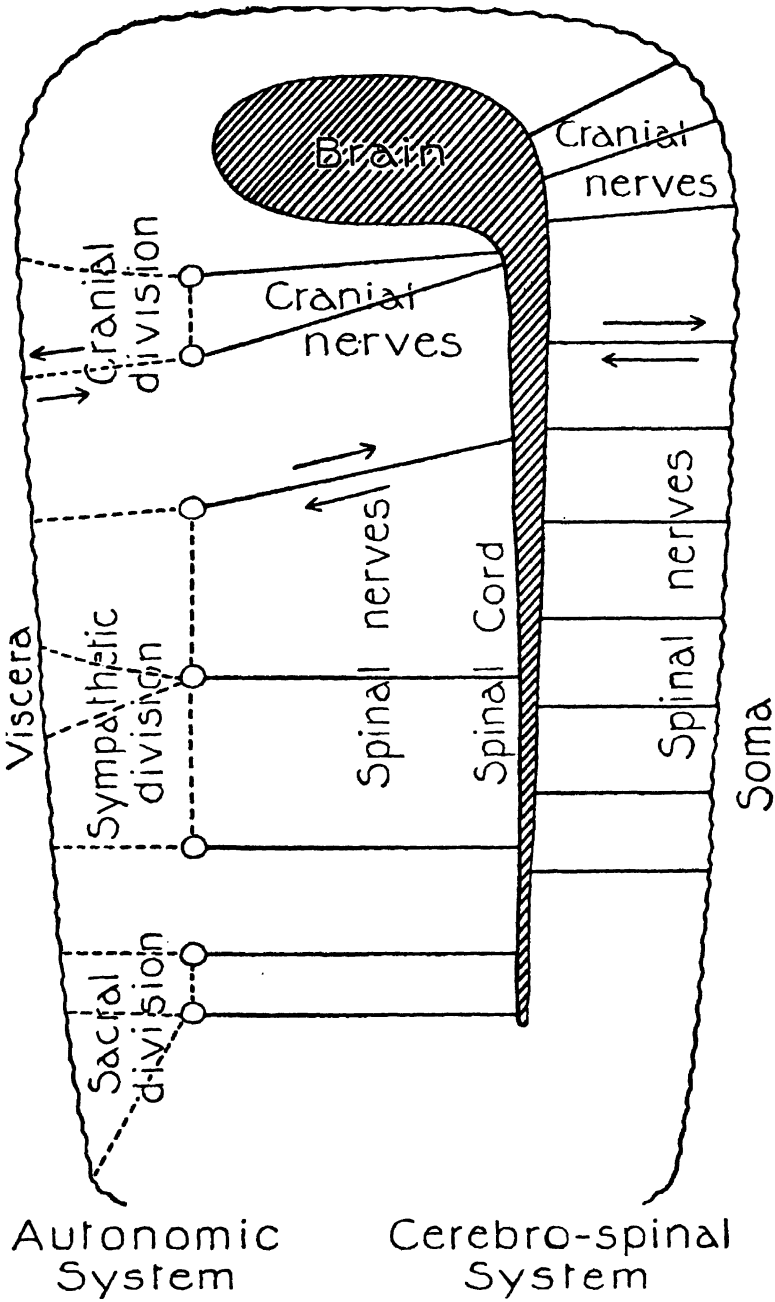


FIG. 4.—ORGANIZATION OF THE NERVOUS SYSTEM

and spinal cord to the proper spinal nerve of the cerebro-spinal system, and through that to the arm muscle.

If, however, I will my heart to beat faster, nothing happens. There is no direct connection from the idea-of-heart-acceleration to the heart muscle. But I can accomplish the desired result by indirect means. Let me, while driving my car, deliberately try a few reckless stunts, as, for instance, going around the curves too fast. In a few moments an unusually

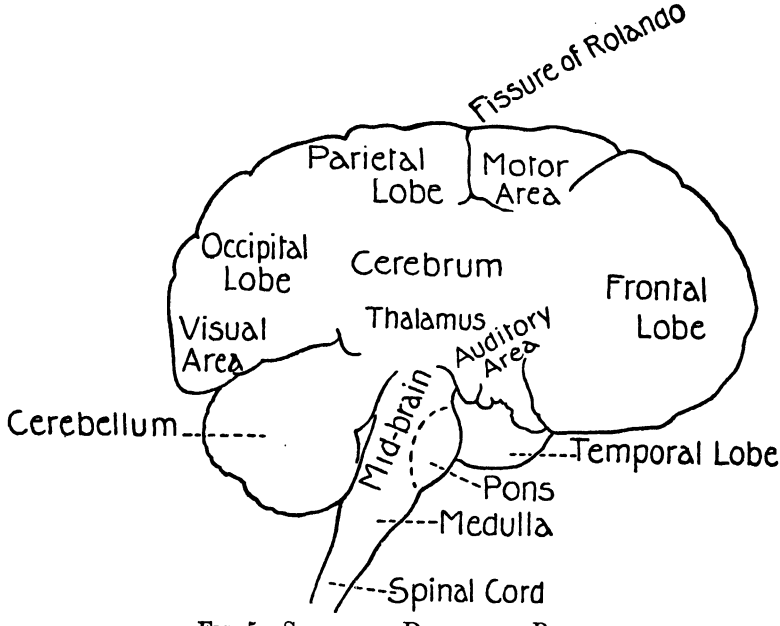


FIG. 5.—SCHEMATIC DIAGRAM OF BRAIN

dangerous swerve or something will happen, and my heart will speed up. What I have done is to get myself into a situation which has automatic power to stimulate the response, through the autonomic nervous system.

Structure of the Brain.—The *cortex* is the whole outer surface of the cerebrum, where the cell bodies (gray matter) of millions of central neurons are located in spread-out fashion. The "convolutions" of the cortical surface provide space for many more neurons than could find room on an even surface. The interior of the cerebrum is composed of the axones (white

matter) leading from these cell bodies to make connections with other neurons in the lower brain centers or spinal cord.

The *medulla* controls respiration and other visceral reactions; the *cerebellum* maintains the tonus or slight contraction of all the muscles necessary to posture and bodily equilibrium; the *mid-brain* is a center for visual and auditory reflexes in the same way as the spinal cord is for skin reflexes. The *thalamus* is a center which is subordinate to the cortex; it is a way station for nearly all sensory stimulations coming in to the brain, and combines and organizes these impulses in a preliminary manner before they go to the cortex. It acts as a private secretary sorting the mail of a busy executive, making minor decisions, and finally turning over the information in organized form to his chief. It is believed also to be an important center involved in emotion.

The cerebral cortex is the highest and most elaborate center in the nervous system. Certain parts of it are *motor projection areas, from* which pathways lead to the muscles (see Fig. 5). Other parts are *sensory* projection areas, *to* which pathways lead from the various sense organs. (All these pathways, of course, pass through the lower centers, thalamus, mid-brain, medulla, or spinal cord, on their way to or from the cortex.) The remaining areas of the cortex are called *association areas.* They seem to consist of millions of intermediate central neurons, through which new pathways continually are establishing themselves between various stimulus patterns and various reaction patterns. It is through these association neurons that the complex mental processes take place.

Reflexes originating in the skin senses do not as a rule need to pass through the brain. The *S* (irritation of skin of leg)—*R* (scratching with other leg) reflex, for example, works in the frog after the spinal cord has been disconnected from the brain. The spinal cord is the center for such reflexes. A part of the stimulation, however, flows to the brain, where it may form conditioned reflexes, which we shall describe later.

Localization of Functions.—The writer has in his library a copy of Fowler's *Practical Phrenology,* published in 1857. This learned treatise aims to describe "the primary mental powers in seven different degrees of development, the mental phenomena produced by their combined action, and the location of the organs amply illustrated by cuts." These "organs" we discover to include amativeness, located at the base of

the skull; philiprogenitiveness, located a little higher up; destructiveness, just over the ear; constructiveness, halfway up the side of the head; various reasoning powers, in the forehead; benevolence and veneration, located quite appropriately at the very top of the skull. In those days one could read character by feeling these bumps on the head.

Modern psychology also *locates* various functions in various parts of the brain, but does so on the basis of sound experimental evidence. The things which can be located, however, are not "powers" or "faculties," but switchboard terminals for specific *parts of the body.* Thus it has been proved that muscular action can be provoked in an animal, under vivisection, by stimulating the "motor area" of the cortex. Each part of this area leads to some specific group of muscles. It has been proved likewise that visual stimuli pass to a center in the occipital lobe and are there correlated and redistributed to other parts of the nervous system. If this center be destroyed, the animal cannot see.

To assign the various parts of the brain to "faculties" or "traits" is like assigning the various keys of a piano, one to dance music, one to classical music, one to church hymns, another to martial airs, and attributing major music to the white keys and minor to the black. Phrenology was another example of man being tricked by his language. By adding "-ness" to such adjectives as "destructive," "cautious," he made complex *patterns* of action appear as simple *qualities* or *substances*, and then committed the additional stupidity of trying to assign these qualities to specific places in the brain!

Brain parts correspond to body parts, not to powers or qualities.

Localization in the Cortex.—If a projection area is injured or diseased, some definite loss of function occurs. Such disorders are known as *aphasias.* If the visual center is injured, the patient cannot interpret what he sees. He cannot read, for example. But his visual reflexes are unimpaired; he can dodge a ball thrown at him, for such simple connections operate through lower centers (thalamus) which are not injured. Whether such a patient can "see" or not depends on your definition of "seeing." If the auditory center is impaired, the

patient continues to react to simple stimuli, such as loud noises, which have connections on a lower level, but he can no longer understand what he hears. He can talk, but only in a jumble, because he does not understand his own words when he hears them. He can read, and can answer written questions in writing.

An injury to a motor center causes the patient to lose cortical or "voluntary" control of the muscles whose pathways are impaired. Thus, if the motor speech area is destroyed, the patient speaks a jargon. Unlike the patient with auditory aphasia, he understands what he hears, and knows that his own speech is nonsense, but he cannot correct it. Likewise, an injury to the motor writing center prevents the patient from writing coherently.

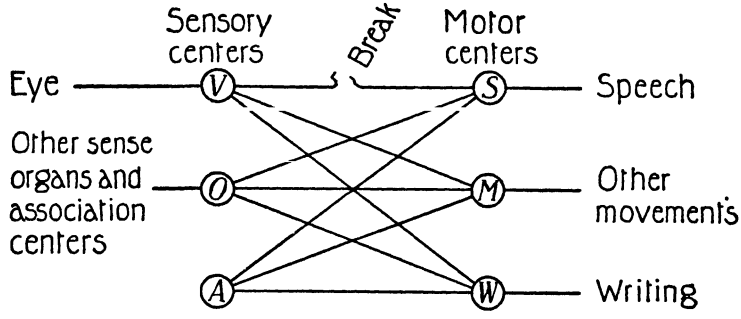


FIG. 6.—CORTICAL CONNECTIONS

It is possible for all these four centers to be intact, and to have an injury to the connecting neurons between two of them. If, for example, as in Fig. 6, the connection from the visual to the speech center is broken (*VS*), the patient is unable to read a passage aloud. He can, however, repeat aloud what is dictated to him (*AS*), or express himself coherently about any sensation or idea which does not involve visual thinking (*OS*). He also may be able to read and execute written instructions (*VM*), although he cannot read them aloud, and he can answer written questions in writing (*VW*).

NATIVE BEHAVIOR ORGANIZATION

Reflexes.—At this point the student should examine Chart I, which will be referred to many times. It analyzes what would take many pages to describe in printed paragraphs.

It is misleading to speak of inborn (or native) versus ac-

quired behavior, instinctive versus learned reactions. Strictly speaking, all simple, elementary reactions are inborn. It is the *organization* of these elementary reactions into patterns and combinations, and the connection of reactions to stimuli, which may be either native or acquired. When a stimulus or group of stimuli first enters the baby's nervous system through receptors, there are two kinds of pathways by which it may travel to the effectors. First, it may travel by a direct, biologically established pathway, through the spinal cord, and sometimes the lower brain centers (but not the cortex), to the effector organs, where it emerges in the form of a simple reaction or group of reactions (reaction pattern). Such a pathway is called a *reflex arc*, and its functioning is called a *reflex*. These reflex pathways have been, for the most part, prepared by nature before birth. They are, like bones and blood vessels, a part of the native structure of the individual, and their existence is explained by the biological processes of heredity, variation, and growth, which this book must take for granted. A few reflex arcs, it is thought, are not ready to function until some time after birth, because the necessary receptors or effectors, or perhaps (but less probably) certain connecting links, are not yet ripened or matured. Such late-maturing pathways are illustrated by the sexual reflexes. In general it has been shown that the delayed maturation of biological pathways is a delay in the *general* development of certain parts of body or brain, rather than of specific neural pathways.

Some reflex arcs, as we shall see presently, lead to definitely organized reactions, others to loosely organized and varied reactions.

Second, the above-mentioned stimulus may travel into the higher brain centers (cortex). At birth there are probably no definite organized pathways through those centers. The nervous impulse hence diffuses itself more or less at random through the nervous system, and may emerge in many small and inconsequential reactions which cannot be identified as coming from any particular stimulus. Every stimulus sends *some* of its energy into this higher area of unorganized cortical

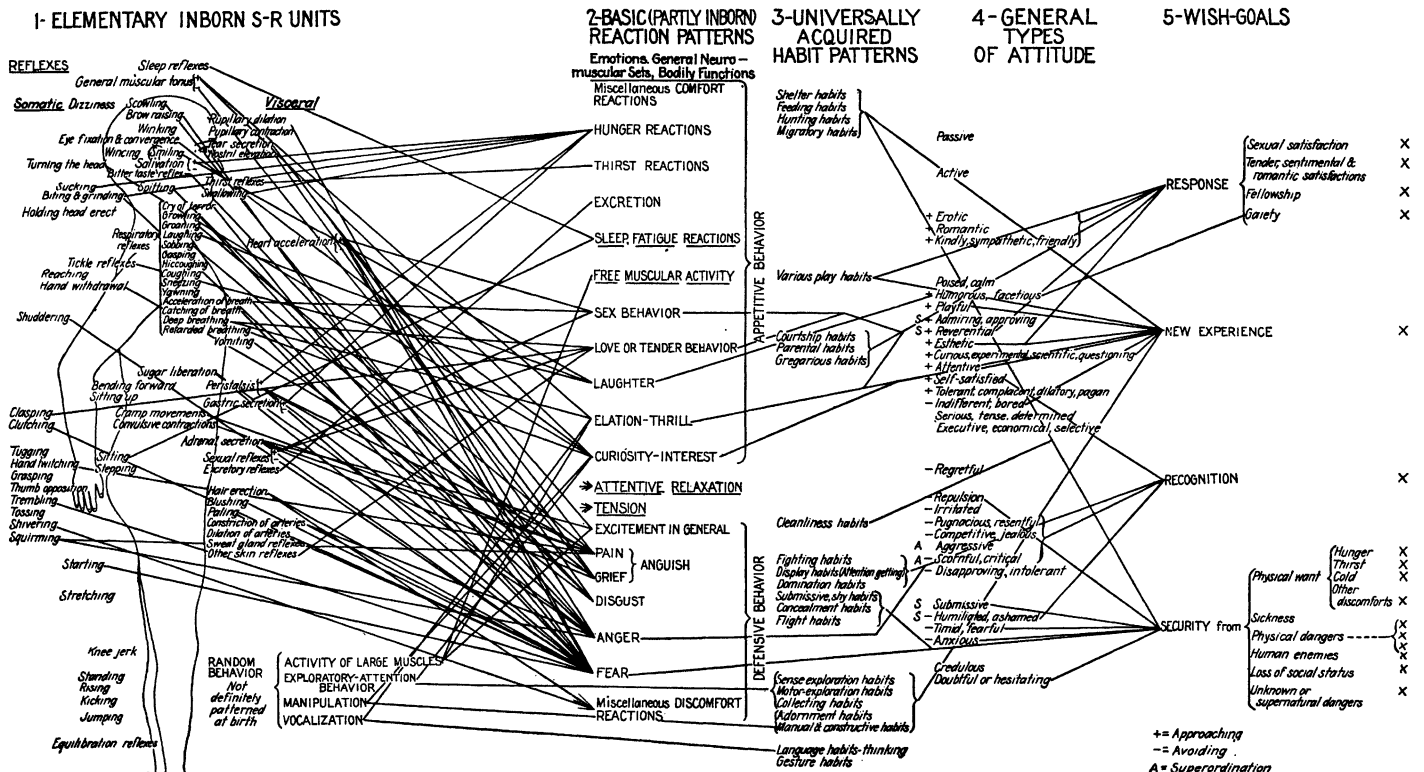


CHART I THE ORGANIZATION OF BEHAVIOR

pathways, even when it also finds a direct biological pathway. But not every stimulus has a biological pathway prepared to receive it. The process by which the higher, acquired pathways become organized will be described in the next chapter.

The stimuli which find biological pathways—in other words, provoke reflexes—are called *biologically adequate* stimuli. Only simple stimuli (as distinguished from complex combinations and configurations) belong to this class, and not all of them. With a few exceptions, biologically adequate stimuli are received only through the interoceptors, proprioceptors, and contact exteroceptors. The distance exteroceptors (eye, ear, and nostrils) register stimuli whose pathways must be organized after birth. Stimuli which are not biologically adequate are said to be biologically indifferent.

On the left side of Chart I is a list of the more important reflexes of the human being. Only the reactions of these reflexes are indicated. In most cases the stimulus which produces a given reflex reaction will be well known to the reader from everyday observation. The reflexes are located on the chart, as far as possible, so as to suggest the location of the reaction in the human body. But they are somewhat artificially arranged so that the somatic reflexes appear toward the rear, and the visceral reflexes toward the front of the human figure.

Random or Unorganized Native Behavior.—The animal begins life, however, with something more than these definitely organized connections. He shows also a great deal of *random behavior*. From the very beginning he makes reactions which appear to be provoked by no particular stimulus, and which vary greatly in form. This does not mean that the reactions or the stimuli themselves are indefinite or "vague," but that their *connections* are loose and variable.

For example, the infant makes a wide variety of leg movements. Later he makes a great variety of sounds. While some of his movements, such as grasping and sucking, are provoked by localized stimuli, others, such as kicking and goo-goo-ing, cannot be attributed to any localized stimulus. But it is not correct to say these are *spontaneous* reactions, without a stimulus. Some condition in his body prompts them. He does

not kick, or play with his hands, or prattle all the time. He does these things when he "feels well," when he has surplus energy. This condition of surplus energy or absence of fatigue toxins, is itself a *stimulus*. Somewhere in the muscles or viscera there are sense organs sensitive to this condition. These receptors are connected by loosely organized and varying pathways to the larger muscles and, when stimulated, provoke these muscles to a great variety of movements. These movements, because of their variety and their lack of rigid organization, are called "random."

The condition of "hunger," coupled with the touch of some object to the lips, stimulates sucking. Unsatisfied hunger tends to stimulate all muscles to random activity, while satiation is more likely to induce rest. Hungry animals are "restless." They move this way and that with seeming aimlessness. But the very indefiniteness of reaction is nature's method of putting them within reach of food: they are far more likely to run across food when moving about at random than when either resting or repeating many times some stereotyped movement.

Some reflexes have a more or less standardized reaction, plus variations. For example, if the skin of an infant's leg is irritated by some itch stimulus, there is a definite reaction by the *other* leg, which moves in such a way as to brush off the source of irritation. If this reaction is unsuccessful, it spreads to other muscles; there is a general kicking and squirming and then crying. Hundreds of movements will be tried until one of them finally rids the child of the itch. Likewise, the "struggle reflex" begins with a few definite pulls and thrusts by the limb which is being held, but if these fail to throw off the restraint, the whole body gets into action.

In the course of a day it is probable that every muscle in the infant's body is brought into play. Thousands of movement combinations take place, yet relatively few of these could be duplicated by applying any given stimulus. They are provoked only by chance combinations of the nervous impulses which are continually flowing from receptors to effectors. this endless -*S*—*R*- -*S*—*R* - -*S*—*R*- -.

This random behavior is essential to the development of *habits* and personality. If we began life with nothing but standardized, unvarying reflex arcs, we could never become anything more than eye-winking, sucking, swallowing, knee-jerking, sneezing, scratching, grasping, breathing, digesting marionettes. But because of the random responses, both those which accompany the more localized reflexes and those which occur independently, there is a wide variety of inborn behavior from which habits may be formed. Habits are acquired *S—R* connections. They make up the great bulk of our behavior.

Strictly speaking, all reactions are composed entirely of inborn elements. It is their connections to stimuli, and the combinations of reaction elements with each other, which may be, and are, for the most part, acquired.

Some habits are unique to individuals; others are universal. On the chart is given a list of the more important types of habits which are found universally in human beings.

Basic Reaction Patterns.—The knee-jerk reflex or the wink reflex is not the basis of anything very important in human personality. The same is true of several other reflexes on this chart. They occur mostly in isolation and never become connected to any but simple local stimuli. But, on the other hand, the heart-acceleration reflex, for example, does not begin or remain in isolation. It is connected to many stimuli and to many other reactions. It is commonly accompanied, for example, by dilation of the pupil and the secretion of adrenalin. It forms part of several more or less organized patterns, such as fear, anger, sex. It plays an important rôle in personality.

The main foundations of human behavior are these basic reaction patterns. They include the emotions, and some other things as well. Sometimes they are called instincts. Instinct, according to the standard definition of McDougall, is an inborn tendency to act, emotion an inborn tendency to feel, in a certain way toward a certain situation. But the term instinct has been applied to many acquired pathways as well, and has been so abused that psychologists are now a bit wary of using it. These basic patterns are also called innate tendencies,

native dispositions, emotion-instincts, complex reflexes, prepotent reflexes, biological urges, biological needs, physiological tensions, inborn drives, motives.

No two psychologists agree on the exact definition and classification of these patterns. They are not fixed but variable, and they occur in numerous combinations. Often it is difficult to tell how far a given pattern is inborn *as a pattern,* and how far it is acquired through the putting together of inborn elements by the conditioning (learning) process. Recent experiments indicate much less inborn fixity and distinctness of these patterns than was formerly believed to be the case. Just what any given pattern includes is largely a matter of definition. Thus one psychologist defines love so as to make it include sex, another does not. What gives a pattern such distinctiveness as it has, is the fact that it serves a more or less distinct biological need. Thus anger is that combination of reflexes which enables the animal to free himself from an outside restraint or obstacle. But it has so many elements in common with fear that both might well be defined as simply two variations of the same pattern.

The writer's scheme of classification, which he has thought over and rearranged several times, is offered in Chart I.

Emotional Behavior

Most of these basic reaction patterns include more or less emotion. What is emotion? It will take some time to answer this question completely. For the present we may say that, whatever emotion is, it always includes visceral reactions. We have seen that visceral reactions, as distinguished from somatic, are movements of the smooth (involuntary) muscles of the internal organs, and secretions by glands. We have seen also that these visceral reactions are stimulated through the autonomic nervous system. All impulses from visceral receptors must pass through afferent neurons of the autonomic system, and all impulses to visceral effectors must pass through autonomic efferent neurons. The central portion of the arc, however, generally lies in the cerebro-spinal system.

A few visceral reactions, such as the heart beat, are kept going by purely autonomic reflex arcs.

Not all visceral reactions, however, are included in the usual concept of emotion. Digestion and heart action, for example, are not called emotions, but the acceleration of the heart and the inhibition of digestive reactions, which take place in fear, are said to be emotional. Not the visceral reactions which occur more or less constantly as part of the bodily life processes, but the disturbances or unusual changes in these reactions, are called emotional.

Appetitive and Defensive Emotions.—There are two clear-cut underlying patterns of visceral reactions, and upon each of these are built the several varying and less distinct patterns listed in column 2 of Chart I. One of these underlying patterns is aroused through the action of the cranio-sacral division of the autonomic system. The other is aroused through the sympathetic division of the autonomic system.

The cranio-sacral division consists of the upper and lower portions of the autonomic, which are connected with the cranial nerves and the lower spinal nerves of the cerebrospinal. The sympathetic division is the middle portion, connected with spinal nerves which emerge within the chest and upper abdomen. For this reason it is called also the thoracico-lumbar division (see Fig. 4). These divisions act as follows:

Nervous impulse through cranio-sacral division:	Nervous impulse through sympathetic division:
Constricts eye-pupil	Dilates eye-pupil
Stimulates saliva	Inhibits flow of saliva
	Erects skin-hairs
	Excites sweat glands
Retards heart	Accelerates heart
Retards breathing	Accelerates breathing
Dilates arteries, causing lower blood pressure; tends to shift blood to internal organs	Constricts arteries, causing higher blood pressure and sending blood into somatic muscles
Stimulates digestion	Inhibits digestion
	Liberates sugar in liver

Nervous impulse through cranio-sacral division:	Nervous impulse through sympathetic division:
	Stimulates adrenal secretion
Prepares sex organs for action	Stops all preparatory sex excitement
Stimulates normal excretion	Inhibits excretion, but sometimes overstimulates colon
Is conducive to sleep	Neutralizes fatigue toxins, gives added energy, prevents sleep
Maintains normal skin circulation	Sometimes causes blushing, sometimes pallor

Visceral reactions exist because they are biologically useful. (1) The sympathetic pattern of reactions mobilizes blood and energy in the muscles, speeds up in advance the heart and lungs in preparation for struggle or flight, overcomes fatigue, suspends digestion and sex desire so that they no longer compete for the body's energy or attention. The dangers which beset an animal commonly occur in dim light or darkness; the dilated pupil helps him to see more clearly the situation which threatens him. The liberation of glycogen from the liver into the blood and the secretion of adrenalin give a sudden increase of energy to the muscles and destroy fatigue. Who has not experienced the instant disappearance of a drowsy, lazy feeling under the influence of anger or fear? When these emotions are aroused, the tired man jumps from his chair like an athlete, the hungry man drops his knife and fork and feels a "lump" in his stomach, the amorous man suddenly loses all sexual or romantic feeling. More than that, coagulation of the blood results more quickly, thus checking the bleeding from wounds which are apt to occur during emergencies.[1]

F. S. Hammett[2] removed the parathyroid glands from two groups of white rats. One group was wild and showed frequent fear and anger. Of these, seventy-nine per cent died within

[1] See CANNON, W. B., *Bodily Changes in Pain, Hunger, Fear and Rage,* Appleton, 1915; CRILE, G. B., *The Origin and Nature of the Emotions,* Saunders, 1915; and CRILE, G. B., *Man, an Adaptive Mechanism,* Macmillan, 1916.

[2] "Observations on the Relation Between Emotional and Metabolic Stability," *Amer. Jour. Physiol.,* vol. liii, p. 307 (1920).

forty-eight hours after the operation. The other group had been tamed or "gentled." Of these, only thirteen per cent died within forty-eight hours after the operation. Evidently parathyroid secretion is more necessary to the life of animals under the emotional excitement of the sympathetic system. S. Hatai and F. S. Hammett[3] found that a piece of intestinal tissue from a previously excited rat relaxes when touched by sodium carbonate, but if taken from an unexcited rat, it contracts. Hammett found that in emotional, excitable persons there is a greater variability (more extreme ups and downs) of the soluble nitrogenous materials in the blood than there is in phlegmatic individuals. Emotion affects the bodily metabolism and may thereby, in time, cause more or less permanent bodily changes. Temperament, thinks Hammett, is both a result and a cause of bodily constitution.[4]

(2) The cranio-sacral division regulates circulation, breathing, and digestion in such a way as to further the growth processes, the assimilation of food, the recuperation from fatigue. It also maintains the body in a condition favorable to sexual excitement.

Hence let us tentatively call the visceral reactions aroused through the cranio-sacral division *appetitive*, and those aroused through the sympathic, *defensive*. Dashiell calls the latter "emergency" emotions.[5] In general, the appetitive reactions are reported "pleasant," the defensive reactions "unpleasant." Some psychologists hold that pleasure or "pleasantness" is the condition due to the operation of the cranio-sacral system, and "unpleasantness" the condition resulting from the operation of the sympathetic.[6] But the matter is not so simple, as we shall see later.

G. M. Stratton says that there is a general, undifferentiated emotion of *excitement*, which may be either pleasant or unpleasant, and which may occur in anger, fear, love, or other emotional states.[7] Excitement certainly involves a rapid heart, raised blood pressure, and belongs to the sympathetic, defen-

[3] *Ibid.*, p. 312.

[4] "Temperament and Bodily Constitution," *Jour. Comparative Psych.*, vol. i, p. 489 (1921).

[5] *Fundamentals of Objective Psychology*, Houghton Mifflin, 1928, p. 151.

[6] ALLPORT, F. H., *Social Psychology*, Houghton Mifflin, 1923, chap. iv.

[7] *Feelings and Emotions*, the Wittenberg Symposium, Clark University Press, 1928.

sive pattern. Yet it may be accompanied by other reactions which cause us to judge it pleasant. When the cranio-sacral, appetitive reactions *alone* are functioning, we experience calm, unexcited pleasure. But let us not confuse ourselves at this point with the question of pleasantness and unpleasantness. Pleasant and unpleasant are judgments which a subject renders concerning a situation or experience. We are now interested in the actual reactions which are taking place. In general, appetitive and defensive visceral reactions are antagonistic, but there is no proof that *some* reactions of the one class cannot take place simultaneously with *some* reactions of the other class.

In general, the defensive reactions are provoked in the beginning by conditions in the external environment. To this rule bodily pain might at first seem to be an exception. Some kinds of pain are produced by internal conditions. But these conditions are accidental and not normal; they are usually produced by microörganisms ("germs"), or by physical injuries incurred through abnormal behavior. Indirectly, if not directly, pain is the result of external causes, as surely as are anger, fear and disgust. Of course we often are angered, grieved, affrighted by *ideas*, which are internal stimuli. But these are not the original, biologically adequate stimuli. They do not trouble the animal or newborn child. They are acquired.

On the other hand, the appetitive reactions are provoked *in the beginning* by those changes in the body which occur in the normal course of bodily functioning.

The pangs of hunger, the restless urge of sex desire, the restlessness which follows prolonged rest, the fatigue which follows exertion, the pressure of retained excreta: these conditions, though often judged "unpleasant," are of entirely different character from "pain." They are conditions which *normally recur* in the daily cycles of the bodily processes; they are due to the bodily functions themselves and not to metaphorical monkey wrenches thrown into the machinery by the external environment.

The general rule, however, seems to have exceptions. Watson proved that love reactions could be provoked in infants by tickling, rocking, patting, turning the body on the stomach, stroking or manipulating the erogenous zones. Certainly these are external stimuli. Again, the baby shows joyful curiosity at seeing new objects. He delights in pure external sensations. But let it be remembered that the baby explores with his hands and eyes only when he has an internal condition of surplus energy in his muscles. Most of the time he sleeps. After sleep there is an inner urge toward activity, and the pleasures of seeing and hearing are due largely to the connection of external stimuli to this internally aroused pleasure. The baby delights in the sights of the world because he rarely needs to look at the world except when he is rested and internally happy. In the case of sex and love reactions, while they can be aroused by external skin stimulation without previous experience, yet it seems that a suitable internal condition is usually necessary to make the external stimuli work. Great fatigue, pain, or fear makes it difficult or impossible to arouse love or sex reactions by any manner of external stimulation. So in the last analysis appetitive reactions depend upon internal stimuli. On the other hand, the defensive reactions are not dependent on any internal condition. They can be aroused by the proper external stimulus, whatever the condition of the body.

Types of Emotion.—According to the older psychology, there are several distinct inborn types of emotion, both appetitive and defensive. McDougall, for example, says the fundamental emotions are fear, anger, disgust, love, wonder, subjection, and elation.[8] Recent experiments, however, lead us to a somewhat different view. What we have assumed as distinct emotions are merely certain rather frequently observed patterns to which we have given names, but these patterns have in part been assembled by the learning process rather than by native structure, and differ considerably among individuals. As Woodworth says, "all experimental efforts to find

[8] *Introduction to Social Psychology,* Luce, 1926, chap. iii.

a characteristic bodily expression of each emotion have failed."[9]

Hornell Hart advances the hypothesis that emotions are merely different forms of nervous energy. When the output of nervous energy increases above the normal, it tends to be used in four different types of reactions: (1) modified metabolism (*i.e.*, visceral reactions); (2) disorganized safety valve movements, such as wringing the hands, pacing, drumming, tensing various muscles, and other somatic reactions which have no adjustive valve, but merely serve to use up energy; (3) signals, that is vocal and facial somatic reactions which are sometimes useful in communicating our emotional state to others; and (4) movements related to the stimulus, such as running away, attacking, caressing, and other somatic reactions which help us adjust to the situation.[10]

It may be more useful to classify an individual according to which of these classes of reactions he emphasizes in his emotional behavior, than according to the particular type or pattern of emotion he seems in the main to show. Thus, instead of designating individuals as irascible, timid, or affectionate, we might more scientifically designate them as inclined toward visceral reactions, disorganized limb movements, vocal expression, facial expression, or active adjustment. Japanese culture trains people to repress especially the facial expressions of emotion; well-bred American adults in general repress most of the somatic reactions, and express their emotions in certain regulated forms of language. Perhaps these repressions of somatic reactions tend to cause an increase in the visceral reactions; perhaps this is one cause of civilized high blood pressure and heart ailments; we do not know.

The Experimental Study of Emotions.—Carney Landis, says W. I. Thomas, has made "probably the most outstanding attempt" to observe the patterns of emotional reaction. In a laboratory arranged like a studio, he confronted singly his twenty-five subjects with sixteen situations, each designed to provoke vigorously a typical "emotion." These situations

[9] *Feelings and Emotions,* the Wittenberg Symposium, Clark University Press, 1928, p. 224.

[10] "The Transmutation of Motivation," *Amer. Jour. Sociology,* vol. xxxv, p. 588 (1930).

included music, reading of the Bible, the telling of lies by the subject, ammonia, a fire-cracker exploded under the chair, pictures of skin diseases, mental arithmetic with distracting noises, pornographic pictures, art studies, sex case histories, the unexpected touching of frogs in a pail of water, decapitation of a live rat by the subject with a butcher knife, and electric shocks. The experimenter also asked the subject to write a full description of the meanest, most contemptible, or most embarrassing thing he ever did, and then unexpectedly read this description aloud to the subject. The subject was surrounded with a battery of apparatus and observers, concealed as far as possible, by which his blood pressure and respiration were measured, his face photographed, his conversation recorded.

The subjects were asked later to estimate how long it took to recover from the emotional disturbance. They were also rated, by persons who knew them, on the traits of "emotional stability" and "expressiveness." Several other tests were given them.

The results obtained shatter many of our preconceived ideas about emotions. In general, they show that the patterns of emotional response are not nearly so definite, nor so uniform as between individuals, as we formerly believed. All the various kinds of visceral and somatic reactions appeared among the subjects, but not in uniform combinations. The photographs showed that there was no facial expression which was a typical reaction, among all or many of the subjects, to any one of the given situations. For instance, the rat decapitation provoked quite different facial expressions among the different subjects. But each subject had certain response patterns of his own, which appeared in several different emotions. Some used many hand movements at all times, others tried to resist all the situations. Certain subjects habitually used certain facial expressions in many or all emotional situations. In the reaction to the electric shock there was a definite sex difference. The men frequently became angry and profane, the women often cried and begged.

Emotional stability, as measured by the subject's estimate of his quickness of recovery from the upset, showed no correlation with the degree of facial expressiveness shown by the photographs. This result shows that we cannot tell from a person's facial expressiveness of emotion the amount of inner disturbance he suffers. Indirectly the results suggest that, if anything, the more expressive persons suffer less inner dis-

turbance. But there were good correlations between slowness of recovery and the amount of increase in reaction time produced by the emotions. (Reaction times were measured by tests just before and after the emotional experiment.)

A most remarkable result, quite contrary to the prevailing theory, was that the subjects who showed the more frequent and more extreme changes of systolic blood pressure during the experiment were quicker to recover. This does not disprove that blood pressure changes are part of emotions; it simply undermines the theory that the degree of blood pressure disturbance indicates the intensity of the other reactions which go with it. Instead, large vascular changes may simply indicate that the person's emotion is specialized in that channel and flows to a lesser extent into the channels of facial reaction, etc.[11]

Doubtful Biological Reality of Traditional Emotions.—J. F. Dashiell concludes from such experiments that the typical emotions which we have given the distinct names of anger, fear, disgust, and so on, are merely "socially determined constructs," stereotypes (see Chapter IX) which exist in our traditional lore, but not in actuality.[12] According to this view, naming the emotions is very much like naming the heavenly constellations. Our eyes pick out various patterns of stars, triangles, squares, dippers, bulls, bears, and so on. A naïve observer, unacquainted with the traditional astronomy, might choose to see an entirely different set of figures. None of the traditional constellations has any real unity, nor is any one of them a "typical" or "normal" arrangement of the stars. They are merely social constructs, that is, units from the standpoint of human language and folklore, but not from the standpoint of physical reality.

However, the above view is too extreme. The experiments certainly have not proven, for example, that a smile accompanies a palpitating heart as often as it does laughter, or that

[11] LANDIS, C., GULLETTE, R., and JACOBSEN, C., "Criteria of Emotionality," *Ped. Sem.*, vol. xxxii, p. 213 (1925); LANDIS, "General Behavior and Facial Expression," *Jour. Comparative Psych.*, vol. iv, pp. 447-501 (1924); vol. v, p. 221 (1925); vol. vi, p. 221 (1926).

[12] "Are There Any Native Emotions?" *Psych. Rev.*, vol. xxxv, p. 319 (1928).

wide-opened eyes accompany active digestion as often as they do trembling limbs.

Attitudes as Distinguishing Marks of Emotions.—On Chart I we have assumed the existence of certain flexible basic patterns, whose elements are hitched together by more or less inborn connections, and most of which involve some visceral reactions. The experimental evidence has shown that these patterns do not occur in their complete form, with any consistent regularity, in response to laboratory imitations of the situations which are supposed to stimulate them. The evidence is not sufficient, however, to prove their complete non-existence in response to life situations. There may be no uniformity in the reaction patterns which several individuals show toward a standardized laboratory firecracker explosion, but this does not disprove that every individual has *some* situation, differing according to the individual, toward which he will show a reaction pattern which he calls "fear," and which has certain elements in common with what each of his fellows calls "fear." Let us therefore try to discover the basic minima of these patterns which general observation seems to reveal. Woodworth, Rose Malmud, Hornell Hart and others suggest that the distinguishing mark of such a typical emotional pattern may be the attitude of the subject toward the stimulus—in other words, the general type of overt behavior adjustment toward which he is set. Thus the common feature of your "fear" and my "fear" may be the fact that each of us is prepared in his own way to escape or to hide, rather than to attack or to caress, and not any identical pattern of actual reactions either of viscera, voice, face, or limbs. Hence, we might define "an emotion" as *a flexible pattern of visceral, facial and vocal reactions accompanying a fundamental attitude,* or as *a fundamental type of attitude supported by visceral reactions.*[13] Beside this universal factor, there are probably other elements which are included in fear in the majority of persons.

[13] HART, *op. cit.*; MALMUD, ROSE S., "Poetry and the Emotions," *Jour. Abnormal and Social Psych.*, vol. xxii, p. 443 (1928); WOODWORTH, *op. cit.*, in the Wittenberg Symposium.

Fear seems to be one or more of the defensive, visceral reactions (excitement) coupled with an overt preparation to run away or hide, that is, to escape the situation, and in extreme cases with wide-opened eyes, stoppage of breath, and other adjustments designed to enable the subject to see or hear more clearly.

Anger seems to consist of excitement plus somatic adjustments to attack or struggle with the stimulus, often including a baring of the teeth and setting of the jaw as if for biting.

Anguish seems to mean a lesser degree of excitement, but with disturbances of breathing, a tendency to close the eyes and bow the head, to tense one or more muscles. It includes whatever reactions the individual is accustomed to make to help him endure a stimulus which cannot be escaped or attacked. This stimulus may be bodily pain, or an irremovable mental stimulus (ideas of loss, disappointment, etc.). In the former case, we call the reactions simply pain; in the latter case we call them grief, sorrow, or mental suffering.

Among the variations of anguish are groans, rubbing of painful areas, clenching the fists, wringing the hands, etc. Cannon has shown that adrenalin and glycogen are secreted in response to bodily pain.

F. H. Lund[14] holds that weeping belongs to the cranio-sacral rather than to the sympathetic underlying pattern. Tears do not occur in depressive psychoses and seldom in very young infants. They occur when tension is relieved, when suffering is being alleviated. The knowledge of this fact should bring considerable change in our traditional attitude toward weeping. What is conventionally regarded as a weak and undignified expression of suffering is really a sign that the suffering is being relieved and perhaps also a means of relieving it. Tears flow when the bereaved thinks over the pleasant memories of the departed, when the anxious or lovesick person is suddenly relieved by a hopeful or satisfying turn of events.

Disgust means a set toward movements designed to rid the nostrils, mouth, or stomach of an offending stimulus. Its most common expression is facial, but in extreme cases it may in-

[14] "Why Do We Weep?" *Jour. Social Psych.*, vol. i, pp. 136-151 (1930).

volve spitting or vomiting. There may be no inherent connection between turning up the nose and vomiting, and the traditional classification of these two reactions under the one heading of "disgust" may be due simply to the fact that the stimuli which cause the two reactions are more or less associated in the environment. In other words, disgust may be an unusually good example of an emotion which is an environmentally determined construct rather than a single inborn pattern.

Hunger means a sequence of many varied reactions of limbs, mouth, glands, stomach, intestines, the only unity of which is that they are all designed to get food.

In *love*, something commonly takes place in the chest, skin, or blood vessels which gives rise to that feeling we call "tenderness." We do not know exactly what that something is. It may be slight tensions in the chest and arm muscles which are used in hugging and caressing, obscure reactions of the blood vessels of the skin, breathing disturbances such as produce the "sigh," and so on. Preparatory reactions in the sex organs sometimes accompany these, and sometimes are entirely absent. Although the sex reactions are mainly appetitive and cranio-sacral, yet they seem often to be accompanied, at certain stages, by some of the defensive reactions of excitement. The essential characteristic of the patterns of reaction known as love is that they tend toward close bodily contact with a loved object.

In the emotional states called elation, thrill, ecstasy, enthusiasm, interest, fascination, and so on, there are often reactions in the chest similar to those we find in love.

Curiosity or *interest* seems to be often a combination of certain of these chest reactions with a mild salivary secretion, and marked *attention* reactions. Attention reactions are the movements which set the eyes and ears toward keener reception of stimuli. The head is set in a definite posture, eyes and ears directed toward the stimulus, breathing is shallow, and often spasmodic, because this enables us to see, hear, and concentrate better. These attention reactions are similar to those which occur in fear. Yet we assign interest to the appetitive

group of patterns because it indirectly furthers the normal bodily processes (as by seeking food), is usually free from excitement and is judged pleasant.

Curiosity or interest has a biological utility. It seems to be of no immediate advantage and, in fact, often gets us into trouble. But in the long run those animals which spent their spare time exploring and searching became more familiar with their environments than those which only ate and slept. They were, therefore, in a better position to find food or to satisfy sex under circumstances of scarcity. Hence they survived and had offspring; the others perished sooner and left fewer offspring.

Mirth is a rather definite pattern. Its main feature is the convulsive movements of the diaphragm, forcing air out against strong resistance in the larynx, causing the loud vocal sounds we call laughter.

Emotional Reactions Serving as Social Signals.—The biological utility of an emotional reaction may be social rather than physical. Thus it may be that the various cries which go with anger, fear, and anguish are of more importance in warning other individuals than in discharging the nervous energy of the subject. Certainly the survival of the infant depends upon his making known his bodily state to his mother.[15] Donald Hayworth has suggested the interesting theory that the main function of laughter is to advise one's fellows that there is no danger, that they may now relax, feed, or play.[16] Older theories held that laughter was a getting rid of surplus energy or tension aroused by tickling, and by other situations in which tension is followed by sudden relaxation.

The face muscle reactions in emotions are useful as social signals. Allport classifies emotions according to their facial expressions as follows:[17]

(1) The pain-grief group, characterized by oblique brows, both horizontal and vertical wrinkles on the forehead, droop-

[15] NONY, C., "The Biological and Social Significance of the Expression of the Emotions," *Brit. Jour. Psych., Gen. Sec.*, vol. xiii, p. 76 (1922).

[16] "The Social Origin and Function of Laughter," *Psych. Rev.*, vol. xxxv, p. 367 (1928).

[17] ALLPORT, F. H., *op. cit.*, pp. 203-208.

ing eyelids, weakly set mouth with lowered corners or partly open and drawn to one side.

(2) The surprise-fear group, characterized by widely opened eyes, oblique brows, horizontal forehead wrinkles, mouth firmly set but open, nostrils sometimes dilated.

(3) The anger group, characterized by brows sloping inward instead of outward, vertical forehead wrinkles, well opened eyes, protruding jaw, exposed lower teeth, dilated nostrils.

(4) The disgust group, characterized by a drawing up and shortening of the nose, lowered, opened mouth corners, raised lower eyelids, protruded and raised lower lip.

(5) Pleasure group, characterized by raised mouth corners, partly closed eyes, sometimes exposed upper teeth. The various kinds of pleasant (appetitive) emotion are not so readily distinguishable in the face as are the various kinds of unpleasant (defensive) emotion.

(6) Attitudinal group, which includes various intellectual facial expressions: the raised brows of doubt, the pursed lips of incredulity, the firmly set jaw and lips of determination.

Darwin held that these facial expressions are the survivals of useful habits in our ancestors. Our sub-human ancestors got along in life by biting their enemies; hence we, in rage, show our teeth. Allport, taking the more modern point of view, holds that while biting, *as a random reaction,* is inherited, its peculiar *connection with anger* is not inherited, but acquired through childhood trial and error. We show the teeth in rage because *we ourselves* as children *learned* to bite in rage.[18]

H. S. Langfield showed 105 pictures of emotional facial expressions to five or six subjects, and asked them to name the expressions. Only 33 per cent of the judgments were correct.[19] F. H. Allport in a similar experiment with several classes of students found an accuracy of 45 to 50 per cent. Individuals ranged from 21 to 72 per cent. There was no great sex difference.[20] Both Langfield and Allport found laughter to be most accurately identified; bodily pain stood high; anger, doubt, and disgust were much less readily identified. Allport had twelve young women study labeled pictures of facial expressions for fifteen minutes between their first and second trials

[18] *Op. cit.*, p. 214.

[19] "The Judgment of Emotions from Facial Expressions," *Jour. Abn. Psych.*, vol. xiii, p. 172 (1918-1919).

[20] *Op. cit.*, pp. 223-230.

at this test. This study raised the average accuracy from 48.8 to 54.7 per cent. Most remarkable was the fact that the three subjects who had the best judgment scores to begin with (64, 61 and 59 per cent) were made less accurate by studying the chart, while the remaining nine subjects improved, tending to make all more nearly equal. The greater the lack of original ability, the greater was the improvement. Popular theory would say that the naturally good reader of faces has an "intuition" which is hindered rather than helped by scientific study.

These individual differences are probably due to differences in habits of observation. Some of us habitually watch others' faces and think about them, some watch but don't think, and some of us have a certain shy attitude which causes us to avert our gaze from others' faces when they are showing emotion.

Carney Landis found that observers, on the average, could not name the emotions portrayed in photographs with any greater accuracy than that due to mere chance guessing.[21]

J. P. Guilford, in "An Experiment in Learning to Read Facial Expression,"[22] gave his subjects ten days' training. They gained on the average 51 per cent in their accuracy. The poorer judges gained the most, and there were no sex differences.

Mandel Sherman found that, in general, adults could not correctly distinguish the sounds of the various emotional cries of infants without knowing the stimulus. His experiment was unique in. that he studied normal emotional reactions free from the laboratory sophistication which occurs in adult subjects.[23]

The Detection and Measurement of Emotion.—Several methods have been devised for detecting and measuring emotions.

(1) In the defensive emotions, the ratio of the time taken to inhale to the time taken to exhale is greater than usual. This $\frac{I}{E}$, or inspiration-expiration ratio, has been used to detect lying, for when lying, one is apt to be under greater emotion than when telling the truth. However, some people are too much frightened by the situation itself to remain calm even when telling the truth, and the ratio is raised with no

[21] *Jour. General Psych.*, vol. ii, p. 59 (1929).

[22] *Jour. Abn. and Soc. Psych.*, vol. xxiv, p. 191 (1929).

[23] "The Differentiation of Emotional Responses in Infants," *Jour. Comparative Psych.*, vol. vii, pp. 265-283, 335-351 (1927); vol. viii, pp. 385-394 (1928).

significance. Experiments show the test to be valid in a majority of cases but not sufficiently certain to determine the action of a court.

(2) The heart rate and blood pressure usually rise during the defensive emotions, particularly fear. The raised blood pressure is caused partly by constriction of the arteries, which is a part of the sympathetic pattern, and partly by the faster or stronger heart beats. Some persons, however, show a fear pattern which does not include the blood pressure rise. The physician's familiar instrument which he attaches to our elbow during a medical examination enables him to measure our blood pressure. He pumps air into the rubber elbow bandage until he can no longer feel the pulse in our wrist, then he reads the pressure gauge and knows that this pressure has just equalized the pressure in the radial artery.

M. N. Chappell found that he could distinguish with 87 per cent accuracy whether a subject is telling the truth or deceiving, by observing blood pressure. The average rise of blood pressure among several subjects was 5.1 mm. when they told the truth, and 20.8 mm. when they tried to deceive the experimenter. But it was not the mere consciousness of deception nor mere mental work which affected blood pressure. It was the degree of excitement. In a control experiment the subjects were given a task in which they might either lie or tell the truth, but in which they were given to understand that it did not matter which they did. All exciting anticipations and circumstances being thus removed, there was no rise in blood pressure, either with truth telling or deception. Again, when the subjects were given a task, purporting to be an intelligence test, to be done honestly, their blood pressure rose in much the same manner and degree as when they were deceiving. They thought that something depended on the result and hence became excited.[24]

Landis failed to find any basis for the theory that truth can be distinguished from falsehood by blood pressure measurements. He did find, however, that the inspiration-expiration ratio averaged about 40 per cent during truth, and 60 per cent during falsehood. But there was such a large overlap as to make the test inconclusive for any one case taken separately.

Landis and Slight found that surprise affected the heart

[24] "Blood Pressure Changes in Deception," *Arch. Psych.*, no. 105 (1929).

action in all of their ten normal subjects, in none of their five melancholic patients, and in two of their seven dementia præcox cases.[25]

C. W. Darrow, reviewing 76 experimental studies, finds that emotional reactions which follow directly upon sensory stimulation tend to include relatively more constriction of the blood vessels, perspiration, and psycho-galvanic reflexes (changes of electrical resistance of the skin), while emotional reactions following thought process tend to show more cardiac activity.[26]

Landis found that fear, surprise, and sex situations in general raised the blood pressure, while anger and disgust did not change it. J. C. Scott, studying one hundred subjects, found that sex situations raised the blood pressure on the average 13 mm., while anger situations did not materially change it, and fear situations reduced it 3 mm.[27]

These findings seem contrary to the theoretical patterns described above, according to which anger and fear are defensive reaction patterns which operate through the sympathetic system, which is known to raise blood pressure, while sex emotion is an appetitive, cranio-sacral pattern which theoretically should not increase blood pressure. But let us remember that these investigations were made under laboratory conditions. We might well expect a subject, being watched by the investigator, to show high blood pressure when a sex situation was portrayed on the moving picture screen (used in Scott's experiment). Scott may not have been measuring the blood pressure of real sex emotion, but of the excitement of embarrassment. Again, the fear and anger aroused by pictures and other laboratory situations may be modified reaction patterns quite different from those provoked by more genuine situations.

(3) The volume of the arm is somewhat increased by the extra blood supply during the defensive emotions. This may be measured by immersing the arm in a liquid.

(4) The method considered most valuable by many is the

[25] "Studies of Emotional Reactions, VI: Cardiac Responses," *Jour. General Psych.*, vol. ii, p. 413 (1929).

[26] "Differences in Physiological Reactions to Sensory and Ideational Stimuli," *Psych. Bull.*, vol. xxvi, p. 185 (1929).

[27] "Systolic Blood Pressure Fluctuations with Sex, Anger, and Fear," *Jour. Comparative Psych.*, vol. x, pp. 97-114 (1930).

galvanometric. A small electric current is passed through a portion of the skin, usually on the finger, and the strength of this current is measured by a galvanometer. During emotional reactions this current changes in strength, owing to changes in the skin resistance. These are variously believed to be produced by action of the sweat glands, or of the small blood vessels, or of muscles. The galvanometer reveals many emotional reactions which are not indicated by the other tests. A great deal of research work is being done with it, but we are still far from satisfactory conclusions.

David Wechsler thinks, as a result of his experiments, that the galvanometer is better than any other physical indicator of emotion. He finds a correlation of .66 between the galvanometer reading and the subject's introspective estimate of the strength of the emotion. Sometimes, however, the instrument reacts when the subject feels no "affective tone," and *vice versa*.[28]

Wechsler and Jones measured the extent to which the degree of galvanometer deflection, produced by a given stimulus, correlates with the deflection produced by the same stimulus given at a later time. This "self-correlation" was +.76.[29] When they paired each stimulus with another stimulus which imposed a similar task, the correlation was +.50. When they paired each with a dissimilar stimulus, such as a loud sound with a word, the correlation was only +.22.

R. J. Bartlett and others find that the galvanometer reaction goes with a variety of mental states which are of a "knowing" or "willing" rather than of a "feeling" character.[30]

Washburn and Pisek gave their subjects a number of stimulus words while they were connected to a galvanometer. After each word they were supposed to keep thinking until a pleasant or unpleasant association arose. The pleasant and unpleasant emotions were found to produce, on the average, equal effects on the galvanometer, but the subjects who were rated as cheerful showed greater average deflections than the depressed or gloomy individuals.[31]

[28] "The Measurement of Emotional Reactions," *Arch. Psych.*, no. 76 (1925). For explanation of correlation, see Chapter VI of this book.

[29] "A Study of Emotional Specificity," *Amer. Jour. Psych.*, vol. xl, p. 600 (1928).

[30] "Does the Galvanometer Phenomenon Indicate Emotion?," *Brit. Jour. Psych., Gen. Sec.*, vol. xviii, p. 30 (1927).

[31] *Amer. Jour. Psych.*, vol. xxxvi, p. 454 (1925).

Other indicators of emotional reactions include the pulse rate, respiration rate, trembling, inhibition of gastric secretion, the presence of blood sugar and other substances in the blood, fluctuation of the pupil, disturbance of handwriting.

Verbal Reactions as Indicators of Emotion.—Besides these simple physical indicators, there are other more complex and indirect methods of detecting emotion. Most important is the association method made famous by Jung in connection with psychoanalysis. The experimenter reads a list of words to the subject and tells the subject to react to each word by speaking the first associated word which comes to his mind. The experimenter, for example, says "cat," the subject commonly replies "dog." The normal reaction time is about 0.15 seconds. Kent and Rosanoff have published a frequency index showing the different reactions actually made to each of their 100 standard words, and the number of times each was made among 1000 subjects. This table allows us to say whether a given reaction is common or unusual (idiosyncratic).[32]

If the reaction time is delayed, the subject is presumed to have an emotional reaction to the word. Also if his reaction word is an unusual one, if he repeats the stimulus word, or repeats the same reaction word over and over again, or uses superficial associations which show that he has selected his reaction in advance, or fails to make any response, or fails to give the same reaction on a second trial of the series, we may suspect emotion.

Emotion may be detected also by its effect upon memory. Whately Smith had his subjects memorize a list of words, and also took a galvanometer observation as each word was read to the subject. He found that the words which were unusually well remembered and also the words which were most readily forgotten showed higher galvanometer deflections than the words of average memory value. He measured memory value by the number of times a word was remembered on five occasions, separated by increasing intervals of time. He finds that words which show "disturbed reproduction" by Jung's method

[32] Reprinted in ROSANOFF, A. J., *Manual of Psychiatry*, Wiley, 1920, pp. 547 ff. See also SMITH, WHATELY, *Measurement of Emotion*, Harcourt, Brace, 1922.

(*i.e.*, fail to elicit the same response words on a second trial) usually have a negative (unpleasant) emotional tone, and that this disturbance of reproduction is a better "complex indicator" than is delay in reaction time. But the galvanometer indicates both pleasant and unpleasant emotions.[33]

A. J. Anderson and F. J. Bolton found by experiment that pleasant and unpleasant stimuli are recalled about equally well, and each better than indifferent stimuli.[34]

General Neuromuscular Sets

Neuromuscular Sets as Genuine Biological Reaction Patterns.—There is still another class of basic reaction patterns which are very important in explaining the acquired organization of behavior to be discussed in the next chapter. These are somatic rather than visceral reaction patterns, and might be called *general neuromuscular sets* (or general motor attitudes). We may distinguish at least four of these fundamental sets: (1) *sleep* or inattentive relaxation, in which the body is set to rest and also to shut out all stimuli; (2) *attentive relaxation,* in which there is muscular tonus but no tension, a sitting posture or mild muscular activity, with sense organs alert to receive whatever stimuli are coming from the environment; (3) free *muscular activity,* "friskiness," a condition of surplus energy which arouses a tendency toward vigorous random muscular action; (4) *tension* or strain, in which there is a tendency toward rigidity because of the excessive but balanced tensions of antagonistic muscles, with occasional outbursts of violent, jerky, or restless movements. (1) is a normal result of fatigue, (3) of the unusual absence of fatigue. (2) and (4) may occur with many intermediate degrees of fatigue or energy.

The reality of these four patterns is attested by everyday observation. We know from common experience that when a person shows certain symptoms of sleepiness he usually shows the other symptoms also; that when he feels relaxed in

[33] Smith, Whately, *op. cit.*; Washburn and Pisek, *Amer. Jour. Psych.*, vol. xxxvi, p. 454 (1925); Jones, H. E., "Emotional Factors in Learning," *Jour. General Psych.*, vol. ii, p. 263 (1929).

[34] *Jour. Abnormal and Social Psych.*, vol. xx, p. 300 (1925).

his legs he is also (barring mild specialized movements for a purpose) relaxed in his arms; that when he feels like walking vigorously for the mere pleasure of exercise, he also feels like swinging his arms, dancing, and exercising in general; that when he is tense and strained in his face muscles, he is usually so in his limbs also, that he fidgets with several parts of his body or else none at all, and so on. Again, we know that fatigue, drugs, disease, toxins, and other *general* conditions in the body produce these reaction patterns, and they appear as clear-cut in infants as in adults.

We may therefore assume that these are genuine biological reaction patterns and not, like some of the emotions, acquired or chance assemblings of originally independent and specific reactions. The writer does not hold that all states of tension are the same in the muscles they affect; there are many more or less local and partial tensions. But these are sufficiently connected, or sufficiently similar in their effects upon the whole nervous system, regardless of their location, to be identified by the subject and reacted to in certain common ways. It is the writer's theory that these general neuromuscular sets are the essential bases of "pleasantness" and "unpleasantness." (1), (2), and (3) are pleasant, (4) is unpleasant. Appetitive visceral reactions commonly go with (2), attentive relaxation, perhaps somewhat with (1), sleep, but rarely if ever with (3) or (4). Defensive visceral reactions most commonly accompany (4), tension, but occasionally they go with (3), free muscular activity, giving rise to pleasant excitement. Tension possibly always carries some defensive emotional reaction with it; the other three sets often seem to exist without any emotional reactions whatever.

Theories of Pleasantness—Unpleasantness.—At least since Plato's famous dialogue in 362 B.C., philosophers and psychologists have speculated on the nature of "pleasure" and "pain." The psychologists who believe in studying mind by introspection hold that pleasantness and unpleasantness are primary "states of mind" which cannot be analyzed, and which are always present in emotion. Thus Titchener says:

The writer holds that there is an elementary affective process, a feeling element, which in our minds is coördinate with sensation and distinguishable from it, but which is nevertheless akin to sensation and is derived from the same source, made (so to speak) out of the same kind of primitive mental material: this elementary process is termed affection. He holds, further, that there are only two kinds or qualities of affection, pleasantness and unpleasantness.[35]

The objective psychologists, who analyze mind into stimuli and reactions rather than into states of consciousness, and who regard introspections as only indirect evidence, are of course not satisfied with any such statement. They want to know the physiology of pleasantness and unpleasantness, what they *are*, and not merely what they feel like to the subject. They have advanced many theories, identifying these feelings respectively with cranio-sacral and sympathetic functioning, with approaching and avoiding reactions, with mild sex excitation and some opposite reaction, with unimpeded and impeded nervous impulses through the thalamus, with facilitation and inhibition of the nervous impulse flowing through any given channel, with increased and reduced tension.

M. F. Washburn,[36] reviewing the recent literature up to 1927, tells us that the general trend of the theories is toward explaining pleasantness and unpleasantness in terms of active striving or tension, and H. Cason,[37] who represents this modern point of view, holds that pleasure is present only while tension is being reduced.

A Verbal Analysis of the Problem.—The only objective fact which we can observe is that every person reacts to something or other by using the *word* "pleasant." Is this something the same for all, or does it differ with each individual? We can be sure that all persons mean the same thing by the *word* "dog," because there is an objective reality, open to common observation, by which we can check each individual when he

[35] *A Text-Book of Psychology,* Macmillan, 1919, p. 226. Quoted by permission.

[36] "Feeling and Emotion," *Psych. Bull.,* vol. xxiv, p. 573 (1927).

[37] "Pleasant and Unpleasant Feelings," *Psych. Rev.,* vol. xxxvii, pp. 228-240 (1930).

uses the word. In effect, the teacher has pointed to the one object, dog, which is visible to all the pupils, and has trained each pupil to say "dog" when he sees this object. But to what object of common observation did any teacher ever train all his pupils to give the verbal reaction "pleasant"? If there were some definite overt reaction, such as smiling, to which the teacher could point and train all the pupils to say "pleasant" when and only when they knew they were smiling, then there would be an objective criterion of validity. But there is nothing of that sort. All the theories of pleasantness base it upon inner reactions or neural pathways which cannot be observed directly. We have observed that certain kinds of situations and behavior usually do produce the word, but we do not know the element which is common to all these varied situations and behavior patterns and absent from all others.

Objective validation failing, there is only one direction in which to look for evidence. That is to look to *other words* used in connection with the word "pleasant." Among these other words we may find one which can be objectively validated. Investigators of pleasantness-unpleasantness might profitably turn aside from laboratory experiments and investigate the circumstances under which children first learned to use these words, and how the words are commonly explained by adults to children.

The writer guesses that such an investigation would give us something like this: "Pleasant—nice—good—*want more*—like it very much—enjoy it—*want to do it again*—pleasant weather—*like to be out in it*—*want to have it*—*would like to see it again*—sweet—tastes good—*let me have another*—like to think about it"—etc.

Continuing Versus Discontinuing Attitudes.—Clearly there is one objective fact to which the language used in connection with "pleasantness" refers, namely, the fact that the subject behaves in such a way as to *continue* or *repeat* the situation which called forth this language. That is to say, "pleasantness" is simply the verbal substitute for whatever behavior tends to repeat or continue existing stimuli. It is not likely that we would find any words pointing to a common

pattern of emotional reactions. Only when one thinks of "intense pleasure" does one say "thrills—trembling with joy—heaving with delight—makes my mouth water—makes my heart beat faster." And some of these words indicate that both appetitive (mouth-watering) and defensive (heart palpitation) emotional reactions may go with extreme pleasantness; hence the distinguishing feature is not some particular visceral reaction.

Again, consider the behavior of persons who ride in a roller coaster at some amusement park. There they submit themselves to the biologically adequate stimulus (sudden loss of support and falling) of the most extreme defensive emotion (fear reactions) and then verbally react by saying "I enjoy it." No, they are not liars. They are merely telling us that pleasure is not to be found only in appetite or love, but also in fear. Perhaps it is the quick relief of the fear, rather than the fear itself, which they enjoy.

By the same token it might be shown that unpleasantness means behavior tending to discontinue, remove, not repeat the existing stimuli.

We might identify pleasantness with the "approaching" attitudes or reactions, unpleasantness with "avoiding" attitudes or reactions. But these terms, though commonly used, are not accurate, for we often seek to remove or discontinue a stimulus by approaching it (as in anger), while avoiding reactions, such as the playful running away from a pursuer, are often designed to continue the existing stimulus.

Can we say then that pleasantness means that we are reacting in such a way as to continue or repeat the existing situation, and unpleasantness means that we are reacting in such a way as to discontinue or not repeat it?

Before giving a final answer, we must consider what is meant by "existing situation," and "reacting in such a way as to."

First, the situation may be changing every moment. The hungry man eating his dinner reports "pleasantness." He is not trying to continue the existing situation unchanged. To do so would be to stop dead in his feeding process, to sit look-

ing at the food on his plate and smacking his lips over the mouthful he has just swallowed. That certainly would not be pleasant very long. Rather, he is trying to change the situation "food on plate" to "food in mouth" and then to "food in stomach." It is this series of changes in the situation, rather than any momentary stimulus, which he pronounces pleasant. His attitude is to continue or repeat the *direction of situation-change* now taking place.

Applying the same formula to love behavior, pleasure does not consist in maintaining an ever-constant physical or "mental" contact with the loved person. Such unchanging contact is pleasant for only a limited time; to continue the pleasure requires gradually changing the contact in the direction of greater intimacy. When change in the reverse direction sets in, we are not ordinarily pleased.

A change in a situation is itself a situation, and registers itself upon the nervous system like any other. We may call it a dynamic, as distinguished from a static, situation. Pleasantness is reported not only when one wants to continue an existing static situation, but also when one wishes a dynamic situation to continue changing in the way it is changing. Unpleasantness is reported when one wishes to discontinue the present direction of change, or to make the change occur much faster or slower than it is occurring.

Second, what do we mean by "reacting in such a way as to" continue or discontinue the situation? A love-making youth would certainly report as pleasant his osculatory contacts with his girl. He reacts so as to continue these stimuli, by giving more and more kisses. He does not draw away nor utter words of disgust. Must he make an intellectual judgment that his repeated kissing reactions will actually cause the situation to continue, before he can honestly report pleasure? With some girls, these reactions of his might abruptly terminate the situation. He does not know. Or is it sufficient that he knows that his reactions can *ordinarily be expected* to continue the situation?

No, the boy does not need to make either of such judgments, or to "know" anything. Pleasure exists if his reactions are

such as an unthinking animal would make to continue for the moment the stimuli then dominating his nervous system. In fact, if the boy were deliberately continuing to kiss for ulterior purposes, he might report unpleasantness. Pleasantness consists of spontaneous, low-level, continuing reactions, not of deliberate or calculated behavior.

But does it not require extensive training to distinguish in our own behavior all the "spontaneous, low-level reactions which tend to continue existing situations" from all the "spontaneous, low-level reactions which tend to discontinue existing situations," so that we can react correctly by using the word "pleasant" or "unpleasant," as the case may be? Do we not need to learn to identify separately all the different continuing and all the different discontinuing reactions, as we need to learn, in studying German, whether each noun is masculine or feminine? Or is there some common factor by which we can instantly identify the class to which the reaction belongs, as we identify the sex of a person seen on the street?

Pleasantness as Relaxation, Unpleasantness as Tension.—Certainly the ease with which children learn to use correctly the words "like" and "don't like" (equivalent to "pleasant" and "unpleasant") suggests that some simple identifying factors exist. The writer holds that these earmarks are the general, inborn, neuromuscular patterns described above. He believes that while the verbal definition of pleasantness should be "a tendency to continue or repeat," the practical, psychological mark of identification is *relaxation* (or in some cases, free muscular activity). We may learn to use the word pleasant at first through verbal associations, but later we learn to connect it with the stimuli from a relaxed musculature. The uneducated person does not learn to describe this muscular relaxation nor to distinguish it from tension in technical language; he merely uses the words "like" or "don't like" or the equivalent, without explicitly recognizing the muscular cues with which he has "unconsciously" connected these words.

Tensions in visceral as well as somatic muscles lead us to report "unpleasantness." The contractions of an empty stomach, the vomiting tensions of a sick stomach, the tension of a

filled bladder, are reported as unpleasant, and the satisfying of these needs brings relaxation and pleasantness. We must extend our theory to include visceral as well as somatic tension.

Joy and Suffering.—Joy or pleasure, as distinguished from mere pleasantness, is relaxation accompanied by visceral (emotional) reactions. These reactions are probably largely of the appetitive class, although there are also states of *excited* joy in which some of the defensive reactions (accelerated heart, etc.) seem to be functioning. Suffering is more or less tension accompanied by defensive visceral reactions. It is tension or defensive emotion, or both together, raised to a high intensity by the failure of the somatic reactions to get rid of the offending stimulus.

Inhibitory Effect of Tension, Facilitating Effect of Relaxation.—Now let us look more closely at these two neuromuscular patterns. Tension behavior shows two outstanding characteristics. First, it is restless, it drives the body ceaselessly from one movement or posture to another as if seeking some way of escape from some stimulus. The tense person walks the floor, makes facial grimaces, jerky and impatient gestures. The restless behavior of a hungry animal confined in a cage without food is more or less of this character. Whenever any movement leads to a slight reduction of tension, that cue is followed up vigorously by reactions of the same sort or which produce the same effects. If any movement fails to relieve tension, or increases it, that movement is soon discarded for another. The general set is always to withdraw from any given part of the situation, to discontinue any given reaction, unless some relief is felt.

Second, tension is inattentive or, perhaps, very *selectively attentive.* We note this characteristic when the restlessness discards the more extensive movements and takes the form of fidgeting and excessive tensions of opposing muscles, and gives a stiffness and strain to many parts of the body. These muscular tensions have the effect of inhibiting the flow of other neural impulses occurring at the same time. A tense person

finds it difficult to give attention to the wide variety of stimuli he enjoys when relaxed. Everything which bears no relation to a possible escape bores him. He cannot give normal attention to a lecture he is hearing or a book he is trying to read; if he can, he is no longer under tension. Tensed muscles seem to inhibit the reception of other stimuli by the powerful stimuli they themselves send into the nervous system through the proprioceptors. For instance, they are nature's biological reaction to pain stimuli, their function being to inhibit somewhat the action of those stimuli. The dentist's chair bears witness to this principle. The tense person keeps his sense organs concentrated on one thing at a time, they may jump quickly from one thing to another but always with an inwardly driven jerk, they do not wander freely and smoothly over the whole environment. The tense public speaker fixates his eyes on his notes, or on some one member of the audience for an excessive time, or on the air in front of him; he does not distribute his gaze naturally and easily among the audience. The tense executive forgets details, then suddenly and violently remembers them. The tense traveler behaves similarly toward his luggage.

In general, this set of muscular tension tends to shut out all stimuli and inhibit all reactions which do not bring it instant relief.

On the other hand, the set we call attentive relaxation maintains just enough muscular tonus to keep the bodily posture, and puts the sense organs entirely under the control of the outside world. The subject gladly arises and walks if some interesting outside stimulus calls for walking; otherwise he sits quiet and relaxed. His movements are easy and graceful, as if *drawn* this way and that by outside conditions rather than *driven* by an inner urge. When he raises his arm he uses only a little more muscular force than is needed to overcome its weight; he is not compelled to use excessive force to overcome a needless resistance in the antagonistic muscle. In alcoholic intoxication this condition goes to an extreme; there is too little resistance in the antagonistic muscles, with the result

that movements tend to overshoot their marks, upsetting glasses, striking against furniture; they show a loose jerkiness due to lack of control, quite different from the tight jerkiness due to the excessive but ill-adjusted control of tension. It is significant that this extreme alcoholic development of the pattern of attentive relaxation should be the very condition which human beings generally report as highly pleasurable.

In general, the effect of attentive relaxation is to facilitate rather than inhibit the flow of all stimuli which enter the nervous system, and to maintain, continue, or repeat *whatever* reactions are produced by these stimuli. *Tension withdraws and inhibits; attentive relaxation accepts and facilitates.*

The Management of Tensions.—L. K. Frank holds that our biological needs and the acquired wishes growing out of them may all be regarded physiologically as tensions. According to his terminology, the basic reaction patterns are activities tending to reduce or relieve physiological tensions. To delay the immediately most satisfactory relief by substituting some other reaction is to "manage the tension." He says:[38]

> Social life is a product of learning to manage the visceral tensions in accordance with the requirements and usages of the family and of the social group. This learning takes place through the instruction given to the young, who, almost from birth, are subjected to adult supervision in the adjustment of these tensions, and in general the child is expected to learn to sustain, diffuse, and release his physiological tensions only as and if the group-sanctioned occasion and custom permit.
>
> The first problem of this tensional control arises from the parental management of feeding, which requires the child to learn to sustain the hunger contractions of the stomach until the appropriate time for feeding arrives.

Then, says Frank, the child must learn to manage the tensions produced by excreta, by emotional stimuli, such as those from shock, pain, surprise, ambiguity and uncertainty, by the need of caressing and cuddling, by sex stimuli, and by the interesting objects of the environment which prompt him to

[38] "Physiological Tensions and Social Structure," *Publications of Amer. Sociological Society*, vol. xxii, pp. 74-81 (1928).

touch and to handle. He must learn to delay or modify the immediate reactions which these stimuli call for.

Frank needlessly limits his theory by speaking always of *visceral* tensions. Many of the tensions he speaks of are in the somatic muscles. The impulses to touch, to handle, to run to the mother for caressing, are reactions in the somatic muscles. On the whole, most of our tensional experience probably comes from somatic muscles. Another point is: does the tension really exist until after it is managed or inhibited? When a child has an impulse to seize a vase standing upon the table, we have simply an *S* (sight of vase) leading by an acquired connection (see Chapter III) to the *R* (arm and hand movement to seize it). Then another *S*, either from the parent's "no, no," or from the child's past experience with "no, no," steps in and leads to some other *R* which inhibits the *R* of seizure. Tension exists only when the original *S—R* is blocked or thwarted. The "management of tension" is merely another name for inhibition, plus the substitute reactions which go with the inhibition. However, it is a useful term.

Relief.—When a situation which arouses the tension set is suddenly removed, behavior seems to swing, like a pendulum, toward extreme relaxation, even though the ensuing situation would normally produce only a neutral state or mild relaxation. The hair-raising descent on the roller coaster is safely completed, the threatening enemy is conquered and lies harmless before us, the report that our friend was dead suddenly proves to be untrue. Such changes in situations are among the most potent stimuli to pleasant emotions. Generally speaking, more pleasure is produced by the sudden relief from an unpleasant situation than by anything which can come to us when we are in a neutral state. The report that our friend is not dead is not in itself a pleasure-producing situation. But coming after the anguish of believing him dead, it is one of the supreme joys of existence. The sudden shift from tension to relaxation is called relief. We may classify relief experiences according to the emotional pattern which accompanied the tension.

				Common expressions
Relief	from anger	=	triumph or victory	— shout
	from fear	=	salvation or security	— sigh
	from anguish	=	solace or alleviation	— tears, sigh
	from disgust	=	expurgation	—
	from certain brief and less severe tensions			— laughter

In the next chapter we shall see that the sets of attentive relaxation and tension play an important rôle in the learning process.

Summary.—The behavior of the individual human being is organized through the medium of his nervous system, and this organization is what we call mind. Mind is not a mysterious substance of a non-material character, nor is it energy; it is merely the functioning of the nervous system. The nervous system is in many respects like a telephone system. It receives and registers various kinds of stimuli, converts them into nervous impulses which then travel by various pathways, crossing several synapses, to the muscles or glands which react. The power to receive all kinds of stimuli, and the power to make all the elementary reaction movements and secretions, are inborn, but only a few simple pathways from stimulus to reaction are inborn. The *organization* of behavior, as distinguished from behavior itself, is for the most part acquired after birth.

Many of the native pathways (reflexes) are biologically organized into certain basic patterns, which are more or less flexible and variable. Most of these patterns include visceral reactions combined with somatic reactions and, when they have these visceral components, are called emotions. The visceral reactions may be classified into two rather clear-cut fundamental patterns: the appetitive, stimulated through the cranio-sacral system, and the defensive, stimulated through the sympathetic system. The former promotes the normal bodily processes and is described by the subject as calm pleasure; the latter prepares for emergencies and is described as feelings of excitement or of unpleasantness or of both together. Experiments show that the specific so-called emotions are not

standard inborn patterns common to all individuals, but vary greatly. The essential feature by which we name a given emotion seems to be its general attitude toward the stimulus rather than its particular combination of reactions. Certain facial and vocal reactions are supposed to be characteristic of certain emotions, but the average person is unable to identify these expressions, without knowing the situation which produced them, with much more than chance accuracy. Emotional reactions can be detected and measured by observing respiration changes, heart rate, blood pressure, galvanometer deflections, verbal associations and reaction times, and other data; but all that these methods measure surely are the particular symptoms which they actually observe. None of them measures the degree of "general emotional disturbance," and it is doubtful whether any such general factor exists.

Native behavior organization includes also certain general neuromuscular sets, such as sleep, attentive relaxation, free muscular activity, and tension. The last is unpleasant and usually accompanied by defensive visceral reactions; the other three are pleasant and are accompanied by appetitive or no visceral reactions. The writer believes that the distinction between pleasantness and unpleasantness is to be found in these somatic neuromuscular patterns rather than in visceral patterns of reaction. Pleasantness is behavior favoring the continuance or repetition of the present stimuli, and the most general feature of all such behavior is attentive relaxation. Unpleasantness is behavior having the opposite tendency, and its most general feature is tension. Attentive relaxation facilitates, tension inhibits. Relief is a sudden shift from tension to relaxation.

CHAPTER III

THE ACQUIRED ORGANIZATION OF BEHAVIOR

The Substitution of Stimuli—Conditioning

Neural Drainage.—In the previous chapter we noted that a stimulus which enters the nervous system may or may not have a biologically prepared (inborn) pathway to conduct it to the effectors, but that in any case it diffuses a portion of its energy into the higher brain centers. At birth there are no organized pathways through the highest brain centers, that is, the association areas of the cortex. Some of the infant's random or unorganized behavior may function through these areas, but its organized behavior consists entirely of reflexes and some basic patterns of reflexes (fear, rage, and love patterns, according to Watson) which require only the sensory and motor areas of the cortex, and probably for the most part only the lower brain centers and spinal cord.

But through the constant impact of stimuli in all sorts of combinations, new pathways become organized, mainly in the cortical association areas. It is customary to call these acquired pathways, in general, *habits.*

The formation of these new pathways, and the whole acquired organization of behavior, rest upon one fundamental principle. That principle is that whenever two *S*—*R's* function at the same time, one of them tends to absorb, or drain, the nervous impulse from the other. When an impulse flows through any *S*—*R* pathway, this pathway is not the only one which is affected. The impulse seems to set up certain forces of attraction or suction which act upon other pathways.

We may imagine the nervous system to consist of a network of tiny stream channels in soft earth, running from an inlet board *S*—*S* to an outlet board *R*—*R* (Fig. 7). The inlet board, which represents the sense organs, is notched at many points, each little notch representing a particular receptor or stim-

ulus. The outlet board, which represents the effectors, is likewise cut into many grooves, each representing a particular effector or reaction. When water is poured into one or many of the upper (inlet) notches, it finds its way through various channels to one or more of the lower (outlet) grooves.

The system of channels is too minutely complicated to be described. We know, however, that the channels are not completely isolated one from another; water poured into inlet *A*

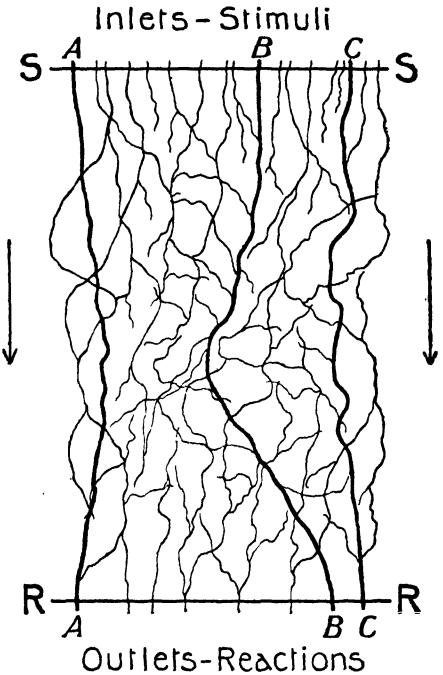


FIG. 7.—SUGGESTIVE SCHEME OF NEURAL PATHWAYS

will not emerge only and always through outlet *A*, etc. On the other hand, we know that there is no general reservoir in which the water from all inlets can indiscriminately mingle before it reaches the outlets. The real nature of the system lies between these two extreme types. The channels are more or less separate, but they interconnect at many points. And at these points of connection (synapses), the soft earthy walls of the channels may become worn by the flow of the water in such a way that streams often become diverted from their original courses. Just what will happen when water enters two or more inlets at the same time depends upon the relative

volumes of the entering streams, the relative width and depth of various channels, the relative softness of their earthen banks, etc. And what happens this time may not happen in exactly the same way again, because channels may be opened wider by the very flow of the water itself, thereby altering somewhat the points of outlet. We may imagine that each nervous impulse, even when it mainly follows a well defined channel, sends out numerous little straying streamlets, and that when one of these streamlets happens to find a new and easy outlet, it deepens or widens its channel, and draws in the main stream. We know that nearly all S—R pathways pass through the spinal cord or brain, where they come close together in space, and are cross-connected by millions of central neurons.

Fig. 8 represents this principle of neural drainage. If S_1—R_1 and S_2—R_2 were to function at different times, the bulk of

FIG. 8.—NEURAL DRAINAGE

the nervous impulse from S_1 would find its outlet in R_1, and from S_2 in R_2. But when they both function at the same time, some kind of suction, or difference of pressure, is set up, which causes more or less of the impulse from S_2 to be diverted from R_2 and sucked into the channel leading to R_1. There is no general rule for determining which of the channels will drain energy away from the other; the result may depend upon the biological structures of the two pathways, the relative number of parallel fibers which make up each pathway, and so on. We may imagine that S_1—R_1 is the wider, more open, dominant, stronger, or prepotent pathway, and hence that it tends to drain the other. This principle of drainage leads to three types of mechanism.

(1) **Inhibition.**—Suppose that R_1 drains all the energy away from S_2. In this case we say S_1, or R_1, or S_1—R_1 *inhibits*

R_2. This state of affairs is represented in Fig. 9, the cross bar and dotted line representing the fact that R_2 is completely blocked or inhibited, the heavy line indicating that S_1—R_1 is the dominant or more open pathway.

For example, we know that fear normally inhibits digestion. In this case S_1 is the fear stimulus, R_1 is the fear reactions of palpitation, catching of the breath, startled cry, etc., S_2 is the food in the stomach, R_2 the peristaltic action and juice secretion of the stomach. When S_1 occurs, R_2 immediately ceases, even though S_2 continues.

(2) **Facilitation.**—Suppose that R_1 drains some, but not necessarily all, energy from S_2 in such manner as to make itself a more intense or vigorous reaction than it was when

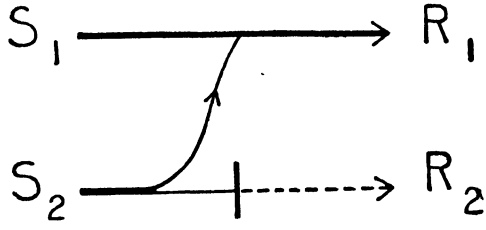


FIG. 9.—INHIBITION

getting its energy from S_1 alone. Now we say that S_2 *facilitates* R_1. Whether facilitation always occurs or not we cannot say. Fig. 10 represents this state of affairs. The question mark after R_2 means that we may not know just what R_2 was; we observe merely that R_1 is strengthened. The dashed line to R_2 means that R_2 may or may not continue.

For example, it has been shown that "if a subject squeezes a hand-grip apparatus (dynamometer) at the time when the knee-jerk reflex is being produced by tapping the tendon below the knee, the extent of the knee-jerk will be increased."[1]

In this case S_1 stands for the tapping stimulus, R_1 the knee-jerk, and S_2 the stimuli from the tensed muscles involved in the hand-gripping. The nervous impulse from S_2 flows into the S_1—R_1 pathway and makes the R_1 greater than it would have been with S_1 alone.

[1] ALLPORT, F. H., *op. cit.*

(3) **Conditioning.**—Now suppose that the cross-pathway by which R_1 drains some or all of the energy from S_2 becomes more or less permanent. Then subsequent repetitions of S_2 *without* S_1, will lead to R_1 (regardless of whether R_1 is facilitated or R_2 inhibited), whereas S_2 originally, without S_1, never led to R_1. Now we say that S_2 has been *conditioned by* S_1

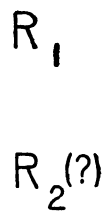


FIG. 10.—FACILITATION

or by S_1—R_1, or that R_1 and S_2 have been *conditioned to* one another. Fig. 11 illustrates this state of affairs, the cross-hatched line representing a new pathway which has become more or less permanent, instead of functioning only when S_1 and S_2 occur together, and the dashed line from S_1 meaning that S_1 need not continue.

The Russian psychologist Pavlov has made himself famous through his laboratory studies of the conditioning process. He

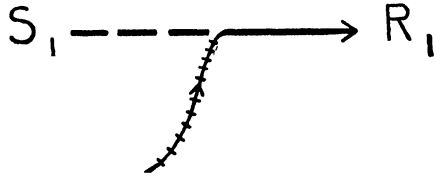


FIG. 11.—CONDITIONING

did not discover it; in principle it was known to Aristotle and is familiar to everyone. But Pavlov isolated it, observed it with a scientific care never used before, and gave it a technical name.

Anyone knows that if a child is badly frightened by a barking dog, he thereafter shows fear at the very sight of a dog, although this may not have been the case before the fright

took place. This new connection in the child's nervous system is called a *conditioned reflex.* But it is difficult to separate it from all the other circumstances and observe it under laboratory conditions.

Pavlov in his classic experiment used a dog as a subject. First he inserted a small tube into the animal's salivary gland, so that any saliva which might be secreted would run out and fall upon a surface where it could be seen and counted, drop by drop. Then he rang a bell (S_2, in the figure). The dog, we may imagine, pricked up his ears (R_2), but that was not important. The point in question is that he did *not* secrete any saliva (R_1). Pavlov did not expect that he would. He merely gave him a chance, in order to fulfill the strict requirements of science. Then he gave the dog meat (S_1). As might be expected, saliva now dripped copiously from the tube (R_1).

Then, several times, at intervals, Pavlov gave the dog meat (S_1) and rang the bell (S_2) at the same time. In all trials the experimenter himself was concealed; the dog was given his stimuli mechanically, alone in a room. No human word or gesture complicated the process. Then came the crucial test. One day Pavlov rang the bell, but gave no meat. Saliva flowed! A conditioned reflex had been established (S_2—R_1).[2]

At the beginning of the experiment the meat stimulus was *independent,* or *adequate* to produce the salivary reaction, while the bell was an *indifferent* stimulus as concerned that reaction. The indifferent stimulus became a *conditioned* or *substitute* stimulus. The meat may have been *biologically adequate* (probably the taste stimuli at least were such), or it may have acquired its adequacy through a previous conditioning process. Once a stimulus becomes conditioned, it may serve as an independent stimulus by which new indifferent stimuli may be conditioned.

Experiment has shown that a conditioned reflex can sometimes be established by just one trial, if the reaction be sufficiently intense or emotional. In such cases we say that

[2] For a summary of these experiments see BURNHAM, W. H., *The Normal Mind,* Appleton, 1924, chaps. iii-vi, and YOUNG, K., *Social Psychology,* Crofts, 1930, pp. 78-89.

shock, rather than repetition, does the trick. But repetition may be merely a series of lesser shocks, each establishing some of the necessary connections. We must not think of an *S—R* pathway as a chain of single nerve fibers. Each part of the pathway probably consists of a bundle of many parallel fibers functioning together. Hence there may be thousands of individual synapses where the afferent neurons join the central neurons, and so on. Our *S—R* pathways are really generalizations of many specific fiber pathways, but each of these generalizations is nevertheless very specific and elementary as

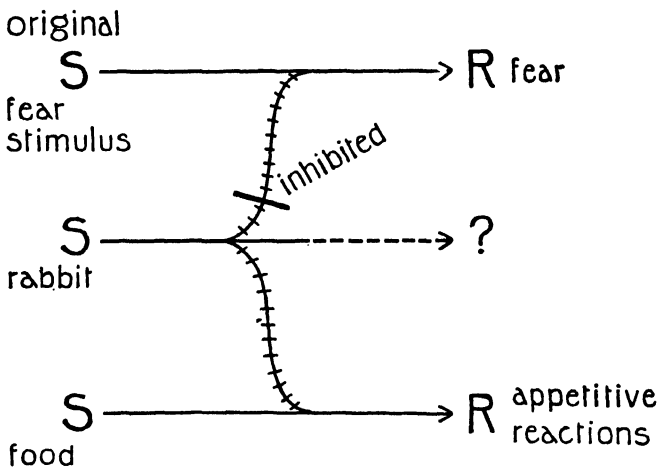


FIG. 11a.—UNCONDITIONING AND RECONDITIONING

compared with the whole organization of behavior of which it forms a part.

(4) **Unconditioning and Reconditioning.**—A child had become conditioned to fear of rabbits. Mrs. M. C. Jones cured this fear by putting a rabbit in a cage at the far end of a room while the child was eating its dinner. Each day the rabbit was brought nearer. Finally the child showed no fear, but was able to touch and play with the animal.[3]

The mechanism of this shown in Fig. 11a. The rabbit stimulus had been *unconditioned* from the fear reaction and *re-*

[3] "The Elimination of Children's Fears," *Jour. Exper. Psych.*, vol. vii, pp. 382-390 (1924).

conditioned to appetitive or neutral reactions accompanying the eating process. The old *S—R* was inhibited by the new. The process was necessarily gradual, for if the full intensity of the rabbit stimulus had been applied the first time, by putting the rabbit near the child, fear would have dominated the child, inhibiting all eating and digestion. Defensive *S—R's* hold priority over appetitive because of their more immediate urgency. But through a series of steps, the appetitive *S—R's* can be made dominant. They cannot be made dominant, however, over *biologically adequate* defensive stimuli, such as falling, loud sudden noises, skin injuries, etc.

Some Experimental Discoveries Regarding the Conditioned Reflex.—With dogs it is usually necessary to apply the stimulus you desire to condition within ten seconds after the original stimulus has ceased to operate. Otherwise the nervous excitation from the original stimulus subsides and has no effect upon a later stimulus.

The indifferent stimulus, however, can be applied some time before the adequate stimulus. Thus Pavlov stimulated a dog's skin, then fed him two minutes later. After several repetitions, saliva flowed about two minutes after the skin stimulation, even though no food was given. The conditioned stimulus in this case was not "skin stimulation," but "two-minute-old memory of past skin stimulation." This phenomenon was called a *memory reflex.* Memory reflexes can be established more readily in children than in animals.

A most complex type of conditioned reflex was studied in children by Krasnogorski.[4] He so trained a child that he would open his mouth to receive candy whenever a certain point on his arm was touched a few minutes after a bell had rung. Repeated touching of the arm without the bell, and also the bell alone, failed to produce the reaction. This Krasnogorski called *storing* and *discharge,* for it appeared that the stimulation from the bell was stored in some way in the nervous system until the arm was touched, and then discharged in the form of the mouth reaction.

In many experiments it has been found that after a condi-

[4] See BURNHAM, *op. cit.*

tioned reflex is established, the introduction of a new indifferent stimulus along with the conditioned stimulus (but without the original stimulus) inhibits the reaction. Thus a dog, trained to salivate (R_1) whenever scratched on one side (S_2), commonly fails to salivate when a tone (S_3) is sounded at the same time. The tone stimulus, instead of becoming itself conditioned to the reaction, inhibits the reaction. This may mean merely that S_3 has some unobserved reaction (R_3) of its own which is sufficiently powerful to drain away the impulse from S_2—R_1 although not sufficiently powerful to drain S_1—R_1. The conditioned reflex is now said to be inhibited, or the animal is said to display a *conditioned inhibition.* If S_3 be removed, and S_2 again acts alone, the conditioned reflex (S_2—R_1) commonly reappears. But as long as S_3 is repeated with S_2, the inhibition remains. If now a third "indifferent" (from the standpoint of R_1) stimulus (S_4), such as skin pressure, be applied together with S_2 and S_3 (but still without S_1), the reaction (R_1) commonly reappears. In other words, if you cannot restore S_2 to power by bringing back the original S_1, nor yet by getting rid of the interfering S_3, you may often do it by adding still a new stimulus S_4. You now have an *inhibition of the inhibition.*

It would appear that at the elementary basis of the conditioning process some all-or-none principle is involved; that is, there is a tendency for the reaction to be, in this case, either salivation or non-salivation, and not some partial or compromise degree of reaction. Each decisive change in the stimulus pattern would seem, within certain limits, to drive the reaction to the opposite pole from where it was before.

But in life outside the laboratory, this principle of polarization, if it exists, is obscured by the great complexity and variability of the stimuli which are acting upon an animal at almost any given moment.

The study of conditioned reflexes in animals and children has been carried on in such volume that we cannot begin to describe the interesting results which have been obtained. One of the main purposes for which these methods have been used is to find out just how fine a discrimination between

stimuli can be made. The experimenter, for example, repeatedly gives food (S_1) with one indifferent stimulus S_2, and fails to feed with another stimulus S_3. He gradually changes S_2 and S_3 to make them more alike, and finally comes to a point where the animal becomes confused between S_2 and S_3. Dogs have been trained to discriminate between musical tones having 800 to 812 vibrations per second; in other words, they consistently showed a salivary or other reaction to the one tone but not to the other. One dog learned to distinguish a luminous circular figure from an ellipse having a 8:9 axis ratio, but after the ellipse became still more like a circle the dog gave up and developed a neurosis. A child learned to distinguish a metronome beating 120 times per minute from one beating 144, then became irritable.

When we thus train an animal *not* to react to an S_3, while at the same time we train him to react to an S_2 which is very like the S_3, we are said to be establishing a *differentiating inhibition*, or *inhibition of differentiation*. In other words we are training him to *discriminate* between stimuli which are very much alike. This kind of training is an important part of human education, and it is obtained through our unguided experiences with the environment as well as through artificial teaching. For a further discussion of these points see the pages already cited in Kimball Young's *Social Psychology*.

F. A. Moss showed experimentally how to make a child dislike orange juice. He fed orange juice and vinegar alternately, accompanying each with the sound of a snapper. The unpleasant reaction to the vinegar conditioned the sound of the snapper, and from that stimulus it transferred itself to the orange juice, which the child came actually to dislike, even when he found that it was not vinegar. It worked this way with two-year-olds but not with four-year-olds. They, it seems, didn't dislike vinegar enough; their liking for orange juice triumphed.[5]

The conditioned reflexes formed in the animals in the laboratory were usually not permanent. Dogs' mouths refused

[5] "Building Likes and Dislikes in Children," *Jour. Experimental Psych.*, vol. vii, p. 475 (1924).

to continue watering indefinitely at the sound of a bell unless this conditioned stimulus was occasionally reinforced by the original meat stimulus. But these findings concerned mostly animals and their feeding reactions. There is plenty of evidence to show that some conditioned stimuli may last permanently without reinforcement. Many humans certainly continue to fear animals, lightning, darkness, and so on, without ever experiencing again the original stimuli which started these fears in childhood. Indeed, the great problem before the psychiatrist is how to eradicate unfavorable conditioned reflexes. By repeated training animals also develop conditioned reflexes which seem to last permanently.

The Conditioning of Random Reactions.—We have described the conditioning process as it affects reflex reactions, and hence have assumed the reaction itself as biological and unchanging, while we observed the substitution of one stimulus for another. But any reaction may be conditioned. By far the greater part of the behavior organizing process involves the conditioning of reactions which at first were random (unorganized) rather than reflex. A most important class of such reactions is that of verbal reactions.

The infant utters a variety of syllables, at first purely at random. This does not mean that any syllable is made without some stimulus, but that there is no one predetermined stimulus which will regularly evoke that syllable. The syllable is merely the chance reaction outlet which some wandering diffusion of nervous impulse, traveling through unorganized brain pathways, happens to find. We might call the undetermined stimulus which started the process S_x. (See Fig. 12.) If the syllable the infant happens to utter bears no resemblance to any word, nothing important happens. But if it does resemble some word, an adult who happens to be present frequently does something about it. He repeats the syllable himself, goes over to the infant, pats him, smiles at him, attracts his attention, or if the unintentionally spoken word designates an object easy of reach, such as ball or milk, gives the object to the infant. In other words, the chance uttering of such a syllable by the infant, S_x—R, immediately calls forth

several other stimuli, S_1, S_2, S_3, etc., from the environment. Any one of these stimuli, such as S_1, may thus become a conditioned stimulus, substituting itself for the unknown S_x. Thus the adult trains the child to say "bye" by waiting till the child accidentally says bye, and then repeating "bye" and waving his hand. In time the adult will be able to *make* the child say "bye" by speaking the syllable himself or by waving his hand. S_x—R (child's "bye") has become S_1 (adult's "bye" or wave)—R (child's "bye"). A fixed pathway has been organized by taking immediate advantage of the random, unorganized pathway.

Return Stimuli and Circular Response.—The thinking student, however, will see an apparent flaw in this explanation. Namely, the conditioned stimulus (wave of hand) was not given until after the child had already made his reaction.

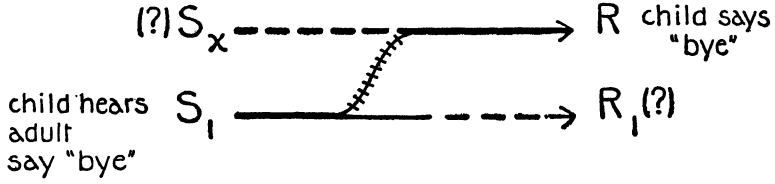


FIG. 12.—CONDITIONING OF A RANDOM REACTION

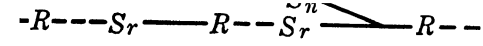
How, then, could S_1 be conditioned, not being simultaneous with or immediately prior to, but after, S_x? To explain this, we must digress a moment.

Stimulation is continuous, for impulses are flowing through the nervous system all the time. Even during sleep they do not completely cease; some stimulus always is acting upon us. "A stimulus" is not an isolated thing standing by itself; it is merely a point, a temporary phase, in one continuous flow of stimulation. As I sit here at my desk, my eye is being stimulated by the movement of my pencil and by the electric light, my ear by the sound of my pencil as it drags and taps on the paper, my skin senses by the warm air of the room, my proprioceptors by the tension of my back muscles which are holding me more or less erect in my chair, and so on. Suddenly I hear the bell ring for dinner. That indeed is a stimulus, but so are these other things just mentioned.

Every reaction becomes a stimulus. A large part of our daily stimulation comes not from the outside world but from our own activity. Let us not overlook the sense organs in the muscles and the skin. Every time we react, the reaction thus becomes a stimulus which influences the next reaction. To start walking may require an outside stimulus, such as a request to "come here." But once we are started, every movement in the walking process produces a muscular "feel" which then stimulates the next movement. At this instant we swing our right leg forward, because our kinæsthetic sense organs report that our left leg is pushing hard to the rear and our body is falling forward. The stimulus which comes from a reaction just made may be called a return stimulus. We may abbreviate this S_r. Let S_n stand for a new stimulus coming from the outside world. The complete formula for behavior is not simply:

$$S \text{——} R \qquad S \text{——} R \qquad S \text{——} R$$

but something like this:



S_n's do not necessarily occur at every step.

Return stimuli explain that form of conditioning known as *circular response.* The return stimulus comes so soon after the reaction is made that it is practically simultaneous; the nervous impulse which produced the reaction has not completely died out before its own return stimulus enters the nervous system. Moreover, as we have seen, any stimulus which is almost simultaneous with a given reaction may become a conditioned stimulus to that reaction. Hence a reaction may be conditioned to the return stimuli which it itself produces. The mechanism is illustrated by Fig. 13.

S is the original stimulus, S_r is the return stimuli produced by the reaction. This pattern is called circular response, because in a sense it works in a circle; the reaction provokes its own repetition. *By this process two reactions which occur at nearly the same time may become more or less reversible.* The

reaction which was originally the cause may become the effect. Dreams illustrate this. By conversation and reading, the idea of a burglar becomes conditioned to produce fear. But later the fear may be the cause and the idea of a burglar the effect. We have a fear dream of burglars, caused by the fact that we are cold or lying in a position which disturbed the heart action or breathing. Here the sequence, instead of being idea—fear, becomes: physical stimuli—fear—idea.

Now we can answer the question as to how a stimulus occurring *after* the original *S—R* can become conditioned to it.

First, by the principle of circular response, infants commonly repeat the same random syllable several times before

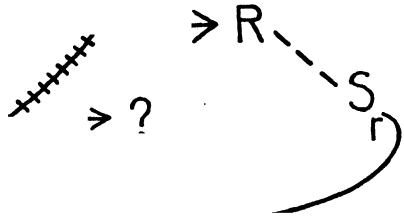


FIG. 13.—CIRCULAR RESPONSE

trying another. The "bye"-saying pathway may still have been functioning, or about to function again, when the adult interposed the new stimulus. Second, even if the child would not actually have uttered the syllable again, in the adult's absence, yet some faint copy of the previous *S—R* may have perseverated for a time and have been reawakened into overt reaction by the adult's waving hand, or by any other new stimulus. The return stimulus from an *S—R* sends reverberations through various pathways for some time thereafter. These reverberations tend to become conditioned to one another and to any new stimulus which may appear while they are taking place. These perseverations or storages of *S—R*'s, both through overt and covert (hidden) reactions, have been abundantly demonstrated by experiment. In general, all *S—R*'s which function at approximately the same time (with sometimes as much as several minutes' separation), tend to

develop conditioned pathways among one another so that any *S* in the group may later produce any *R* in the group. This does not tell us just what will happen in any given case, but it helps us to understand, after the event, how it happened.

To summarize briefly the foregoing portions of this chapter, the functioning of two or more *S—R* pathways at the same time causes one or both pathways to be modified through some imperfectly understood process which we have described as neural drainage. Nervous impulses are thus diverted from their original paths. This one fundamental process of neural drainage leads to several more complex processes or mechanisms: inhibition, facilitation, conditioning of reflexes, unconditioning and reconditioning, conditioning of random responses and the resulting selection of one random reaction from among others, circular response caused by the conditioning of the return stimulus from a reaction just made, and reversibility of the sequence of reactions.

These processes seem sufficient to explain the still more complex process known as *trial-and-error learning.*

The Selection and Fixation of Reactions

The Trial-and-error Process.—The hungry cat confined in a cage, seeing food outside, makes many reactions. He walks toward the food until blocked by his cage, he claws, scratches, climbs, walks about the cage, mews, paws at this and that. In one well-known type of experiment, there is a button inside which if pressed will open the door. Eventually the cat happens in the course of his random behavior to press this button, and escapes. The next time the cat is put into the cage, he again makes many random movements, but comes more quickly to the releasing button. After several repetitions he learns to press the button immediately, without any useless movements. He has learned, by trial and error, how to escape.

The cat does not understand why the button releases him. In fact, E. L. Thorndike[6] taught a cat to get out of a cage by scratching himself. That is, every time the cat did scratch

[6] *Animal Intelligence, Experimental Studies,* Macmillan, 1911.

himself, Thorndike opened the door. This animal was presumably as well satisfied as the other cat who discovered the mechanical secret. He soon learned to scratch himself immediately.

In trial-and-error learning the one successful reaction is gradually substituted for the numerous trial reactions which were unsuccessful. Out of many acts, one is selected, the rest are rejected. An organized habit takes the place of the original varied or random behavior. It is by this process that pigs learn to find the holes in fences, that dogs learn to sit up and beg, trained horses to count, children to swim and fight and play the piano—in short, that any animal learns to do anything.

Physiology of the Trial-and-error Process.—Why does the successful reaction become a habit? "Because it is successful," "because experience teaches us," "naturally we do the thing which we have found successful." Let us beware of explanations which do not explain. What is the actual process? Not *why*, but *how*, does it happen?

Watson says that four principles of explanation have been attempted. The successful act is more likely to be repeated:

(1) Because it is the most *recent*.

(2) Because, since it had to be performed in every trial, while any other act did not, the successful act has a greater *frequency* of repetition to its credit than has any other act.

(3) Because, since the successful act brings food, water, removes an irritating object, lessens emotional tension, etc., it brings a heightened bodily metabolism, with increased blood supply. It is possible that the neural pathways of the most recent act have a slightly dilated system of blood vessels, and share more generously than earlier pathways in the increased blood supply. Since this most recent act was the successful one, the successful pathway is reinforced by this increased blood supply.

(4) Because the successful act, being the most recent, is reinforced by the glandular secretions of the emotional reactions which follow success.[7]

[7] *Psychology from the Standpoint of a Behaviorist*, Lippincott, 1919, pp. 294-295.

Let us consider these four theories. The principle of recency seems to be of no importance. It has been found that the first as well as the last few stimuli in a series are recalled more easily than those in an intermediate position. We shall consider the theory of frequency within the next few pages. The third and fourth theories hold that the essential factor is some metabolic or chemical change which works upon the synapses of the successful pathway which has just functioned, and of course does not work upon the unsuccessful pathways because they functioned some time ago and have since lapsed into inactivity. The third theory holds that this metabolic or chemical effect works through increased blood supply, the fourth that it works through glandular secretions. Both theories imply that the metabolic or chemical change is brought about by the *visceral* reactions (gland action, dilated capillaries, etc.) which accompany the success. In more general terms, both these theories hold that it is the emotion, or pleasure, or satisfaction of success which reinforces the successful reaction.

According to Thorndike, the satisfaction or pleasure following the successful response "stamps in" that response, the annoyance following unsuccessful responses stamps them out. This principle has been called the "Law of Effect" or the principle of satisfaction and annoyance.[8]

As Watson admits, these emotional theories of learning are, like the recency and frequency theories, little more than speculations. They are vague because they do not state just how the increased blood supply or glandular secretion works upon the synapses of the successful pathway. They merely state that the resistance of these synapses is in some way lowered, and rather permanently lowered, in comparison with other synapses not involved in the successful reaction. Now our theory of neural drainage holds that such a lowering of synaptic resistance is produced by the pulling or draining power of some still less resistant (more open or permeable) pathway which is functioning at the same time. Of course we

[8] THORNDIKE, E. L., *Education Psychology, Briefer Course, Teachers College*, Columbia University, 1914, p. 71.

do not know the exact physiology of this "drainage." But the point is, that whatever it is, it does not need to involve any different principle in the case of establishing a successful pathway than it does in the case of ordinary conditioning. Increased blood supply or gland secretions are not essential here unless they are essential to conditioning in general. Increased blood supply could theoretically play a part in all conditioning, for the blood supply of the entire brain could be instantaneously increased by some (visceral) reaction which dilated the capillaries throughout the brain, and this increased blood supply might have permanent effects upon the synapses which were being used or had just been used, although not upon other synapses. It is more difficult to see how gland secretions could have a *direct* effect, for it would take some time for them to diffuse from their glandular source to the brain. They might have an indirect effect through their stimulating other visceral reactions, such as dilation of the brain capillaries.

The writer therefore holds that the process of neural drainage, into whatever chemical or metabolic phenomena it may or may not be further analyzed, is sufficient, without any additional process on the same level of phenomena, to explain trial-and-error learning. This explanation is made possible by considering generalized tension and relaxation reactions among the reactions which perform the "draining" or conditioning rôle. The suggested explanation is as follows.

Law of Effect Explainable by Conditioning Effects of Tension and Relaxation.—In the previous chapter we noted that there is a generalized neuromuscular set of tension and another of attentive relaxation. We noted that tension tends to inhibit all reactions which do not belong to the tension behavior system itself. It does so because tension reactions, being very vigorous and involving large groups of neurons and muscles, tend to dominate other minor pathways which are trying to function at the same time, by draining off their stimuli into the general tension reactions. We have seen, furthermore, that tension is most probably the universal characteristic of all those conditions reported as unpleasant. As

long as the cat remains in the cage, he is in a state of tension. Along with this generalized tension there is a series of specific but random movements, which we call the unsuccessful acts. When an unsuccessful act is performed, the return stimuli from it are drained off into the general tension reactions and do not have much opportunity to make new pathways of their own or to become conditioned to anything except tension. The further reactions which these return stimuli would otherwise produce are inhibited. These unsuccessful acts do not have much opportunity to perseverate by forming circular responses: each act is more likely to be followed by a *new* random movement, and less likely to be followed by a repetition of itself through circular response. According to Smith and Guthrie, the cat develops conditioned inhibitions and conditioned withdrawing attitudes toward his own unsuccessful acts and toward the cage bars and other objects toward which those acts were directed.[9]

But when the cat presses the button, the tension situation (confinement in cage) suddenly ceases, and with it the tension reactions. Muscular relaxation (*i.e.*, satisfaction) sets in, and is perhaps intensified by the suddenness of the shift from the previous tension. Visceral reactions also take place and probably further intensify the process.

A change of situation occurs which is similar to that which takes place when fear shifts to "salvation," anger to "triumph," anguish to "solace." In seeking the solution of any problem, whether it be escaping from a cage or from a burning building, or finding the right way to serve a tennis ball, we feel "tense"; when we suddenly find the solution, we feel "relieved."

Attentive Relaxation Favors Free Conditioning.—This relaxation is not of the drowsy nor of the active type, but rather of the type we have called "attentive." It is especially favorable to the reception of stimuli through the sense organs. Attentive relaxation has the opposite effect from tension upon the return stimuli from the act just performed. Instead of draining off those stimuli into a vigorous tension system, it

[9] *General Psychology in Terms of Behavior*, Appleton, 1923.

gives them the most favorable opportunity to form their own pathways and to become conditioned to other-than-tension reactions. In other words, attentive relaxation facilitates rather than inhibits other reactions which are taking place simultaneously with it. Perhaps this facilitating influence is merely the complete absence of inhibition, rather than any-

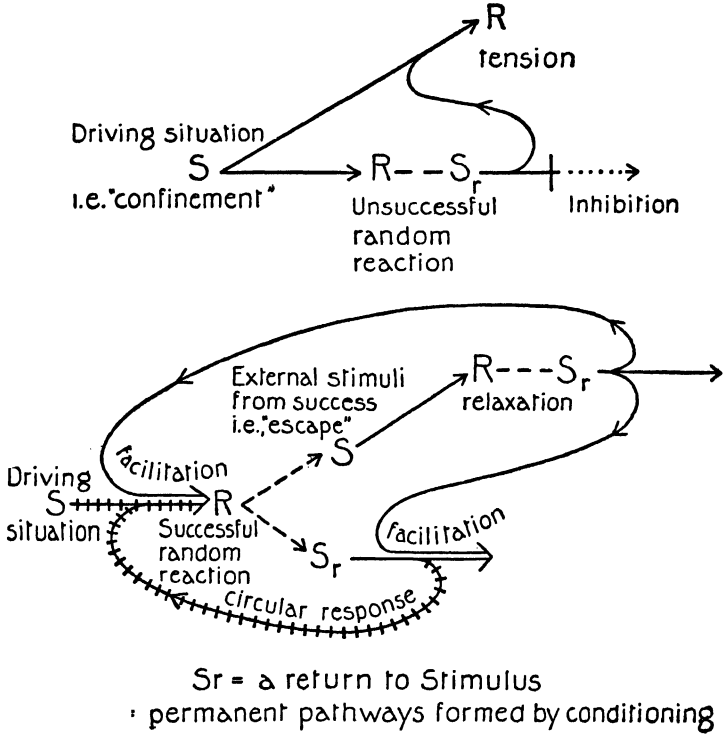


FIG. 14.—THE TRIAL-AND-ERROR PROCESS

thing positive. Attentive relaxation is possibly the mere absence of any generalized muscular reactions except those which help the sense organs to keep on the alert. Given the absence of such generalized muscular reactions, given alert sense organs, and neurons free from fatigue or sleep conditions, then all stimuli entering the nervous system have an unusually free field of operation. They provoke specific muscular reactions unimpeded by general motor tensions. They become

readily conditioned to one another, lead to circular responses and thus tend to be repeated. Fig. 14 illustrates the mechanism.

The cat's return stimuli from pressing the button, from running out and eating, from the visceral reactions and muscular relaxation which take place at almost this same time, the stimuli from the cage and the opening door, become organized into one behavior system. The pathways become so interconnected, so conditioned to one another that the original sequence no longer needs to be followed. The sight of the cage and the food may become conditioned stimuli to the pressing of the button, the sensations from pressing the button may become conditioned stimuli to the visceral reactions, and so on. We do not know the precise order and relative importance of the various inter-conditionings. But it is sufficient explanation to show that the return stimuli from the button-pressing act become conditioned to reactions which tend to facilitate and repeat that act, whereas the return stimuli from the unsuccessful acts become conditioned to reactions which tend to inhibit those acts. Visceral reactions probably aid in this facilitating or inhibiting; whether their presence is essential or not we do not know.

The Doubtful Importance of Repetition in Learning.—It has been held that the successful reaction is established through the principle of frequency. The successful response is the most frequent, it is said, because it must occur in *every* trial, for the trial continues until the successful reaction occurs. But since the various responses occur in a random order, the chances are that any other given reaction will be omitted in some of the trials. The greater frequency of operation of the successful reaction causes its pathway to receive more wear, and the more a pathway is used, the readier it is to be used again. Every time an impulse crosses a synapse, the resistance of that synapse decreases. Finally the much-used pathway becomes the only pathway; nervous energy flows into it so readily that none flows into the other possible channels. So runs the theory. But it has been shown that the successful reaction often has a lesser frequency than some of the

others. The theory assumes that each reaction is used only once in each trial; actual observation shows that an animal will often repeat one unsuccessful response several times in the same trial, so that when the successful reaction finally is established it has been used less often than some of the others.[10]

While frequency, therefore, plays an inadequate part, and perhaps no part at all in selecting the successful reaction, it is commonly believed to account for the increasing ease in the use of a pathway already established. Practice makes perfect, we say. Both general observation and psychological experiment seem to confirm this law. The older psychologists drew hundreds of "learning curves" showing how various intellectual and motor performances increase in speed or accuracy as the number of repetitions increases. In general, the improvement is rapid at first, and gradually becomes slower until a limit is reached, beyond which the performance cannot be improved with any amount of practice.

More recent investigations, however, lead us to doubt whether repetition in itself is important even in the perfection of established pathways. A behavior organization may be perfected *with* but not *through* repetition. Increased frequency may play its rôle by giving additional opportunity for conditionings, rather than by wearing or deepening the pathway. We have been accustomed to think of behavior repetitions as hammer blows, each of which drives the nail of habit a little deeper. Perhaps it gives a more correct picture to think of them as rifle shots aimed at a distant bottle. The probability of breaking the bottle increases with the number of shots fired, but it is only one or a few particular shots which do the shattering. (We must, for the sake of the analogy, overlook the fact that shattering is a destructive process, and consider it simply as an end to be attained.) According to this view, learning is not a matter of degree, but an all-or-none process.

Several kinds of evidence support this view.

[10] THORNDIKE, E. L., "Watson's Behavior," *Jour. Animal Behavior,* vol. v, p. 452 (1915); WATSON, J. B., *op. cit.*

(1) Experiment has shown that one trial, if accompanied by shock or intense visceral reactions, may establish a conditioned reflex as effectively as many repeated trials with less emotional accompaniment. Somewhat related evidence is furnished by P. M. Symonds and D. Chase, who found that competition is as effective as five repetitions and nearly as effective as ten, in certain learning experiments.[11]

(2) The Gestalt psychologists have shown that when learning depends on the achievement of one important adjustment rather than many small adjustments, it takes place not gradually, but all at once. Thus Köhler's ape did not gradually perfect his ability to put two sticks together and thereby reach the bananas outside his cage. He was utterly unsuccessful for some time, then suddenly made the necessary connection, and having once made it, did not forget it. Learning, say these psychologists, is not memory but achievement.[12]

(3) Where curves of gradual learning have been established, the behavior organization in question has usually consisted of many small adjustments or connections such as those necessary in memorizing a poem, playing tennis, swimming, and so on. Each of the single connections might be acquired all at once, but the sum total of the acquired connections would gradually increase according to statistical laws of probability, thus giving to the total organization the appearance of gradual growth.

(4) In animal learning experiments, Koffka says, accidental performances of the successful act, not coming from the animal's drive for the goal, do not help the learning process, as when the cat accidentally touches a string which opens a cage. In such cases the proper conditioning fails to take place.

(5) General observation shows that we remember readily many mental connections which we have made very infrequently, and forget many which have been very frequently repeated. Sometimes we can detect the emotional factors which account for these phenomena. The psychoanalysts have

[11] "Practice versus Motivation," *Jour. Educ. Psych.*, vol. xx, pp. 19-35 (1929).

[12] See KÖHLER, W., *The Mentality of Apes*, Harcourt, Brace, 1926; KOFFKA, K., *The Growth of the Mind*, Harcourt, Brace, 1927.

revealed them in cases where the subject himself was unaware of the cause.

(6) Knight Dunlap has shown by experiment that some habits can be broken more easily by conscious deliberate performance of the act than by efforts to avoid it. His recommendation is to perform the undesirable act deliberately with the mental attitude, "I will not do this in the future."[13] We are thereby reminded of the initiation rites of certain primitive peoples, in which the initiators perform dramatically and ceremonially a long list of acts with the injunction to the neophytes: "These are the things you must not do." Dunlap's experiments lend strong support to the theory that what counts in learning is not repetition, but the accompanying visceral reactions and attitudes, or neuromuscular sets.

These newer theories of learning of course have an important bearing on education. They would seem to indicate that we need less drill and more interest-provoking devices. It may be far-fetched but suggestive to say that if we were sufficiently clever to introduce the proper emotional stimuli at the proper points in the learning process, we might enable a college student to learn in one year what now takes four; and, conversely, we might by a few shocks uncondition a person's alphabet-saying chain of habits and thereby destroy the effect of years of repetition. We might even make him forget his own name. Such things do happen in hysteria patients, but usually the break in the habit is at one point only, and when that break is healed by hypnotism or psychoanalysis or other treatment, the behavior organization continues to operate as before.

Man, and perhaps to some extent other animals, especially apes, find the right reaction to a problem situation by a process which seems much shorter than this crude trial-and-error method. Man, we say, solves problems through thinking. Thinking, we shall see, consists in implicit symbolic reactions. It is the use of internal symbols. Before we can describe it, we must examine symbolic or language behavior in general.

[13] "A Revision of the Fundamental Law of Habit Formation," *Science,* vol. lxvii, p. 360 (1928); "Repetition and the Breaking of Habits," *Sci. Mon.,* Jan., 1930, p. 66.

Symbolic Behavior—Language

Near the bottom of Chart I, not directly related to any particular basic pattern, stands "language behavior." Originating in random vocalization rather than in definite reflexes, speech makes up a large part of human behavior. It is, of course, acquired, only the random sounds being inborn. It is an important instrumental means in the service of the basic behavior patterns. It is the basis of social life. It is also the basis of thinking. While the older psychology said, "Speech is merely expressed thought," modern psychology says, "Thought is largely silent speech."

The Mechanics of Speech.—There are three mechanical factors. (1) First there is the larynx or "voice-box." Stretched across the inside of the larynx are the vocal cords. Their vibration produces noise. An adjustable slit, called the glottis, lies between the cords. When the glottis is opened, air passes through, as in silent breathing, without causing the cords to vibrate. When it is closed, the air is resisted by the cords and causes them to vibrate. The greater the volume and pressure of air directed against the cords, the greater the noise resulting. (2) The air then passes into the cavity formed by the pharynx, mouth, nose, and sinuses, the "resonator," where the vowel sounds, or "voice," are produced by varying the length and form of the cavity. (3) Finally, the consonant or "articulate" sounds are produced by the openings through which the air finally escapes from the mouth or nose.

The Learning of Speech.—Allport distinguishes the following stages in the child's development of speech.[14]

(1) The pre-linguistic or laryngeal stage, in which the sounds are chiefly laryngeal and random.

(2) Random articulation and fixation of circular responses, from 6 to 18 months. Now the infant makes many *articulate* syllables at random. Each vocal reaction produces return stimuli (auditory and kinæsthetic). These return stimuli become conditioned by the reaction which produces them. This conditioning results in a tendency to repeat the reaction. The

[14] *Op. cit.*, chap. viii.

child, hearing itself say "da," is thereby stimulated to say "da" again. This is a case of circular response, already explained.

(3) The conditioning of vocal reactions by the speech of others ("imitation"). Hearing another person say "da" is a stimulus which in some respects is similar to hearing oneself say "da." This similarity causes another conditioning, by which the child learns to repeat the syllables he hears others pronounce. Correct imitation is encouraged by reward stimuli, such as smiles, pats, and so on, which are given whenever the child repeats correctly, and otherwise withheld. It is thus developed by a trial-and-error process.

Just how far this third stage develops, however, independently of the fourth stage, is uncertain. Watson's studies indicate that children do not in general learn to say words at will apart from objects, and what Allport calls the third stage may be for the most part a later development, or a part of the fourth stage.

(4) The conditioning of vocal reactions by objects and situations, *i.e.*, "naming" habits. The parent, for example, draws the child's attention to a doll and then says "doll." The child may possibly have already conditioned some sound resembling "doll" to the stimulus of hearing another person say "doll." That is, he may have learned roughly to imitate the "doll" sound before he connects it with the object. Such is Allport's theory. Or he may learn to imitate the sound at the same time that he conditions the sound to the object or situation, as in the illustration used above showing how the child learns to say "bye."

(5) Demanding seen objects. The child learns by accidental conditioning or by trial and error that speaking a certain word is a means of getting an object he sees but cannot reach. He learns this because the parent or nurse frequently gives him the desired object upon his speaking its name.

(6) Demanding the unseen. Stimuli which once accompanied the sight of the doll have become conditioned to the various reactions which the doll itself produces. When the child happens to see the doll's bed, for example, or experiences some kinæsthetic stimulus similar to one he received when holding the doll, his "doll" speaking reaction is touched off. Something "reminds" him of the doll, he says "doll," and, often enough, somebody brings it. He has learned to demand the unseen.

(7) Talking about objects. Finally the child learns to talk *about* the doll. He uses the word not only to get the object,

but also in the symbolic after-rehearsal of some previous behavior which took place when he did have the doll.

(8) Thinking. For the overt word reactions the child learns to substitute silent speech, or thought. We shall consider this later.[15]

The origin and development of language in prehistoric man have nothing to do with the learning of speech by the child. They are cultural rather than psychological problems. The child comes into a world where language is already an established part of the environment.

Signs and Symbols.—A sign is merely a conditioned stimulus which may be substituted for the *S* in an *S-R* unit. A symbol is both a conditioned stimulus and a substitute reaction; it can be substituted for either the *S* or the *R*. Thus the

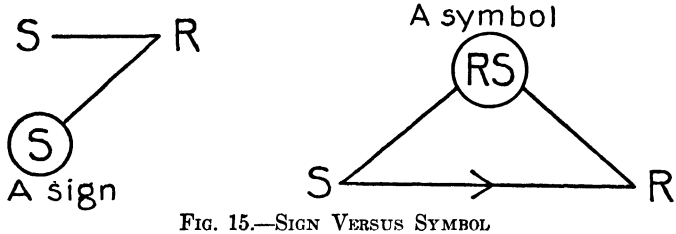


FIG. 15.—SIGN VERSUS SYMBOL

mother's voice is, to the child, a *sign* of the mother's approach. The mother does not intend to signal her approach, but the child observes the sign and reacts accordingly. On the other hand, the word "mother" is a symbol. As a stimulus, spoken by somebody, it provokes reactions which are normally produced by the mother herself. As a reaction, spoken by the child, it can be substituted for overt reactions such as climbing upon the mother's lap. Symbols are uttered intentionally, to communicate with a hearer; signs are made spontaneously, without any such purpose.[16]

Language and the Sense of Self.—The "sense of self" is a product of language behavior. We learn to react to other human beings and their speech before we have any definite

[15] American children of three years of age have a vocabulary averaging about 900 words; of four, 1500; of five, 2200; of six, 3000. See, for example, NICE, M., "Size of Vocabularies," *American Speech*, vol. ii, p. 1 (1926).

[16] MARKEY, J. F., *The Symbolic Process and Its Integration in Children*, Harcourt, Brace, 1928.

concept of "self," of "myself versus another." The young child often speaks the pronoun "you" when referring to himself because he hears others apply it to himself. His understanding of selfhood arises out of the fact that he hears himself talk and sees his own gestures. He learns to react to his own talk as he does to other persons' talk. Thus "he" becomes, like "others," a "social object in his own experience."[17]

Gestures.—Gestures play in part the same rôle as speech. There are emotional gestures, such as the clenched fist; demonstrative gestures, such as pointing to objects; and graphic gestures, such as describing a pyramid by movements of the hands. Emotional gestures usually are signs rather than symbols; they are like cries of fear or the cuss-words we utter unintentionally. If the observer understands and reacts to them it may be to his benefit, but the maker has no purpose of communicating.

Thinking

The Nervous System Merely a Conductor.—After psychology had rid itself of the old phrenological notion that the several "mental powers" were the workings of several different parts of the brain, it replaced this with a new theory which is equally misleading. It admitted that reasoning, feeling, willing, moral sentiments, and so on, are performed by the brain *as a whole*, not by separate parts; but it formed the notion that these several functions are several *distinct kinds of brain processes* (possibly performed by different kinds of cells). This is perhaps the theory held by most educated people today, if they have any theory at all.

The correctness of this theory depends upon what is meant by a "kind" of process. The great trouble here with most people is that they are still under the mystic spell of a philosophy which holds that there must be something mysterious about mind which cannot be compared with the everyday processes we see about us. To be sure, the psychologist is still far from complete understanding; but the mysteries are not

[17] Mead, G. H., "The Behavioristic Account of the Significant Symbol," *Jour. Phil.*, vol. xix, p. 157 (1922).

of the sort popularly imagined. It is the *details* which still bother the scientist; there is no mystery, as the layman supposes, about the *general nature* of mental processes. Nothing goes on *in* the nervous system except *conduction* of nervous impulses, and their diversion from one pathway to another through the influence they exert upon one another (neural drainage). The fundamental process is one and the same, whether it be called thinking, feeling, willing, or what not. There is nothing a neuron can do except to *conduct* or *transmit*. There is no special kind of neuron, or process in any neuron, especially devoted to "feeling." And nothing happens in the brain cells which does not happen in other neurons elsewhere.

There will be no difficulty at all about understanding this if we compare the nervous system with a telephone system. Over that system business men give orders, housewives gossip, robbery victims call the police, love-smitten young people make dates. Would you say that ordering goods, gossiping, calling the police, and date-making are four different processes carried on by the telephone system? Well, certainly here are four kinds of *social processes* to which the telephone system is instrumental. But the distinctions between these four processes are not *within* the telephone system; they are in the results obtained *outside* the system. *Within* there is one and only one kind of process, the flowing of electric currents through wires, and the directing of those currents by connections made at the switchboard. The telephonic order for goods is a relation between the two persons at the ends of the wire, made possible only by the mechanism of the telephone system; it is not a mysterious something existing or taking place in the wires or the central office. We are amused by the story of the back-countryman who, seeing wind-blown pieces of paper clinging to the telegraph wires, remarked that some of the telegrams must have gotten stuck on the way. But some of us are guilty of equally ludicrous misconceptions of the nature of mental action. What we call "different mental processes" are really different patterns of muscular and gland action, different sound patterns (language), and different

visual patterns (written language, artistic creations, etc.), produced by these action-patterns.

All of which is merely to say once more that mind is not a substance, nor a peculiar process, nor is it located in the brain any more than in the rest of the body. It is a set of *relationships between man and his environment*, made possible by the nervous system. It is just as true to say that mind exists in the outside environment as that it exists in the nervous system. G. H. Mead[18] points out that mind belongs to external objects as much as to the brain, for our analysis of our environment takes place through the conflicting responses we make to objects. We resolve these conflicts by learning to react in a different way to each separate feature of the object. The characteristics of the objects, as much as the characteristics of the brain, determine the organization of that system of *S—R's* which we call "knowledge of the object."

Introspection and Behaviorism.—We may study mind or behavior from two points of view, objective and subjective. The subjective method is called *introspection*, or the observation of "direct experience." The introspectionist observes with unusual care, and records before he has time to forget, the details of his own "inner" experiences. He then of course studies similar records made by other persons of their experiences. The objective method, on the other hand, records only those acts and physiological changes which one person could observe in another, with or without instruments. It is of course the only method which can be used upon animals and young children.

The following records from Titchener[19] illustrate the introspective method.

My mind, then, is of the imaginal sort. . . . I have always had, and I have always used, a wide range and a great variety of imagery; and my furniture of images is, perhaps, in better than average condition. . . . I am able . . . to lecture from any one of the three main cues. I can read off what I have to say from a

[18] *Op. cit.*, p. 159.

[19] TITCHENER, E. B., *Experimental Psychology of the Thought Processes*, Macmillan, 1909, pp. 7-9, 12-14, 92. Quoted by permission.

memory manuscript [visual images]; or I can follow the lead of my voice [auditory images]; or I can trust to the guidance of kinæsthesis, the anticipatory feel of the movements of articulation. . . . When I am working for myself . . . I experience a complex interlacing of imagery. . . . My natural tendency is to employ internal speech; and there are occasions when my voice rings out clearly to the mental ear and my throat feels stiff as if with much talking. But in general the internal speech is reduced to a faint flicker of articulatory movement. . . .

. . . As I read an article, or the chapter of a book, I instinctively arrange the facts or arguments in some visual pattern, and I am as likely to think in terms of this pattern as I am to think in words. . . .

. . . But I must warn others, to whom this sort of imagery is unknown, not to think of a geometric figure printed black on white, or anything a hundredth part as definite. . . . I get a suggestion of dull red, and I get a suggestion of angles rather than curves; I get, pretty clearly, the picture of movement along lines, and of neatness or confusion where the moving lines come together . . . the visual pattern does not indifferently accompany, but is or equals, my gross understanding of the matter in hand.

. . . Whenever I read or hear that somebody has done something modestly, or gravely, or proudly, or humbly, or courteously, I see a visual hint of the modesty or gravity or pride or humility or courtesy. The stately heroine gives me a flash of a tall figure, the only clear part of which is a hand holding up a steely gray skirt. . . . The stately form that steps through the French window to the lawn may be clothed in all the colours of the rainbow; but its stateliness is the hand on the gray skirt.

What substances are more costly than gold?—Diamonds.—I had no visual image of the diamond: the thought of diamonds was there before the sound of the word. You don't think of the words you are going to say before you say them [case record].

The objective psychologists, on the other hand, put human and animal subjects into various situations and observe carefully how they *behave*, what they do, what changes take place in their bodies. They do not ask the subject how the situation seems or feels *to him*.

As long as introspection and objective observation are re-

garded simply as methods, each is useful, and there is no ground for dispute between them.

But about 1910-1915 some devotees of objective behavior study were so impressed by the superiority of their method that they declared intellectual war upon the introspectionists. In their hands behavior study became more than a mere method, it became a philosophy. Developed by Dr. John B. Watson and others, this philosophy was called *behaviorism.* Loudly and with great scorn the behaviorists cried, "There is no consciousness, introspection is all bunk, everything is stimulus and reaction." To which the more conservative psychologists replied that it is impossible to prove the existence of consciousness to a psychologist who never has been conscious.

The behaviorists refused to talk the same psychological language as the introspectionists. They discarded from their vocabulary such words as consciousness, feeling, sensation, image, idea. They talked about reflexes, behavior, habits, stimuli, laryngeal behavior, implicit habits.

But at the same time the extreme devotees of introspection were making the extravagant claim that theirs was the only true method of studying *mind.* Mind is that which you can study only by direct observation of your own experience; the behaviorists were studying merely physiology, and physiology is not mind.

Whenever two factions begin arguing about what a thing "is" and what it "is not," the problem usually lies not in the nature of the thing itself, but in the language used to describe it. Many a time in history has man been tricked by his language into centuries of futile debate about the "essential nature" or "is-ness" of something. But the dispute between subjectivists and objectivists is something more than a mere quarrel about words. It is a dispute about the nature of mental processes.

Three Theories of the Nature of Mental Processes.—In studying phenomena we break them up into convenient pieces. So the objective psychologist, or behaviorist, studying this continuous chain of behavior, tells us that it is made up of *S—R* units. He observes the stimulus which goes in and the

reaction which comes out. He gives his subject an electric shock on the finger, and notes that the subject reacts by withdrawing the hand.

But here the objective psychologist meets with two difficulties. First, not all stimuli produce a reaction which can be outwardly observed. And yet the subject himself reports that he is keenly aware of the stimulus, and experiences some kind of mental process as a result of it. Such is the case, for example, when the stimulus is a beautiful sunset. Second, some stimuli are followed by an outwardly observable reaction, but not until after some time has elapsed. In the mean time inner mental processes are experienced by the subject. What are these inner "mental processes"?

Here the quarrel begins. Roughly, there are three types of thought on the subject. The first is that of the extreme subjectivist, or "structural psychologist," who holds that these *mental* processes are of an entirely different nature from the *S*—*R*- -*S*—*R*- - process. He contends that only by introspection can they be observed, and that they must be analyzed into whatever elements they *seem to the introspector* to be composed of. These subjective elements are said to be, in the last analysis, sensations, images, and affection (pleasantness and unpleasantness). These three kinds of elements are combined in various ways to form percepts, concepts or ideas, feelings, etc. The whole flow of mental processes is called "mental states," "mental furniture," "experience," "consciousness." Psychology, says this school, is the study of consciousness; the objective observation of *S*—*R* elements is not psychology at all, but nerve physiology.

The second type of thought is difficult to identify with any one school of psychology; we shall call it the subjective functional theory. This theory regards the mental processes as "dynamic processes" rather than "mental states," as functions rather than things. It holds that these processes consist in nervous impulses traveling about in various complicated pathways through the brain. It admits that mental processes may in the last analysis be physiological; that they are not *S*—*R* units, but rather the complicated *transmission* processes which

take place between some *S*'s and their *R*'s. Some *R*'s follow directly upon *S*'s, but others only after an intervening mental process. Sometimes this is called the *intracerebral* or *central* theory of mental processes, in distinction from the peripheral theory to be described below. But since it is not practically possible to observe these processes objectively, the subjective functionalist is quite willing to study them subjectively. Like the structuralist, he is willing to describe them in terms of sensations, feelings, and other such elements of which they introspectively *seem to be composed.*

The third type of thought is that of strict objectivism or behaviorism. The essential point of this theory is seldom understood by those who oppose it. If we compare the first two theories, we see that the second differs from the first in bringing "mental processes" a step closer to identity with the physiological processes, which can be analyzed into *S*—*R* units. The behaviorist takes another step; he goes the whole way. He says that *all* mental processes are *S*—*R*'s. He holds that there is no intervening process between an *S* and its *R* except very rapid, simple transmission. The most complicated arc in the nervous system can be traversed by the nervous impulse in a small fraction of a second. "Thinking" is not prolonged transmission with delayed reaction, but is a series of "implicit," outwardly non-observable *S*—*R* units. *S*—*R*- -*S*—*R* is taking place all the time. "Inner" mental processes are merely hidden links in the *S*—*R* chain, not something inserted between the links.

Now it must once more be noted that an *S* can take place only in a sense organ, an *R* only in a muscle or gland. There are no *S*'s or *R*'s in the brain or nervous system itself. The behaviorist, hence, holds the so-called *peripheral* theory of mental processes. Thinking does not take place *in* the brain any more than *in* the sense organs or *in* the muscles. The behaviorist, indeed, likes to surprise people by saying that we think with our muscles. But this is merely a neglected part-truth which needs to be put alongside the older part-truth that we think with our brains. The whole truth is that thinking is a com-

plete *S—R- -S—R* process in which sense organs, brain, and muscles are equally essential. The brain is merely the central portion of the *S—R* pathways. The brain is the seat of mental processes in the same sense that the telephone switchboard is the seat of all telephone conversations.

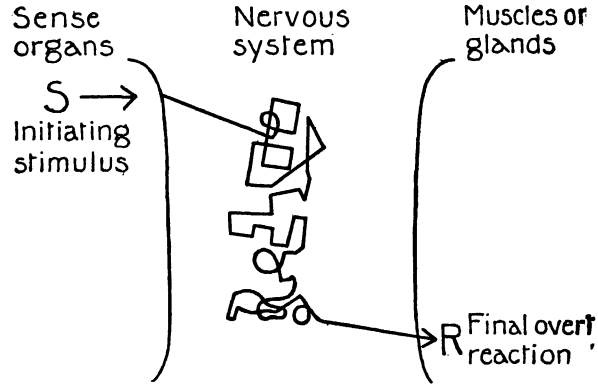


FIG. 16.—INTRACEREBRAL THEORY OF MENTAL PROCESSES

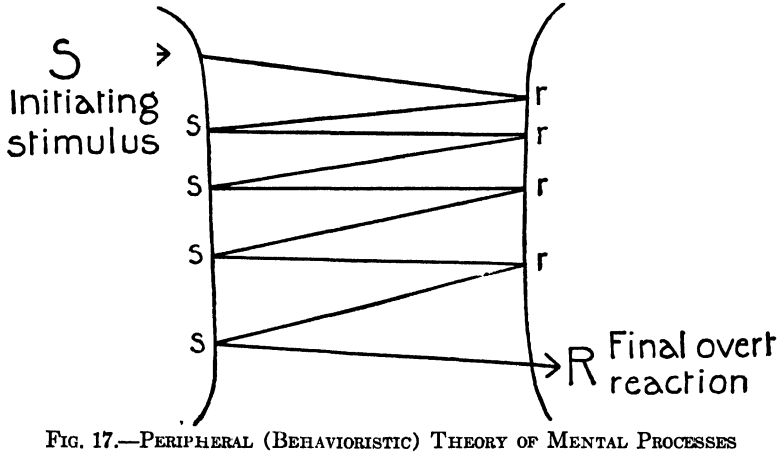


FIG. 17.—PERIPHERAL (BEHAVIORISTIC) THEORY OF MENTAL PROCESSES

Mental Processes as Implicit Behavior.—But is this common sense? When we engage in thinking or feeling or other inner mental process, do we not as far as possible ignore stimuli and avoid reaction? Are not mental processes often most vivid when we close our eyes and sit perfectly still?

Behaviorism answers as follows: Not all reactions are

noticeable muscular movements; not all stimuli come from the outside world. However, this does not mean that some of them are in the nervous system itself. Some reactions are very slight muscular movements, or muscular tensions which produce no movement because they are balanced by tensions in the antagonistic muscle. When I tense my arm, I throw strong nervous impulses into biceps and triceps at the same time. The arm does not move, but I have made a vigorous reaction. Such reactions, strong or weak, which produce no outwardly perceptible movement are called *implicit* or *covert* reactions. Again, there are reactions in the visceral muscles and glands which are not outwardly observable.

Following Dashiell[20] largely, we may classify reactions as follows:

Overt, or explicit, Somatic	Kinetic (large muscles), such as walking or raising the arm	
	Vocal, such as speaking a word	Symbolic
	Gestural, such as pointing to an object	Symbolic
Covert, or implicit, Somatic	Postural or attitudinal; neuromuscular *sets*, such as the runner getting set on his mark, the housewife watching the street for the milkman, general muscular tension, etc.	
	Inhibitory, such as deliberately refraining from crossing the "t"s when writing very fast	
	Subvocal, such as the slight tensions about the lips when one thinks "bubble." (Try to think about a bubble with your mouth open and you will appreciate the existence of these reactions.)	
	Subgestural, such as the muscular tensions one has when he feels an impulse to make a gesture of impatience but out of courtesy does not do so	Symbolic
	Thinking, made up of very faint subvocal and subgestural and perhaps postural reactions, connected up in "trains of thought"	

[20] DASHIELL, J. F., *Fundamentals of Objective Psychology*, Houghton Mifflin, 1928, pp. 39-45.

Visceral { Emotional, such as palpitation and breath-catching in fear
Non-emotional, such as digestion

Behaviorists have proved experimentally that muscular tensions and slight movements take place continually during a thought process. In general, the larynx and other vocal organs seem to be the chief reacting mechanisms in thought. Thinking, says Watson, is merely silent, implicit speech. When we think about a tree we make in abbreviated degree the same muscular movements we would make in saying "tree."

But some persons think in "visual images" rather than "inner speech." Can behaviorism explain in objective *S—R* language, my visual image (mental picture) of the Washington Monument? The behaviorists think they can. They claim that it consists in slight tensions about the eyes or head or elsewhere in the body. One must remember that there are millions of possible combinations of these slight movements and tensions; each combination is unique, and may become the unique symbol of some object in the environment. My image of the Washington Monument may involve mostly scalp tensions; yours, face muscle tensions. But if your image and my image are both hitched up to the actual sight of the monument and to the spoken words "Washington Monument," we understand each other perfectly. Only in our outspoken language do we need to agree.

Thinking Is a Series of Internal Symbols.—In the first chapter we noted that symbols are one of the important "stuffs" of which human society is composed. We noted external symbols, such as spoken and printed words, and internal symbols, which exist within human beings. Now we shall see what an internal symbol is.

Every time you give a baby a ball or display it in his presence, speak the word "ball." In time, by the conditioning process previously described, the baby learns to speak the word whenever he sees the object. In other words, he conditions the ball stimulus to an overt *symbolic* reaction, as distinguished from the various kinetic reactions of seeking it, bouncing it, and so on. Later he learns to say "ball" *implicitly* or subvocally—in other words, to think "ball." This implicit reaction, this abbreviated, outwardly imperceptible movement

or larynx-lip-jaw tension, which becomes substituted for the actual pronunciation of the word, is an *implicit symbolic reaction.*

We have seen that every reaction produces a return stimulus. When baby says "ball" he also hears himself say it, and feels himself (via kinæsthetic stimuli from the speech organs) say it. When he thinks ball, he gets no auditory stimulus, but he gets, in mild degree, the same "feel" from his speech muscles as when he spoke it aloud. This feel, this return stimulus, is the necessary link by which the symbolic reaction "ball" can lead to a further symbolic reaction, such as "it's on that shelf," and by which thinking becomes possible. Thinking is a chain of these implicit symbolic reactions, each producing a return stimulus which is conditioned to the next reaction.

This implicit symbolic reaction "ball" followed by its return stimulus is what we call the *internal symbol* of ball. An internal symbol is thus both a reaction and a stimulus. Usually these internal symbols are derived from speech, but they may involve reactions of the eye muscles rather than the speech organs. Ideas, images, "thoughts," are internal symbols. They are *R*- -*S* rather than *S*—*R* couplets.

The great superiority of man over other animals is largely due to his power to symbolize. This power makes prediction possible and, thereby, adjustment to future events.[21] The bulk of man's implicit behavior is symbolic behavior, but not all symbolic behavior is implicit. Speaking or gesturing is overt or explicit symbolic behavior; thinking is implicit symbolic behavior.

These implicit *R*- -*S* units which make up mental processes are so complex and so imperceptible that they cannot be observed objectively. Hence we must continue to study them by introspection. But introspection does not reveal the true elements of which they are composed. It merely classifies them into certain general types or patterns. It reveals them indirectly, rather than directly as the introspectionist claims. Since we cannot observe directly the subject's internal *R*- -*S*

[21] HERRICK, C. J., "The Natural History of Purpose," *Psych. Rev.*, vol. xxxii, p. 417 (1925).

which follows his sight of the American flag or his hearing the church organ playing the Doxology, we ask him to make a further, *verbal*, reaction to the experience—in other words, to "report" his mental state. Introspection is merely using the subject's word reactions as indirect evidence of something we cannot observe directly. When an introspector, given a rose to smell, reports "pleasantness," that does not mean that he has gotten at some elemental reality. It means simply that the rose stimulus *S*, provokes, among other things, some implicit *R* which has been connected also to other *S*'s and *S*—*R*—*S*'s, which in turn have been connected to the word "pleasant."

Association.—The conditioning of one internal symbol to another, which makes thinking possible, is sometimes called *association.* What the older psychologists called the association of ideas, the newer psychology might call the inter-conditioning of internal symbols. Association is studied by asking the subject to make overt verbal reactions. For example, the experimenter tells the subject that he is going to say some words, and that the subject is to reply by speaking the first word which comes to his mind after he has heard a given word. The experimenter may then say "cat," and the subject may reply "dog," or "whiskers," or "gray." Under such instructions, the association is said to be *free.* It represents free imagination, uncontrolled thinking, *autistic* thinking. In another type of experiment, the experimenter tells the subject that he is to respond by some word which bears a particular relation to the given word. For example, the experimenter may give the name of a state and the subject is to respond with the name of its capital city, or the experimenter presents arithmetic symbols such as "two plus two," and the subject is to respond with the "answer" or, in other words, the equivalent symbol "four." This process is called *controlled* association, and is, of course, the fundamental process in school exercises. The instructions to respond in a particular way, rather than with any word which comes to mind, cause the subject to take a "mental set" or *Einstellung* toward the situation. A mental set is some neuromuscular tension, probably more specific than the basic pattern of tension earlier described, but yet more general

than the specific reaction which is to be made. Such a mental set is a kind of attitude. The overt word reaction, such as "Augusta," then depends not only on the particular stimulus word given, "Maine," but also upon the return stimuli from the mental set, "what is the capital of ——?" Both the stimulus "Maine" and the previously existing attitude or set, "what is the capital of ——?" are parts of the total situation which produces the reaction. The stimulus "Maine" alone, without any set, might produce a different reaction, such as "New Hampshire." Controlled thinking requires constant tension in order to bring the "right" response. Of course the reaction which occurs in any such case depends upon the various interconditionings of overt word reactions and of internal symbols. The overt words are regarded as indicators of the internal symbols, but they are not always correct indicators. If an experimenter, for example, were to say "Maine" to the writer, his first free reaction would be the internal symbol which he would describe as "a visual image of Maine on a map." Yet the word "New Hampshire" might be the first verbal reaction.

Controlled or logical thinking, or reasoning, as we call it, consists of series of specific internal symbols controlled and selected by these more general neuromuscular ("mental") sets. Reasoning is thus different from free imagination or thinking. Both depend upon conditioned reactions, but in reasoning the conditioned stimulus is always a specific stimulus *plus* a more general set or attitude which determines which of many possible pathways shall be chosen. It is not the specific stimulus alone.

Now it will be possible to understand how man short-cuts the trial-and-error process.

Symbolic Trial and Error.—Suppose that a man instead of a cat is put into an experimental cage. His behavior is quite different. Instead of clawing wildly at the bars, climbing to the top, pushing this way and that, he examines the whole situation with his eyes. Occasionally he pokes and feels, especially in the neighborhood of the door. He stoops down, turns his head this way and that, to examine with special care the fastenings of the door. His muscular activity is much less

than that of the cat. As soon as his eyes come upon the button, he presses it and is released.[22]

The man short-cuts the trial-and-error process by reasoning, that is, by use of internal symbols. He may try every method the cat tries, but he does so in his imagination instead of overtly. Instead of actually climbing to the top, he looks at the top, forms internal symbols representing bar joints, strength of the bars, and so on. This chain of symbols leads to the symbol, "top evidently cannot be opened." This symbol leads to an avoiding attitude toward the top. He does not need to climb up and try it in order to experience failure; he experiences the symbol of failure in advance. He saves that much time and spends it examining the door. The stimuli from the door lead to symbols which arouse a more hopeful attitude. The sight of the button leads to the symbol, "this is a queer thing to have in a cage—it must mean something." His relaxation, upon escaping, conditions not merely the sight of the button but the mental symbol "button." On the second trial he escapes immediately.

The superiority of the man's learning is due to his power to form and use language and internal symbols. This power is due to his larger cerebral cortex, with its vastly more numerous cells and connections.

The Gestalt View of the Learning Process.—The Gestalt psychologists claim to have cast a new light on the learning process. Koffka admits that the law of satisfaction is the fundamental principle, but holds that by adopting this principle Thorndike has really broken with the mechanistic, reflex-arc theory which he claims to follow.[23] But we have already shown how the Law of Effect can be explained in terms of the drainage and conditioning of S—R pathways.

The Gestalt theorists say that learning is not memory, but achievement. Their experiments suggest that learning does not take place "mechanically," with a gradually rising curve of speed and accuracy, as earlier psychologists held, but by

[22] See ALLPORT, *op. cit.*, pp. 55-56.
[23] KOFFKA, K., *op. cit.*, p. 62.

sudden leaps. Each leap represents a new achievement, a new "insight" into the problem. We have already considered this as evidence that all-or-none conditioning, rather than repetition, is important. It may also be evidence for some degree of "thinking" in animals.

Köhler gave a chimpanzee in a cage two bamboo sticks so constructed that one would fit into the end of the other and thus produce a single elongated stick. Outside the cage were some bananas which the ape could reach only with the elongated stick. The ape tried to reach the fruit by pushing out one stick and then the other against it, and succeeded in moving the bananas. He then sat for two hours on a box. Suddenly, while playing with the sticks, he by chance brought them together so that the one fitted into the other. Then immediately he reached out and got a banana.

Now, says Köhler, the ape did not learn this by mechanical trial and error. He had "insight" into the problem. He recognized or perceived the successful situation as soon as it appeared.[24]

Gestaltists point out further that if the cat in the cage *accidentally* touches the releasing lever and gets out, this doesn't help his learning. Only when he does so under the drive for the goal does it affect him. In other words, the cat is not an automaton responding to every stimulus in the situation, but is *set* or concentrated on a certain line of effort and gives attention only to stimuli which are relevant to that.

The Gestalt psychology has indeed thrown new light on the process of learning, but it does not invalidate the general principles of trial and error. Its findings suggest that possibly the internal symbolic trials are not peculiar to man, but occur in some degree in animals. This, if true, might explain the sudden "jumps" or "achievements" in their outward behavior.

Are *S*—*R* Pathways Specific?—We have explained the acquired organization of behavior in terms of neural (*S*—*R*) pathways. Modern experimental psychology shows a tendency

[24] *Op. cit.*, pp. 132, 275.

to doubt this explanation. The real doubt, however, concerns the specificity rather than the reality of the pathways.

It has been shown that if considerable areas of nervous tissue are destroyed, thus obviously breaking certain pathways, the *S-R* connections are often soon reacquired through other neurons. Lashley has summarized much of this evidence. Thus an animal trained to follow correctly through a certain maze, if his cerebellum be injured, rolls instead of runs along, but still by the correct route. If a rat's spinal cord be cut half through at each of two different levels, so that every long spinal path is cut, the rat's orientation in a maze continues undisturbed. It would seem that detours were quickly substituted for the original neural paths, leading to the same reactions. Aphasias are of less definite types than we formerly believed. The degree of disturbance of function seems to depend upon the amount rather than the particular location of nervous tissue destroyed. Lashley holds that if we could turn the cortex hind-side-to, it would soon function normally again. He compares neurons with sponge cells, which after being crushed and filtered rearrange themselves in the typical sponge pattern. Apparently there are patterns of organization in the nervous system which are independent of particular neurons. Each essential rôle in the pattern can be played by any neuron.[25]

Whether these discoveries invalidate the general *S-R* conception is a matter on which we shall need to suspend judgment. In the writer's opinion they do not necessarily invalidate it, but merely make it far more complex than we have pictured it. For "pathway" we may need to substitute "pattern of pathways." Woodworth has pointed out that an *S-R* process may involve several reaction stages; among them a first or sensation stage, in which specific stimuli are carried through specific afferent neurons, and projected point-for-point upon the receiving ends of the central neurons; then a second stage of perception or integration by central neurons, in which it is patterns rather than specific neurons which count.[26] We shall consider perception later.

[25] LASHLEY, K. S., "Basic Neural Mechanisms in Behavior," *Psych. Rev.*, vol. xxxvii, pp. 1-24 (1930).

[26] WOODWORTH, R. S., "Gestalt Psychology and the Concept of Reaction Stages," *Amer. Jour. Psych.*, vol. xxxix, pp. 62 ff., 1928.

The Organization of Attitudes

Attitudes as Classifying and Controlling Reactions.—Now we are in a position to understand more clearly the nature of an *attitude*. First, it may be either inborn or acquired, but most attitudes are acquired. Second, it is an *S*—*R* couplet, not a mere *R*, or an *R*—*S*. Third, it is an *S*—*R* in which the *R* is neither a complete act nor a symbol, but rather an initial set toward action. It perhaps usually involves a postural reaction or neuromuscular set, or the beginning of an emotional reaction. Faris says that attitudes are gestures, incomplete acts, tendencies to act. Attitude reactions are *key* reactions.

An attitude may be a preparedness for one specific reaction, or for any specific or general class of reactions. A timid attitude, for example, is a set toward the more or less *specific* group of reactions we call fear. On the other hand, a man may be said to have a serious attitude, as distinguished from a playful attitude, toward a letter he is reading. These attitudes are keys to much broader and more general classes of reactions. Seriousness means merely that the man is prepared for *any* reaction which the situations represented would normally call for. But if his attitude be playful, his nervous system is set toward an entirely different general class of reactions, which might include amusement, witty replies, and so on.

We speak as if one attitude, called seriousness, could be the key to all possible reactions to a situation. It is rather a sort of master key to other more specific attitudes, such as indignation, anxiety, answering, non-answering, preparing to catch a train, and so on; and these more specific keys then determine his final reactions.

The mechanism of the nervous system is so intricate that it can classify reactions in any possible way. One general attitude may be the key to a thousand specific attitudes, each of these the key to thousands of behavior patterns, and each of these the key to tens of thousands of specific muscular movements. Reactions are organized into large systems, and each system may be turned on or off, so to speak, by turning some one switch (attitude or set). Thus we can form many separate

systems of habits. Millions of the same neurons may be used in speaking French as in speaking English, yet the synapse combinations are different and we seldom get the two systems of behavior mixed. We learn to drive cars of three different gear shifts without confusion. Some slight difference in the "feel" of the lever is a sufficient cue to lead us to the right system of reactions, even when our mind is preoccupied with other matters. L. K. Chen and H. A. Carr found that Chinese students read Chinese best vertically and English and numerals horizontally. Their long-ingrained habits of reading vertically do not apparently carry over to or interfere with their reading of English.[27]

Park and Burgess speak of *sentiment-attitudes.*[28] These are attitudes in which the reaction is of emotional character. A sentiment, as defined by McDougall[29] and A. F. Shand,[30] is an organized system of emotional reactions centered about some one object or situation. For example, we have a sentiment called "love of home." But this is not always "love." When the home is threatened it becomes fear. When some one speaks disparagingly of our home, the sentiment becomes anger.

The Analysis of Particular Attitudes.—In describing an attitude or a sentiment, we must define the situation as well as the reaction. Many seemingly different attitudes differ only with respect to the stimulus involved. In terms of reaction they are the same. "Jealousy," for example, is often the same thing as "indignation," if we consider only the reaction. "Jealousy" means an S—R in which the R is anger and S the situation: "some other person getting something I want." This something is usually personal affection, but not always. The anger may be mild or intense; it may be expressed in a "crude" or "refined" manner. Indignation may involve the very same R as does jealousy, but this R is coupled with an S which might be described as "any social situation which is a more or less socially approved cause of anger." If a person

[27] "The Ability of Chinese Students to Read in Vertical and Horizontal Directions," *Jour. Experimental Psych.*, vol. ix, p. 110 (1926).
[28] *Op. cit.*, pp. 441, 478.
[29] *Op. cit.*, chaps. v, vi.
[30] *The Foundations of Character*, Macmillan, 1914, pp. 35-63.

shows the same anger at that which society calls a "trivial" or unworthy cause, we do not call it indignation, but "bad temper," "irascibility," "petulance," etc.

The everyday names we give to human attitudes thus fail to distinguish situations from reactions. When I say, "Jones has a jealous attitude toward Smith," the ultimate formula is not *S*(Smith)—*R*(jealousy by Jones). It is rather *S*(Smith behaving in a certain way in a certain social situation involving Jones' wishes)—*R*(anger by Jones). Elements which would seem to belong to the reaction really belong to the situation. Even scientific writers are misled by this clumsiness of our everyday language, and much mental effort is wasted by trying to discriminate between different kinds of reactions where the real difference lies in the situations.

This confusion is well illustrated by C. H. Judd's theory: "The evolution of institutions has affected the emotions to such an extent that we are entirely justified in saying that civilized man has an emotional equipment which is entirely different from that of primitive man and the animals."[31] Again he speaks of the pleasures of reading as an emotion, which could not exist before language existed. Judd is right in saying that the emotions conditioned to institutional stimuli produce entirely different phenomena than are produced by these emotions conditioned to such an environment as animals live in. But he is wrong in saying the emotional equipment itself is different. Emotions consist in visceral *reactions*. Attaching a new stimulus, like "guns," to the fear reaction, for example, produces a new *attitude*, a new *"phobia,"* but not a new *type of attitude* or a new *emotion*. It may be the same old *fear*—adrenalin, accelerated heart, fast breathing, and so on, as occurred when the infant heard his first loud noise.

Tracing the History of an Attitude.—Many find it difficult to believe that the conditioning process can explain all the complex acquired attitudes of human life. Conditioning, they remind us, requires practical *simultaneity* between the original stimulus and the stimulus to be conditioned. We may readily understand why the child laughs when we suddenly

[31] *Psychology of Social Institutions*, Macmillan, 1926, p. 275.

and playfully shout "boo" at him. In the past we have tickled him and at the same time have shouted "boo." But why does one laugh at the sight of a pompous-looking gentleman slipping upon a banana peel, or at a word mispronounced by an ignorant rustic? Certainly these experiences have never been accompanied by tickling.

Our explanation involves four points. (1) *A chain of substitutions.*—The S_4 (the mispronounced word) in our second illustration was itself never accompanied by tickling, but it

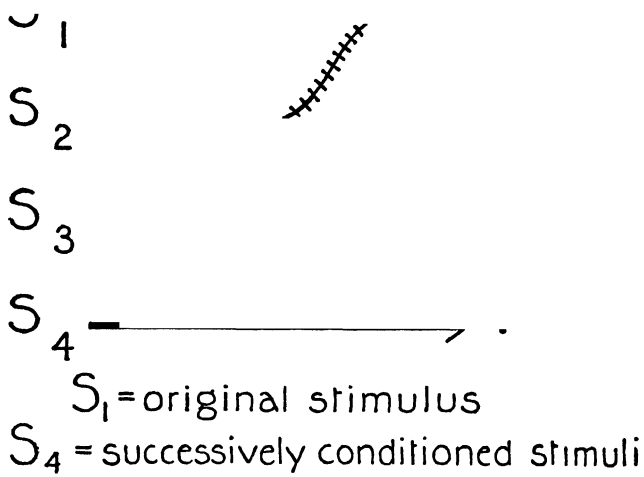


FIG. 18.—CHAIN CONDITIONING

was probably at some time accompanied by another stimulus S_3, which was once accompanied by another stimulus S_2, which was once accompanied by S_1 (tickling or other original S.) Conditioning proceeds by a house-that-Jack-built sort of progression from one stimulus to another. Careful observation of children would reveal the several links in the chain. Here lies a fascinating and neglected opportunity for research.

But even with such a continuous observation, we would probably find that some of the links were missing, if we confined our attention to obvious, external stimuli. Many of the links are *symbols, motor sets,* and the *behavior of other persons.*

(2) *Symbols.*—A time comes in the development of each child when his laughter reaction becomes transferred to symbolic stimuli, such as words, phrases, or pictures in the funny paper. From the situation "causing a playmate unexpectedly to fall harmlessly," laughter becomes transferred to the symbolic situation "picture of somebody falling unexpectedly and harmlessly."

An emotional reaction often occurs as the end of a long chain of internal symbols. For example:

You cannot find your special pencil—you try to remember where you left it—no great emotion yet—you remember that you left it in this drawer—someone must have taken it—mild anger—who could have taken it? A—probably took it—no great emotion yet—but you gave him some pencils yesterday so he would not have to borrow yours—your work is held up by an obstacle which you have already taken measures to overcome—greater anger—why didn't you lock your desk?—why do you always take half-way measures?—why don't you get little things like this under perfect control?—anger—involuntary expletives—you find another pencil and break the point several times in the effort to sharpen it.

To say that anger in this case is a reaction merely to the loss of a pencil greatly oversimplifies the matter. It is a reaction to a long train of internal symbols (thought) aroused by the loss of the pencil.

(3) *Motor sets.*—The mental bridge which carries over the reaction may be a generalized neuromuscular set. For example, a part of the inborn pattern of reactions which goes with laughter is a sudden shift from muscular tension to relaxation. This shift produces return stimuli which become conditioned to the laughter reaction. The essential point is that the shift is expected (playful attitude), but its exact moment is unexpected. This shift comes to be identified and reacted to as a unit whenever it occurs. Hence, any new situation which produces this "shift" finds a ready pathway also to the laughter reaction. The telling of a joke, for example, puts the hearer in a certain tense, serious attitude until suddenly a release occurs. The fact that the release comes on some unexpected point, that is, that the hearer does not know in advance the

point of the joke, is equivalent to the "booing" at the child at an unexpected moment.

Allport gives another helpful illustration.[32] Suppose we suddenly meet a friend whom we had believed to be in Europe. (See Fig. 19.) To this S_1 our reactions include R_1 (raising the brows) and R_2 (a general suspension of responses, a motor set called "shock" or "surprise"). Now let us suppose someone tells us he has been at a séance and seen his dead uncle. To this S_2 our reaction originally would be R_2, the same general motor set of suspense or surprise. R_1 would not occur at first in response to S_2 because it is originally connected only to visual stimuli. Raising of the brows has the biological utility of opening the eyes wider to perceive a new and unexpected situation.

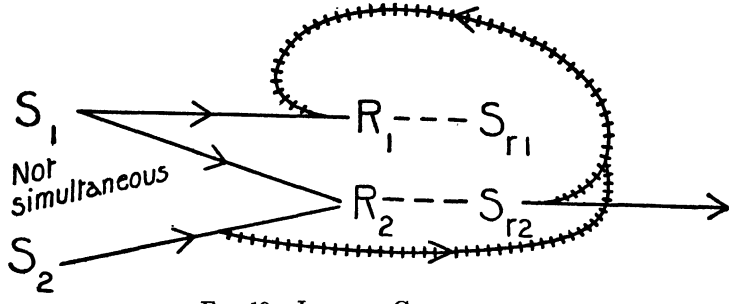


FIG. 19.—INDIRECT CONDITIONING

But R_1 gets conditioned by the return stimuli from R_2, and thus brow-raising comes to be attached to S_1 as well as to S_2. "Brow-raising" has been transferred from "unexpected sight" to "incredible tale" without the necessity of experiencing "unexpected sight" and "incredible tale" at the same time.

(4) *Social stimuli.*—Another conditioned stimulus which helps carry the laughter reaction from one situation to another is the circumstance that other persons are laughing. In nearly all the primitive laughter situations, the sound of others' laughter is an accompaniment, and hence becomes a conditioned stimulus. It alone may then carry the reaction to any new stimulus. There are many things at which we laugh largely because others have frequently laughed at them in our presence.

[32] *Op. cit.*, p. 217.

The Definition of the Situation.—Between the mere perception of the physical characteristics of a situation and our final attitude reaction toward that situation, there often lies an intervening step which W. I. Thomas calls the definition of the situation.[33] This step consists in symbolic reactions, overt or implicit. Let us imagine a body of men and women marching down Main Street carrying a huge red banner. Suppose this happened in Charlotte, N. C., and in Prague, Czechoslovakia. The two situations would be physically similar. But mentally, that is, in the way the situation is symbolically reacted to by the onlooker, there is a great difference. In Charlotte the situation most likely would be called "Bolshevism," "Northern labor agitators," "something that ought to be stopped by law if possible, otherwise by mob action." In Prague it would be simply "another parade of the Social Democrats." We react not to the bare externals of a social situation, but to our definition of that situation. That definition is provided largely by the culture of the group in which we live. A grown man refuses to follow his father's wishes about marriage. In the United States this is a "regrettable quarrel," in China it is "grossly unfilial conduct, deserving of banishment from the village."

The Stimuli to Behavior—Perception

For convenience we have so far neglected two important points. (1) Although noting that some stimuli are biologically adequate and others effective only after conditioning, we have failed to give any idea as to what kinds of stimuli may belong in these two classes. (2) We have made the false assumption that any situation is a simple stimulus which may register itself as a distinct unit on the sense organs.

Now we must analyze the world of situations or stimuli, as we have analyzed reactions.

Simple Stimuli.—Stimuli may be (1) simple, or (2) patterned stimuli or stimulus patterns. A simple stimulus is one which registers on some distinct kind of receptor or localized

[33] This concept is developed especially well in *The Unadjusted Girl*, Little, Brown, 1923.

group of receptors. Such, for example, are warmth, cold, pain in the knee, bright light, loud noise, pungent odor, losing one's balance, red color, bitter taste, nausea, fatigue, being out of breath, tickling in the armpit, etc. Simple stimuli are distinguished from one another by the sense organs themselves, for they register on different organs and hence travel on different pathways to the brain. Nature did nothing "wonderful" when she enabled man to distinguish warmth from cold. She merely constructed two different kinds of sense organs, one sensitive only to warmth, the other only to cold. Man can produce the same results artificially. The thermostat in the house distinguishes "too hot" from "too cold" and automatically regulates the furnace accordingly. There is an invention by which a motorist can change a traffic light by blowing his horn. This is essentially a mechanical ear, sensitive only to loud sounds and not to light or heat or odors. It transmits the message electrically to a mechanical effector, the light switch. So far as animal behavior consists merely in making different reactions to simple stimuli, it has been abundantly duplicated in the world of machinery.

If all stimuli were simple, there would be little need for putting synapses into the nervous pathways. An animal might be able to adapt perfectly to his environment by means of 1000 different sense organs, each sensitive to a distinct stimulus, each leading by an unbroken pathway to the proper one of the 1000 different reactions. There would not even be any need for bringing these pathways together into a brain. Each could be a separate wire traveling by its own most convenient route to its own effector.

Configurational Stimuli—Perception.—A patterned stimulus is a combination of many simple stimuli. But it is more than a mere addition of elements. The elements occur in a particular arrangement or *configuration* (Gestalt). This may be a space arrangement, a time arrangement, or some other scheme of relationships. A triangle, a horse, the tune "Suwanee River," a sentence seen in print or heard, the kinæsthetic "feel" of a series of leg movements one is making while swimming—these are configurations and not simple stimuli.

After sufficient experience with one of these configurations, the nervous system responds to it as quickly and definitely as to a simple stimulus. The baby's laughter reaction, started by tickling or patting, can be conditioned to the smile on the mother's face as readily as to the simple stimulus of a green light. Dogs' reflexes have been conditioned to ellipses and other visual *patterns* as well as to bells and electric shocks.

But certainly there is no separate sense organ, or group of sense organs, which is uniquely sensitive to any given configuration. Warmth can be distinguished from cold because each registers on its own type of receptor, but how can "smile" be distinguished from "frown"? Both register on the

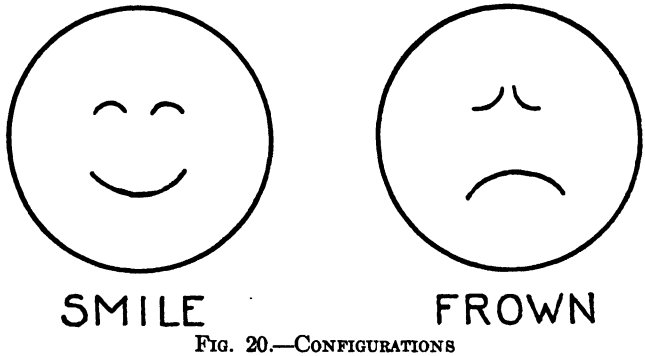


FIG. 20.—CONFIGURATIONS

retina of the eye. To be sure, if I am centering my eyes on your face, your smile will stimulate a group of nerve endings on my retina which is different from the group stimulated by your frown. To make the matter very simple, two different images will be focused on my retina, as shown in Fig. 20. If your face should remain always at that distance and in that position, "smile" would always stimulate that same specific group of neurons, and that group could be hitched up to the laughter response. Such a mechanism could be constructed artificially by placing a chemically sensitized strip of photographic paper in just the right position. One inventor made an electrical apparatus which reacted with a loud sound whenever a shadow fell on a certain surface. But consider these additional facts: (1) We learn to react distinctively to the

smile pattern *at any distance* or *in any position* on the retina. (2) We do not confuse the smile with the crescent moon or the side view of a saucer, which have much the same form.

Right here, by making these conditions possible, the nervous system, which thus far we have pictured as similar to man's own mechanical inventions, takes a sudden jump to refinement of discrimination far beyond anything known to human ingenuity. Distinguishing simple stimuli, transmitting impulses, subdividing these impulses over numerous pathways so as to produce a *reaction pattern*, all are similar to processes man performs by electricity. Man can, by pressing a red button, illuminate on an electric signboard a pattern of lights spelling "Bigley's Gum"; by pressing a green button he can advertise to all Broadway the Dromedary cigarettes. It is just a matter of making the proper connections. But to reverse this process, so that the "Bigley" pattern falling *anywhere* and *in any size* on a photographic plate will light a red light, and the "Dromedary" pattern a green light, is to achieve something immeasurably more difficult. This very complex process, in the nervous system, is called *perception*. It is a form of *integration*. Integration is the process *par excellence*, the real marvel, of the nervous system.

The following experiment provides another illustration. An animal, trained to go to the lighter colored of two gray papers to find food, was shown a new pair of papers in which the lighter one was now of the same color as the darker (foodless) paper in the previous experiments. With it was a still darker paper. The animal immediately went to the *lighter* of this new pair. This proves that he had learned to distinguish not the simple stimulus "a particular gray," but the complex situation "lighter of any two papers, whatever the shade." He reacted to a *relationship*, a *pattern*. This cannot be explained by two separate pathways from two simple stimuli, for now he actually approaches the same color he previously avoided.[34]

The Mechanism of Perception.—Can we get any inkling of how this mechanism of perception works? There are suggestive clues.

[34] KOFFKA, K., *op. cit.*, pp. 137-138.

(1) It is well known that we trace forms with our eye muscles. The eye, seeing a triangle, makes three slight movements corresponding to the three sides, so that the image of each point on the perimeter is brought successively to the fovea (center of the retina). The kinæsthetic return stimuli from the eye muscles may help us, more than do the visual stimuli, to identify the form as "triangle." For the eye movements will be the same in direction, and in muscular tensions produced, whether the triangle be large or small, whether it originally appear on the right or the left side of the retina.

(2) The combination lock illustrates the integration principle. Its bars and notches are so geared that only one specific *series-combination* of movements, out of millions of possible combinations, will produce results.

(3) There are several billion central neurons in the cortex, and each has innumerable synaptic connections with many afferent neurons coming from the sense organs. These central neurons are the *selective* agents for configurations, as the receptors or groups thereof are the *selective* agents for simple stimuli. So numerous are the central neurons that it is possible for every distinct configuration observed during a lifetime to be separately represented *in the cortex*, although it can have no monopoly on any particular receptor or afferent neuron.

(4) The principle of drainage, which was noted in conditioning, makes it possible for slight differences in groups of pathways to become pronounced differences through repetition. Thus, configuration no. 1 might stimulate a group of pathways *aaabbccd*. (In this symbol the several *a*'s represent several individual neurons leading to the same *final path A*. The *b*'s represent several neurons leading to a different final path *B*.) Configuration no. 2 might stimulate the not-very-different group of pathways *aabbbccd*. The final pattern of response would at first be *ABCD* in both cases. But configuration no. 1, stimulating 3 *a*'s, throws a slightly larger proportion of total energy into final path *A* than into any other final path, while no. 2, having 3 *b*'s, throws its plurality of impulses into path *B*. Since the strongest stream tends to drain the others, the response to configuration no. 1 might in time become simply *A*, the response to no. 2 simply *B*. Thus the two different configurations, producing at first the same mixed response *ABCD*, come to produce two specific and utterly distinct responses *A* and *B*. The two configurations, we say, have now become *discriminated* in the nervous system.

If this discrimination is not fully made in the first set of

central neurons, it may be further refined by the next set of central neurons into which the impulses pass. By the time we get to the efferent neurons, each configuration has its own final path leading to a distinctive reaction. This path may then resubdivide and so produce a pattern made up of several reactions in different parts of the body.

(5) Even the so-called "single pathway" is not necessarily a single nerve fiber. Probably it is always a group of fibers.

The Gestalt Psychology and Perception.—A new school of psychology known as the *Gestalt* or *configuration* school, to which we have referred several times, has attracted widespread attention. Among its leaders are Wolfgang Köhler and Kurt Koffka.[35] This is really a part of a larger trend of thought, developed chiefly in Germany, known as the *Struktur* movement. The keynote of this new psychology is its emphasis on wholes as distinguished from their parts. It is a reaction against the passion for analysis, the explaining of things by reducing them to "elements."

In explaining perception, the Gestalt school holds that we perceive forms or configurations in the very first instance as "wholes." We do not build up these perceptions out of elements, neither the "elementary experiences" of the introspectionist nor the *S*—*R* units of the behaviorist. We analyze them later into their "elements." The Gestaltists point out that we do not remember the details of the smiling face, but register and remember the entire pattern. Quite true; but this pattern gets itself distinguished only through constant repetition and conditioning.

For example, we might take two small circles and two short lines and put them inside a large circle in various arrangements. Out of these five elements we can make any number of different patterns, five of which are shown in Fig. 21. Examine these five patterns one after the other. When you come to number five you will have a reaction quite distinct from your reaction to the others. You will *perceive* a human face. But this is not because you were born with a system of visual

[35] For a summary see Hsiao, H. H., "A Suggestive Review of Gestalt Psychology," *Psych. Rev.*, vol. xxxv, pp. 280-297 (1928).

neuron connections all set to receive this pattern, in preference to all the others, into the hospitality of your brain and your emotions. It is because you have seen this one pattern thousands of times before, seen it while you were experiencing the various joys and sorrows of life; while you have not seen frequently nor under emotional circumstances any *one* of the other four, or of all the ten thousand possible patterns.[36]

Koffka says that each stimulus element in such a configuration is not transmitted on a separate pathway, but the "several elements form a grouping which is transmitted as a whole." This statement is apt to be misleading. Certainly the elements start out upon separate pathways, at the retina. But at the first set of synapses in the brain, these separate pathways are bound together, by repetition and conditioning, into

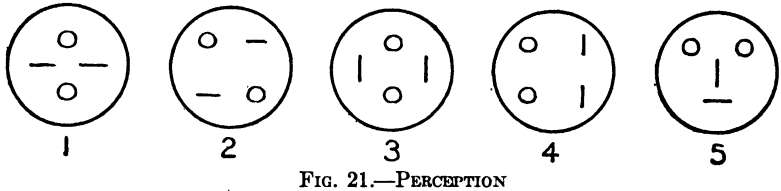


FIG. 21.—PERCEPTION

a grouping which *from there on* may be transmitted *as a unit.* Possibly a further set of synapses has to be passed before the grouping is completely integrated. This principle of integration was, however, well recognized by behaviorism and the earlier schools of psychology. The Gestalt school gives it a new and well-deserved emphasis. But many Gestalt followers convey the false notion that they have discovered a new principle entirely different from "mechanism," and that this new principle overthrows behaviorism. "Mechanism," when it becomes complex, is not necessarily rigid and hopeless; it may be very flexible. One Gestalt follower makes this self-revealing statement: "In accepting behaviorism one accepts not only a theory but an attitude toward life." We wonder whether the Gestalt theory is to him a science or a religion?[37]

[36] See also LUND, F. H., "The Phantom of the Gestalt," *Jour. General Psych.*, vol. ii, p. 307 (1929).

[37] See WOODWORTH, R. S., *op. cit.*

Configurations Registered Mainly by Eye and Ear.—Most of the simple stimuli from our environment register upon interoceptors, proprioceptors, and contact ceptors (see page 24). The distance ceptors of vision and hearing register mainly patterned stimuli or configurations. The simple stimuli to eye and ear—light, darkness, colors, single tones and noises—are unimportant in our lives. The things which really affect our lives, which become conditioned to our motives, are configurations: spoken and printed words, the forms we see about us, the actions we observe in our fellow men.

Configurational Stimuli Never Biologically Adequate.—Their connections with our inborn motives are wholly acquired. This may seem at first a minor detail of abstract theory. It is one of the most important principles of psychology. Its practical effects are far reaching. It is the essential basis of the recent revolutionary changes in our thinking about human problems.

Why does modern psychology believe in this principle? First, on deductive grounds. Reasoning from the nature of configurations and from our knowledge of the structure of the nervous system, it seems highly improbable that any configuration could be provided with a ready-made, inborn pathway through the nervous system. Likewise, it seems highly probable that it could *acquire* such a pathway by the learning processes we have described (conditioning, drainage, trial-and-error, etc.). Logic compels us to accept the most probable explanation.

But why these probabilities? What is the evidence for this theory? First let us consider the deductive evidence.

(1) Configurations do not register separately on the sense organs. They can be selected and distinguished only by the central neurons. Such a complex selective mechanism could be more accurately organized through actual functioning than it could be ready made before birth. As the Gestalt psychology holds, in the finer details brain "function is the cause of structure rather than *vice versa*." If the cortex were a set of ready-made pathways it would not be constructed the way it is. Its very structure, with its innumerable synapses, makes

it *par excellence* a machine for allowing *any possible pathway* to develop according to the circumstances.

(2) It would do no good to make any particular configuration biologically adequate. The "smile" situation, for example, may be quite a different configuration on one mother's face than on another mother's face. Even if some standard "smile" configuration had a ready-made, inherited pathway to the infant's "pleasure" response, this would not take care of the many different kinds of smiles, the many different positions in which smiles are seen, the many different distances at which they are seen. There are thousands of different smile patterns in actual life, and they all work. Nature could hardly take care of so many possible variations by means of ready-made pathways. Furthermore, we know from experiments with the conditioned reflex that a frown would succeed just as well in arousing the baby's pleasure response, if it were commonly attended by feeding and patting.

Thorndike believes that by "original nature strange men and animals advancing toward us with threatening mien, thunder and lightning, reptiles, darkness, solitude, dark holes and corners, rats, spiders, and other creeping things, sudden noises, contacts and clutches unprepared for tend to produce more or less an indeterminate assortment of discomfort, running, crouching, screaming, clinging, trembling, and so on."[38] But consider all the possible configurations which nature would need to connect to this fear reaction in order adequately to cover the situation, "strange men and animals advancing toward us with threatening mien." Consider even the thousands of possible positions, shapes, sizes and distances of configurations necessary to represent "reptile." A coiled, S-shaped figure might be made biologically adequate, but this pathway would fail to work if the snake were coiled up in the form of a circle, or crawling rapidly across a road.

The second line of evidence for the non-biological adequacy of configurations is inductive. Actual experiments have been tried in order to learn whether infants, without previous experience, have their fear reactions innately connected to animals and other configurational stimuli. The results have been universally negative. John B. Watson has taken the lead in such experiments. He and his students tried many kinds of stimuli on infants in the first few months of life.

[38] *Educational Psychology, Briefer Course*, Teachers College, 1915, p. 21.

Watson proved by experiment that infants do not, without previous experience, show any fear of the darkness, of black cats moving nearby, of pigeons, rabbits, or dogs. Putting the infant in a dim light while these animals were present made no difference.[39] The second column of the following table shows those stimuli that have been actually proved to be biologically adequate to certain reactions. Every stimulus in the list is simple, and not a configuration.[40]

Reactions	Only Stimuli Proved Biologically Adequate	Important Acquired (Conditioned) Stimuli
Hunger	Empty stomach with peristalsis Taste of food (?)	Sight (*) and smell (?) of food Bell signal (*)
Sex-reactions	Distention of sex glands Other internal conditions	Opposite sex and its various characteristics
Love	Skin contact with warm soft object Patting, rubbing, rocking, especially of "erogenous zones"	Persons Children
Laughter	Tickling Any sudden relaxation following tension (?)	Jokes Sights and sounds in play
Anguish—pain	Irritations of dermal pain receptors or of certain interoceptors	Disappointments Frustrations and failures, after struggle and withdrawal fail
Disgust	"Noxious" substances in mouth or stomach	Various smells, tastes, sight of "dirt," excreta, etc.

[39] *Op. cit.*, chap. vi, and many other writings.
[40] See Allport, *op. cit.*, chap. iii.

Anger—struggling reactions	Restraint of muscular, especially limb, movements	"Dont's," shutting of doors, various mental thwartings Refusal of wanted objects Taking away possessions
Fear—withdrawing reactions	Sudden loss of support (felt by interoceptors) Loud noises Sudden pushes or pulls Any very intense or sudden stimulus (?)	Any animal* Darkness* Unfamiliar situations* Uncertain situations Anticipated dangers

* Experimentally proved not to be biologically adequate.

Significance of the Foregoing Principle.—The significance of this principle of non-biological adequacy of configurations is far reaching. It means, for example, that if a child could be prevented until a certain time from ever seeing another human being, then his first sight of a fellow human would provoke in him no more recognition, no more gregarious or social or filial feeling, than his first sight of a toy balloon. He has no more inborn propensity to prefer human beings to locomotives or horses than had Adam to speak Latin, as one classically trained schoolboy thought.

The Question of Instincts

The above principle is one reason why the new psychology has thrown out of the window the traditional theory of instincts. Namely, most so-called instincts are not merely reactions, but reactions connected to *certain complex situations.* These situations register upon us as configurational rather than simple stimuli, and hence they cannot have inborn connections to any reaction. The other reason for discarding the instinct theory is that experiment has shown that many *reaction patterns* alleged to be inborn do not actually appear at birth, but are assembled some time later.

We are born, said the older psychology, with a sex instinct, a parental instinct, a gregarious instinct, and a collecting instinct. True enough, we are born with the *capacity* to behave sexually, to pet and caress, to walk, and to stoop and pick up. But only through training and experience do we learn to recognize the configurations which mean "opposite sex" and to show sexual reactions toward *them*, to recognize children and to pet and caress *them*, to recognize our fellow men and to walk toward or with *them*, to recognize small loose objects and to stoop to pick *them* up.[41]

Most Instincts Now Regarded as Common Habits.—Most of these complex behavior patterns we called instincts may be shown to be merely common or universal habits or attitudes. Universality does not prove heredity. It may prove merely the existence of certain universal features in the environment. That all men tend to shudder at the sight of a sharp blade thrust toward them does not prove any instinctive fear of sharp edges. The sight of a sharp blade is not an elementary stimulus which registers on any particular group of retinal neurons. It is a pattern. As we have seen, patterns must be *perceived*, and not merely sensed; and this requires many experiences, and selection by central neurons. Such organizations of stimuli cannot be inherited. But it is easy to see how they can be acquired and conditioned to inborn reactions. The sight of sharp blades is commonly accompanied by the pain of cutting. This cutting is the biologically adequate stimulus. If every time we were cut, the cutting instrument were concealed from view, and at the same time someone struck a major chord on the piano, we would then universally shudder at the sound of a major chord but be left unmoved by the sight of a sharp blade. The experience of the race with sharp objects is handed down as part of culture, and acquired by each individual through his *own* learning process. There is no biologically inherited "race memory."

The Gregarious So-called Instinct.—Thorndike, McDougall, and Trotter have assumed that gregariousness is an

[41] See CASON, H., "Gregariousness Considered as a Common Habit," *Jour. Abnormal and Social Psych.*, vol. xix, p. 96 (1924).

instinct. Thorndike says: "Man responds to the absence of human beings by discomfort, and to their presence by a positive satisfaction. . . . Being one of a crowd adds new instinctive exhilarations. . . ."[42] McDougall says: "In civilized communities we see evidence of the operation of this instinct on every hand . . . a foreign prince driving to a railway station or a Lord Mayor's show . . . will line the streets for hours with many thousands whose interest in the show alone would hardly lead them to take a dozen steps out of the way."[43]

The dog, says W. I. Trotter, has the gregarious instinct, the cat lacks it.[44] He implies that something is born in dogs which is left out of cats. But suppose, instead of speculating about unseen instincts within, we examine the obvious mechanical structure of these animals. The dog is built to run fast and far. He is built for noise. The cat is built for stealth and silence. He can spring quickly, but cannot run fast and far. Even were there no chance of learning hunting habits from one's elders, the dog would soon find by experience that his food came most easily when he coöperated with other dogs, barking, running down and cornering the prey. The cat would succeed in getting more food in silent, stealthy solitude, and would thus learn to keep away from his fellow cats while hunting. Trial and error leads the dog to form gregarious habits, and the cat, because of his different structure, to form solitary habits. We need look for no inborn difference except in physical structure itself. The learning process takes care of the rest. Gregariousness is not an instinct, but a bundle of habits more or less common to a whole species. As Watson says, differences in structure plus differences in early training will account for all differences in the behavior of men or of animals.[45] "Fellow men" is a complex situation which has to be perceived or organized in the nervous system; there is no

[42] *Educational Psychology, Briefer Course*, p. 29.
[43] *Op. cit.*, p. 89.
[44] *Instincts of the Herd in Peace and War*, Macmillan, 1916.
[45] "What the Nursery Has to Say about Instincts," *Ped. Sem.*, vol. xxxii, p. 293 (1925).

particular sense organ, or group of sense organs, which has the peculiar power to register "fellow men." Therefore there can be no inborn reflex arc leading from *S* (fellow men) to *R* (approaching, following, etc.). Therefore gregariousness is not an *instinct*, for the stimulus it implies cannot possibly be inborn.

Other "Instincts."—By the same token, the so-called instincts of self-assertion and submission are habits learned through experience with social situations. The whipped dog learns that the best way to avoid further punishment is to behave inconspicuously, to drop his tail and head, to walk away quietly. The victorious dog learns that strong muscular tonus, strutting, and threatening barks often frighten away his enemies and thus save him the pain and effort of fighting.

R. M. Yerkes and Daniel Bloomfield question even that kittens instinctively kill mice. A cat of five months, previously inexperienced with mice, was not excited by the presence of a mouse but allowed it to perch on his back. Only when the mouse ran was the cat interested. Then he ran after it, struck it playfully, and became rougher the longer he played. During the period of post-natal blindness kittens avoid the odor of mice. These authors think that cats' behavior with mice is largely imitation of their elders—in other words, a feline tradition rather than an instinct.[46]

It has been proved that even the songs of birds are not instinctive, but learned. E. Conradi reports on two young sparrows which imitated some of the songs of canaries with which they were associated. After removal to sparrow society, they dropped back into the sparrow chatter, but when put back again with canaries regained all they had lost.[47] W. E. D. Scott reports on two orioles in captivity, isolated from their own kind. Their songs had the oriole quality, for quality depends upon the inborn structure of the vocal organs; but the birds originated a novel *form* of song. Four more orioles, isolated from all of their own kind except from the above-

[46] "Do Kittens Instinctively Kill Mice?," *Psych. Bull.*, vol. vii, p. 253 (1910).

[47] "Song and Call Notes of English Sparrows," *Amer. Jour. Psych.*, vol. xvi, p. 190 (1905).

mentioned two, learned the song invented by these two and never sang any other way.[48]

Maturation Versus Learning.—Some question has arisen about acts, like walking, which do not develop until some time after birth. Are they learned acts, or simply late-maturing reflexes? The theory that they are inborn, but late in developing, is known as *maturation.* An experiment made by J. R. Shepard and F. S. Breed upon the pecking of young chicks throws light on this question.[49]

The newly hatched chicks were very awkward in seizing grains of wheat. On the first day they averaged only 15 per cent of perfect trials (attempts consummated by swallowing). On the fifth day of practice, however, they were 72 per cent perfect, on the fifteenth day 84 per cent. Was this improvement due to practice, or to the inborn maturation of a "pecking instinct"?

The experimenters divided some chicks into groups. One group was kept in a dark place without opportunity to peck until the fourth day, when they were allowed to begin practice. Another group started on the fifth, another on the sixth day. These delayed groups did no better on their first day of practice than did the newly hatched, but made much more rapid improvement. By about the tenth day of life all the groups were about equal, having reached practically their full efficiency.

It was concluded that (1) practice is necessary, but that (2) the speed of learning is much greater when the practice starts at a more mature age. Maturation does count, but it is a *general* maturation of neurons, synapses, receptors, and effectors, not a maturation of particular reflex arcs. The child must wait until twelve months of age to be able to walk, not because his "walking instinct" matures then, but because the various organs needed in walking are not, all of them, sufficiently developed until that time.

Arnold Gesell reports a case of apparent maturation in a pair of twins. Twin T, beginning at 46 weeks, was trained 20

[48] "Data on Song in Birds," *Science,* vol. xiv, p. 522 (1901), and vol. xv, p. 178 (1902).

[49] "Maturation and Use in the Development of an Instinct," *Jour. Animal Behavior,* vol. iii, p. 274 (1913).

minutes daily for 6 weeks in stair climbing. Twin C was not. At 48 weeks T scaled the stairs for the first time without assistance. At 52 weeks he was expert, while C could not climb even with assistance. But at 53 weeks C, without assistance or training, climbed the stairs.[50]

Summary.—The organization of behavior is mostly acquired after birth. This organization consists in establishing new pathways, mostly in the association areas of the cortex. The fundamental process by which these new pathways are established consists in the drainage, or diversion into itself, of the energy of one old pathway by another old pathway which is functioning at the same time. This principle of neural drainage appears in the form of inhibition, facilitation, conditioning of reflexes and of random reactions. By conditioning, new stimuli are substituted for old in the behavior system.

Certain reactions are selected from the mass of inborn random reactions, are fixated, and combined into habit patterns, through the process of trial-and-error. In this process the successful reaction is established and made exclusive, the unsuccessful reactions eliminated. Success is whatever removes the driving stimulus, and is marked by a shift from general tension to general relaxation. This relaxation facilitates the successful reaction, and favors its being conditioned to the various stimuli functioning at the moment. Visceral reactions probably also play a rôle. The tension that goes with lack of success tends to inhibit the unsuccessful reactions. Mere frequency of repetition in itself is probably unimportant in establishing pathways; one shock may destroy an *S-R* connection which has functioned hundreds of times, and may completely establish a new connection.

The organization of human behavior is carried to a much higher level of complexity and accurate adjustment than that attained in animals, through the instrumentality of language and other symbolic reactions. Symbols are built into the behavior system, like other stimuli and reactions, by the conditioning process. A symbol, as seen, heard, or felt (in one's own

[50] "Maturation and Infant Behavior Pattern," *Psych. Rev.*, vol. xxxvi, p. 307 (1929).

muscles), is a substitute stimulus; as produced by the subject, it is a substitute reaction. A symbol may be external (spoken word), or internal (silent or subvocal copy of same word).

Thinking consists in a chain of silent words or other internal symbols (images, etc.). It may be *free* and uncontrolled, or *controlled* by a general neuromuscular set which causes the symbols to follow one another in certain directions or relations. The latter is often called reasoning. Thinking, according to the "central" theory, is prolonged transmission through the cortex, leading to delayed reaction. According to the peripheral theory of behaviorism, it is a series of implicit or hidden reactions, only the final overt reaction being delayed. Thinking shortens the trial-and-error process in human beings, not by substituting a new kind of process, but by substituting internal symbolic for overt kinetic reactions.

Attitude reactions are more or less general neuromuscular sets, postural reactions, incipient emotional reactions, which serve as keys to large classes of specific reactions. Attitudes are the headings under which the nervous system classifies its numerous reactions. Sentiments are emotional attitudes. A particular attitude, as distinguished from an attitude reaction or a class of attitudes, always involves a particular situation. Two attitudes having different names, such as jealousy and resentment, may involve the same reaction, differing only as to situation. Attitudes are formed by conditioning. Symbols, general neuromuscular sets, and social situations serve as conditioned stimuli in transferring attitude reactions from one stimulus to another.

The stimuli which evoke our more important reactions are not simple stimuli which can be discriminated by the sense organs, but configurations or patterns, which can be discriminated one from another only by the more complex mechanisms of the central neurons. This complex discrimination is called perception. Perception can probably be explained by the principle of neural drainage. The Gestalt theory emphasizes the fact that most of our reactions result from the perception of whole configurations, and not from simple elementary stimuli. It fails, however, in its attempt to dispense with the

theories of *S—R* units and neural drainage in explaining this mechanism of perception. Configurational stimuli are received mostly by the eye and ear, and are never biologically adequate.

It follows that most so-called instincts are acquired and not inborn behavior organizations, because the stimuli which arouse them are configurations.

CHAPTER IV

WISHES AND THE ORGANIZATION OF PERSONALITY

Habits, Attitudes, and Wishes.—In the preceding chapters we have studied the elementary processes by which human behavior becomes organized. We have analyzed it into the smallest possible units. Now we shall begin to synthesize, to view behavior in its larger organizations.

We might liken our study of human behavior to a study of the construction of furniture. In the preceding chapter we have seen, so to speak, that all furniture is made by joining together pieces of wood, and we have studied the methods of joining. We have considered nailing, glueing, dovetailing. Now we are about to study the different forms of furniture which result from our nailing and glueing. We are now to take the elementary processes for granted and to study the higher forms of organization.

What are these higher forms of organization? Of course they can be classified in numerous ways; we shall try to make a simple and useful classification. We observe that our fellow men talk, think, act, and feel. We can, if we wish, assign all of their behavior to these four categories. However, we have noted that thinking consists in internal symbols, as talking consists in uttering external symbols. We might conveniently assign talking and thinking to one large class of symbolic behavior or *symbolizing habits.* These, of course, are entirely acquired. By acting we mean muscular reactions which do not symbolize, but which directly produce results in the physical environment. It will not do to call these muscular or motor habits, for talking also, and, in fact, all reactions except gland secretions, are such. We might call them *kinetic habits,* implying by this term that the actual movements and their physical effects are important. They would include the habits used in physical labor, in playing games, in fighting, and so on. Feeling seems to imply emotional or visceral reactions, but we

have seen that the so-called fundamental feelings of pleasantness and unpleasantness may be based more upon general muscular sets than upon visceral reactions. In fact, the everyday notion of "the way I feel toward something" corresponds closely to what we have called attitude. Let us therefore continue to designate as attitudes those more or less implicit (hidden) key reactions, consisting of neuromuscular sets with or without visceral reactions. Certainly this category includes everything which is called feeling. Attitudes are *general*, in the sense that each controls many specific symbolic or kinetic habits.

Using these three concepts, we might describe the behavior of any individual. Observing a seven-year-old girl, for example, the writer noted among her *symbolizing habits* that she used a distinct Southern accent in her speech, that she failed to comment verbally upon many situations until some time afterward, indicating that she must have been doing considerable thinking in the meantime, that she had occasional bursts of rapid and noisy talk, that ideas about certain animals played a large rôle in her thinking, and so on. Under *kinetic habits* he noted that the child arose easily in the morning and became very active immediately thereafter, that she was rapid and jerky in her movements at the table, unusually skillful for her age in swimming, that she ran a great deal, and so on. Under *attitudes* he noted that she was especially irritated by quick, sharp commands, was unusually interested and whimsical with regard to clothes, curious about automobile license plates, afraid of a hot fire, dilatory about obeying the commands of certain persons, and so on.

But a mere enumeration of symbolizing and kinetic habits and attitudes fails to reveal the most important facts about a personality. The attitudes, to be sure, are more or less general keys, but even they are in large degree controlled by more general patterns of organization. We need to know which attitudes are primary, which are merely instruments in the service of others, and so on. We need to know the organization of attitudes.

What is this man doing? asks E. B. Holt in his study of

the *Freudian Wish.* Obviously, says the observer, he is buying a railway ticket. No, replies Holt, what he is really doing is buying a house. He is about to make a railway journey to visit the seller. This purchase of the ticket is an irrelevant act. It is merely a means to an end, and by itself does not tell us what the goal is.[1] A mere statement of immediate activities gives us a behavior picture which, although concrete, may be quite useless as a description of personality. What we need is rather a statement of the goals or objectives which give meaning to these multitudinous concrete acts.

Human reactions are at first blind *drives.* They are driven by stimuli from behind. When they find their goals, they become *desires* or *wishes.* Now they are pulled, as it were, from in front. They are aroused to action by perception or symbolization (imagination) of their goals. Wishes are large organizations of behavior around purposes.

The organization of native *S*—*R*'s into habits and attitudes is the organization of behavior. The higher organization of attitudes and habits into wishes may be called the organization of personality. Our millions of *S*—*R*'s are arranged in a sort of hierarchy, with wishes at the top.

Wish-controlled and Independent Attitudes.—Let us look once more at our seven-year-old. One day she displayed three attitudes, all of positive or approaching type. First, when her father called her attention to the sunset, she looked at it for some moments and made a remark of pleasure. Second, several times after dinner she asked for candy. Third, on passing a child's velocipede on the street, she said, "I see something I want."

These three reactions illustrate three distinct steps or phases in the organization of attitudes. The reaction toward the sunset represents a simple pleasurable or approaching attitude, without any wish. Never has that child made any effort to see a sunset, nor expressed any interest in sunsets during their absence. She likes them but does not set them up as a goal. Perhaps some day she will. The candy attitude illustrates a temporary wish. She asks for it repeatedly at certain times,

[1] *The Freudian Wish and its Place in Ethics,* Holt, 1915, pp. 83-87. See also TOLMAN, E. C., "Instinct and Purpose," *Psych. Rev.,* vol. xxvii, pp. 219-222 (1920), reprinted in YOUNG, K., *Source Book of Social Psychology,* Crofts, 1927, pp. 151-154.

but at other times shows no interest. The attitude toward the velocipede represents a relatively permanent wish. She mentions it when she sees a velocipede and also when she does not see one. Her verbal reactions for at least three months have indicated such a desire. Her ideas of next Christmas are closely associated with the idea of a velocipede. This evidently is one of the major wishes in her personality at this time.

A wish may begin in a simple, non-wishful attitude. But it becomes a much larger, more organized behavior unit. Holt says that a wish is a course of action which the body is set to carry out. It is an organized train of activities built around an objective or purpose. It may be the result of attitudes, but it also creates new attitudes. Thus a college boy's wish for athletic success may arise out of his freshman attitude of admiration for senior athletes, but after the wish gets under way it may create a host of new attitudes. The boy develops an attitude of dislike toward a certain course because his failure in it kept him off the team one year; he may change his attitude toward tobacco because it interferes with his success; he may develop a fear attitude toward a wet field because of some ignominious failure caused by slipping.

In our seven-year-old there are many and clear-cut attitudes, but even her parents can discern but few permanent, well organized wishes. Temporary wishes or whims are there in abundance. In an adult, on the other hand, an intimate acquaintance can discern several definite and permanent wishes, which might be said indeed to constitute the very skeleton of the personality. A larger proportion of the adult's attitudes are subjected to and related to wishes. Yet everybody has a certain number of free-lance attitudes, so to speak. For example, one individual's curious attitude toward new places is a part of his general wish for travel and geographic exploration, but his fondness for making and flying kites is not related to any major drive in his personality. It is a hangover from childhood and might be called a free-lance attitude. Children have a greater proportion of such attitudes than do adults.

In general it would seem that the development of permanent wishes does not reach its greatest momentum until adolescence or, possibly, early adulthood. But whether a wish precedes or follows a given attitude, the attitude is always the directly observable behavior, and the wish is the more or less hidden, larger, durable organization which can be ascertained only through indirect evidence.

Wish Satisfaction as Relaxation.—A wish, at any given time, may be *active, latent,* or *satisfied.* If a need is regularly satisfied soon after it arises, it does not become an active wish. Thus the wish for food, in the well-provided classes of American society, seldom becomes active. It is satisfied, during a certain period after each meal, and then it becomes latent until the next satisfaction. In China, however, the food wish is active much of the time. It is reported that a large proportion of Chinese daily conversation refers to food; certainly this is not true in America.

Among American children, however, there is commonly an active wish for food. This is because they have not yet learned to adjust their behavior to the long periods between meals. As L. K. Frank points out, the need for food causes some kind of tension in the neuro-muscular-visceral system. In time the child learns to "manage this tension," to "sustain the hunger contractions of the stomach until the appropriate time for feeding arrives," "to regularize his metabolism . . . to endure the intervals between feedings."[2] Before he learns this, food is a goal which he thinks about or talks about. Afterwards, he forgets about food except near meal times, the tension is diffused or diverted into other activities, the wish remains latent.

In each personality there are many latent wishes which seldom become active because they are so well and regularly satisfied. When we analyze the wishes of a personality we are concerned usually with its active wishes; it is these which play the important rôles in forming attitudes and organizing the personality.

An active wish implies some kind of tension, general or

[2] *Op. cit.,* p. 74.

localized, and is hence more or less unpleasant. When the wish is latent, this tension is not noticeable, or perhaps is entirely drained off into other more vigorous behavior systems which are functioning. The satisfaction of a wish means relaxation and pleasure. In fact, the relaxation *is* the satisfaction of the wish.

The Theory of the Four Fundamental Wishes.—Suppose we learn that a friend's personality is organized about three major active wishes: to become sales manager and perhaps eventually general manager of his firm, to marry a certain girl, and to acquire musical culture during his leisure time. Must we be content with the mere description of these wishes and of the attitudes which preceded or grew out of them? Is there any further analysis by which we can better understand these wishes and compare them with the wishes of other personalities?

W. I. Thomas holds that all the concrete wishes of human beings can be resolved into four basic components. These are the wish for security, the wish for new experience, the wish for recognition, and the wish for response. Security implies safety, stability, a fixed and assured position in the social order. New experience implies change, novelty, adventure. Recognition includes power, superiority, prestige. Response includes love and fellowship of all kinds.[3] To use metaphors suggested by Park and Burgess, the wish for security is a desire to "stay put," the wish for new experience a desire for the greatest possible freedom of movement, recognition a wish to rise as high as possible, response a wish for as many points of close contact as possible.[4]

For "recognition" we shall frequently substitute "superiority," and for new experience, "adventure."

Each wish may be stated in terms of its driving stimulus as well as of its goal. Thus the wish for security is essentially the avoidance of danger. It is fear. The wish for new experience or adventure may be called curiosity, that is, a tendency to approach and examine new situations; or it may be described

[3] Thomas, W. I., and Znaniecki, F., *op. cit.*, pp. 72-73.
[4] Park, R. E., and Burgess, E. W., *op. cit.*, p. 442.

as the avoidance of boredom, of familiar situations. The wish for response is an approach toward persons; it may be described also as the effort to get away from loneliness. The wish for recognition or superiority is the seeking of power or prestige, and also the effort to escape from humiliation and oblivion.

These "four wishes" are of course abstractions. Nobody wishes for security in the abstract, but for some particular thing which gives security. But bearing this in mind, the four wishes are useful tools for social analysis.

Charles Merz asked a group of six representative editors to name the biggest news stories of 1926. The editors were asked also what values or characteristics make a big story. Four out of six agreed on these elements: crime, sex, novelty, and conflict. One other editor replied human importance; another, human disaster.[5]

Here we have something strikingly similar to Thomas' four wishes. When millions of human beings indicate, through their purchase of newspapers, the events which most interest them, and practical editors, without any coaching in psychological theory, try to analyze these interests into their elements, we get four types of situation, which, if they were actually lived through instead of read about, would mightily arouse, respectively, the "four wishes." The correspondence is: sex with response, novelty with new experience, conflict with recognition, crime with security. With the last two the correspondence is not so close as with the others.

The classification of wishes, of course, does not correspond closely to the classification of basic reaction patterns or emotions (see Chart I). The wishes represent a further step in the organization of behavior, and naturally fall into somewhat different patterns.

The Intersubstitutability of Wishes.—What good will it do to classify wishes in this way? Park and Burgess[6] answer as follows:

The fundamental value for social research of the classification inheres in the fact that the wishes in one class cannot be substituted

[5] "Big News of 1926," *New Republic*, vol. xlix, p. 213 (1927).

[6] *Op. cit.*, pp. 442-443. By permission of the University of Chicago Press.

for wishes in another. The desire for response and affection cannot be satisfied by fame and recognition, or only partially so. The wholesome individual is he who in some form or other realizes all the four fundamental wishes. The security and permanence of any society or association depends upon the extent to which it permits the individuals who compose it to realize their fundamental wishes.

This of course is mere theory.

The writer asked a number of students to report, from their own personal knowledge, cases in which one satisfaction had been substituted for another. Forty cases were reported, of which one was taken from fiction, the others from real life. The students were familiar with the theory of the four wishes. The results were classified as follows:

Frustrated Wish	No. of Cases	Substitutes
Response	25	
Love for particular person	10	Occupation or activity 9 Another form or object of response 6 Alcohol 1 Sentimental reading 1
Desire for marriage in general	7	
Desire for children	8	Adoption 4 Pets and objects 4
Recognition	9	Recognition in another field 8 Desired activity without recognition 1
Adventure	3	Reading 2 Work 1
Miscellaneous	3	
Comforts	1	
Desire to express anger	1	
Desire to go to a certain college	1	

Twelve of the substitutions were of doubtful or no success. These were distributed among the various kinds of wishes in such a way as to lead to no significant conclusions.

Out of the twenty-five cases of response, the substitute in ten cases was something which would not be classified under the wish for response. But we have no measuring stick of the relative success of these substitutions. Our findings are merely suggestive, certainly not conclusive.

This question of what-can-be-substituted-for-what is really a central problem of psychology. It points to one of the most needed lines of research. Two kinds of evidence need to be examined, (1) individual life histories, and (2) the psychological analysis of various cultures.

To put the matter in behavioristic terms, substitution of one wish for another means the substitution, by reconditioning, of one goal situation for another. The substitute goal relieves the tension of the original wish. But we must distinguish between true substitution, which is permanent, and mere diversion or distraction, or "management of tension," which renders the original wish temporarily latent but does not satisfy it. The test is: does the original goal ever appear again in company with tension, as long as the substitute satisfaction is available? If it does, then true substitution has not taken place. Thus John may manage temporarily the tension of his longing for Katherine, by spending an evening with Gertrude. But he is merely distracting himself. He can *substitute* Gertrude for Katherine only by falling in love with her in such manner that the symbols of Katherine no longer produce any serious love tension. Even if he comes to prefer Gertrude, he has not substituted her unless he can also painlessly and permanently give up Katherine.

In such a case, the cultural ideal of exclusive romantic love helps one to make the substitution complete. Symbolically supported by the theory that one can truly love only one person at any one time, the wish for moral superiority, or the fear of disapproval, steps in and helps John to rid himself of any lingering love for Katherine. He learns not to love her because he believes he *ought* not to love her. Psychiatry, however, reveals many incomplete substitutions of this sort which give rise to mental troubles.

While complete substitution of one love goal for another

may be possible, the Thomasian theory holds that in no case could a love goal be a complete substitute for an adventure or a superiority goal. An intense love satisfaction will temporarily reduce most other wish tensions; we say that "nothing else matters in all the world." But in the long run the lover must have also his superiority, his adventure, and his security.

We must further distinguish between final and instrumental goals. Money is usually an instrumental goal, for example; perhaps nobody except the miser desires it for its own sake. Instrumental goals can be substituted for each other by means-and-end reasoning. That is, if one intellectually symbolizes to himself, for example, that the possession of a bank account will produce the same final goal as the possession of an equal quantity of pocket money, his desire to have this money in his pocket easily disappears. But no amount of reasoning will enable a mother to substitute for her own baby another of equal health and intelligence. For her final goal is to possess not *a* baby, but *her* baby. Final goals can be substituted for one another only by emotional reconditioning. And what is an instrumental goal to one person may be a final goal to another.

Since the question of substitutability remains a matter of theory, the writer would like to add this point to the Thomas, Park, and Burgess theory. Namely, it seems necessary to subdivide certain of the four wishes into certain sub-wishes which cannot be substituted one for another. Security especially seems to be a conglomerate of many independent sub-wishes. Under that heading Thomas places the desire for food and the desire for shelter, but he would certainly not hold that the satisfaction of either could possibly satisfy the other. Under response, sexual satisfaction, romantic love, fellowship, and gaiety seem doubtfully successful substitutes for one another. The subdivisions under superiority and under adventure seem more likely to be intersubstitutable. On Chart I the writer has indicated what seem to be the more important subdivisions of each wish, and has marked with an X those which seem to him to admit of no permanent substitutes. All this is very theoretical, but it is useful, at this stage of our knowledge,

in making tentative analyses of personalities, of community life, and of cultures.

The Goal Situations of Wishes.—The goal situation of a wish is the situation which the person wants—in other words, the situation which is symbolized in advance and which, when it actually comes, relaxes the tension. A wish-tension may also be reduced permanently by a substitute goal, or temporarily by diversion or distraction by some other system of behavior.

Thomas' fourfold classification of wishes is based upon the relation of the subject's behavior to the goal, or the emotional attitude toward the goal. But wishes may also be classified according to the nature of the goal itself. On such a basis, the wish to make a friendship would always belong to the same class, regardless of whether the attitude relation was one of superiority, adventure, or response.

Situations register on our nervous systems as stimuli, space configurations of stimuli, time configurations of space configurations, etc. Always they are *stimuli.* Let us consider therefore the various kinds of stimuli, and their configurations, which satisfy wishes.

(1) The simplest and most primitive goal situations consist in stimuli, mostly simple, to the internal and contact sense organs, namely, the stimuli produced by food, drink, drugs and stimulants, rest and sleep, agreeable muscular exercise, agreeable skin temperatures and other skin stimuli, and the normal functioning of the bodily organs (health). We may call these *comfort* goals. They satisfy mainly wishes of the security type.

(2) Another class of goals consists of stimuli to the distance sense organs. In other words, these are the situations which satisfy us through their being merely seen, heard, or smelt. We call them *æsthetic* goals. These are sometimes simple stimuli, but usually configurations of the first order; that is, patterns of stimuli which require merely direct perception, and not understanding, or comparison, or combining with past experiences, or other symbolizing processes. Æsthetic goals satisfy mainly wishes of the adventure or response type, and occasionally superiority.

(3) Most of the wishes which are active in adult, civilized life aim at goal situations of a higher order of complexity. These goals are not mere configurations of stimuli closely localized in time and space, but consist in various *relations* between objects, and between self and objects. These relations usually cannot register on the nervous system, and hence cannot play their satisfying, relaxing rôle, without some process beyond mere perception. They require thinking, comparing, recognizing, understanding—in other words, symbolic behavior. For example, the superiority wish to win a tennis match is satisfied only after the person has passed through a long series of situations, each registering itself through symbols, such as "outside," "he didn't get that one," "my ad," "my game," "my set," "they are cheering me," which lead to the final symbol "I've won the championship." This series of situations may be regarded as a configuration of a higher order; it cannot be perceived as a unit except through the organization of symbols. These complex goals may be called *relational goals*, for they consist in various relationships (not merely of space and time) between objects (persons or things) and the environment, or between objects and the self. Relational goals may be *social*, involving relations of the self to other persons, of other persons to one another, or of other persons to things; or they may be *physical*, involving relations of the self to things, or of things to things. The wishes of the superiority and response types are satisfied almost wholly by social relational goals. The wishes of the security and adventure types are satisfied by both social and physical relational goals.

There are also *imaginary* goals, chiefly relational. These concern mainly the wish for adventure, and are obtained through fiction, whether read, heard, or seen on the stage or screen.

It would be interesting to classify in this way the goal situations listed in the questionnaire returns near the end of this chapter.

Some Applications of the Four Wishes Theory.—When one debates whether to take advantage of an opportunity for

foreign travel at the risk of losing an opportunity for promotion at home, his wish for new experience is conflicting with his wish for security. When he debates whether to marry some secretly beloved Cinderella or the daughter of the president of the firm, his wish for response is conflicting with an alternative in which response is somewhat mingled with recognition. Whether or not these four wish components are really the fundamental units of human motivation, it helps toward a better understanding of human nature to keep them clearly separated in mind. Two men, for example, go to a fashionable watering place. One is motivated chiefly by the desire for recognition, which he hopes to bestow upon himself and family. He will be especially interested in the newspaper social column which reports his presence at Glenhaven. The other man goes rather in a spirit of adventure. He is curious about the life and people at Glenhaven. Possibly also he anticipates a romantic adventure. His motivation comes from the wish for new experience and possibly for response; his summer experience will play in his life a very different rôle from that played by the experience of the man first mentioned.

One application of this wish theory might be made in a community survey aiming to find out how well the wishes are satisfied and which ones are left unsatisfied. We might guess off-hand that a mining community would be low on security, a masculine frontier settlement low on response, a Negro community low on recognition, a middle-class suburb low on adventure.

Security.—Security is relief from fear. It is safety, protection, salvation. It becomes a wish for certainty; it causes us to choose an assured but modest income rather than run the risks of gambling, speculation, or agitation for social change. It is the bulwark of conservatism. It is the main force on the side of the party in power. Thomas puts under security the desires for food and other necessities of life.

Our behavior becomes organized around symbols: in modern life "hunger" becomes mainly a fear of symbolized unemployment and want; in other words, a wish for security. Rarely does the physical craving itself become intense. Like-

wise, calling the doctor serves primarily to relieve fear of disease rather than disease itself. The wish for security is satisfied through firearms, the army and navy, police, fire department, levees and lightning rods, quarantine laws, doctors, medicines, savings and property, insurance, labor unions, by magic, by fasting and prayer. Not all these methods get objective results. Knocking on wood after making a boast does nothing to prevent actual danger, but among the superstitious it does relieve anxiety.

Among the common *phobias* are fears of high places, open places, pain, particular persons, thunder, cellars, closed spaces, blushing, blood contamination, solitude, the new, darkness, crowds, disease, sinning, of fear itself, of being buried alive, death, God, poison, of returning home, of animals.[7]

The final goal situations of the security wish may be classified as follows. It is obvious that these are largely non-substitutable for one another, and hence are distinct sub-wishes in the sense mentioned above. Each sub-wish, however, may have several instrumental goals which can be substituted. The frontier farmer's desire for security against physical want, for example, might originally require the instrumental goal situation of a well stocked larder, but when he moves to the city the possession of money might become a complete substitute for this, by reasoning rather than by unconditioning. A com-

Security from	Physical want	Food Water Shelter and warmth	Comfort goals
		Various comforts (Many sub-classes)	
	Sickness		Physical relational goals
	Physical dangers (Many sub-classes)		
	Human enemies		Social relational goals
	Social degradation		
	Unknown or supernatural dangers		

[7] MORGAN, J. J. B., *The Psychology of Abnormal People*, Longmans, Green, 1928, p. 247.

plete picture of the goals of security would be very complicated because of the numerous means-and-end relationships involved, and the fact that many of the goals are final to some persons and instrumental to others. This complexity is less true of the other wishes.

New Experience or Adventure.—The wish for new experience or adventure is organized out of the child's more or less random exploring behavior. It is curiosity. Whether in the beginning the infantile searching movements of the eyes and hands are accompanied by appetitive visceral reactions we do not know. At least they are often accompanied by attentive relaxation. By conditioning, if not originally, exploring behavior comes to be very pleasant. It becomes connected to emotional patterns called interest, wonder, thrill. Any interference with its normal course provokes anger. A child is enraged by our thwarting his efforts to examine a dish or a clock, as well as by our blocking his access to his mother or food. Prolonged inconspicuous thwartings of the desire for new experience produce boredom; sudden or violent thwartings produce rage.

We satisfy this wish through these main goals and types of behavior:

1. Direct exploration of the environment as it is
   - (Æsthetic, physical- and social-relational, and imaginary goals, all possibly intersubstitutable)
   - Sensations (ex. the æsthetic connoisseur)
   - Objects (ex. the collector, the hobbyist)
   - Places (ex. the pleasure-traveler)
   - Persons (ex. the person who likes to make new acquaintances)
   - Complex novel situations (ex. the adventurous criminal)
   - Ideas (internal symbols of abstract phases of external situations) (ex. the intellectual)

2. Organized activity—creation of artificial situations
   - Games of chance (ex. the gambler)
   - Games of skill (ex. the skilled performer)
   - Creative activity (ex. the artist)

3. Contemplation or passive adventure	Fiction (ex. the reader of detective stories)
	Mysteries and occult phenomena (ex. the dabbler in spiritualism, fortune-telling)

Among the main *instruments* for satisfying the wish for adventure are the automobile and other means of transport, drama, the movies, literature, leisure arts and crafts, and various recreational organizations.

We do not desire utterly *new* experience, says Ellsworth Faris, but rather something to fill out or continue a preëxisting pattern. He tells of a primitive man to whom he showed his watch. "There must be a little bug inside," said the happy savage, listening to the watch, and then returned it without further display of interest. Here was something altogether new to his experience, but he was not interested. Similar episodes are quoted by other anthropologists, and point toward this conclusion: that human beings are normally curious, not about the utterly new, but about something new in a familiar setting. The writer, when studying nature, felt a much greater thrill of adventure upon adding a new species of warbler to his already ample list of warblers, than in all the unfamiliar butterflies and mushrooms he noted by the way. Charles Merz, in his previously quoted study of "big news," remarks that the novelty which interests seems to be that which gives a new twist to the familiar. If pure novelty were the main objective, one World's Series would be enough, and we should then turn to Einstein, or to Greek archæology. In fact, nothing can be so boresome as to listen to recitals of purely novel data, as witness the curious (?) attitude of the average man toward a learned conversation between two botanists.

The well-known "Gallagher and Shean" verses owe their popular appeal largely to this fitting of ever new content into a fixed pattern. The music and the standard phrases captivate the hearer through repetition, the new ideas interest him through novelty.

Recognition or Superiority.—The wish for recognition, or superiority, arises from at least two early behavior patterns. (1) The first is what Thorndike calls attention-getting. The young child learns to attract the favorable attention of others

because that attention is accompanied by food, caresses, and other satisfactions. To desire the attention of others is a universal attitude. (2) The second is self-assertion, mastery, or domination. This is a pattern of kinetic habits and attitudes arising out of conflict experiences; it goes back to socially stimulated anger and fear. Relief from these emotions is obtained also by submissive behavior, but this seldom becomes a wish except in the more or less pathological case of masochism.

The main driving situations of the wish for recognition are (1) to be restrained or punished, (2) to be ignored, (3) to be laughed at. (2) is lack of attention, (1) and (3) the wrong kind of attention.

The goal situations of the wish for superiority may be classified as follows:

- Power (control over the behavior of others)
  - Victory and vengeance (conflict implied)
  - Peaceful control (no conflict)
- Rebellion (escaping past restraints and incidentally winning victory)

Superiority[a]

- Excellence
  - Physical prowess
  - Physical appearance
  - Intellect
  - Skill
- Prestige or respectability (standardized conventional superiority, not dependent on special merits)
  - Family
  - Wealth
  - Exclusive membership
  - Fame or publicity
  - Occupation
  - Education
  - Age or sex
  - Moral respectability

[a] Social-relational goals only, all possibly intersubstitutable.

Whiting Williams, who has studied the psychology of working men in many situations, says that their superiority wish commonly attaches to the nature of the job itself rather than

to the money earned or the goods bought with these earnings. In a mining village, the chief token of prestige is to be seen coming home from work at 2 or 3 P.M. This indicates that one earns a high rate and hence does not have to work long hours.[8] In a suburban business community, on the other hand, the badge of superiority is more likely to be the car in which one drives home.

We achieve our superiority satisfactions from a wider range of institutions and activities than we do our security, adventure or response satisfactions. Almost every human activity or organization feeds somebody's ego. On the other hand, not all participants can gain superiority out of any given situation. This makes superiority very different from the other satisfactions. All participants may gain security from a mutual insurance organization, all members of a Boy Scout troop may find adventure in an over-night hike, both members of a romantic pair may satisfy their wishes for response. And of course all members of a snobbish social set may attain a degree of superiority by looking down upon another group. But this satisfaction is weak unless the superiority is generally recognized by society. To obtain genuine superiority requires the willing or unwilling coöperation of somebody else who will play the rôle of inferior. Every superiority satisfaction means, in some degree, the humiliation of somebody else.

If in this matter there were a well balanced give-and-take between all the members of society, each being superior in some respects and inferior in others, there might be, psychologically, though not mathematically, a net positive satisfaction. But things are not well balanced; some persons gain enormously more recognition than others, and it is doubtful whether the wish for superiority brings to mankind in the long run more happiness than suffering.

In any case, the superiority wish, to a much greater degree than the other three, depends on *relative* circumstances, and cannot be satisfied by any general, absolute improvement in social conditions. There is probably a much higher rate of inferiority complexes in American society than in China or the

[8] "What's on the Worker's Mind?" *Scribners*, 1920, p. 125.

Samoan Islands. We may rise ever so high, but some always will be higher than others, and that is the secret of superiority.

Gardner and Pierce, questioning 512 college students, found that 42 per cent of the men and 48 per cent of the women reported feelings of inferiority. Two-thirds of the cases were social inferiorities, one-third physical, intellectual, or financial.[9]

Rank, class and caste, publicity, war, politics, exclusive and secret societies, dress, ceremony, the competitive and ostentatious consumption of wealth, are important instruments of superiority satisfaction.

Sometimes we gain the satisfaction of superiority through our individual status, sometimes through being one of a superior group. Groups, crowds and mobs enable us to economize in the purchase of superiority. Mob excitement, for example, temporarily enables all members of the mob to feel superior at once. The price is paid perhaps by only one person, who is the victim, physically or "in effigy," of the mob. In some few situations the inferior is not a person at all, but an idea, a supposed "type" of person, a man of straw.

Superiority is obtained through the mere fact of uniqueness. Greendale College may, on a general measuring stick, be rated as holding sixtieth place out of a hundred colleges. But as long as its students can maintain the illusion that there is something unique about their institution, they have something in which they may consider it superior. The wish for superiority tends to multiply activities and standards. If there be enough different and unique directions of superiority, everyone can be superior in some respect. On the other hand, each person tries to get society to attach greater importance to the line in which he happens to be superior. The possessors of "good family" try to make society increase its respect for "good family" and belittle the importance of wealth, prowess, or skill.

Response.—The wish for response is based primarily upon the love emotions. It is reinforced by the attitudes of pleasure we develop toward persons who have satisfied non-

[9] *Jour. Abnormal and Social Psych.*, vol. xxiv, p. 8 (1929).

amatory needs, such as food and protection. That is to say, the child's love of his mother is based partly upon his skin contacts with her and partly on the fact that his mother has satisfied his hunger and relieved him from fear.

Both superiority and response are wishes provoked and satisfied mainly by social situations, whereas security and adventure deal with many non-social situations as well as social.

The urge or driving situation of response is loneliness. The goal situations may be classified as follows:

Response[a] from
- Opposite sex
  - Physical x
  - Romantic x
  - Conjugal
  - Platonic or intellectual
- One's own sex
- Children
- Convivial groups (gaiety and laughter) x
- Animals
- Objects ("sentiment" for treasured possessions)
- Places (homesickness)
- Ideas or symbols (love of God, country, humanity)
- Æsthetic contemplation (love of music, beauty, etc.)

[a] Æsthetic and social-relational goals, the groups marked *x* are probably distinct sub-wishes admitting of no substitute outside the group.

Also, we may desire response of different degrees, such as

Distant communication
Personal presence
Sharing of activity or purpose
Intellectual conversation
Sympathy of emotional attitudes revealed mainly through conversation, laughter, etc.
Physical contact of various degrees
Sexual relations

Response is not, like superiority, *essentially* competitive. The more intense forms of love are supposedly exclusive, and this belief produces conflict whenever John and William happen to desire response satisfaction from the same Mary. But since the sexes are about equal in number, there is theoretically a love opportunity for practically everyone. Circum-

stances prevent some from finding it, but the problem is quite different from that in the case of superiority. For response satisfaction is absolute and not relative. In fact, it is debatable that there need be an emotional interference when the sexual or romantic desires of two individuals are fixated on the same person. The desire for exclusive possession in love is a desire for superiority rather than for response. Jealousy is simply a desire for power or prestige. The jealous person is more interested in the *relative* value of a personal relationship than in its absolute value. He cares more for exclusiveness than for real intensity.

Adventurous Versus Sentimental Satisfactions.—The wish for response is absolute rather than relative in still another sense. It may be contrasted in this respect with the wish for adventure. Namely, response demands repetition of familiar situations rather than constant novelty; it is "sentimental." The same situation (person, place, object, or æsthetic product) may satisfy A's desire for response and B's desire for adventure. By comparing their attitudes toward the situation, we may discover which wish is uppermost in each.

For example, some people demand variety and change in music. They are eager for the new and catchy tune. They tire of oft repeated airs. Though with a somewhat different attitude, the trained musician is also looking for something new to illustrate old and familiar principles, for some musical experience which he has imagined or read about but has not yet realized. He too derives only minor satisfaction from familiar and well understood pieces. Both this "low brow" and this "high brow" class of persons are getting from music a sense of adventure. But there is a third class whose appreciation of music is of an entirely different character. At the first hearing of a piece such a person is indifferent or only mildly pleased. Some little thing about it—a peculiar chord or rhythm —strikes his attention. Every time he hears the piece he likes it better. He never grows tired of it. Finally he has conditioned an intense thrill of pleasure to every hearing of the beloved piece. This joy is not dependent upon anticipation, or previous desire, or novelty, or comparison with any other musical

experience. It is derived immediately from the single experience by itself.

The writer once reported on his attitude toward Nevin's piece, "Mighty Lak a Rose."

> My first hearing of the piece was in a university dining hall, while sitting in a relaxed condition after a comfortable meal. Later it was heard at a dance under peculiarly enjoyable social circumstances. I cannot say, however, that these associated stimuli were the sole or even the principal causes of my liking. Other pieces heard under similar conditions have not had the same effect. Something about the harmony seemed to be the stimulus bridge which carried the pleasant response. My response is always much feebler when I hear the tune as a simple melody, or when certain essential chords are omitted. I developed a similar fondness for other pieces by the same author, before I knew who the author was. My response to these pieces is more than a mere "appreciation," it is an intense emotional thrill. And yet I am not able to understand or "appreciate" them in the musician's sense: the technically trained ear gets a quite different, and probably a much lesser, satisfaction from these pieces. Further, while such an ear soon tires of them and seeks something new, my thrill grows with repetition.

The satisfaction described here is of the sentimental or response type rather than of the adventurous, novelty type. To speak of both of these types of satisfaction as "appreciation of music" is to overlook a fundamental distinction. It is another case where language muddles reality. They are as much unlike as the sentimental love of home and friends is unlike the love of adventuring in a strange country.

Probably every person belongs at times in the class of sentimental music lovers. Almost everyone has a response of this type to his national air, his college song, etc. It is probably true, also, that the most sentimental of us would tire of a favorite piece were it repeated often enough. But with these limitations persons differ greatly in their relative power to draw satisfaction from the two types of musical experience. With respect to music, some of us are predominantly sentimentalists. others are predominantly adventurers. With re-

spect to literature or travel, we might very well belong to the opposite classes.

As a boy I was fond of the study of birds. This interest may have been started by a book or pictures, or by some companion. The first time I got a good look at some bird I did not know before, and was able to identify it, I experienced a distinct thrill of pleasure. It is hard to measure the amount of this satisfaction, but I was usually willing to jeopardize the pleasures of a good meal which might be waiting at home. During my first year of bird study I succeeded in making a list of only sixteen species. Yet this was a source of great satisfaction; I was a city boy and my previous acquaintance had been limited to the English sparrow, the robin and the crow. A few years later my annual lists went up to 120 or 140 birds. Each newly identified species led me to read about it in the bird books; this led me to read about other birds I had not yet encountered; then followed the desire to see these birds, a sense of eager expectancy while hunting in the fields and woods. Then finally came realization: the new species was seen, its characteristics carefully recorded, and verified by reference to the book.

This illustrates the adventurous mechanism which underlies collecting hobbies. The philatelist collects the actual physical objects of his interest. The ornithologist may collect dead birds, or photographs, or eggs, or he may collect only memories, with or without written notes, of the birds he has seen. The above-mentioned bird-lover derived sufficient satisfaction from the records which he kept, and later from the mere unwritten memory of experiences; and he was free to devote to other activities the extra time which taxidermy, egg hunting or photography would have required. Fundamentally, all collecting hobbies are the collecting not of physical objects, but of experiences. These are recorded by the nervous system and can be symbolically revived later. One does not, however, make a random collection of experiences, but selects those which belong to a predetermined class. Only those experiences really satisfy which help to build up the growing experience pattern. Those which interfere with the pattern are annoying.

To our ornithologist the song of a wood thrush was at first pleasurable mainly because it filled a felt vacancy in his

growing experience pattern. Knowing the robin and the bluebird intimately, he became curious about their cousin the thrush. The thrush's song was more pleasurable the first time it was heard than after many repetitions. But later this bird song began to show the reverse tendency; it became somewhat more pleasant with repetition. It had taken on a sentimental value in place of its adventure value.

Wish Situations as Revealed by Questionnaire.—This problem was presented to a class of forty-three sociology students.

Consider the wish for security. Describe briefly, in one or two phrases each, the principal *situations* in life which, in you personally, satisfy this desire. Describe not over six situations. Now consider the opposite of security. Describe not over six situations which give you the feeling of anxiety. Do the same for recognition and its opposite, the feeling of inferiority or humiliation. Do the same for adventure and its opposite, boredom.

By grouping synonyms together, we made a list of some forty to eighty situations for each reaction, as shown below. The list of anxieties is presented in full; in the other lists only the most frequent items are given.

WISH FOR SECURITY

Driving Situations, i.e., Anxieties

	Frequency
Examinations, grades, failures, college work, failures, unprepared lessons, etc.	24
Money shortages, poverty, debts, etc.	22
Sickness of self, friends or relatives	16
Uncertainty as to future, outcome of things, plans	12
Friendships[10]	11
Not getting mail	7
New people, strangers	5
Being alone	6
Future position, unpreparedness, incompetence	4
Disapproval by family	3
Darkness	3
Reckless driving	3

	Frequency
Losing something	3
Thunderstorms	2
Decisions	2
Being cut off from communication with home or outside world	2
To be late	2
Not accomplish what I set out to do	2
Regrets that did not do best	2
Hurt someone unthinkingly[10]	2
Overweight	2
Not being invited to some affair	2
Strange places	1
Mountain road driving	1
Mice	1
Dirt	1
Someone swimming or boating	1
Bugs and spiders	1
Not enough gasoline	1
Breaking a rule	1
Becoming an old maid[10]	1
Approaching years	1
Getting unsatisfactory husband[10]	1
Catching a train	1
Not knowing where to go	1
Pessimistic attitudes of others	1
Faith-upsetting lectures or books	1
Being responsible for others' money	1
Not knowing the rules and one's rights	1
Being laughed at in conversation[10]	1
Public speaking	1
Incorrect dress[10]	1
Inability to write what one feels	1
Neglected something	1
Mental deficiency	1
Bad dreams	1
Idleness	1

[10] This item might seem to belong under response or superiority rather than security. However, any wish may lead indirectly to a wish for security when the subject thinks about his wish objectively and becomes concerned about the *uncertainty* of its satisfaction. This uncertainty factor in the situation and the consequent wish for security become uppermost.

SECURITY

Goal Situations, Satisfying Security or Relieving Anxiety

	Frequency
Having money, father has enough money, next meal assured, physical needs satisfied, supply of food and clothes, assurance of comfortable living	39
Home, family, family to fall back on	26
Having friends, true friends, popularity[10]	16
Being with familiar, congenial, or trusted people	11
Work done, lessons prepared, not owe letters	11
Ability or preparation for work, having a mind, or an education	8
Health	8
Being well dressed[10]	8
Plans made ahead	5
Good grades[10]	5
Home town, familiar places	4
Assured social position[10]	4
Religion	4

ADVENTURE

Driving Situations, Provoking Boredom

	Frequency
Routine, lack of variety	9
Too much card playing	7
Egotistic or conceited people, people who talk about selves	6
Uninteresting people	5
Mathematics	5
Repetition of a story, moving picture, etc.	5
Nothing to do—idleness	5

(The answers to this were spread over many small items.)

ADVENTURE

Goal Situations, Satisfying Adventure, Relieving Boredom

	Frequency
Travel, new places	28
Meeting new people, friends, acquaintances	18
Books, novels, fiction in general	17

	Frequency
Breaking rules	8
Love, new affairs or experiments, etc.	5
Horseback riding	5
Music	5
New courses, subjects	5
Plays, theater	5
Adventure and travel books	5

SUPERIORITY

Driving Situations, Provoking Inferiority Feelings

	Frequency
Academic failure, poor grades	17
Being poorly or incorrectly dressed	14
Made a social error or *faux pas*	12
Being left out of clubs, parties, etc.	8
Being bossed, squelched, high-hatted, snubbed	8
Being criticised or corrected before others	6
Failure in general	6

SUPERIORITY

Goal Situations, Satisfying Recognition, Relieving Inferiority

	Frequency
Academic success, high grades	18
Popularity, friends, being respected and admired	13
Success in tasks and occupations	12
Office holding	12
To be thought intelligent by others, to be mentally superior	12
To be consulted	11
Excellence in sports	10
Clothes, personal appearance	8
Dates, men, dances, being rushed at a dance	8
Talent or excellence in general	7
Winning a game	7
Social prominence	

The writer asked his students to report upon the situations provoking *irritations* as they did upon the three wishes. The leading situations mentioned were:

	Frequency
Conceited, boasting, or bluffing persons	12
Harsh or grating sounds	7
Harsh voices	7
Waiting for people	7
Affectation	5
Puns	5
Being restrained or denied reasonable requests	5

Altogether, about 125 specific situations were mentioned, this being a much wider variety than in the case of the three "wishes" studied.

Wish Situations in Fiction.—Several students at Sweet Briar College analyzed psychologically the plots of some fifty novels, most of them of the period of 1915-1925. The results were summarized by Miss Jean Williamson. In the figures there are some duplications, as it was necessary to classify a few novels under more than one heading.

DOMINANT WISH OF PRINCIPAL CHARACTER

	No. of Novels	
Sex response	11	14
Non-sexual response	3	
Recognition—through personal power, etc.	9	17
Recognition—through one's children	5	
Recognition—triumph over nature	3	
Security on part of parents	4	14
Security from mysterious power	6	
Security from one's own mental weaknesses	3	
Physical health	1	
Adventure	3	13
Freedom from present kind of life	10	
		58

The desire for response, of course, has an essential importance in the majority of novels. The students were inclined,

however, to give the place of "dominant wish" to some other wish if it seemed in any sense to merit this place. They compiled also the following data:

KIND OF SATISFACTION OF WISH

	No. of Novels
Complete satisfaction	26
Partial satisfaction	7
Substitute satisfaction	8
Complete frustration	8
	49

KIND OF OBSTACLE PREVENTING OR DELAYING SATISFACTION

Personal weakness	15
Physical disability	1
Competition of others	5
Social tabus (snobbery, gossip, etc.)	17
Failure of other person to respond	4
Underlying principles	5
Natural obstacles	3
Money and business difficulties	4
	54

The Fixation and Life History of Wishes.—A wish is said to be fixated whenever it develops some specific, essential goal which, for the time being at least, permits no substitute. Falling in love is a fixation of the response wish. When a writer desires literary success so much that no other possible recognition, not even being elected President or making a million on the stock market, could satisfy him, then his wish for superiority is fixated. Fixation is, of course, conditioning, but in a special and complex pattern. It is the conditioning of a specific goal, plus the unconditioning of alternative goals. Pavlov's dog's salivary reflex was conditioned to the sound of a bell. If alternative situations had been so conditioned that nothing else but the sound of a bell would bring saliva, then there would have been fixation.

Wishes develop by ever new conditionings to new goals. Now and then some goal becomes a fixation, then later the "fixation is broken" by some new situation. At first the lover is attracted by some particular feature of his beloved. Later the attraction spreads to her other characteristics, even though they had originally been neutral or perhaps even slightly repugnant. Finally he loves every stimulus which has the slightest association with her.

Then, sometimes, an unpleasant situation creeps into the love experience. Little by little the defensive emotions—anxiety, irritation, and so on—get control of stimuli which formerly were conditioned to love. In extreme cases the love may turn to hate, or remain as merely the love of a memory. To control this process would be the supreme practical achievement of psychology. If it can be controlled, the technique is not forcing the emotions by effort to feel as one "should feel." Rather it is a skilled arrangement of situations. Third parties often can do this more successfully than can the principals in the drama. Also they can more thoroughly bungle the job.

These processes of fixation and defixation, conditioning and unconditioning in love are paralleled by similar processes with other kinds of wishes. A boy in school may have his superiority wish so fixated on athletic success that nothing else will satisfy him. A few years later he may forget his athletics and be content with business success.

In the normal life career, wishes gain new goals faster than they lose the old. This means an increasing variety and richness of satisfaction. Many situations once regarded with indifference become toned with pleasant emotion. But, unfortunately, at the same time the defensive emotions are being conditioned to a greater variety of situations. The successful and happy personality is one whose appetitive and relaxation conditionings increase faster than its defensive and tension conditionings. The accomplishment of this result depends upon (1) the external environment, and (2) the inner philosophy of life. But whether the development of our personality be in this fortunate direction or the opposite, as we grow

older our likes and dislikes become more definite, more deeply intrenched.

Summary.—The acquired organization of behavior may be analyzed into symbolizing habits, kinetic habits, attitudes, and wishes. As attitudes control habits, so wishes control attitudes. They are the master keys to behavior, they are the purposes of the personality. Some attitudes and habits, however, remain independent of wishes. Wishes may be active, latent, or satisfied. An active wish involves tension; this tension is relieved by some diverting or distracting behavior which renders the wish latent, or by satisfying the wish. Wish satisfaction is relaxation. The wished-for situations are called goal situations or goals.

Wishes are classified, according to the relation of the person to the goal situation or his emotional attitude toward it, under the heads of security, new experience or adventure, recognition or superiority, and response or love. According to the theory of the four wishes, a wish in one class cannot find a substitute goal in another class. Substitution of final goals requires reconditioning. There are also instrumental goals, which are not desired for their own sakes, but as means to final goals. These may be readily substituted if the subject merely recognizes intellectually that the substituted instrumental goal will bring about the same final goal as would the original instrument. The security class of wishes, and also probably the response class, include several sub-wishes which are not intersubstitutable. On the other hand, adventure and superiority are more probably unit categories within which any substitution of goals is possible.

Goal situations may be classified also according to their nature, as comfort, æsthetic, physical relational, social relational and imaginary goals. Superiority and adventure satisfactions are obtained from a wider range of activities than the satisfactions of other wishes. Superiority satisfactions are obtained from relative rather than absolute achievement. They always involve comparison with other persons. This is not true of the other three wishes, whose goals are absolute. Adventure requires changing or dynamic goal situations, but

the new content must be in an old pattern. Response requires repetition of the same goal situation.

Wishes constantly develop new goals by conditioning. When a wish becomes more or less permanently fixed upon one goal to the exclusion of others, it is said to be fixated.

CHAPTER V

WISH FRUSTRATION AND PERSONALITY READJUSTMENT

The Frustration of Wishes

The Nature of Frustration.—So far we have assumed that each wish has free play. The picture we have seen is one of reflexes being conditioned and combined to form attitudes, attitudes producing organized wishes, and new attitudes resulting from these wishes, wishes enlarging their ranges of objects and developing subsidiary wishes. Furthermore, in each wish and in every attitude we have learned to recognize one or more of those fundamental components: security, superiority, adventure, and response.

But in life the wishes do not have free play. One or more of them is continually running up against obstacles. Into our picture we have thus far put only the lighter atmospheres of growth and satisfaction; we must now sketch into it dismal frustration.

We have seen that a wish may be active, latent, or satisfied. When it is active there is more or less tension; when it is satisfied there is relaxation or relief. The tension of an active wish may be managed by temporarily diverting it into some other behavior system, thus rendering the wish latent. Sometimes the tension is partly managed or reduced through anticipating the satisfaction of the wish in the relatively near future. The internal symbols of the future satisfaction, in that case, are a partial substitute for the actual satisfaction; they reduce the tension at least to a point where there is no actual suffering. But in other cases all the tension-reducing agencies fail. There is no actual satisfaction, no anticipated satisfaction, no substitute goal, no diversion of the tension into other behavior. In such a case the wish is said to be *frustrated.* Tension rises, it brings in defensive visceral reactions, suffering takes place. This suffering is not necessarily

present continuously during all one's waking hours, but it recurs again and again, without hope of permanent relief. A frustrated wish is one which is continuously or recurrently active, without satisfaction or anticipated satisfaction. To relieve the suffering of a frustrated wish is a problem of a higher order than that of managing the tension of a wish which is merely awaiting one of its recurrent periods of satisfaction. This latter problem requires merely a temporary behavior adjustment, an inhibition of moderate tensions through other activities, but without necessarily any reconditioning.

The former problem requires a *personality readjustment*—in other words, an emotional reconditioning, a real change in personality. If some such readjustment is not made, suffering continues and increases, with damage to physical health. Sooner or later, however, a readjustment will inevitably take place, for the neuromuscular system inherently tends to protect itself against suffering. The only question before the individual and his friends is whether he (or they) will try to bring about an adjustment by dealing deliberately with the situation, or let nature take her course. When nature takes her course, the result, as we shall see, is commonly abnormal behavior, a neurosis, sometimes insanity.

Substitution of goals is, of course, one of those reconditioning adjustments through which frustration is relieved. But substitution may take place also before there is any frustration. One sometimes falls in love with a new person without his previous love having been frustrated, and at other times he does so because his previous love wish has been frustrated.

Why Frustration Is Harmful.—Frustration is biologically harmful because it produces suffering which, as we have seen, consists in unduly intense or frequent tension plus defensive visceral reactions. These muscular and visceral reactions interfere with the normal bodily processes of growth and nourishment; they sometimes overwork the heart and the muscular walls of the arteries, cause underbreathing, interfere with rest and sleep, and thus prevent the normal elimination of fatigue toxins. Worry kills because worry is suffering. The same may

be said about anguish, unduly frequent anger and irritation, and unduly prolonged tension without any definable emotion.

The mechanism by which frustration produces suffering may be observed in the behavior of an infant whose arms are held tight, preventing their free movement. At first there are slight muscular contractions, then stronger, more widespread contractions, until a general state of muscular tension ensues. Then there is screaming, and reddening of the face, indicating that defensive visceral reactions are taking place. We observe what Allport[1] calls "struggle reflexes," and Cannon and Watson call "rage." Accelerated heart action, glycogen in the blood, adrenalin secretion, and other visceral reactions have been abundantly demonstrated in animals and humans exposed to similar stimuli.

Rage, however, is only one specialized pattern of suffering, produced by physical restraint of movements, and characterized by specialized limb movements tending to rid the body of the restraining stimulus. The general tension and the general pattern of the visceral reactions are much the same in fear, pain, and in the prolonged waiting for food or other positive satisfactions, although the specialized movements may be different.

Of course there is no great harm in the functioning of these defensive reactions for brief periods of time, followed by complete removal of the irritating stimulus. But wish frustration, by our definition, implies a stimulus which cannot be removed. It keeps hammering away at the sympathetic system and provoking those defensive visceral reactions and muscular tensions. To be sure, the unpleasant emotions do not function for long with their maximum intensity; they become mild and chronic rather than acute. An undercurrent of unpleasant mood remains for long periods, or perhaps subsides entirely for a time but recurs with undue frequency.

When and if a person reacts to a frustration with perfect calmness, a calmness within (to be demonstrated by adequate instruments of observation) as well as without, then there is, by definition, no suffering, and hence no injury. For, indeed,

[1] *Op. cit.*, pp. 58-61.

there is no frustration. A frustrated wish always arouses suffering; when it does not, it is no longer frustrated, or is no longer a wish. In the last analysis, suffering is the essence and the whole of everything "bad" or "wrong." It is not, like money, the root of all evil: it *is* evil. All functional mental disorders are simply the results of prolonged suffering.

The stimulation of defensive behavior in the infant is not wish frustration, but rather the biological origin thereof. It is merely temporary; the infant has no real wishes; he does not symbolize his goals; his behavior has not yet reached that degree of organization. True wish frustration, like wish satisfaction, is produced by more complex situations which must be perceived or symbolized.

Frustration and Conflict.—True wish frustration usually involves a conflict of wishes. It is not the conflict in itself, but the frustrations, which produce the suffering, yet conflict is nearly always present. Once the writer had to choose between two desirable positions. Introspecting as well as a behaviorist can, he noted that the sense of conflict and indecision in itself did not seem unpleasant. There was, on the contrary, a certain joy in the thought that for a week he was in command of either position and could vacillate from one to the other. There was a certain sense of power and security such as he seldom feels when he is merely holding down one good job, without any alternative in sight. The thought which produced pain was that he would soon be forced to relinquish forever one of these opportunities. Since each position carried unique satisfactions to his wishes which the other did not, he was anguished by the necessity of giving up some of these possible satisfactions. The essential cause of the suffering was not the conflict but the anticipated frustration.

But conflict is nearly always the source of a frustration. The exception to this, of course, is a frustration which is produced directly by an outside condition, such as finding one's tire flat when one must immediately depart in order to gain an important satisfaction. Such direct outside frustrations are rare except in the control of animals, babies, prisoners, and the violently insane. Even when we say that a wish is blocked

by outside pressure, the immediate restraining agency is usually another wish within our own personality. Our wish to appropriate the surplus funds in our firm's cash drawer is blocked not by any physical resistance, but by our own wish to maintain our reputation and to be free from disgrace and imprisonment. "Social pressure" or "compulsion" is rarely physical force. Physical force is presumably held ready in the background, but the thing which actually gets the results is the symbol of this force acting in the subject's nervous system. The robber "forces" his victim to hand over his money by *social pressure*. The word force is purely metaphorical. An animal would not yield to such pressure because he would be incapable of symbolizing in his nervous system the possible consequences from the leveled revolver.

A husband wishes to go to his club some evening, and his wife wants him to go with her to visit some neighbors. We may say that the husband's original wish is blocked by his wife's counter-wish, or by his own counter-wish to avoid conflict with his wife. Either is true. But the *immediate* cause of frustration is always his own counter-wish. This may be the result of the other person's wish or of other outside circumstances. Therefore nearly every case of frustration can be resolved into a case of conflicting wishes within the same individual.

The Typical Wish Conflict Is One Wish Against Many.—How about the case of a man starving to death on a desert island, or a girl mourning for a lover who never will return? How do these frustrations fit into our scheme? Are they not frustrations caused neither by conflict with another wish nor by outside physical interference, but by the utterly passive and unresisting non-existence of the desired object? Yes, to be sure. But these cases are rare and not typical. Seldom is there an utter impossibility of getting what one wishes. If one is willing to give up everything else, one can have almost any satisfaction. We can have strawberries in January if we will pay. We can realize many a secretly longed-for adventure if we are willing to sacrifice our dignity or our reputation. The real cause of our frustration is not our absolute inability to

attain the object, but the fact that all of our other wishes are stacked against it.

Many, and perhaps most, wish conflicts are of this latter type, that is, one lone wish versus many. In such cases the many wishes are not recognizable in their separate capacity, but are united together behind one or both of the two banners: "economy" and "respectability." The ultimate reason why we do not get ourselves the strawberries in January is that such a satisfaction conflicts with *too many* wishes for meat, potatoes, candy, movies, and so on. But we describe the situation by saying the price is too high. We mentally substitute the instrumental goal of money for the final goals of meat, movies, and so on.

The conflict of one single wish with another single wish standing on the same level is not the most typical form of conflict. To be sure, it is dramatic and much celebrated in fiction. Love versus adventure, Chauncey versus Algernon, promotion versus "showing-up" the boss, children versus career, are themes much played upon for psychological illustrations. But we shall better understand the real nature of life if we realize that most of our conflicts are of the more prosaic sort described above: some strong lone wish versus all the others martialed and masked behind the general instrumental wishes for economy or respectability. Of course the strong lone wish usually loses. Some think it loses too often.

A man loses his job and reputation through an indiscreet personal adventure. Another is equally inclined toward such an experience but denies himself for the sake of his job and reputation and other values. To the first man people point the moralizing finger and say, "He paid the price." They might, with equal logic, point to the second man and say, "He paid the price." For did he not pay something for his security and respectability? Yet we seldom use the word "price" in this reversed sense. Price usually denotes the value of one specific thing in terms of many things in general, rather than of generalized satisfaction in terms of a particular sacrifice.

Let us then take note of these two generalized, instrumental wish components: economy and respectability. Although they

may become ends in themselves, they are largely organized phalanxes to protect the satisfaction of many specific and ultimate wishes. We want to make and save money for the sake of the things money will buy. We want to be respectable because it means better business promotion, fellowship, marriage, good times in the long run. But this is not the whole story. We come to value economy and respectability for their own sakes, quite regardless of ulterior consequences. And the reason is that these values are potent means of satisfying the ever-present final wish component of superiority. To be respectable is to be superior, and often this is the only road to self-respect open to an otherwise weak and mediocre personality. Security as well as superiority plays a strong part. But respectability in itself does not, in the same direct sense, satisfy the wishes for new experience, and response, including beauty. To dress and live "respectably" may in the long run be the best means of winning the friendship of a certain person, or entering the social circles which may lead eventually to a business position which will earn enough money to provide a trip around the world. But certainly respectable living is not in itself friendship, and it is not adventure. Sometimes and in some ways it may seriously conflict with those values. On the other hand, respectability inherently is superiority. By definition, respectable habits of living are those which actually do command prestige in the community.

Economy, in so far as it is an end in itself, and not only a means to the satisfaction of other wishes, resolves itself into the basic components of security and, to some extent, superiority. In itself it is certainly not love, beauty, or adventure.

Since the typical wish conflict is some single wish versus economy or respectability, and since these latter values are heavily loaded with superiority and security components, it would seem that in most of the typical wish conflicts of mankind, the wishes for security and superiority tend to be lined up on the opposite side from love, adventure, including beauty, and some simple comforts.

At first sight this antagonism might seem to be related to the fundamental biological antagonism between appetitive

and defensive emotions, or between relaxation and tension. It is however, much more complex, and rests upon the social rôles of the wish goals, as we shall see presently.

Luxury Wishes Versus Necessity Wishes.—It might seem, indeed, that the wishes for superiority and security are negative or avoiding, based upon defensive reactions, while the wishes for adventure and response are positive and approaching, based either on appetitive, or on non-emotional, reactions. Security seeks to *escape* from some specific danger, superiority from some inferiority, while adventure and response seek to *gain* something. An important truth lies at the basis of this distinction.

In the beginning all the basic reaction patterns and the wishes which grow out of them are driven from behind. They have stimuli but not goals. They acquire goal situations through experience. Every wish, therefore, eventually becomes an effort to get away from one situation toward some other situation. Moreover, any wish, when thwarted or frustrated, produces defensive reactions and suffering, and any wish, when gratified, brings pleasant relaxation, with or without appetitive visceral reactions.

The real difference lies in the social nature of the goals and the time and effort involved in gaining them. Adventure and response have a great variety of possible goals, which are differently chosen by different individuals. The final goals of security, and also of superiority, are relatively few, and rigidly fixed by the physical or social environment. There is less opportunity for individual choice and for substitution of goals, especially in the case of security. Furthermore, the satisfaction of security and superiority wishes requires much effort and labor. The satisfaction of adventure and response wishes does not, in the same sense, require effort, for if any satisfaction in those spheres is blocked, there is always an easier and less expensive goal, if the individual can make the substitution. A perfectly normal, non-neurotic individual can readily substitute one adventure goal for another, or one love object for another. But with all his normality he cannot substitute shelter for food, or police protection for fire insurance.

Nor can he possibly gain adequate superiority through supremely skillful kite-flying, in a society which requires business or intellectual achievement as a criterion of success and assigns kites to the realm of children's toys.

Because their requirements are so rigid, the bulk of our effort and time is used to satisfy security and superiority wishes; and while we are doing our daily work for these satisfactions, we must endure long periods of time in which tensions from all the wishes must be managed. On the other hand, the time spent in satisfying adventure and response wishes consists largely of periods of relaxation and play, in which satisfying goal situations arrive in rapid succession one after the other. The satisfaction of superiority and security is limited by the environment. The satisfaction of adventure and response is not seriously limited by any of the more usual environments, but by the drain of security and superiority upon our time and energy. To some extent, also, society tabus particular goals of adventure and response, as when it proscribes children's games to adults, or insists that the more intense forms of love be gratified only between husbands and wives. But always it leaves plenty of choice open to the normal, unfixated individual. It often fails to give him, however, sufficient time. And when society does place these specific limitations upon adventure and response, it does not absolutely prevent adventure and response through these goals, but compels the individual to choose them, if he insists, at an additional cost to his security or superiority, which he can seldom afford to pay.

Security and superiority, in the main, might be regarded, therefore, as *necessity* wishes; adventure and response, as *luxury* wishes. Security is *protection,* adventure and response are *gratification.* Superiority belongs sometimes to the one, sometimes to the other category. It is not meant to imply that the satisfaction of adventure and response in general is a luxury, but that any particular goal of theirs is a luxury. This is not at all true of security, and is only partly true of superiority.

While more time and effort are required to satisfy the neces-

sity wishes, it is also true that, once they are adequately satisfied, their satisfaction is not greatly improved by putting in still more time and effort. The point of diminishing returns has been reached. From that point on, more is to be gained by indulging the luxury wishes. Human progress may be interpreted as reducing the time necessary to satisfy the necessity wishes and thus increasing the time available for satisfying the luxury wishes. With them there would seem to be no point of diminishing returns.

By fixation, however, adventure and response often come to play the rôle of necessity wishes. If an individual fixates his love, or fixates his desire for adventure upon some particular activity, then he runs the risk of frustration or of excessive effort, although his satisfaction may be more intense if it is gained. His sense of necessity, however, could be removed by reconditioning (defixation). But most of the necessities of security could not thus be removed, for they are determined by the environment.

Personality Readjustments

Frustration Leads to Readjustment.—A strong permanent wish is frustrated and the defensive emotions are set into operation. For a time the victim merely endures the suffering of these emotions, giving them somatic expression according to his habits. Some talk, curse, whine, groan, complain; some scowl, frown, shed tears, twist their facial muscles into expressions of agony; some wring their hands, pace the floor, beat upon their breasts or heads, take long walks alone, chop wood, or viciously kick at surrounding objects.

But such behavior cannot last indefinitely. Neither can passive endurance continue without some change occurring. Nature seems to set a limit to the time which any defensive emotion may function at high intensity. But the frustration situation is still there, and after a time, when something happens to call attention once more to that situation, these emotions again come into action. But when the same general pattern of defensive emotions repeats itself again and again in response to the same persistent stimulus, something hap-

pens to the personality. Upon what that something is, hang the most significant differences in personality.

Personality is a product not only of the natural unimpeded development of wishes, but of these "somethings" which happen when wishes are frustrated, these *adjustments* to frustration.

There are many ways of classifying and interpreting these results of wish frustration. We shall follow what seems to us the clearest and most logical classification available, namely, the one given by J. J. B. Morgan in his *The Psychology of Abnormal People.* Let the reader not be saddened by this title, nor yet allow his morbid curiosity to be unduly excited. Most psychologists now agree that knowledge of abnormal behavior is one of the best keys to the understanding of the normal.

Abnormal Types of Readjustment.—We quote or paraphrase some significant headings from Morgan's book,[2] indicating his general classification.

Chapter XIII. HYSTERIA.

Somnambulisms—fugues—multiple personalities—convulsive attacks—anesthesias—visual and auditory disorders—visceral troubles—respiratory disorders—Freud's theory of hysteria (*i.e.,* repression)—hystericals are objectively oriented and suggestible—hysteria develops through desire to escape unpleasant situation—accidental escape through suggested channel—fear of return to unpleasant situation with recovery—exaggeration of symptoms—treatment of hysteria: punishment, suggestion, analysis, reëducation.

Chapter XIV. DISORDERS OF REGRESSION.

Dementia præcox or schizophrenia—only simple and hebephrenic types of schizophrenia belong here—regressive individuals are introvertive, non-suggestible, affectively insufficient, lacking in aggressiveness, absent-minded; if they develop schizophrenia they show emotional change, permanent inertness, emotional dilapidation, emotional deterioration, perceptual insufficiency, delusions, associational disorders, personal disintegration. Cure difficult if not impossible; prevention the important consideration.

[2] *Op. cit.* Morgan's chapter and paragraph headings are here somewhat adapted and elaborated. This is not a verbatim quotation.

Chapter XV. COMPENSATORY DISORDERS.

Why men fight—types of resistance—the feeling of inferiority—overcoming the feeling of inferiority—satisfaction selects the solution—direct overcoming of the handicap—substitution of another trait—substitution of an imaginary victory—blaming others for failure—reforming others—reaction against supposed persecution—compensation involves disintegration—reactions against supposed ignoble heritage, ignoble impulses in self, odious comparisons, feelings of debility, restraint, evil in abstract form—paranoia as compensation—compensating individuals are self-centred, inconsistent, have failed in some respect. Cure difficult—must detect early.

Chapter XVI. EPISODIC DISORDERS.

1. Manic-depressive disorders—are defense reactions—indicate extrovertive type of personality—are the breaking forth of pent-up emotions.
2. Catatonic excitement and stupor—are introvertive reactions—senseless activity—verbigeration.
3. Epilepsy—epileptic equivalents: attacks of irritability—spells of furor. Epileptics are irritable, persistent, lack control.

P. H. Furfey makes the following classification:[3]

- Adjustment
  - successful
  - unsuccessful
    - rational solution
    - parataxis
      - defense reactions
        - suppression—partial forgetting
        - repression — complete forgetting
        - conversion—physical illness or symptoms (hysteria)
        - excitement—drink, adventure, etc. (mania)
        - superiority — indignation at criticism, etc.
        - rationalization — blaming others, justifying self, etc.
      - substitution reactions
        - regression—lower level
        - sublimation—higher level
        - compensation—same level
      - failure reactions
        - shut-in personality
        - depression

[3] Adapted from FURFEY, P. H., *The Gang Age*, Macmillan, 1926.

These adjustments to frustration are not traits of personality in the static sense, but rather *changes* in personality, *dynamic* personality traits. They are not merely behavior, but *patterns of changing behavior.*

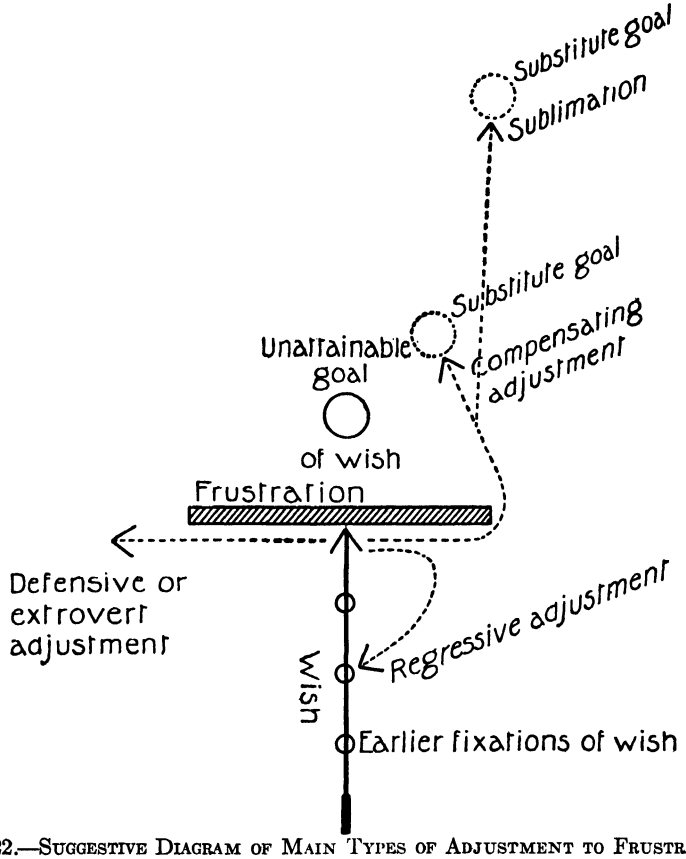


FIG. 22.—SUGGESTIVE DIAGRAM OF MAIN TYPES OF ADJUSTMENT TO FRUSTRATION

Most of us have experienced, in mild transient form, all of the various abnormal types of readjustment. It requires only a little imagination to picture what we would experience, and how we would appear to our fellows, if any one of these disorders of behavior were to become a fixed habit beyond our control. Let us use this same imagination to gain a sympathetic insight into the behavior of persons who are uncontrollably disordered or insane.

Putting together elements from our own personal experiences, we can easily imagine this hypothetical case. Let us say that we have suddenly and unexpectedly been dismissed from our position. A wish for security which had been more or less continuously satisfied thus suddenly becomes active. This vigorously stimulates our sympathetic nervous system and arouses the visceral reactions and the tensions of suffering. This suffering continues for several days, becoming anger when we think of the part certain other persons have played in causing our dismissal, fear when we think of our future, and anguish when we think of "what might have been." On several occasions we groan as if in severe pain.

The inherent tendency of suffering is to eliminate the stimuli which provoke it. Normally, it accomplishes this through the somatic reactions, which change the outside situation. Anger defeats and removes the enemy or obstacle, fear takes one away from the source of danger, disgust spits out the offending substance, pain tries and sometimes succeeds in removing its cause. By trial and error one fixates those reactions which are most successful in removing the nocuous stimuli. But in frustration the painful feature of the outside situation cannot be changed. Nevertheless, the process of trial and error goes on just the same, and in the course of this process the individual happens upon some implicit reaction, some motor set, which somewhat relieves the painful emotion. Some of us have a habit, for example, of vigorously clenching our hands and pulling hard on the arms of the dentist's chair during the most thrilling (?) moments of his excavation. We have formed this habit because we have found that it relieves other pain reactions which are still harder to endure, in spite of the dentist's conventional advice to relax. Others have learned that a certain form of mental anguish is somewhat relieved by sudden shouting or singing.

(1) **Repression—Dissociation.**—After losing our job our first attempt is to put the matter out of our mind, to forget about it. This is the adjustment pattern called *repression or dissociation.* We are not very successful at this, being perhaps not sufficiently extrovert in temperament. We find ourselves,

instead of actually forgetting, inwardly repeating the words "I will forget, I *will* forget." At other times, however, we actually forget the unpleasant situation. At such times we are aware of a vague sense of pain, the cause of which is at the moment unknown, a discomfort, a "tightening of the stomach," a lack of feeling of good digestion and appetite. We say to ourselves: "I'm upset about something but I have forgotten what it is. But anyhow I feel nasty."

These experiences are just enough to give us an inkling of how it feels to be an hysteric. In the extremely extroverted or suggestible person, especially in the hysteric, forgetting the unpleasant is the most successful method of adjustment.[4] Such persons have an unusual power to divide their minds into water-tight compartments, that is, to build some kind of defensive wall across their neural pathways which will shut off the "stored symbols" of a disagreeable situation from their main behavior system. The building of this mental wall is called a *defense mechanism*. To use Freudian terms, the disagreeable experience is repressed into the unconscious, and is carefully guarded by a "censor" against coming back again into consciousness. Just what the nervous physiology of this repressing or dissociating or wall-building is, we do not know. We do know that the person who succeeds with it is usually a person of suggestible personality, easily influenced by others, very responsive to outside stimuli. He readily dissociates one part of his personality from another, being, in fact, the sort of person who walks in his sleep and who may develop a Jekyll-and-Hyde phenomenon of dual personality. *Yet he never dissociates himself from the outside environment.* He sacrifices the unity and integrity of his own personality, but each segment of his divided self keeps in close rapport with the environment. The dissociated personality, in fact, closely resembles the personality of alcoholic intoxication.

Dissociation frequently leads to abnormal physical symptoms, such as pseudo-convulsions, paralyses, digestive troubles,

[4] Hysteria does not necessarily imply extreme extroversion but may be due to moderate extroversion plus some pathological factor. Hysteric patients test definitely extrovert. See Chapter VI.

irregularities of breathing, tics (abnormal twitchings), shell shock. Most of the paralyzed patients who are cured by mental healing methods (including religious faith) are hysterics. According to Freud, the painful repressed complex is converted into a physical symptom. This hysterical *conversion* is one of the principal "mechanisms" of the Freudian psychology.

English Bagby describes a case of a compulsion neurosis in which the patient felt compelled to bite his own hands. This act was found to be caused by a mental conflict concerning some past sin; the hand-biting was a distraction which helped the patient to forget the unpleasant idea.[5]

But the dissociating method of handling the frustration need not necessarily lead to physical "symptoms." Some persons drown their sorrows in the feverish pursuit of some activity which is not likely to remind them of the disagreeable situation. The writer asked one young married woman why she played cards so incessantly. "Because when one plays cards one cannot think." Other evidence suggested that she was suffering some serious disappointment connected with her marriage. English Bagby states that seven unselected cases of "fool flying" from the war aviation experience revealed that in every case the subject was having trouble with his wife, an orgy of reckless flying taking place as each problem reached its climax.[6] A letter from a man who had entered the aviation branch of the army was self-revealing. He was a highly educated, sensitive young man, deeply interested in religious and social work. He said that he had chosen aviation in order to have "an experience before married life," and added that he experienced less meditation, less thought of death, in this work than ever before. He felt no pressing sense of religious need; he was too much occupied with problems of food, clothing, and daily existence. The writer knew from other sources that this young man was conscious of having an unusual difficulty in solving the marriage problem because of his mixed Oriental-white parentage, coupled with his very

[5] "A Compulsion Neurosis and Its Motivation," *Jour. Abnormal and Social Psych.*, vol. xxii, p. 8 (1927).

[6] *The Psychology of Personality*, Holt, 1928.

high intellectual and social standing, and that he was given to serious meditations on religion. Aviation evidently was his way out: he used excitement as an antidote for wish frustration.

Alcohol gives us a chemical method of producing this same extroverted forgetting of the unpleasant. The secret of "drowning one's sorrows in drink" was known by our jolly good ancestors long before the first psychiatrist ever put pen to paper.

Freud holds that the misremembering of names, slips of the tongue, slips of the pen, unconscious slights and acts of neglect toward persons, are motivated by unpleasant emotions. If we forget a certain name, Freud and his followers would look for some unpleasant association with that name. However, it is not borne out by experiment that unpleasant stimuli are forgotten more readily that others. Freud's statement probably holds true for certain persons and certain classes of stimuli. Whether it is generally true or not we do not know. There are many who would fain forget something to relieve their suffering but, alas, we cannot.

"Why bring that up?" is the motto of the dissociating personality.

(2) **Regression.**—When we find it impossible to forget about our lost job, we at times assume another attitude. We fall to daydreaming that we have been vindicated and reappointed at an increased salary. We walk about absent-mindedly, keeping our attention off our actual environment, and directed to our inner world of fancy. Our imagination runs to other simple and easy wish fulfillments, Aladdin's-lamp ideas, similar to those we have often cherished in childhood; at times when wholly immersed in this train of thought we hop and skip, or whistle, and become actively happy.

These reactions are suggestive of the second main type of adjustment, that is, regression. The person who chooses this method either is already an introvert, or becomes one.

We shall study introversion and extroversion more fully in the next chapter. For the present it may be sufficient to say that a typical introvert is one whose attention is controlled

largely from within, who makes his adjustments through thinking or imagination, and who does not respond easily to the suggestions and influence of other persons. An extrovert has his attention controlled more by outside stimuli, he makes his adjustments more through talking or other overt behavior, he is easily suggestible and tends to be more sociable.

In extreme form the regression pattern is that of the disorder called hebephrenic dementia præcox (schizophrenia). The patient retreats within himself, transfers his frustrated wish to some simpler or earlier mode of satisfaction which perhaps he enjoyed in childhood. Morgan mentions the case of a girl, who, disappointed in love, sought a solution by imagining that she was once more a pre-adolescent and had no sexual desires. One extreme case of schizophrenia toddled about the hospital mumbling incoherent baby talk, whined for what she wanted, and spilled her food as would an infant.[7] Occasionally quite normal individuals show bits of regressive behavior, as when the grown woman secretly gets out her dolls, or the man takes great delight in playing with toys he bought for his children.

The extremely regressive individual, whether or not he becomes a schizophrenic patient, has a personality of the introvert, shut-in type. He lives in his own inner world of phantasy. He is just the opposite of the dissociating type. He preserves a certain inner unity of personality, but breaks with his environment. Instead of being suggestible and readily subject to hypnotism, he is negativistic, stubborn, inaccessible. The psychiatrist can do little for him, for he cannot reach his emotions. He has so withdrawn within his shell that he has no strong emotional responses to outside stimuli, and therefore no basis for reconditioning. His emotions are stimulated from within. The typical schizophrenic lives in a world of his own delusions and is quite indifferent to his surroundings. He may laugh when the outside situation calls for tears, and *vice versa*. He, too, has built a wall of defense against suffering, but instead of his wall shutting off a certain part of himself

[7] MORGAN, *op. cit.*, p. 514.

from the rest, it shuts off the whole of himself from the outside world.

(3) **Compensation.**—There is still a third adjustment. This we also experience in embryonic form after losing our position. When we assume this attitude, we do not forget the humiliation of our dismissal, nor do we daydream ourselves back into security. On the contrary, we dwell mentally upon how industriously we shall work in the new and less desirable job we are obliged to take, how we shall come back in a few years and prove to our employer what a mistake he made in firing us. Our present humiliation is as nothing compared with the triumph we shall then gain—it will be a mere trifle in our career. Another idea we exploit is that we shall develop our character, rise above misfortune, show what kind of man we are, etc., by deliberately saying nothing more about this matter, by showing no more emotion about it. These ideas do not involve forgetting the unpleasant experience, but rather *compensating* for it by building up an internal, symbolic situation of pleasant character (future triumph or sense of having an admirable personal character). This compensating situation differs from the dissociating defense mechanism of the extrovert, in that the subject may keep the unpleasant fact in mind and get a sense of triumph over it which takes away much of its sting. In dissociation-repression, on the other hand, one tries to ignore the unpleasant situation, hides it, runs away from it. Compensation, as Morgan shows, is essentially a fighting reaction.

Morgan says:[8]

> Compensation indicates a fighting tendency on the part of one who adopts it. Such a reaction is much more desirable than the giving up which leads to regression or the adoption of some subterfuge such as we find in hysteria. However, the energy expressed by the compensating tendency has to be carefully directed or its final results are just as pernicious as those of regression. Physicians have confessed their inability to cope with an advanced case of paranoia: the only hope lies in prevention.

[8] *Op. cit.*, p. 563.

It is sometimes said that the compensating person substitutes a new object for the wish object he failed to obtain. Substitution of stimuli or objects takes place, however, at many points in the development of personality, not always involving a wish frustration. The establishment of any conditioned reflex is, in fact, a case of substitution of one stimulus for another. Compensation is a substitution which is brought about by the suffering of a frustration and which tends to relieve it.

Compensation seems sometimes to substitute a goal which belongs to a different class of wishes. We have cases of superiority satisfaction compensating for love frustrations, and so on. Ellen Glasgow's *Barren Ground* gives us a most interesting narrative of a woman who compensated for utter frustration in love by demonstrating scientific farming in a backward rural community. But perhaps such substitutions may be incomplete.

According to Alfred Adler, to compensate for feelings of inferiority is the leading motive in personality development.[9] Where Freud pictures sex as playing the leading rôle, Adler gives this place to the wish for superiority. He regards the inferiority feeling as rooted in the physical defectiveness of some bodily organ. To overcome this weakness by overdeveloping the organ or some other organ then becomes the leading motive. The individual with poor eyesight turns to art or, if too much handicapped for this, he turns to music and compensates in that channel. In some art schools 70 per cent of the students have eye defects. The weakling youth devotes himself to physical exercise to compensate for his defect. Adler says much about the "manly protest," that is, the rebellion of the male (sometimes even of the female) against being considered weak or feminine in any way, with consequent strenuous effort to prove his manhood. Adler, like Freud, seems to overemphasize this connection between superiority and masculinity. Probably he is reflecting the pattern of his Central European culture, where patriarchal dominance

[9] *The Neurotic Constitution*, Moffat, Yard, 1916.

is more pronounced than in France, England, or the United States.

Napoleon is the classic example of compensation. His small stature made him an object of amusement among his schoolmates. This, we are told, produced a feeling of inferiority which led to his ambition to become lord of Europe. According to Adler's doctrine, inferiority is one of the surest incentives to effort.

In applying Adler's theory, we must note that it is not the *fact* of inferiority but the *feeling* of it, which starts the drive toward compensation. We compensate not for the weakness in itself, but for a wish frustration caused by the weakness. One's feelings of inferiority may not correspond closely with one's really serious defects. The feeling of inferiority occurs only when one *cares*—in other words, has a wish to be different. One person is anxious about the impressions he makes on other people in conversation and in social gatherings; he feels that his education is not equal to that of many he meets socially. As a matter of fact, he makes a superior impression; his really serious personality difficulties are not the ones he worries about. They are careless and lazy habits which appear only after intimate and prolonged acquaintance. But he feels no inferiority about these habits because they are not easily comparable with the habits of other persons, they are not obvious on the surface of his personality. He does not care about them; hence, psychologically they are not inferiorities.

There is no general rule which determines what kind of behavior will be used to compensate for a particular frustration. Each individual compensates in the channel which seems to give him the most relief or satisfaction. It may or may not have a logical relation to the frustration. The woman without natural pulchritude who gives extra care to her clothing illustrates compensation in a closely related channel—working toward the same general objective of personal attractiveness. Yet another, so well endowed by nature that she would seem to need only a conventional minimum of attention to her dress, spends as much time and thought on clothing as if she were trying for a world's prize. With her, clothing may be a

primary interest, not a compensation; or it may be a compensation for a feeling of inferiority in some other line not related to personal appearance. Only a detailed study of her personality would tell.

As we see, compensation sadly confuses the analysis of personality. While certain traits might "normally" tend to go with certain kinds of personality, compensation may step in, tending to produce the opposite effect. For example, the "normal" tendency would be for large men to become more aggressive for they have less often been whipped. But this correlation between size and aggressiveness may be lessened, and might even be reversed, by the tendency of small men to compensate for their physical insignificance by making themselves extra loud and conspicuous. Some student with a little time and scientific ambition might well investigate whether there is any correlation between short stature and the habit of standing very erect.

Georgene Hoffman had 25 persons rate themselves and each other in respect to ten traits of personality, one of which was "conceit." The average estimate of all the others upon a given person was considered as his true standing, and his own estimate of himself was then compared with this. She found that those individuals who were rated by others as most conceited showed the least tendency to overestimate their own good traits.[10] This quite unexpected result suggests that the person we call conceited is not he who really thinks too well of himself, but rather he who realizes his inferiorities and tries to compensate for them by assuming a superior air. Contrary to the popular impression, the person who acts as if he thought a lot of himself may actually think less of himself than his scornful critics think of themselves. What makes so many persons disagreeable is not excessive self-esteem, but their efforts to act as if they possessed self-esteem.

Other experiments have shown that there is a normal tendency to overestimate one's actual ranking on desirable traits. Miss Hoffman in this experiment found that the more of a

[10] "An Experiment in Self-Estimation," *Jour. Abn. Psych. and Soc. Psych.*, vol. xviii, p. 43 (1923).

given trait one has, the less likely he is to overestimate his possession of it.

Possibly those habits and attitudes in an individual which are stilted and artificial, which tend to become tiresome and disagreeable to others, are more likely to be compensations, while those which fit in more smoothly with the general pattern of his personality are more likely to be primary traits.

(4) **Emotional Indulgence.**—There is still another way of relieving oneself in some degree from mental suffering. Instead of trying to shut off the unpleasant stimulus by forgetting or repressing, instead of retreating into a world of fancy, instead of fighting for a compensating victory, one may simply indulge the unpleasant emotions themselves. This may be done by going to two opposite extremes. The first is to give free rein to the kinetic muscular reactions of emotion, exaggerating them, throwing off all restraint. Such is the reaction of the patient with manic-depressive insanity when in the "manic phase." He is in a state of extreme excitement, talking, gesturing, occasionally doing violence to his environment. Such "letting off of steam" through the muscles seems to relieve the tension and make the emotion easier to bear. The other way is to sink into a state of stuporous depression, a reaction of grief which has gone so far that it has become passive and immobile. It is akin to the condition of the patient with some physical wound or painful disorder, who, after thrashing about violently for a time in the effort to lessen his pain, finally discovers that the greatest relief is obtained in some perfectly quiet position. Patients in the extreme phase of depression sometimes have to be fed through a tube.

Usually these manic and depressed reactions occur in the same person, alternating from time to time. The overexertion of the manic stage helps to bring on the stupor of the depressed state. In its extreme form this type of adjustment is called manic-depressive insanity. But it exists in milder form in many persons generally regarded as sane. In such cases the person is said to be afflicted with "emotional instability."

Both the extrovert and the introvert personality may develop a pendulum type of emotional indulgence. The symp-

toms described above are those of the extrovert, of whom the manic-depressive pattern is characteristic. Throughout his disorder, such a patient is always in touch with reality, and arouses a certain sympathy on the part of the observer. In his manic state he is extremely suggestible, as is shown by the fact that his wild talk will respond quickly to any suggestion given by another person. Manic patients, like drunken persons and others in an extrovert attitude, will make personal remarks to or about strangers who happen to be on the scene. They enjoy being in the limelight, they have few social inhibitions. Their delusions are suggested from without rather than from within. Even in a depressed state such a person is *en rapport* with his environment, he seems to know what is going on, is accessible to the suggestions of others, and he craves and enjoys sympathy. W. A. White calls manic-depressive insanity a "flight into reality." Dementia præcox, on the other hand, is a "flight from reality."[11]

(5) **Catatonia.**—The introvert who adjusts by emotional cycles shows a very different pattern, known as *catatonia.* In the excited stage the conspicuous symptom is stereotyped movements, such as wringing the hands, walking back and forth over the same ground—often an equal number of steps in each direction—repeating again and again some stereotyped phrase, such as the "locks and keys" in the classic case described by White, sandwiched into his rather senseless conversation.[12] Some patients have been known to hop continually on the same foot for hours. But what normal person has not caught himself doing things of this sort under extremely painful emotion? As the term catatonia indicates, these senseless movements are devices to let down the tension, to relieve the suffering in some measure. Only when a person selects this method in preference to all others, and overdevelops it, does he approach that hopeless condition known as catatonic dementia præcox.

In the depressed state the catatonic patient resembles super-

[11] *Outlines of Psychiatry,* Nervous and Mental Disease Publishing Co., 1926, pp. 154-155.

[12] *Op. cit.,* p. 209.

ficially the depressed extrovert. But careful observation will show that the behavior is quite different. He is utterly irresponsive and indifferent to his environment, craves no sympathy, and is utterly incapable of appreciating it. He has, like the ordinary regressive introvert, retired within his shell. Instead of making a reasonable, though slow and halting, response to outside physical urging, as the intoxicated man does when you gently push or guide him out of the room, the catatonic shows an uncanny reaction known as "waxy flexibility." If you bend his arm, he will keep it in that position indefinitely. You can push him, unresistant, about the room. He is not responding to you except on a mechanical level. Neither is he resisting you, for that, too, would be a social response. He is utterly indifferent. Sometimes he will mechanically imitate what he sees you do, and then keep on doing it after you have stopped. Catatonics are dangerous. One, says Morgan, was known to jump suddenly out of bed, where he had lain for some time in a stupor, strike an attendant a violent blow on the jaw, and then return to bed and another prolonged stupor.[13] Such persons are motivated purely from within, by symbolic stimuli within their own world of fancy. Therefore one can never predict what they will do. The sight of another person becomes merely a stimulus to set off some act for which the patient was already set by his own inner stimuli. He does not respond to a fellow man as a fellow man, with interest and discrimination, as does the manic-depressive patient.

In both the manic-depressive and catatonic adjustments, it would seem that relief from the suffering of frustration is gained by exaggerated indulgence in the muscular (including vocal) reactions which, either innately or by accidental learning, are attached to the defensive emotions. Periods of such overreaction are then followed by periods in which relief is obtained through a passive condition like that of a person resting to relieve severe physical pain. In the manic-depressive or extrovert type, the details of the reactions are controlled by outside stimuli so that they appear to have some reasonable

[13] *Op. cit.*, p. 581.

relation to the environment. In the catatonic or introvert type the reactions are controlled mainly from within, and appear to an outsider utterly senseless.

(6) **Normal Readjustment.**—During the first few days after losing our now famous position, we experience the first stages of several types of functional mental disorder (as distinguished from the organic and chemical disorders, such as general paresis, alcoholic dementia, etc.). Yet after a month has passed no steps have been taken toward committing us to the State Hospital for the Insane. In fact, we soon cease using our "mechanisms" to relieve suffering. We cease trying to forget the experience, because it no longer troubles us much. Our humiliation is still as real as ever, we have no hope of the dramatic arrival of a letter of apology and reappointment. The frustration is still there. Yet we can look it full in the face with only a modicum of mental pain. We no longer feel the urge to regress into our world of fancy, and the idea of a future triumphal entry into our former office interests us much less than the problems of our new position.

Theories of the Neurotic Personality.—*Does normal readjustment mean stronger nervous constitution, less strain or better training?* The question is: what makes the difference between those who get over suffering without some permanent change of personality, or who actually improve under the strain, and those who come out of the struggle warped and twisted in their attitudes—in other words, mentally abnormal? What is the essential difference between the unstable, psychopathic, neurotic, or psychoneurotic personality, as we call it, and the normal personality? When psychiatry answers this question it will have accomplished one of the most important tasks now before it.

Before we can answer this question, we must first inquire whether abnormality is one general factor, or merely a collective name for several different abnormal tendencies.

Psychiatrists have long ago given up the notion that there are specific mental diseases, like the specific physical diseases caused by different germs. Now they say that there exist only physical diseases, and mental maladjustments.

There are several general organic conditions which lead to mental abnormality, either through actual destruction or deterioration of nervous tissue, or through the effects of general poisons in the system. General paresis, tabes, alcoholic psychoses, senile psychoses, infantile paralysis, and other diseases are due to organic causes. But organic lesions and poisons are not found in the great bulk of mental cases; the causes are purely functional. Usually there is no general condition affecting the nervous tissue as a whole, there is a specific maladjustment, a system of bad habits.

Riggs, studying 800 cases, generalizes that psychoneurotics do not, more than normals, show organic troubles nor a history of physical illness. The neurotic is not a physical weakling, nor is he mentally inadequate. He is simply a maladapted, inefficient personality.[14]

But the question still remains, is there some obscure general, constitutional, temperamental factor which *predisposes* some persons more than others to develop these abnormal habits, these functional disorders?

(1) One theory is that there is some such *constitutional* or *temperamental difference*. It may be in glands and secretions, in the nature of neurons and synapses or in some other bodily organs. In some nervous systems the organization of behavior simply *bends* under strain and stress, in others it *breaks*. The Woodworth test for psychoneurotic tendency, which we shall discuss in Chapter VI, shows that some persons have a great many more abnormal symptoms than others. There is no correlation with intelligence or with introversion; the extrovert is as likely to become abnormal as the introvert, the dull as likely as the bright. Perhaps "that something" which Woodworth's test roughly measures is an underlying, perhaps inborn, chemical or physical factor which accounts for the difference between those who bend and those who break. Perhaps that something is a glandular condition which makes the sympathetic nervous system unduly sensitive, which

[14] "The Psychoneuroses, Their Nature and Treatment," *Amer. Jour. Psychiatry*, vol. iii, p. 91 (1923).

lowers the threshold[15] for suffering, and raises the threshold for pleasure and relaxation. Certainly one outstanding characteristic of neurotics is that they suffer excessively, or have done so before they developed their neurosis.

Perhaps there is truth in this constitutional theory. Several considerations, however, lead us to doubt it. For one thing, close observation of many neurotic personalities seems to indicate that their tendency to excessive suffering does not show itself in a well distributed manner throughout their behavior, but seems tied up with particular situations. This, of course, is merely suggestive. A greater doubt is thrown upon the constitutional theory by considering what we mean by abnormality. Obviously we may consider as abnormal any behavior which injures the individual physically, such as hand-biting, alcoholism, seizures of indigestion, and so on. But we regard also as abnormal many reactions which do the patient no physical harm, such as daydreaming, becoming unwarrantably suspicious, concentrating one's hate or fear upon a person not really responsible for one's troubles, and so on. Biologically it is no more abnormal to blame one's failure unjustly upon one's wife than it is to reason out the correct explanation of the failure. Most abnormal adjustments are abnormal merely in the sense that they do not check up with the realities in the environment. They make an adjustment which relieves suffering, but which puts the patient into an unworkable relation with those about him, and hence later brings fresh sufferings to him or to others. The test of normality or abnormality is social, environmental, rather than biological. We put patients into asylums because they cannot adjust to society, not as a rule because their behavior would injure themselves if they were alone on a desert island.

What general characteristic might be peculiarly true of all individuals who adjust abnormally to their social environment?

(2) We might answer this question by introducing a second theory. This theory is that the *difference lies in the amount of*

[15] Threshold is a psychological term meaning the degree or intensity which a stimulus must reach in order to be received, or to be reacted to.

strain itself. According to this theory, we all are by nature equally disposed to become abnormal, and those of us who do so are those whose frustrations have been the most intense, the most prolonged, or the most repeated. At first few would be disposed to accept this theory, for do we not all know of So-and-So who has suffered far more misfortune than somebody else, and yet has remained more normal through it all?

Again, Riggs found that only 26 per cent of his psychoneurotic cases had had drastic changes in their social environment preceding the attack. He judges that the psychoneurotic is not a person who has been exposed to unusual environmental strains. The environmental cause, he says, is seldom specific, is not inherent in the particular nature of the change of environment. Very few cases were caused by environment alone, and those cases usually involved physical hardships.[16]

Objectively similar situations do not cause equal suffering in different persons, and equal sufferings do not lead to equal degrees of abnormality. How shall we explain these individual differences?

(3) Since we have already considered the theory that they might be due to some constitutional factor, we now come to a third theory, that they might be due to *differences in the previously acquired organization of personality.* Under this there are two sub-theories which are not mutually exclusive but represent a difference in emphasis. One theory (a) emphasizes the defective childhood *training in kinetic habits and emotions*; the other theory (b), defective *training in symbolizing habits* (habits of thinking or talking), placing the responsibility somewhat more upon the school and distributing it over a longer period of years.

(a) The child psychologists have abundantly pointed out the common mistakes in the early training of children. It is possible that the neurotic personality can be explained entirely by systems of bad habits found in early life. Bad habits tend to become cumulative; one habit leads to trouble, punishment, social inferiority, and then the subject compensates or

[16] *Op. cit.*

rationalizes or defends himself by developing another bad habit.

Many times the origin of the faulty habit systems may lie in physical illness. The unusual care and service obtained by the sick child may "spoil" him, and train him permanently to expect more of life than he gives in return. Many parents unwittingly encourage their children to become neurotic. When the child gives undue attention to some hurt or bruise, the mother becomes solicitous and pets him, thus rewarding him for making as big a fuss as possible. It is no wonder that such children become unduly prone to suffering. Suffering is biological, but its reactions may be facilitated or partly inhibited by training.

The parent who gives in to a child's petty whims encourages that child to fixate his wishes and fails to train him in the technique of substituting one goal for another, which technique characterizes the normal personality.

(b) The theory that the neurotic personality may result from faulty habits of thinking and talking deserves special attention. Watson speaks of three children: one can talk fluently about the mechanism of a clock but cannot put it together, a second can put it together, but cannot talk about it, while a third can do both, for each word is connected with a manual reaction.[17]

Possibly the behavior organization of this third child is the secret of a sound, neurosis-proof personality. In everyday speech we commonly say of a person who is out of adjustment in some matter, "he knows this but he doesn't *realize* it." At the same time there will be other things which our patient both knows and realizes. This gap between knowing and realizing, existing at certain points but not at others, seems to be one of the most general *characteristics* of neuroticism. The writer's theory holds that it is not only a characteristic but a *cause*.

Abnormal persons lack the power to reason themselves out of their sufferings. A certain class of them, the schizophrenics, are able easily to daydream themselves out of trouble. But

[17] In CHILD, C. M. *et al.*, *The Unconscious*, A Symposium, Knopf, 1928.

daydreaming is not controlled thinking or reasoning. It does not adjust one to reality.

Inability to reason oneself out of suffering does not necessarily imply lack of reasoning ability. Tests show no significant correlation between neuroticism and lack of intelligence. Apparently the difficulty is a lack of connections between thinking behavior and emotional behavior. The neurotic may be able to talk and think very rationally about his difficulties, without curing them. His words, overt or implicit, seem to belong to a separate system of behavior; he cannot use them to recondition his emotions. Since the important realities of the environment (relational situations) are very complex, registering themselves upon us only through symbols and not through direct perception, these realities fail to produce the influence upon the patient's emotions that they would upon a normal person's emotions. The neurotic cannot emotionally adjust to reality because reality does not "get across" to his emotional life with an even pressure at all points. Some one feature of reality has produced a strong conditioned emotion, while the rest of reality, which normally would uncondition that emotion, fails to do so. The normal person reminds one of removing a postage stamp from an envelope by the steaming process. When it comes loose it comes loose all over. The neurotic reminds one of the stamp we try to remove with a knife. It comes loose at most places but adheres stubbornly at one or two points.

The neurotic person is commonly one who "cannot endure" some particular situation, despite his knowledge and admission that that situation is harmless and may even be indirectly to his benefit. He is the kind who cannot bring himself to pass through a narrow passageway, even though it should lead to the Elysian Fields, who cannot make a small concession or apology, even when he knows it will restore to him a valuable friendship, who cannot give up some obsession or compulsive habit, though he knows it is wrecking his life. Some one conditioned reflex is powerful out of all proportion to other counteracting stimuli. In other words, the neurotic is prone to abnormally stubborn fixations. The perfectly normal

individual, it is said, could never fall in love so permanently that he could not be easily cured by a change in the human scenery. (Perhaps it is well that most of us are a little bit neurotic.) Because of their inability to realize all phases of reality equally, neurotics suffer more strain than do normals from equal degrees of misfortune.

John Jones may love his mother as much as John Smith loves his, yet he may suffer much less from her loss than Smith does from the loss of his. Smith's attitude toward the death of his mother, built up through years of previous experience and imagination, may be something quite different from Jones' attitude. Jones may have symbolized the death to himself as an unpreventable event, while Smith's thought processes may have presented to him, day after day, without cessation, the insistent symbols "this did not need to be."

Alice, a nervous excitable girl of radical views, gets through a serious sex situation without harm to her personality; while conservative, phlegmatic Gertrude, whom anyone would have judged to have greater strength and normality of character, falls into a similar situation and develops a bad case of hysteria. The difference lies in the fact that Alice's definition of the situation was quite different from Gertrude's. Alice had merely "blundered—a justifiable experience." Gertrude had "committed a cardinal sin." Gertrude, then, really suffered much more. To carry the matter a step farther, if Gertrude were unchangeably fixated on the sin definition of the situation, then she might have greater hope of readjustment if she were a Catholic than if she were a Protestant. For in that case formal confession and repentance would change things greatly. But if, on the other hand, she were somewhat wavering in her definition of the situation, then her greatest mental safety might lie in complete intellectual "emancipation."

In the experiments by Landis and others, mentioned in Chapter II, very small intercorrelations were found between facial distortion, introspective reports of emotion, and the measurements of visceral changes. Hence we cannot tell from outside manifestations how much anyone really suffers, al-

though perhaps the good observer can usually distinguish the presence of *some* emotion from a perfectly neutral state.

Influence of Beliefs upon Frustration.—*The painfulness of frustration depends upon the believed possibility of gratification.* The strain of a wish frustration depends upon how near the wish was to realization. Here is a much overlooked factor. The thought of "what might have been" may be more potent than the realization of what is. The painfulness of "what is" depends upon our idea of "what might have been." We do not find babies developing neuroses because they cannot have the moon; romantic maidens getting hysteria because they cannot marry Lindbergh; auto-mechanics sinking into schizophrenia because they cannot realize a wish to become president of the company; scholars developing paranoiac delusions of persecution because they fail to startle the world with a new discovery. But we do find mental disorders when children fail to get promoted or praised in school, when girls just miss getting the man they wanted, when workmen fail to qualify for a job they fully expected, when the scholar of early promise finds himself relegated by circumstances to a mediocre position. The wish for the impossible, or the idea that one might possibly get the impossible, does not set in until after the personality has "broken." Then it forms part of the familiar delusions of grandeur and of persecution.

The normal person does not wish ardently for what he believes to be unattainable. For what he thinks just barely possible he wishes slightly, but he is not greatly disappointed by failure. It is for the objects which seem to him within reason, which he has at least a fifty-fifty chance of getting, that his desires become really strong, and really dangerous to frustrate.

Once, when the author lost a valuable watch on the beach, he was definitely relieved by the suggestion that it had been stolen. Stealing was rarer and more difficult to prevent than mere losing. Also the thought of its having been taken from his pocket by his child and buried in the sand while she was left alone, was more pleasing than the thought of his having dropped it while carrying his clothes. Always the painfulness

of the idea varied with the degree of preventability of the misfortune which it implied. Whenever he thought of the loss as unpreventable, he was relieved. This was not, as often interpreted, because of any moral sense of self-blame. It is true that he reproached himself heavily for carelessness, but only because the carelessness brought trouble. Had the watch been found, his moral degradation would have given him no more pangs of conscience than Bluebeard's twenty-fifth murder, added to the lamentable first twenty-four, gave him. The pain was due to the comparison between the "is" and the "might be." Whenever the "might be" seemed the same as the "is," the pain was relieved.

The everyday experience of "disappointment" throws light upon the nature of frustration. A young woman was seriously upset because a planned visit to the movies did not materialize, although she was then going to the movies about once a week. At another time in her life, when she was going only once a month, the mere fact of not going on the other 29 nights did not trouble her. "Don't get your heart set on it" is the advice of every lay practitioner in the field of mental medicine. A seven-year-old girl once remarked, "I don't let myself want things I can't have."

The Attitude of Expectancy.—So obvious, so familiar is this principle that it is strange that psychology has given it no more attention. Of course it has been the habit of psychology until recently to busy itself with minutely specific and tangible matters, such as the exact nature of the visual image of a red trapezoid on a black circle, and the length of time the observer can hold such an image in his so-called consciousness. But fortunately we are getting down to the really significant problems of wishes, joy and suffering. The principle of disappointment gives us a new light on the fundamental nature of the wish. The strength of any wish depends upon the strength of the attitude of expectancy which goes with it. Every wish, we have seen, grows out of attitudes and creates new attitudes. Every wish has its expectation attitude, that is, a reaction to the symbolic stimulus "Can I really get this?" A wish is more than a motor set, more than a "course of

action which the body is set to carry out," more than mere action toward a purpose, more than emotion plus idea of object. A wish is the drive plus the purpose, plus an intellectual (non-emotional) attitude which is verbally expressed as "it can be realized." It is drive, plus purpose, plus expectation.

Important distinctions in behavior are usually represented by distinctions in language. But the verbal cues which distinguish the reality from the unreality attitude are so inconspicuous that the observer who hears the report often overlooks them. The subject who is making the report, however, never overlooks them. They consist of such phrases as "really," "I imagine," "a true story," "actually," and so on. When one sees, toward the bottom of a letter page, the words "that poor Billie was burned to death in the fire," he searches like a madman till he finds the words "I dreamed last night——" Just those few symbols make as much difference in the situation as the substitution of a few tons of coal for the TNT would have made in that war-time ship collision in Halifax harbor.

In dealing with unreality we use much the same language as when we deal with reality. The child learns to do this before he learns to give the distinguishing cues. "Mamma, I saw a great big bear under the house," the four-year-old reports in much the same tones as if he were talking about the cat he had really seen. We have a whole system of language, gestures and emotional reactions connected with our various worlds of make-believe. This system functions in reacting to theatrical situations, fiction situations, anecdotal situations, dream situations, "kidding" situations; and, in most respects, the word-to-word connections are almost exactly parallel to those of our real world. The verbal-emotional and verbal-action connections are, of course, entirely different. Often our observation of just one of these latter connections is our only cue. When, for example, we enter a room to hear one person calling another a stupid ass, the fact that the other laughs instead of getting angry gives us our cue to the fact that it is a "kidding" situation and not the reality situation we call "insult."

Toward symbols of past and present events our usual attitude is either "reality" or "unreality" and in only a few cases "doubt." Toward the future, however, our attitude may be one of various degrees between reality and unreality. It is composed of two elements, one of reasoned expectancy, or what we really believe the situation will be, and an element of hope, or "expectancy plus." This plus is added by "wishful thinking," that is, emotionally controlled thought responses like those of daydreaming. It is our tradition to praise the hopeful or "optimistic" person, to regard him as the source of good cheer, and to deplore the pessimist as a depressing influence upon his fellow men. Yet this same body of astute popular wisdom recognizes the fact that hope often is the very thing which brings unhappiness. "What's the matter, Pat," asked a friend of a sad-looking Irishman coming away from the pay window, "didn't you get the wages you expected?" "Shure an oi did, but oi wuz countin' on gittin' more than oi ekshpected."

It is quite possible, then, that the difference between individuals in the amount they suffer from a frustrating situation depends, above all other things, upon differences in (1) degrees of intellectual expectancy of satisfaction and (2) degrees of hopefulness.

(1) Expectancy is a purely intellectual attitude, depending on our knowledge and methods of thinking. He who has the most accurate knowledge of the conditions surrounding his efforts, and who does not overestimate the chances of his success in any given line, is more likely to retain his sanity than he who is given to unreasonable expectations. Intellectual training may have more to do with mental hygiene than we have realized.

(2) As to the hope factor, it would seem at first that "blessed is he who expecteth nothing, for he shall not be disappointed." But hope has a function which compensates for its dangerousness. To many a frustration it gives a sense of temporariness which relieves the sting. To a very hopeful person frustration is never final. His very mild form of schizophrenia may save him from something worse.

Normal Adjustment Favored by Realistic Thinking.—Now we are in a better position to understand the normal "mechanism" by which human beings relieve their frustrations. It is something different from either dissociation, regression, compensation, or emotional indulgence. We simply kill the wish itself. We uncondition our emotions and our tension from this particular goal. We may accomplish this by (a) conditioning a normal substitute goal, as distinguished from abnormal sublimations, compensations, and so on, or (b) diffusely conditioning the wish impulse to a variety of activities and goals rather than some particular substitute.

But in any case we accomplish this reconditioning, if we are normal, through our own symbolizing mechanisms. We do not need to wait for somebody else to recondition us by shock, or psychoanalysis, or by skillfully arranging some situation. Through our own thinking devices we change or redefine the situation. We try different ways of thinking about it until we find one which relieves the suffering, then we cherish and repeat that thought pattern to the exclusion of others until it achieves a real emotional reconditioning. The goal which before seemed attainable now seems impossible, so how could we wish for it? We convince ourselves that we have been laboring under a false attitude of expectancy.

In misfortunes we often use the device of saying to ourselves repeatedly, "I do not care, I do not care." Again, we philosophize that what happened could not have happened otherwise. In other words we turn fatalist for the time being. A married woman, falling deeply in love with another man, suffered keenly because she could not honorably break with her husband and remarry. Her anguish then attached itself to the fact that she had married her husband in spite of warnings and misgivings, and now realized that she had made a mistake. But then came the thought: "If I had not married Tom I would not have been at this party and never would have met Jim. I had to marry Tom in order to know even Jim's friendship, so no other possible course could have been any better." As this *redefinition of the situation* became habitual with her, her anguish was greatly relieved.

In this wish-killing process we do not try to forget the frustration. We rather focus attention upon it, but at the same time view it in a different light. We train ourselves to think about it with less and less emotion.

In daydreaming, on the other hand, we continue thinking about the frustration as if it had not happened. We imagine that it does not exist, which helps us temporarily. But sooner or later one of two things must happen. Some outside stimulus brings us "back to earth" (*i.e.*, reality) and again precipitates us into pain or, more rarely, we lapse into the permanent unreality of dementia præcox.

One of the chief functions of religion and certain philosophies is to aid human beings in this killing of unrealizable wishes and hence in keeping their sanity. This function of "consolation" is one of the essentials of all social systems. The essence of all consolatory philosophy is to kill wishes by redefining painful situations. The verbal formulas may be different, and the attitude patterns may be different, but they all lead toward the same end. It makes no psychological difference whether your attitude is merely "what is fated to happen will happen," or whether, with the Buddhist, you conceive all desire as evil, or whether you learn to acquiesce cheerfully in the will of God. In any case, what you are doing is training yourself not to care, by persistently redefining the unpleasant situation.

The Freudian Analysis of Personality

The Freudian mechanisms are patterns of adjustment or of personality change. The important thing about the Freudian psychology is the way it analyzes human behavior. It is not interested, like the introspectionist, in getting reports on what seems to be the "content of consciousness" at some particular moment under laboratory conditions. It does not analyze mental life into sensations, images, feelings, and so on. It pays little attention to the behaviorist's analysis in terms of *S-R* connections. That analysis seems too minute, too much like analyzing a machine into molecules or atoms. It analyzes, rather, in terms of larger behavior patterns—not, however,

the obvious patterns we call instincts or universal habit systems. Nor does it busy itself with those sensory patterns or configurations so important to the Gestalt psychology.

The Freudian psychology is interested in *changes in personality* (dynamic patterns). Its units are *wishes* and the *"mechanisms"* of change produced by wish frustration. Much importance attaches to these so-called Freudian mechanisms of repression, sublimation, and so on, or, as White calls them, the "mechanisms of character formation." This use of the term mechanism is misleading. In the first place, the word is sometimes used to refer to a static fact about personality, when it is really intended to mean dynamic process or change. A "complex," for example, is a static feature of a personality-as-it-is, and should not be called a mechanism. "Sublimation," on the other hand, refers to a change in personality and may be called a mechanism in the sense evidently intended by Freud.

In the second place, the Freudian use of the word "mechanism" suggests that each type of personality change is produced by a different kind of nervous or mental process. This is not the case, as we have seen in Chapter III. The real situation is that a few kinds of simple "mechanical" nervous processes, interacting with the environmental stimuli, produce different *patterns of personality change.* A strict behaviorist might say that there is only one mechanism of character formation, and that is conditioning, or perhaps neural drainage. This is quite true; yet it is also true that the conditioning process does not take place in so many isolated episodes, but usually in connection with larger organizations of behavior. The conditioning by which Edgar Allan Poe, disappointed in love, came to derive satisfaction from writing "The Raven," certainly represents a much more complex pattern than the conditioning which makes a child fear a ladder because one once fell on his head. There is only one fundamental mechanism in a baseball game and that is the "projection" of the ball through the air from one player to another, but nevertheless we need different terms to distinguish between pitching,

returning, throwing to first base, ball, strike, fair play, foul ball, and so on. The Freudian so-called mechanisms might more accurately be called "patterns of change of behavior."

Libido.—According to Freud, all the wishes can be reduced to one common denominator, *libido*. This libido is a sort of primordial, general wish-stuff, or wish-energy, and is regarded as fundamentally sexual in nature. It can be transformed into many forms, but its total quantity is constant. If it does not express itself in one way, it must come out through some other channel.

Early childhood is more important than any other period of life in fixing the directions of libido expression. To this most psychologists might assent, but Freud goes farther. He insists upon explaining through childhood experiences many attitudes which others would explain by more recent events.

The Unconscious and the Complex.—The greater part of our mental life, thinks Freud, is unconscious. Consciousness is like the portion of the iceberg which appears above the water. Therefore introspection cannot possibly reveal more than a small portion of our minds.

Ideas and feelings, Freud holds, drop into the great "Unconscious" not by chance, but for very definite reasons. Of course all psychologists would admit that there is a cause for everything. But Freud is not content with the host of minor causes, of chance combinations of circumstances. He attributes nearly every such forgetting to some *important* cause—namely, a definite wish or motive. In other words, he greatly emphasizes motives and belittles the mass of circumstantial, unmotivated behavior. Even the petty forgettings and mistakes of daily life are attributed to important but unconscious motives.

Everyone has one or more *complexes*. A complex is an organized group of ideas and feelings which is partly unconscious. There is a reason for its being unconscious; it would be painful if it became conscious. The "censor" stands guard at the entrance to consciousness, and keeps the painful elements down and out. Nevertheless, these disagreeable ideas

may be discovered by means of the association test,[18] a method devised by Carl Jung of Zürich. The psychoanalyst reads to the subject a list of words, telling him to speak without hesitation the first word which each word of the list brings to mind. Undue delay in giving a reaction word, unusual reaction words, and so on, are *complex-indicators.*

The unconscious may be explored also by means of dreams. An elaborate technique of dream analysis is part of the Freudial psychology. The dream never means just what it says. Its real meaning (*latent content*) is disguised by the censor in order to protect the subject from the pain it would cause, and appears in a harmless form (*manifest content*).

While some complexes are unique to their possessors, there are other complexes which are common to many people. Chief among these is the *Œdipus complex,* the unconscious childhood-formed love of a man for his mother, coupled with an unconscious hatred and jealousy toward his father. The *Electra complex* is the corresponding love of a girl for her father. Many persons, if not all, live through this *family romance;* primitive folklore is replete with representations of this basic and universal drama of the individual soul. The Greek legend of Œdipus was merely the classic literary expression of what has existed in all peoples and at all times. We shall examine this theory further in Chapter X.

Development of the Sex Wish.—To watch the development of a personality is like watching a many-ring circus, but the main central arena, according to Freudians, is that in which sex behavior develops. Freud uses the word sex in a very broad sense, including all that we have placed under the wish for response, and perhaps more. This wish develops by a certain more or less standard series of changes. First there is *narcissism,* the infant's fixation of the love impulses on his own body. Which means simply, in behavioristic terms, that the infant has "sensitive zone reflexes," by virtue of which he enjoys rubbing, patting, and skin contacts.[19] The sex organs

[18] JUNG, C. J., "The Association Method," *Amer. Jour. Psych.,* vol. xxi, p. 219 (1910).

[19] ALLPORT, *op. cit.,* pp. 67-69.

are only one of many areas which can be pleasurably stimulated. Because the infant loves his own body, according to the Freudians, his pleasure is readily conditioned (although Freudians seldom use this term) to other persons most resembling himself, hence to his own sex. Therefore, they say, everyone has tendencies toward *homosexuality*. But in the normal course of development this attitude gradually leads to *heterosexuality*, or love of the opposite sex. At first this takes the form of a fixation upon the parent of opposite sex; in adolescence it becomes transferred to persons of one's own age.

This development may be arrested at any stage, producing (1) narcissism or infantilism, (2) homosexuality, or (3) parent fixation. Many persons never get beyond one of these levels.

Beside this central development are the so-called *partial trends* of the libido. When the sex reactions become conditioned to the display of one's body, we have *exhibitionism*. Sex, conditioned to cruelty, is called *sadism*; to one's own submission and suffering, *masochism*; to some irrelevant object, *fetichism*. Sex fetiches include various parts of the body or articles of clothing, usually of a person of opposite sex, and many other objects which to the majority of persons would seem quite devoid of sex meaning. A case is reported of a man in whom sexual feeling could be produced only by his going past a certain place on a road. Such are the anomalies of the conditioned reflex. Childhood habits sometimes produce *anal-eroticism*, that is, a fixation of sexual pleasure upon the sensations of delayed excretion. Constipation may be the cause or the result of this. Freud holds that anal-erotics tend to be thrifty and stubborn.

Psychoanalysis.—Most mental and nervous disorders are the results of repressed complexes. The Freudian cure is to dig them up and restore them to full consciousness. When the patient fully understands the cause of his trouble, he has made the principal step toward recovery. Reëducation can then begin. This digging into the unconscious is called psychoanalysis. The psychoanalysts get the complete confidence of their patients, they encourage them to say freely whatever comes into mind, even if it appears foolish; it is just such

foolish and seemingly irrelevant associations which furnish the keys to the hidden complexes. Of course success depends mainly on developing the proper emotional attitude between patient and physician. The Freudian analyst is to his subject as is the priest or healer to the religious patient.

Freud has held that practically all nervous and mental disorders can be cured in this way. Many think, however, that the successes of psychoanalysis are largely with extroverts. It is they who are suggestible and accessible to the influence of the physician. The schizophrenic patient is not amenable to outside influence; he cannot "transfer" his emotions to the person of the doctor.

Watson suggests another reason why psychoanalysis is not always effective. Namely, it depends upon the patient's talking and thinking about his problem, and in some cases he may have no prepared system of symbols for doing this. Watson mentions the case of a neurotic married woman who is emotionally tied to her mother and is unable to get rid of her childish habits and attitudes. Since she never talked to herself about her attitude toward her mother, the analyst cannot talk to her about it in a way she will understand. Watson suggests that the doctor should try to reëducate her manually and viscerally, not merely verbally. "I feel," Watson says, that the analyst has "gone off and left the larynx running without hitching it up to the rest of the body."[20]

The Freudian Mechanisms.—The Freudian mechanisms, when they are recognized for what they are—patterns of change in personality, following wish frustration or other chronic states of defensive emotion—are useful tools for analysis. One sees these patterns in the behavior of normal individuals and also of groups. We shall describe them briefly.[21]

(1) *Repression* is the transfer of ideas and feelings from consciousness to the unconscious, in order to escape their painfulness. As noted already, this is typical of the extrovert per-

[20] In *The Unconscious, a Symposium*, Knopf, 1928.

[21] For a good summary, see LAY, W., *The Child's Unconscious Mind*, Dodd, Mead, 1919.

sonality. But since these "unconscious" ideas sometimes come back to consciousness in dreams, sleep-walking, and so on, it is better to use the broader term *dissociation*. In objective terms, *dissociation* is simply the functional splitting off of a certain group of *S-R* units from the rest of behavior.

(2) *Conversion* occurs when the repressed complex appears in the form of a bodily "symptom," such as paralysis, blindness, headache, indigestion, congestion of blood in a certain area, and so on.

(3) *Transfer* is the conditioning of various emotional reactions, connected with the subject's complex, to the person of the physician. In the case of women patients, especially, it often amounts to a falling in love with the doctor. This may often have more to do with the cure than has the particular technique of the analysis.

(4) *Displacement* is said to be either any substitution of a conscious for an unconscious element, or a conscious reaction to an unconscious stimulus. An emotion, it is said, is displaced from its normal or original object to some other object which can be better tolerated in consciousness. In objective terms, the subject has broken off or dissociated some internal symbolic stimulus from its normal verbal reactions (*i.e.*, cannot consciously remember it); but this stimulus continues to provoke emotion, and the subject attributes his emotion to some associated conditioned stimulus which has not been dissociated from his verbal behavior. For example, displacement is especially prominent in dreams. A dreamer reports he was frightened by a dream image of a broken telephone wire. The original stimulus to his fear may have been the thought of his having forgotten a promise to his sweetheart. This thought led to the idea of her being offended, of a broken love, a broken connection, and then to the thought of a broken wire. The original stimulus is so painful that he has dissociated or repressed it; the broken-wire idea has become conditioned to the same fear emotion, but in milder degree, so that it is easier to endure. The subject thereby economizes fear.

(5) *Diffuse* displacement occurs when the emotion is transferred to many objects. For example, a person suffering great

irritation on account of his dealings with some one individual temporarily forgets this individual but finds fault with everybody and everything.

(6) It is said that displacement may be either *compensation* or *identification*. Compensation has been defined as a conscious reaction to an unconscious stimulus, which means merely that the subject is striving for a secondary, verbalized goal as a result of some frustration in his drive toward some other goal which he more or less conceals from himself. We have already discussed compensation, and we shall take up identification shortly.

(7) *Sublimation* is a special kind of compensating adjustment. The Freudians use this term to indicate chiefly the substitution of æsthetic, religious, and occupational interests for thwarted sex desires. According to their language, the "libido" is thereby changed from a "lower" into a "higher" form. Especially do Freudians dwell upon the sublimation of the "partial sex components" such as sadism, exhibitionism, etc. The sadist, says Ernest Jones, often becomes a butcher or a surgeon, the exhibitionist an orator or an actor, the anal-eroticist an engineer, architect or cook. Jones insists that true sublimation is never a conscious substitution, but always an "unconscious displacement of energy," in which there is a real underlying continuity of desire, hidden by the change in form.[22] According to this, it would not be sublimation for a girl disappointed in love consciously to seek the love of God as a substitute. But if while trying to forget her disappointment she turned to religion, without knowing why, this would be sublimation. All of which, of course, is another illustration of the habit of Freudian psychology to make distinctions of questionable value on the basis of consciousness and unconsciousness.

(8) *Regression* is the opposite of sublimation. Freudians hold that men's friendship for men is sublimated homosexuality, of which all people have more or less, and that disappointment in the normal relations with the opposite sex

[22] See *Papers on Psychoanalysis*, Ballière, London, 1918.

is apt to cause a regression of this sublimated homosexuality into its earlier franker expression.

(9) *Identification* is an adjustment whose trick consists in redefining the limits of the "self."[23] We mildly satisfy an unfulfilled wish by reading about the glories and dramatic fulfillment of this wish in some piece of fiction. That is, we temporarily *identify* ourselves with the hero. The essential pleasure from fiction, to the average reader, consists in this identification. "The boy's gotta get the dough and the girl," is one critic's recipe for the ending necessary to make a really popular moving-picture plot.

The mother-fixated man gets satisfaction by marrying a woman similar to his mother. G. V. Hamilton discovered that in his group of 200 persons, the men who married women similar to their mothers were actually, on the average, better satisfied than the others. To some degree the mental process here is an identification of wife and mother.[24]

(10) Identification may be *introjection* or *projection.* In *introjection,* the self expands to take in new elements. Negroes swelled with pride when Jack Johnson won. A student, himself of no great athletic ability, gets satisfaction from the victory of his college team. Likewise, introjection may work to produce pain; one reads about the diseases of others and suffers vicariously—in fact, often imagines he himself has these diseases.

(11) In *projection* the self contracts, excluding some of its former elements, projecting them into the great non-self. We project when we attribute our own traits or experiences to others, when we attack others mainly for faults which we feel in ourselves. The moral weakling who mitigates his shame of his own vices by trying to attack these vices in others is an illustration. Our everyday language has projective devices; thus we say that a certain picture is full of thrills, whereas the thrills are really in ourselves, and may not be felt by many of our fellow observers.

[23] ELIOT, T. D., "The Use of Psychoanalytic Classification in the Analysis of Social Behavior: Identification," *Jour. Abnormal and Socal Psych.,* vol. xxii, p. 67 (1927).

[24] *Research in Marriage,* Boni, 1929.

(12) *Rationalization* is used in both the compensating and the dissociating types of adjustment. It means the unconscious invention of some logical reason for an act or attitude, to cover up the real reason which we do not wish to admit to others and perhaps not even to ourselves. The dissociating, extrovert personality perhaps succeeds better than others in hiding from himself his real motives. At least, such would be expected from what we know otherwise of this type. The real reason why we strike an insulting neighbor may be that we are angry over some petty disagreement, but we rationalize our act by explaining that our honor demanded it. Yet on other occasions we have endured worse insults from persons whom we liked better, or who perhaps looked bigger and stronger than this fellow, and we have not delivered any honor-saving punch-in-the-jaw. When the street car conductor irritates us, we scrap about the nickel or the transfer, and rationalize by saying, "It is the principle of the thing that I am objecting to." We take an afternoon off from the office to see a ball game, because we need "a little relaxation once in a while," when the fact is that we really needed the relaxation a few days ago much more than we do on the day of the ball game. We go by a roundabout way to our work, because "we like the walk that way better," when the real reason may be that we wish to avoid meeting someone, or that we want another glance at a pretty girl we saw recently on a front porch along that route. Ernest Jones says that everything we do is determined by some deep emotional cause. For example, let us ask someone to choose a number at random—any number. The choice, says Ernest Jones, will never be *free*; it will be determined by some pleasant or unpleasant association which psychoanalysis could reveal.[25]

Political and religious opinions, says analytic psychology, are mostly rationalizations. We do not examine the evidence and then form our opinions; we come with an already established attitude to vote in a certain way, and then we make use

[25] "Rationalization in Everyday Life," *Jour. Abn. Psych.*, vol. iii, p. 161 (1908). For good illustrations see also BAGBY, E., *The Psychology of Personality*, Holt, 1928.

of the various well advertised arguments to justify our attitude. In the Hoover-Smith campaign no doubt many Democrats voted for Hoover because they fundamentally liked the type of personality he was represented to be, and then justified their break with their party by arguing Protestantism or prohibition. Others, where it was not *comme il faut* to display religious prejudice, really voted because of their anti-Catholic feeling but stated their reasons as "personality."

(13) *Condensation* or *overdetermination* occurs when one object represents or receives the emotional transfers from several other objects. Thus, a dream of being chased by a robber might represent both the subject's unverbalized anxiety about his unlocked automobile and at the same time the hurry and speed with which he had been working all day at his desk.

(14) *Secondary elaboration* is the adding of new elements or new interpretations to an experience during the process of thinking it over. This is especially important with respect to dreams. If the subject tells or writes his dream immediately upon awaking, and then tells about it again at some later time, the later report will contain details absent from the first. These added elements, says the psychoanalyst, were not really in the dream itself; they are not additional *recollections*, but are the products of secondary elaboration.

(15) *Symbolism* in the Freudian sense is ordinary symbolization carried a step farther. We symbolize a situation by language reactions or the equivalent. These may be explicit or implicit. Suppose that we represent to ourselves, as did Hawthorne to his readers, the situation (*A*) "loss of reputation," by the situation (*B*) "scarlet letter." Then we use the usual language or thought symbols of (*B*) to represent (*A*), and repress or dissociate the language symbols of (*A*). This is Freudian symbolism. Freudians believe most of the situations we dream about are symbols for other situations which we dare not face.

(16) A common form of symbolism is *representation by the opposite.*

(17) *Ambivalence* is the frequent or ready alternation of opposite emotions with respect to some situation. Thus, in-

tense love, under some conditions, changes readily into extreme rage or hatred.

(18) *Object cathexis* is the loading of emotions upon an object. For example, the disappointed woman may relieve her frustrations by an abnormal emotional attachment to a piece of jewelry, or a building, or an animal.

Criticisms and Reinterpretations of Freud.—(1) The conception of the libido, a general psychic energy which furnishes the drive for all the wishes, is based upon a mistaken analogy. We have seen that the energy of the nervous impulse and the energy of muscular contraction which it releases are two separate things. Compared with muscular energy, nervous energy is infinitesimal; it is not a fixed quantity which must be used up in some way. Wishes are not energy; they are pathways or connections which determine the directions in which energy shall be released. The principle of conservation of energy does not apply to them.

(2) The theory that the libido is primarily sexual in nature means nothing. It is a mere game of words. Sexual reactions undoubtedly are the most intense pleasures of mankind, the most vigorous and memory-impressing of all the appetitive emotional reactions. They therefore have a great capacity to develop conditioned stimuli; many diverse objects and situations get connected with various sexual or love feelings. For the same reason, they are the source of intense and powerful wishes and, consequently, of painful frustrations. But the young child certainly spends much more time under the drives of curiosity and hunger than under those of love or sensitive zone stimulation, as Allport calls it. Even Adler, very close in many ways to Freud, takes sex off the pedestal and puts up superiority in its place. There is no evidence that the love reactions are more important or more basic at the outset of life than are hunger, curiosity, and the defensive emotions. In fact, the defensive emotions always have the right of way in the nervous system over the appetitive.

But the Freudians reply that fear and anger are largely the results of sex conflicts or frustrations and hence, secondary to sex.

For instance, Helen T. Woolley reports the case of a three-year-old child who showed an abnormal fear of coming downstairs. The fear did not show itself upon going upstairs, and it seemed to be connected with the sight of a particular kind of banister. It was learned that the child had visited the hospital where her baby brother was born, had been curious about the fact of childbirth, that this curiosity had met with emotional opposition on the part of her parents, and that when she left the hospital room she had to walk downstairs past banisters of the fearsome type.

Mrs. Woolley uses this as an illustration of the general principle that phobias are commonly "connected with suppressed ideas related to sex."[26] This may be true, but not because sex in itself has any unusual power to cause fears. It happens that our modern culture, at least where it has not been emancipated by Freud, artificially makes sex a cause of fear. It does so by training us to speak about sex in whispered tones, as one does when trying to conceal himself from an enemy, to refuse answers to questions about it, to show nervousness (*i.e.*, somatic fear reactions) in talking about it, and so on. It is no wonder that sex becomes almost universally conditioned to the fear reactions of the child. But the relation is cultural rather than innate.

The bias of the Freudians is that when they discover a fear which has no obvious connection with sex, they try, using their elaborate lore of symbolism gleaned from many patients, to prove such a connection to exist somewhere deep in the hidden recesses of the unconscious. What they seek, they contrive to find.

When the author was eleven years old he saw his father decapitate a chicken. His previous idea was that such an operation would result in instant death and quiescence. So when he saw the headless bird performing spasmodic muscular contractions and flying some distance toward the house, he was very frightened. For some time he was loath to see ani-

[26] "Personality Studies of Three-Year-Olds," *Jour. Experimental Psych.*, vol. v, p. 381 (1922).

mals killed, and developed a morbid curiosity about death and especially executions.

This experience illustrates a simple conditioning of the fear reactions, producing what is known as a *phobia.* It had nothing to do with sex, nor in fact with any positive wish.

William E. Leonard wrote a fascinating narrative, based upon his own life, showing how a phobia later became connected with wishes, produced frustrations, and caused a neurosis.[27] When a child of two and one-third years, he had once stepped too near a swiftly moving train. He had been terribly frightened, and had shown his weakness in the presence of a little girl. He developed a serious phobia of trains, a dread of the unknown and of death, a sense of great need for shelter and for God. He tried all kinds of mental treatment and found finally that crystal gazing and twilight sleep helped him most. His dreams were not mainly sex wish-fulfillments, and sex seemed to play a small part in the complex. The writer's theory is that Leonard's experience, in its primary results, would have caused nothing more than a conditioning of fear to locomotives and other elements of the situation in which he was actually frightened. Such a result would have had no serious effect upon his personality. When he came into the proximity of trains and perhaps some other objects, he would have been unusually nervous, as many persons are in the presence of dogs, cows, firearms, and so on. But the situation: "myself showing fear in a situation where other people are not afraid, and especially in the presence of those, like girls, whom I wish to regard me as courageous," is a situation likely to produce a serious sense of inferiority. Directly then, we hold, it was the frustration of the, or a, wish for superiority, rather than a sex wish, or the phobia itself, which caused the neurosis. He could have avoided trains and thereby protected himself from fear, but he could not rid himself of the inner symbolic situation "I *did* show fear at the railroad track, and I always *do.*" That situation remained always with him, until by his course of treatment he "redefined the situation" and took away most of its sting.

[27] *The Locomotive God.* Century, 1927.

(3) The Freudian psychology, in the writer's opinion, uses too many terms and needlessly complex explanations. Some mental disorders, for example, are due purely to a shock of intense fear, without any wish or frustration. Many of the "mechanisms" are simply various cases of *conditioning.* "Transfer," for example, is conditioning emotions to the person of the doctor. Freud uses the term "mechanism" in a metaphorical sense, where it would be better to use the term "pattern." True nervous "mechanism" is *S—R* connections and conditionings.

As Rivers says, Freud's "complex" means the same thing as "sentiment" in the language of Shand and McDougall, except that the "complex" is not wholly "conscious."[28] We have shown that a sentiment is a group of emotional attitudes. Now for an attitude group to be partly unconscious, or to be "repressed into the unconscious," means simply that the subject's nervous system cannot, under the ordinary verbal stimulation, "just what is worrying you?" give a language reaction which will explain things to the outside observer. The efforts of the subject's nervous system to anæsthetize itself against suffering have somehow caused the blocking off of part of this situation from the everyday system of symbolic responses. He reports an emotion, but cannot verbalize the internal stimulus (memory stimulus) which is arousing it. Or he verbalizes some later acquired stimulus to which the emotion has become conditioned, and cannot verbalize the original stimulus.

The "censor" is not an entity, but just a name for the general tendency of the nervous system to shut off suffering. If we fail to change the situation by overt behavior, we try various forms of internal behavior adjustments. Freudian mechanisms are these different internal adjustments. When a person finds by experience that a certain kind of adjustment works well, he makes it a habit. This habit helps to relieve his suffering, otherwise it would not have become a habit. But it may make him incompetent, disagreeable, ridiculous, or dangerous to his fellow men, and hence he is said to have a nervous or mental disease.

[28] *Brit. Jour. Psych.*, vol. xiii, p. 107 (1923).

(4) The psychoanalysts assume that certain symbolic associations are exceedingly general. To dream of a snake, for example, is said to have sexual significance. It may, for many persons; but in others the snake image may have entirely different associations. S. A. Tannenbaum quotes an analysis made by Freud himself, and points out how the patient was led by suggestions from the great master to associate his dream elements with sexual ideas, while there was no evidence that his train of thought, undisturbed by Freud, would have led in that direction.[29] One can proceed, by associational bridges, from any one part of one's experience to any other part, if one has a guide who is interested in going in that direction.

(5) A great danger in the psychoanalytic way of thinking, whether strictly Freudian or not, is to attribute too great a part of a person's behavior to indirect and hidden causes, and to underestimate the more direct type of development through conditioning and trial-and-error learning. A. B. Wolfe has pointed out this tendency in the interpretation of social radicalism. Many psychologists, such as F. H. Allport, for example, treat radicalism as a common reaction to the sense of inferiority. The radical has been *thwarted* in his own ambitions, they say, and hence escapes his inferiority by *rationalizing* that the capitalist system is to blame, and *compensates* by an attack upon this system.[30] On the other hand, says Wolfe, there would be plenty of radicalism even if there were no balked ambitions. Allport's view overlooks the numbers of intelligent and fairly successful people who have become radicals because their social sympathy is outraged by the injustices they see, and their love of good workmanship violated by the needless waste they note in the social machinery. The average radical, Wolfe claims, is a person of more intense sympathies than is the cultured conservative. He is far from being the compensating, egocentric person some psychologists would make him out to be.[31]

[29] "Analyzing a Freudian Analysis," *Jour. Abnormal and Social Psych.*, vol. xvii, p. 194 (1922).

[30] *Op. cit.*, pp. 371-373.

[31] "The Motivation of Radicalism," *Psych. Rev.*, vol. xxviii, p. 280 (1921).

Summary.—An active wish, without satisfaction or anticipated satisfaction, is said to be frustrated. Frustration always arouses suffering, which is harmful to the body. The directly frustrating agent is usually another wish; frustration therefore usually involves conflict of wishes. The typical conflict is between a particular wish and a more general, perhaps more instrumental wish, such as the wish for general economic security or social respectability.

Frustration always leads to readjustment, which means some reconditioning, some permanent change in personality, and not merely the temporary management of a tension. An adjustment may be normal or abnormal. Abnormal types of adjustment may be classified as repression-dissociation, regression, compensation, and emotional indulgence. These types characterize, respectively, well known types of mental and nervous diseases.

The difference between the neurotic personality, which tends to make these abnormal readjustments, and the normal or stable personality, is variously explained as (1) a difference in organic constitution or temperament, (2) a difference in the amount of strain or frustrations, and (3) a difference in the previous organization of the personality. The latter theory seems more probable. In this difference in organization there are two factors, (a) emotional and kinetic habits developed by early childhood training, and (b) symbolic organization, or habits of thinking and talking, developed through a longer period of education. While (b) may not be more important, it deserves special emphasis because its rôle has been inadequately realized. The essential characteristic of the neurotic personality, in this sphere, seems to be a lack of intimate connection between word habits and emotional habits. The neurotic can think intelligently and talk freely about his problems, but seems unable to *realize* many things although he knows them. In other words, his emotions are not equally at all points under the control of his symbolic behavior, and he is therefore deficient in the power to think himself out of an emotional maladjustment. Normal personalities, on the other hand, are better able to substitute wish goals and kill unsatisfi-

able wishes through thinking about the situation. The normal personality readjusts by intellectually redefining the situation, and through avoiding false hopes and unreasonable expectations. Philosophy and religion serve as thinking devices to recondition frustrated wishes.

The Freudian psychology deals largely with wishes and their frustration and readjustment. Its main conclusions are fundamentally sound, but it explains them in a needlessly subjective and metaphysical set of terms. Its theory of libido, a generalized wish energy, fundamentally sexual in nature, is merely playing with words, and quite unnecessary to the valuable understanding of personality which Freud in general gives us. Its "mechanisms" are types of reconditioning or personality change. They include repression, conversion, transfer, displacement, compensation, projection, introjection, sublimation, regression, rationalization.

CHAPTER VI

INDIVIDUAL PERSONALITY DIFFERENCES AND THEIR MEASUREMENT

THE study of differences in personality has always been one of the most fascinating pursuits. Let us see how this is related to what we have done so far.

PERSONALITY DIFFERENCES FROM THE STATISTICAL VIEWPOINT

Human Traits.—We have analyzed human behavior into reflexes, random reactions, basic reaction patterns, habits, attitudes, wishes and fundamental classes of wishes.

A trait is nothing new. It may be any one of the above behavior elements, looked at from a differential point of view. That is, a trait is any phase of behavior (or of bodily structure) which differs between individuals. A trait may be (1) physical, such as height or weight, (2) general intelligence, (3) temperamental, such as emotional excitability, (4) attitudinal, such as radicalism, or (5) a special ability or skill, such as tennis-playing ability. A trait may be general, such as "quickness," or specific, such as "quickness of temper."

Many questions put to psychologists about human personality are ambiguous because they fail to indicate whether they imply an absolute or a differential point of view. For example, "Is self-assertion caused by heredity or environment?" If you mean self-assertion in the absolute sense, then everyone shows self-assertive behavior at some time or other, and it is due both to heredity and environment, for heredity furnishes the inborn reaction patterns of anger, etc., and environment furnishes the conditioned stimuli. But you may mean "Are the *differences* between individuals in self-assertion caused by heredity or environment?" In this differential sense, the probable causes are mostly environmental.

A human trait may be an *attribute* or a *variable*. An attribute is a characteristic which either is or is not. It is an all-

or-none proposition. Masculinity of sex, color-blindness, epilepsy, ability to do a giant circle on a horizontal bar, are, practically speaking, attributes. A variable is a characteristic which exists in greater or less degree. It is a quantity, and may be measured. Aggressiveness, introversion, intelligence, stature

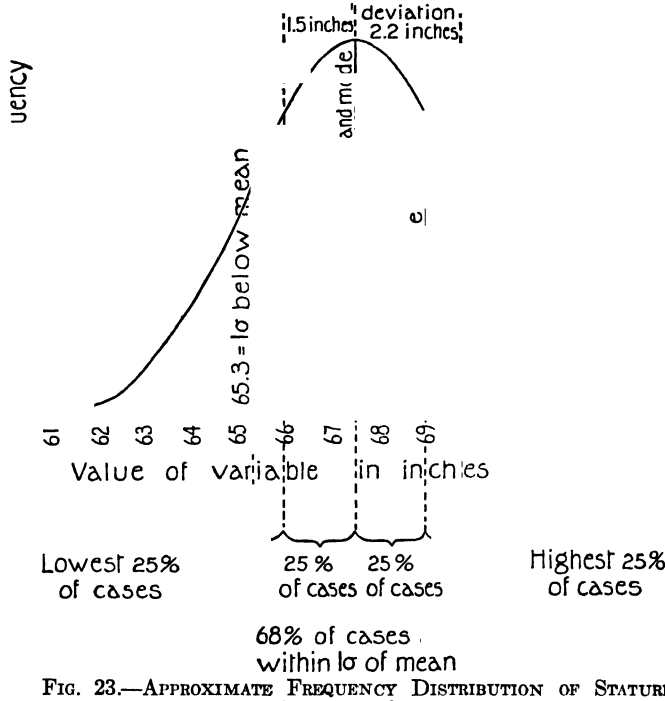


FIG. 23.—APPROXIMATE FREQUENCY DISTRIBUTION OF STATURE OF AMERICAN SOLDIERS[a]

[a] Data adapted from CHADDOCK, R. E., *Principles and Methods of Statistics*, Houghton, 1925, p. 227.

and weight are variables. Attributes are differences in kind, variables differences in degree.

Variables and Frequency Distributions.—If a trait is a variable, it has a *frequency distribution*. This means a tabulation of the number of cases showing each recorded value of the variable. Let us take the physical trait "stature" for illustration. The average stature of American adult males is about

67.5 inches. Stature has an almost perfectly *normal* frequency distribution. This means that the mass of cases is near the average, and that extremely high and low values are comparatively few. Lengths of bean pods, heights of cornstalks, lengths of mice's tails, have, like human stature, approximately normal distributions. The variable traits of plants and animals, whenever they can be measured on some definite, physical scale, as stature is measured on a scale of inches, usually show a distribution tending to be normal. Fig. 23 shows the essential characteristics of such a distribution, and Fig. 24 illus-

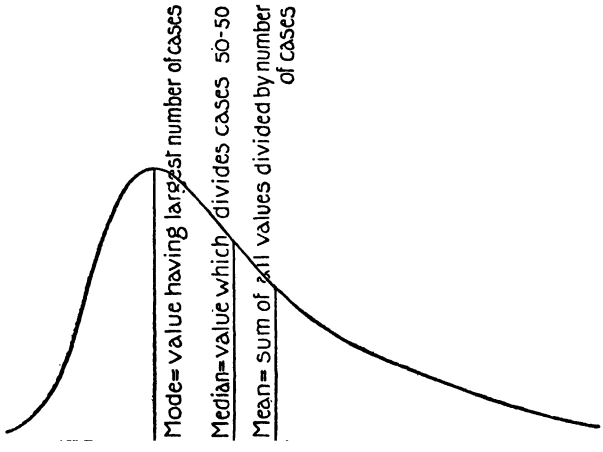


FIG. 24.—ASYMMETRICAL DISTRIBUTION

trates a non-normal distribution. The essential terms are explained by the figures. For fuller explanation one should consult the standard texts on statistical method.

When we come to mental traits, like abilities, attitudes and so on, we have no definite physical measuring sticks to start with. What we do is this. We arbitrarily devise a test—of intelligence, let us say—by giving a large number of brief mental tasks supposed to depend mainly on intelligence. We score the test by giving so many points for success in this and that task. As nearly as we can guess, we make all our "points" represent equal degrees of difficulty. Then we add up the total points each individual (the "case") makes on the test. As regards the more general abilities, psychologists have found

that the total scores fall into a distribution which is roughly normal. Nearly always the cases near the average are more numerous than those at the extremes.

Hence we assume that there is a *theoretical* underlying distribution which *is* normal, that it depends upon some underlying biological variable, and that the irregularities and abnormalities of the *actual* distribution are due to our errors of judgment in making up the test. We then correct, or "calibrate," our test, making some points more difficult, some easier, to earn, so as to make the actual distribution of scores on several hundred cases as nearly normal as possible.

It is customary to assume an underlying normal distribution also in the case of temperamental and attitudinal traits. As regards temperamental traits, probably this is sound. We shall consider the question in relation to attitudes more fully in Chapter XI. In general it may be said that the distributions of personality traits usually show the normal thinning out of cases near the extremes, but that this tendency cannot be certainly regarded as the expression of any simple, universal law of distribution except when the trait in question has a biological basis.

Universe and Sample.—Whenever we measure human traits, we are assuming a universe, that is, an entire population for which our measurements and conclusions are supposed to hold good. We select a sample, that is, a limited number of cases which we actually measure. It is seldom practicable, and usually quite unnecessary, to measure all the cases in the universe. But the sample must be representative. To judge the average weight of college students by weighing the fifty men at football practice would be using a very unrepresentative sample. But if we were measuring skin color, this same sample might be quite representative. If we were measuring intelligence, this sample would be questionable but probably not very far from typical.

A truly representative sample is said to be an unselected or random group, that is, a group which has not been selected out of the universe on any basis which could be related in any way to the traits to be measured. When we wish to find the

average age, or the geographic or religious distribution of the 25,000 persons in *Who's Who in America*, we often take as our sample the first 100, or the first 500, names in the book. This sample is selected alphabetically, but from all other points of view it is a random or unselected sample, for there is no reason to believe that persons whose names begin with A and B tend to differ in any other respect from other persons in the book.

A sample must be adequate as well as representative. Adequacy is a matter of the number of cases in the sample. As a rough rule, 100 cases are quite adequate, regardless of whether the universe contains 500 or 50,000 cases. In the measurement of the height of soldiers, if we measured 100 men picked *at random* (which might be alphabetically), and got an average of, say, 67½ inches, our average would have a *probable error* (P. E.) of 0.15 inches. This means that the chances are fifty-fifty that the true average obtained by measuring the whole universe is within 0.15 inches of this sample average of 67½ inches. The chances are 4½ to 1 that the true value is within twice the probable error (0.30 inches), and 22 to 1 that it is within three times the probable error.

If we used 400 instead of 100 cases in our sample, the probable error would be half as great (*i.e.*, the reliability twice as great). If we used 25 cases, the probable error would be twice as great (*i.e.*, reliability half as much) as with 100 cases. The rule is that reliability increases proportionately to the square root of the number of cases used.

The reason that a very small sample, even if picked at random, is unreliable or inadequate is that any one case may, by the laws of chance, be extreme and not typical. No one would think of estimating the average weight of horses by weighing one horse. Weighing two horses would be just a little less absurd, ten horses roughly suggestive of the truth, 100 horses fairly reliable. According to the mathematical laws of probability, extremes tend to balance when we consider a large number of cases; and the more cases we use, the nearer we are likely to come to the true value we are trying to measure.

Bimodal Distribution—Heterogeneity.—Occasionally, physical or mental variables show a bimodal distribution (see Fig. 25). If, for example, we took a frequency distribution of skin color in a Southern community (measuring color on a scale from the lightest blonde to coal black) we would get a bimodal distribution. There would be a mode representing the typical white person. Whites would vary both lightward and darkward from this mode, but most of them would be near the mode. There would be a second mode representing the typical Negro, from which there would be variations in both directions. But there would be relatively few mulattoes; and the extremely brunet whites and the extremely pale Negroes added together would not be nearly as numerous as the average whites or the average Negroes. Hence there would be a deep "valley" in the middle of the frequency curve.

Whenever we get a bimodal distribution of a trait, we usually conclude that our sample (the group of individuals actually measured) is *heterogeneous*. This means that it is composed of two or more distinct kinds, races, types, species, etc., at least with respect to the trait measured. Each kind, taken by itself, tends to show a normal distribution of the trait, but when the two kinds are thrown together in the same group, the total distribution is concentrated around the two averages but tends to have a valley between.

If we took a distribution of the statures of a mixed population of men and women, we would have a heterogeneous group with respect to stature. The men would cluster around 5′ 7½″, the women about 5′ 4½″. But these two means or modes are so close together that actually no valley would appear between them. The 5′ 6″ men would be fewer than the 5′ 7½″ men, and the 5′ 6″ women would be fewer than the 5′ 4½″ women. But the 5′ 6″ men and the 5′ 6″ women together might still pile up a larger number of cases than exists at any other single point on the curve, and this 5′ 6″ would seem to be a general mode and average for the whole group. But the mathematician could tell quickly that the curve was somewhat flatter on top than a perfectly normal curve, and would conclude that our population was of two types mixed,

rather than a normal variation around one single type. If the averages of the men and women were to become farther apart, sooner or later this heterogeneous sample would become an actual *bimodal* distribution.

In the case of acquired traits, including attitudes, the heterogeneity which may be inferred from a bimodal distribution is not a biological heterogeneity. It may be due to heterogeneity of social or physical environment, or to the *polarizing* influence of social interaction (see Chapter XI).

Correlation.—Now let us see what is meant by the common statement that two traits are correlated. For example, does height go with weight? Of course all individuals have some height and some weight. What we really mean is: do differences in height correspond to differences in weight?

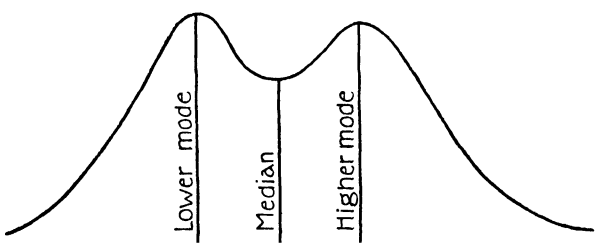


FIG. 25.—BIMODAL DISTRIBUTION

We measure this correspondence by a mathematical *coefficient of correlation*, symbolized as R, which can be anything from + 1.00 to — 1.00. If the tallest man in a group were also the heaviest, the second tallest the second heaviest, and so on down the line till the shortest were the lightest, then we should have a perfect positive correlation, or + 1.00. If the taller men averaged about the same weight as the shorter men, the correlation would be 0.00, and the two traits would be said to be independent or uncorrelated. If, perchance, the tallest man were the lightest, and so on in reverse order, the correlation would be — 1.00, or perfect negative. Actually the correlation between height and weight is positive. It is far from perfect, because some tall men are very thin and some short men are very stout; but, by and large, weight does depend to a large extent on stature.

Matching up variables at random, the normal expectation is zero correlation. The laws of chance tend to produce zero correlation, and when there is no cause at work except chance, zero is the result. Considering all the chance combinations of two variables, zero R's are far more common than positive or negative R's. Suppose the two variables we match up at random are "stature" and "number of letters in name." There is no reason to expect any correlation, and none actually exists. It is not even worth while to try it. We go to the trouble of correlating, an elaborate statistical procedure, only when we have some idea that there may be a relationship between the two variables.

Popular thought tends to expect more correlations than actually exist. The unscientific mind thinks it sees many causes and interrelationships between things which science proves to be absolutely unrelated. For example, the "art" of reading the character of strangers by their faces and heads and physical characteristics has been thoroughly exploded by scientific experiment. Katherine Blackford's theory that blonds are positive, dynamic, aggressive, quick, hopeful, changeable, while brunets are the opposite, was most cruelly debunked by D. G. Paterson and K. E. Lundgate, who had 374 blondes and brunets rated on these traits by judges who knew them well.[1] The supposed difference turned out to be zero. G. U. Cleeton and F. B. Knight found that large craniums, wide foreheads, long, straight noses, prominent anterior regions of the skull, and other supposed indexes of high intelligence showed absolutely no correlation with any kind of intelligence as measured by tests.[2]

The Interpretation of Correlation Coefficients.—In general, correlations between + .20 and — .20 are too small to be significant; they may be due to the mere accidental choice of cases, and are considered as practically zero. Strictly, the significance of a correlation depends on its probable error, which error the statistician always computes when he computes the coefficient. In general, a correlation must be at least three times as great as its probable error in order to be worthy of consideration. A correlation of + .30 with a P. E. of ± .20

[1] "Blond and Brunette Traits," *Jour. Pers. Res.*, vol. i, p. 122 (1922).

[2] "Validity of Character Judgments Based on External Criteria," *Jour. Appl. Psych.*, vol. viii, p. 215 (1924).

means that the true correlation (which would be obtained if we had thousands of cases) has a fifty-fifty chance of being somewhere between + .10 and + .50, and a fifty-fifty chance of being outside those limits. This makes the true value very uncertain; + .30 is a very rough guess which is not scientifically very significant. But an R of + .30 with a P. E. of ± .03 is significant, for it means that the *true* value has a fifty-fifty chance of being between + .27 and + .33. Probable

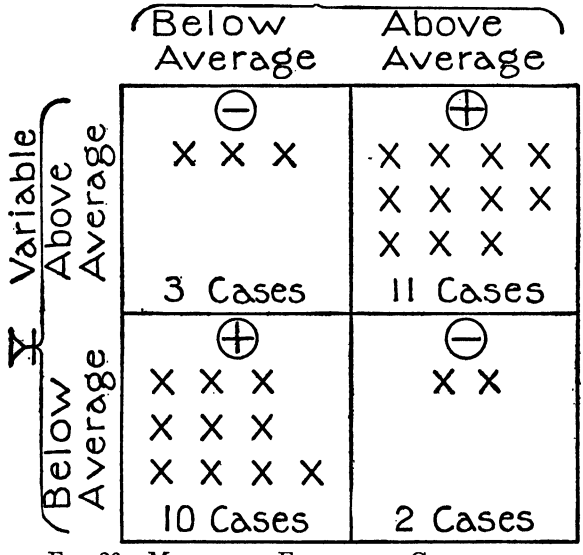


FIG. 26.—METHOD OF ESTIMATING CORRELATION

Here there are 21 cases in the plus quadrants and 5 cases in the minus quadrants, indicating a substantial degree of correlation.

THORNDIKE, E. L., in *Mental and Social Measurements*, Teachers College, 1922, p. 170, gives a formula by which correlation coefficient can be estimated from such data.

error decreases as the number of cases increases; generally one should have at least 30 cases in order to give to an R of + .40 the slightest bit of significance. Most psychological investigators try to test 50 or 100 cases. Correlations between 0 and .30 (either + or —) are called "low," .30 to .50 "moderate," .50 to .70 "marked," .70 to .90 "high," .90 to 1.00 "very close," indicative of "practical identity" between the two variables.

Correlation may be roughly estimated by dividing both variables at the mean or median, and making a fourfold table, as in Fig. 26. Check off each case in the appropriate quadrant, then count the number of cases in each. If the number of cases in the two plus quadrants combined is decidedly greater than the number in the two minus quadrants, as is true in this figure, then a positive correlation exists. If the minus cases are more numerous than the plus, a negative correlation exists. If the two are about equal, the correlation is zero.

The technical term *deviation* is useful. The deviation of any given case is the difference between *its* value and the mean (arithmetic average) of the distribution. Thus, if my stature is 5′10″, and the average stature 5′7½″, my deviation in stature is + 2½″. If your stature is 5′4½″, your deviation is — 3 inches. For purposes of correlation it is sufficient to know the deviations of each case, and unnecessary to know the actual values. Thus, to say that a person scores + 25 on a given extroversion test, by itself means nothing. But to say that his score deviates 18 points above the average score, while the standard ("typical") deviation is 10 points, tells us what we need to know. The + 25 is merely a point on an arbitrary scale. We could just as well call it "— 250.568 1/3" if we changed other values to correspond, and we would still get the same results when correlating with other variables.

Correlation is not *causation.* There is marked correlation between intelligence and scholarship. As far as this statistical fact alone goes, it might indicate that (1) intelligence is the cause of scholarship, or (2) scholarship is the cause of intelligence, or (3) intelligence and scholarship do not affect each other directly, but are both the results of some third factor, such as years of schooling. It is only through *other* kinds of evidence, such as the nature and growth of intelligence and of scholarship, that we are inclined to believe intelligence mainly is cause, and the other two factors results.

Measuring Personality—the Rating Method.—Personality traits are measured by ratings and by tests. In the rating method we assign numerical values or letters (such as A, B, C, D, E) or other symbols (+ +, +, 0, —, — —) to the

various possible degrees of a trait. Then we ask judges to estimate where each subject stands on this scale. Usually we select judges who know the subjects rather well, and we average the estimates made by several judges. Sometimes we ask the subject to rate himself.

Most ratings are notoriously unreliable. On the army rating scales for officers the average correlations between ratings made by one superior and those made by another superior were very low. The writer had a class of 75 college seniors rated on 12 personality traits by 14 judges, selected from among the subjects themselves. The judges knew the subjects well. The *reliability* was tested by correlating the average ratings made by 7 of the judges with the average ratings (for each trait and subject) made by the other 7. This "self-correlation" of cheerfulness was + .74, but the correlation between cheerfulness and "enthusiasm" was + .82. In other words, there was more difference between the first judge-group's idea of cheerfulness and the other group's idea of the same trait, than there was between all the judges' idea of this trait and their idea of a different trait. "Perseverance" as judged by fellow students corresponded closely to "mental activity" as judged by fellow students (correlation + .88), but much less closely to "perseverance" as judged by professors (correlation + .52).[3]

Thorndike has shown that in rating experiments of this sort a general "halo" tends to form about the subjects who seem to stand high in one or more important traits. This means that the judges tend to rate these subjects high in *all* traits which bear any relation to each other, and fail to discriminate carefully between the traits.[4]

Eugene Shen proved that subjects tend to be rated higher on desirable traits by judges who are their friends than by other judges.[5] F. B. Knight showed that acquaintance increases the intercorrelations of traits, making for less analysis

[3] FOLSOM, J. K., "A Statistical Study of Character," *Ped. Sem.*, vol. xxiv, p. 399 (1917).

[4] "A Constant Error in Psychological Ratings," *Jour. Appl. Psych.*, vol. iv, p. 25 (1920).

[5] "Influence of Friendship upon Personal Ratings," *Jour. Appl. Psych.*, vol. ix, p. 66 (1925).

and discrimination between the traits, and also that it makes for higher ratings on desirable characteristics.[6]

G. U. Cleeton had 40 students rated (1) by their fraternity associates and (2) by several strangers accustomed to employing men. (3) He then rated them by taking certain supposedly significant head and face measurements and interpreting these by the rules of a certain commercial scheme of "character analysis." There was no correlation between the commercial analysis and either of the other ratings. The fraternity judges agreed more or less with one another, and the strangers with one another, but the fraternity judges and the strangers showed no correlation.[7] "Character as estimated by first impression" would seem to be no indication whatever of "character as known to one's acquaintances."

H. F. Adams showed that the good judge of others tends to be somewhat anti-social, and the good judge of oneself tends to be more social.[8]

Measuring Personality—the Testing Method.—The second method of measuring personality traits is *testing*. In general, there are two kinds of tests based on (1) language reactions and (2) other overt behavior samples. Thus, for aggressiveness there is (1) a test which asks the subject to say what he would do in certain situations. It is assumed that his reactions to this symbolic situation represent what his behavior would be in the actual situation. This of course is a questionable assumption, but sometimes it provides the only method possible. There is (2) another test of aggressiveness, in which the experimenter counts the number of times the subject averts his eyes from the gaze of the experimenter. Here is an actual, overt behavior sample. In general, the latter tests are considered much better, but they too are open to question. For we are not sure that aggressive behavior of this one sort (keeping a steady gaze) represents aggressive behavior in other situations (such as taking initiative in business).

The *reliability* of a test is the extent to which the different

[6] "The Effect of the Acquaintance Factor upon Personal Judgments," *Jour. Educ. Psych.*, vol. xiv, p. 129 (1923).

[7] "Estimating Human Character," *Sci. Mon.*, vol. xxiii, p. 427 (1926).

[8] "The Good Judge of Personality," *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 172 (1927).

parts of the test measure the same variable. We measure reliability by correlating the scores on any one half of the test with the corresponding scores on the other half. Thus the army "alpha" intelligence test consisted of eight groups of problems. The correlation between the first four and the second four was used as a measure of reliability. If this correlation had been low, it would have meant that the two halves of the test were measuring two partially independent variables, and hence that it was not a test of some single variable like intelligence, but a conglomerate test of two or more independent traits added together. As a matter of fact, the reliability was fairly high—about + .70.

But a test may be very *reliable* without being *valid.* Validity means the extent to which the *whole test* measures the trait it is supposed to measure. The only way to determine this is to correlate the test score with some independent measure of the trait in question. Tests for aggressiveness, for example, have shown a correlation of + .80 with *ratings* of aggressiveness. This means that the variable which the test measures is largely but not perfectly identical with the thing people are thinking of when they judge people to be "aggressive."

The Meaning of Personality "Types."—Popular theory speaks of "types" of personality. What is a type?

Strictly, a type is an average (or mode) about which the cases cluster in a more or less normal distribution. In the white population of our above-mentioned Southern city there are not blond and brunet "types." There is just one type, the typical, average, medium-pigmented white person. The blonds and brunets are merely the two opposite extremes of the distribution around this central type. The farther we go toward extreme blondness or brunetness, the fewer cases we find. Blond and brunet are not types, but merely names for the two extremes, or perhaps two halves, of a *normal variable.* If we wish, we can call the darkest 50 per cent of the cases brunets, the others blonds. Or we can call the darkest 25 per cent brunets, the lightest 25 per cent blonds, the middle 50 per cent neutrals. Or we can pick out any given

degree of pigment and define blonds as people lighter than this degree, brunets as those darker. We can draw the line anywhere we wish. In any case it is an arbitrary line dividing a normal distribution.

But when we mix the white and Negro population, we really have two types. We can speak of the "darkest 25 per cent of the white type" and compare it with the "lightest 25 per cent of the Negro type."

Whenever we claim there are two or more types of cases, we must prove that the group actually is heterogeneous—that the distribution is not normal but has a tendency toward two or more modes. This must be proved statistically. "Types" imply a bimodal or multimodal distribution. There are tall people and short people, but to speak of a tall "type" and a short "type" in the general population is meaningless. Such phraseology may be correct according to the dictionary, but it is scientifically misleading and superfluous. Scientists refuse to use "type" in this sense. If, however, we had a population composed only of Scotchmen and Southern Italians, it would be scientifically correct to say this population was composed of a tall and a short type. There would be a tendency toward bimodal distribution; the intermediates would be fewer than in a normal, homogeneous population.

But "type" is often used to mean something quite different: a group of related traits which correlate with one another so that the possession of one or more of these traits usually implies the possession of the others, even though each trait may be distributed normally rather than bimodally. In this sense there *are* types of personality. One of the most fascinating pursuits of psychology is to discover what "types," in this sense, exist. But to avoid confusion with the bimodal meaning, we shall call these things "general factors," or "fundamental traits," or "underlying variables" of personality.

Influence of Heredity and Environment in Producing Personality Differences.—For physical traits which are known to be hereditary, such as stature, other bodily measurements, and certain health variables, the correlation between parents and offspring has been found usually to be about + .50. We

can correlate parents and offspring in *one* trait just as we correlate two traits in single individuals. We consider each parent-child pair to be a *case*; the measurement of the parent is the one variable, the measurement of the child is the other variable.

Certain personality differences are unquestionably inherited. If they are inherited they may be expected to show a correlation of at least + .40. Low correlation tends to disprove heredity. *But high correlation does not prove heredity.* It may be the result of the family *social heredity,* or training. Ambitious parents communicate their attitudes to their children; disorderly and shiftless parents, in general, tend to lead their offspring into similar habits. Biological heredity can be proved only by carefully controlled observations in which the heredity factor can be separated from all the possible environmental factors. One of the most useful devices is the study of twins, but these studies have been too few and are inconclusive.

H. S. Jennings summarizes the studies on four cases of identical twins reared apart.[9] One of these cases was studied by H. J. Muller and the other three by H. H. Newman.

Thus in two cases the twinship resulted in similar intelligence but in differences in non-intellectual traits. In both of these cases the foster homes and educational careers of the twins had been nearly equivalent. In the other two cases great differences in intelligence were found, but lesser differences in the other traits. In these two cases, foster homes and education had been very unequal. The only thing which heredity was certain to control absolutely was physical characteristics.

A remarkable study is reported from Germany. Johannes Lange studied 30 pairs of twins, in which at least one brother had been in prison. Thirteen were identical, and 17 non-identical pairs. Of the 13 identical pairs, both twins in 10 cases had been in prison at some time, and there was some similarity in the nature of the crimes. Of the 17 non-identical pairs, both twins had been in prison in only two cases.[10] In view of the results obtained on twins reared apart in America, Lange's results seem too much for heredity to bear. We are not told that the twins were reared apart. Hence close personal asso-

[9] *The Biological Bases of Human Nature,* Norton, 1930, pp. 143, 166, 296.
[10] *Verbrechen als Schicksal,* Georg Thieme, Leipzig, 1929.

Case	Physical Characteristics	I. Q.	Temperamental and Emotional Traits
Muller	So similar as to make it practically certain they were monozygotic twins	High and similar	More unlike than 2 individuals picked at random
Newman, A. and O.	Ditto	84.9 and 96.9	Rather similar on Downey test, Strong interest test, and in temperament
Newman, E. and G.	Ditto	65.6 and 77.6	Rather alike
Newman, C. and O.	Ditto	99 and 101	O is much more emotional. Pressey tests reveal large differences

ciation between identical twins might account for their similar behavior.

We await further studies.

Karl Pearson and his Galton school of biometricians in England have failed to find any but low correlations between mental traits and the various environmental variables with which they correlated them. Such environmental variables, for example, used in their studies and others, are "number of rooms in home," "excellence of home discipline as rated by intimate acquaintances," "years of schooling," "amount of alcoholic indulgence," "income," "occupation of father as rated on a quantitative scale," "home conditions as rated," etc. On the other hand, the Galtonians find correlations of + .50 between parents and offspring in many traits. They conclude

that heredity is more influential than environment. Many scientists think this applies to temperamental and attitudinal traits as well as abilities.[11]

But this conclusion is based on an entirely false idea of how environment affects personality. The Galtonians have measured the full influence of heredity, but not the full influence of environment. They cannot do it by expressing environment in such obvious and general variables as "occupational level of father." It is the *specific situations* in the environment which count. These cannot readily be measured statistically.

For example, Watson imagines two boys, walking down the street on either side of their father. In all measurable respects these brothers were brought up in the same environment. They had equal opportunities, the same education. Yet they turn out to be very different personalities. The one develops a well-balanced character, the other becomes a prey to phobias and finally is put into a sanitarium. The geneticist says there must have been a bad mixture of chromosomes in the heredity of the latter. The behaviorist notes, however, that the boy who walked on the inside that day saw the flowers and trees growing in the yards, and the one who walked on the outside saw a child being run over by a truck. In the things that really count the environments of these two brothers were not the same, but different. That one moment may have been enough to undo all the years of good home, good education, opportunity.[12]

A certain woman disliked snow. She explained it by her girlhood experience in northern New England. She was "fed up" on it. Another woman always thrilled at the sight of the first snowfall, and loved the cold winter days with deep snow on the ground. She too explained her attitude by her girlhood in northern New England. Shall we say the same environment produced opposite attitudes? But was it really the same environment? The snow was a common factor but only a part

[11] See PEARSON, K., in *Biometrika*, vol. iii, p. 131 (1904). Evidence is scattered through numerous publications: *Eugenics Laboratory Memoirs, Studies in National Deterioration,* and *Biometrika,* all published in continuous series by the University of London.

[12] See THOMAS, W. I., and D. S., *The Child in America,* Knopf, 1929, p. 505.

of their environments. The differentiating factor may have been that one had had unpleasant experiences with snow, and the other, pleasant experiences. Possibly, of course, there was a difference in physique.

Again, an older and a younger brother, reared in the same family and in the same way, and given the same education, would seem to have the same environment. But the fact that one is older and the other younger makes a difference in their two environments which may be far more important than all the obvious similarities. The younger brother has years of training in adjusting to a companion who is stronger and more competent than himself, the older brother has years of the opposite training.

Opinion now inclines to this view: intelligence differences are due mainly to heredity; temperamental deviations are partly hereditary; but attitude differences are wholly acquired. Attitudes may be acquired, of course, through living with one's parents, but that does not make them hereditary. A hereditary deviation is one which would hold good if at birth the child were separated from his parents.

Individual Versus Group Differences.—Granted that differences in a given trait are produced by environment, the question remains whether the important factor is the general environment one shares with others, or one's unique individual experiences with the environment. This question may be answered by investigating whether the trait is a group trait or an individual trait.

In one man's behavior were noted three rather distinctive traits: an unusual lack of emotional expression in the face, an unusual facility in making compromises, and an unusual interest in the preparation and economy of food. At first these traits seemed merely individual peculiarities, in which he differed from his average male American fellow citizens. Probably this was correct. But when it was learned that he had spent several years in China, the idea arose that these same three traits are more or less characteristic of the Chinese. Were they his individual peculiarities, or possibly typical Chinese traits which he had unconsciously acquired?

It is easy to confuse individual with group differences. One individual may satisfy his desire for adventure largely through travel. Another, brought up in the same cultural group, gets his main adventure from new material possessions, clothes, ornaments, books, household furnishings, or what not. These are individual differences.

But there are also group personality differences. The traveler notes talkative Italians versus reserved Englishmen; abrupt-spoken but efficiently helpful Northerners versus smooth-spoken, courteous, less efficient Southerners. We shall discuss these more fully in Chapter XI.

Group personality differences are not only those of geography, but also of male versus female, adults versus children, business class versus working class or farmer class, and these differences change with the times. Women, in general, may be more petty, jealous, gossipy than men, but among "modern" independent women these traits are less marked, and the differences may pass away altogether.

Misconceptions Regarding Group Differences.—Group differences in personality are greatly misunderstood by the layman. In the first place, they are differences between *averages*, and always involve a large overlap. *Some* Irishmen are more thrifty than *some* Scotchmen. In the second place, group differences can rarely be demonstrated to be *temperamental*. Usually they are differences in *attitudes*. They are differences in the pattern rather than the underlying quality of behavior. Russians are believed by us to be more cruel than Americans. But there is evidence for this only as regards physical cruelty in certain situations, such as the beating of wives and prisoners and the treatment of political adversaries. There is reason to suspect that in tolerance and respect for a fellow man's personality the Russians are more sympathetic than we. Their literature, at least, so suggests. The Chinese are said to be very honest and also very dishonest. Their business men abide by a strict code; but they complacently tolerate petty larceny by workmen and servants, they tolerate beggars, thieves and bandits, and they take graft and bribery as

a matter of course. This is no paradox, no inconsistency; it is simply a different pattern of attitudes.

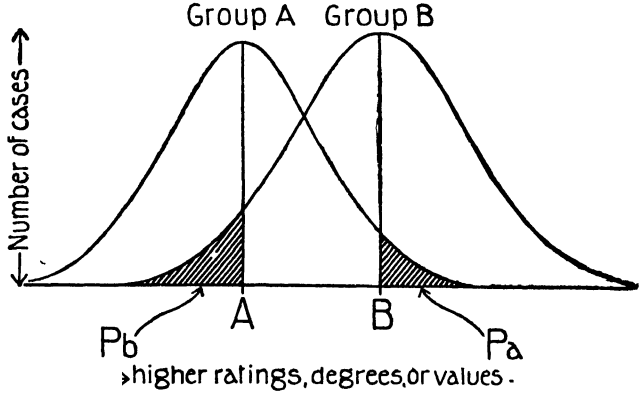


FIG. 27.—OVERLAPPING FREQUENCY DISTRIBUTIONS

Although the average value of B is higher than that of A, yet a certain proportion (Pa) of the A cases are higher than the B average, and of B cases (Pb) lower than the A average.

INTELLIGENCE

General Intelligence Probably Hereditary.—Psychology has more or less definitely isolated and measured one general factor of personality. This is general intelligence. By weight of evidence it is inborn and unchangeable. It is neither attitude nor temperament, but depends rather on the number or some quality of the neurons in the brain.

Psychologists' belief in the hereditary character of intelligence is not based on the mere fact that the more intelligent parents have the more intelligent children. Social heredity might explain that. Their belief arises from this fact, coupled with the additional fact that intelligence is generally not increased by experience (after maturity is once reached) or by any kind of training or environment. Forty-year-olds average no higher on the tests than twenty-year-olds of the same occupation or social class. No amount of training has ever brought a moron up to average intelligence.

Absolute intelligence is measured by various tests, and to reduce all the various test scores to a common denominator

we translate them into *mental age* on the Binet scale. The Binet tests are so calibrated that the average mental age of all six-year-old children, for example, is six years. But after the age of about fourteen, mental age does not increase. Adults, on the average, as shown by army tests, have a mental age of about 13.8 years. In comparing the intelligence of children, we use the intelligence quotient (I. Q.) which is equal to mental age divided by chronological age. The I. Q. theoretically remains constant throughout life. Thus a seven-year-old child who has a mental age of six will at fourteen have a mental age of twelve, and throughout life his I. Q. will be $\frac{6}{7}$, or about .86. Children increase in absolute intelligence but not in I. Q. as they grow older; after early adolescence there is no increase either in I. Q. or in absolute intelligence. About 4 per cent of the American population has an I. Q. below 70.

In a few studies slight actual increases of average I. Q. have been found in children who were placed in improved environments, as against no change in the control groups of children whose environment was not improved. But other similar studies reverse even these slender findings. Barbara Burks found a correlation of children's I. Q. with that of their own parents to be + .50; with that of their foster parents, + .20. She expresses the general belief fairly well when she concludes that about 75 or 80 per cent of I. Q. variance is due to innate and heritable causes.[13]

When children have been retested after a number of years, they have been found to be essentially the same in I. Q. as before despite increased training and experience. Florence Teagarden[14] put two children in a greatly improved environment for six years, but their intelligence remained the same.

[13] These and similar researches are well summarized, with references in THOMAS, W. I., and D. S., *op. cit.*, chap. viii.

[14] These items compiled from GESELL, ARNOLD, *Mental Growth of the Preschool Child,* Macmillan, 1925, and the Stanford Binet intelligence tests, for which see TERMAN, LEWIS M., *The Measurement of Intelligence,* Houghton Mifflin, 1916.

The question is still unsettled, and there is a growing tendency to doubt that the tests measure the pure hereditary factor alone.

The Growth of the Child in Intelligence.—In the following outline we see what the average normal child, according to the best American observations, is able to do at each age.[14]

1 Day

Coughs, sneezes, yawns
Reacts to contact stimuli

1 Week

Lifts head when prone
Purses lips on contact with breast
Stretches
First tears appear
Puts object to mouth
Cries when wet, hungry, sleepy

2 Weeks

Fixes eyes on object
Is quieted by picking up

1 Month

First vocalization
Attention to voice and music

2 Months

First smile
Recognition reaction to mother or bottle

3 Months

Socially stimulated smile
Turns in direction of a sound

4 Months

Holds head erect
Scratches feebly
Lies still
Is easily distracted
Splashes in bath and shows pleasure reaction
Begins selective attention to face

6 Months

Turns from back to stomach
Crumples paper
Bangs with spoon and puts it in mouth
Tries to sit up
Tries to crawl
Pulls and reaches
Babbles
Grasps with both hands

9 Months

Says mama, dada, or equivalent syllables
Sits alone
Creeps
Stepping movements
Reaches with one hand, and persistently
Waves bye-bye
Pulls hair
Plays with spoon and cup, not merely bangs

1 Year

Walks
Climbing movements
About five words
Puts spoon in cup
Tries to put on shoes
Inhibits when forbidden
Looks out window; watches things; examines doll
Plays "pat-a-cake"
Scribbles imitatively
Piles two blocks

18 Months

Knows where he wants to go
Tries to turn knob
Scribbles spontaneously
About ten words
Piles five blocks
Plays with doll
Picks up cup by handle
Points to parts of body

Chatters
Can begin to feed self and drink from cup alone

2 Years

Tells name
Asks for things by name
Tells experiences
Uses sentence
Uses fork, spoon, cup
Imitative play
"Shows it to mamma"
Can blow nose, brush teeth
Obeys two prepositions (up, under, behind, etc.)

3 Years

Uses plurals, pronouns, past tense
Turns knob and opens door
Asks questions
Draws straggling strokes to imitate men
Begins pretense—pretends to drink from cup
Can be trusted with breakables
Uses names of colors but cannot identify them
Builds bridge from model
Repeats six or seven syllables

4 Years

Dresses self completely except to tie shoes
Comprehends "two"
Counts four pennies
Comprehends and answers "What must you do when you are sleepy, (also cold, hungry)?"
Repeats four digits
Repeats sentence of twelve syllables

5 Years

Identifies four colors
Draws a man
Performs three commissions in order (put keys on chair, bring box, shut door)
Tells age
Crosses street alone
Puts toys away in box

6 Years

Knows four kinds of coins
Repeats sentences of 16-18 syllables
Counts thirteen pennies
Knows right and left

7 Years

Repeats five digits forward, three backward
Ties bow-knot
Gives simple differences (ex. between fly and butterfly)
Names days of week

8 Years

Counts backward from 20 to 0 in 40 seconds
Gives similarities (How are wood and coal alike?)
Defines balloon, tiger, etc., "superior to use"

9 Years

Gives date within three days
Repeats four digits backward
Gives sentence containing three simple given words
Makes change for twelve cents out of fifteen cents, and similar problems

10 Years

Repeats six digits
Sees through simple absurdities (more cars on train, faster can go)
Gives sixty words in free continuous association, in three minutes

12 Years

Defines abstract words, such as pity, revenge, justice
Sees "lesson" of common fables
Repeats five digits backward
Gives similarity of three things, such as snake, cow, sparrow

14 Years, actual average adult

Tells two differences between President and King
Tells what time it would be if hands were interchanged
Repeats seven digits

16 Years

Repeats six digits backward
Comprehends physical relations (path of cannon ball, weight of fish in water, etc.)
Contrasts abstract words, such as laziness and idleness

Superior adult
Repeats seven digits backward
Solves quart measure problems mentally

Group Differences in Intelligence.—In general, the children of the superior social classes test about 7 points above, and inferior classes 7 points below, the median I. Q. of all children. By the age of 14 years, 7 points amount to a difference of one year of mental age. Twenty-nine per cent of the fathers of gifted children (high I. Q.) are professional men, while only 3 per cent of the general population are professional men or members of their families.

General intelligence is certainly greater, on the average, in the business and professional classes than in the working and farmer classes. The army mental tests put engineers, chaplains, medical officers and accountants at the upper end of the scale; most skilled craftsmen at the middle; laborers, tailors, cobblers, miners, teamsters, and farmers near the bottom. But there was always a large overlap. For example, the highest one-fourth of the farmers exceeded the lowest one-fourth of the clerks and bookkeepers.

Native intelligence varies greatly between peoples and races. In the American population, native Americans, northwest Europeans, and Jews are on about the same level, 100 I. Q. They are practically equaled also by such Japanese and Chinese as have been tested. Mexicans, Southern Negroes, and American Indians average between 70 and 80 I. Q. Southeast Europeans, immigrants and their children usually test low (80 to 95 I. Q.). This does not prove that the people of southeastern Europe are inferior. It may prove that their immigrants who come to us are a poor selection of the peoples from which they come.[15]

But the differences between the native American stocks from various parts of the United States are almost as great as these differences between Americans and the lowest-stand-

[15] Useful summary by GARTH, T. R., "A Review of Race Psychology," *Psych. Bull.*, vol. xxvii, pp. 329-356 (1930), also vol. xxii, p. 343 (1925). See also KIRKPATRICK, C., *Intelligence and Immigration,* Williams and Wilkins, 1926.

ing immigrants. Some sections of the Appalachians and other regions in the South yielded a class of white Anglo-Saxon men who, on the average, stood lower on the army tests than Northern Negroes.

Temperamental and General Attitudinal Traits

Inventories of Human Traits.—The temperamental and attitudinal traits in which personalities differ are too numerous to mention. One student found some 800 adjectives which are used to describe different phases of personality. By adding "—ness" to each of these adjectives we could denote 800 variables or dimensions on which any given individual could theoretically be rated or measured. Milton Fairchild of the Character Education Institution believes that all character traits can be summarized by about 83 different terms. He groups them under intellectual character, working character, personal character, social character, emotional character, physical character. For illustration here is his list of "social character" traits.[16]

Social Character, Needed for Doing Right by Others

faithful, not disregardful of obligations
helpful, not self-centred
law and public opinion (regardful of), not on the off side
loyal, not treacherous
trustful toward others, not suspicious
just, not unfair
honest, not thieving nor disposed to cheat
honorable, not sneaking
pure, not lewd
rights of others (mindful of), not overbearing
truthful, not given to lying and deceiving
sociable, not exclusive nor snobbish
congenial, not repulsive
courteous, not rude
genuine, not affected
harmonious, not wrangling
patient, not irritable

[16] Chart, "The Characteristics of Human Beings," published by the Character Education Institution, 3770 McKinley St., Washington, D. C.

respectful, not impudent nor flippant
tactful, not brusque nor priggish

Some Fallacies in Trait Inventories.—This kind of analysis is typical of the older psychology. It has several fallacies:

(1) It assumes that human personality can be described by single adjectives, if one uses enough of them and chooses them with sufficient care.

(2) It implies that each well chosen adjective stands for some definite quality of personality, which can be more or less isolated from other qualities. But these adjectives stand for large overlapping areas rather than precise subdivisions of the territory of human behavior. What, for example, is the distinction between "honest" and "honorable," "earnest" and "genuine," "magnanimous" and "generous," "prudent" and "thoughtful," "persistent" and "determined," "poised" and "self-controlled"? Of course they are merely differences of emphasis—literary rather than scientific distinctions. To be sure, one can make a list of trait adjectives, as J. McKeen Cattell did, with less overlapping, but even the best adjectives are vague.

(3) Even if these objections could be met by a more precise definition of terms, there still remains the more fundamental fallacy that personality consists of "qualities." A quality is something general which diffuses through the whole. Personality is composed rather of behavior *patterns*. These patterns are groups of specific S—R's arranged in certain ways. An individual may have great self-control over his emotional expressions but poor control over his writing habits or spending habits. A man may be very faithful to his friends but unfaithful in his business duties.

(4) It mixes descriptive traits with "virtues." Loyalty, honesty, honor, truthfulness, purity, reverence, patriotism, generosity are virtues. They are ideals or standards of behavior, used for social control. They are very complex. As Gordon Allport remarks, they are linguistic or social generalizations rather than neurological or physiological generaliza-

tions.[17] Experiments as well as everyday observations have proved that a man may be very honest in one kind of situation and dishonest in another. Only in his ideals, seldom in actuality, does anyone stand consistently high or consistently low in any one of these virtues.

On the other hand, cheerfulness, aggressiveness, talkativeness, activity, irritability, are terms which *describe* rather than praise or condemn. They stand for things which may *possibly* be general or consistent in an individual's behavior.

(5) Some trait words, such as cheerful, talkative, active, sullen, timid, describe *reactions*. Other words, such as ambitious, greedy, suspicious, condescending, reverent, describe *situations* rather than reactions. "Greed," for example, as a reaction is not different from "eagerness." Greed means eagerness *in certain situations*, such as "limited food or money available, potential competition for it." "Suspicion," as a reaction, is not different from "prudence." The difference lies in the situation in which the reaction takes place.

General Factors—Temperamental and Attitudinal.—Despite the glaring inconsistencies we find in human behavior, research has revealed certain traits which seem to be more or less generalized and fundamental. There really are some traits in which we can say that an individual is more likely to be consistently high or consistently low than utterly inconsistent. Personality research aims to discover, define, and measure these general underlying factors. Its progress is made difficult by two causes. First is the language difficulty, already mentioned. We are prone to accept language at its face value. Language, indeed, is a product of classification and generalization. The word "neatness," for example, is a short-hand symbol for many specific observations of human behavior under different conditions. That our language has classified these many observations under the one general symbol "neatness," is no proof that "neatness" stands for anything which is inherently general and fundamental in the nervous system, glands, or muscles. It is no proof that "neatness" in dress causes, or results from, or implies in any way neatness in

[17] *Amer. Jour. Sociology*, vol. xxxv, p. 222 (1929).

letter-writing or bookkeeping. Neatness may or may not be a "confact," in Symonds' terms.[18]

The second difficulty lies in the fact that when we do discover a trait which is general in reality and not merely in language, our view of the underlying trait is obscured by many specific and incidental variations with which it is overlaid. One boy seemed to be fundamentally and generally below average in aggressiveness and leadership. Yet he was an expert boatsman, and in all situations about the water his companions took orders from him. An observer who watched him largely in aquatic situations would have been much misled in judging his underlying personality.

A general factor of personality may be temperamental or attitudinal. From the standpoint of training and prediction, which of these kinds a given trait is makes an important difference. Yet in the present state of our knowledge we can seldom be certain. A temperamental trait is due to the general physiology: to gland secretions, blood constituents, to some general quality of nervous or muscular tissues. It influences behavior in most or all situations, and that influence is of a chemical or mechanical character. An attitude, as we know, is a key reaction to a particular situation. There seem to be certain attitudes, quite independent of temperament, which hold good throughout large classes of situations: *general attitudes.* These are fewer, more limited, less general, than most people suppose, but they exist.

Suppose we find, for example, positive intercorrelations between interests in several different outdoor occupations and recreations. This would be interpreted by many persons as meaning that there is a general outdoor temperament and possibly a general indoor temperament. But the only thing indicated by the statistics is that there is some general key factor. This general factor need not be one of temperament; it may be one purely of attitude. That is, persons who practice and enjoy one outdoor activity are more likely to come in contact with other outdoor activities than are those who usually remain indoors. Or their pleasant emotions may become con-

[18] *Jour. Educ. Psych.*, vol. xv, p. 484 (1924).

ditioned to the "outdoorness" of the situation, and this may in turn condition new activities carried on in the open. The trait correlation is thus due to a correlation which exists in external circumstances rather than in the nervous system. It is accounted for by the same principle which explains why persons unusually fond of hunting are also unusually fond of dogs. An attitude, as already noted, is the *key* to one's reactions to a *particular situation.* It may carry over to other situations which have some important element in common. But it never can be generalized in the same way as temperament. Attitudes generalize themselves neurally by conditioning to partly similar situations; temperament is general in the beginning, because it is carried by the blood-stream or some other all-pervasive agency.

We shall confine our discussion to those general traits which seem important.

Extroversion-Introversion.—There seems to be an underlying trait called *extroversion-introversion.* We have defined this already in Chapter V. Many studies of personality, made from very different points of view, seem to lead in this same general direction.

There are three main definitions of extroversion-introversion: (1) outwardly versus inwardly directed attention, (2) ease of adaptation, especially to the social environment, versus difficult adaptation, and (3) a high proportion of overt behavior versus a high proportion of covert behavior. The Freudians in general describe introversion as a turning inward of the libido and extroversion as a turning outward. Max Freyd defines introversion as an exaggeration of the thought processes in relation to directly observable social behavior, with a tendency to withdraw from social contacts. W. A. White regards it as a regression to earlier forms of thinking, Kempf as a tendency to affective dissociation. Some writers emphasize the fact that extroverts are suggestible, introverts negativistic or non-suggestible; others, that extroverts are more sociable and introverts unsociable. June Downey says that the extrovert is not necessarily one whose attention is directed

TYPES AND CLASSIFICATIONS OF PERSONALITY WHICH DESCRIPTIVELY RESEMBLE EXTROVERSION-INTROVERSION[19]

Jung	Extrovert	Introvert
James	Tough-minded	Tender-minded
Ostwald	Romantic	Classic
Webb, Lankes, Müller	Non-perseverating	Perseverating
Cullen	Adaptable	Interfering
Folsom and others	Relatively high standing in sociability traits, low in perseverance and meditative traits	The opposite
Hoch and Jung		Artistic temperament
Jelliffe	Cyclothymic temperament	
Ribot	Hysteric temperament	
Edman	"Pagan"	"Puritan"
Psychiatrists	Suggestible	Negativistic
O. Gross and Heymans	Low secondary function or broad, flat consciousness with presence of mind	High secondary function, profoundness or narrow deep consciousness
Wernicke		Sejunctive type

outwardly, but one who is dominated by social meanings and whose expression is immediate, while the introvert expresses himself rather in imagination.[20]

The Measurement of Extroversion-Introversion.—Four kinds of tests have been devised.

(1) The questionnaire tests of Freyd, Laird, Miss Heid-

[19] For a summary, see GUILFORD, J. P., and BRALEY, K. W., "Extroversion and Introversion," *Psych. Bull.*, vol. xxvii, pp. 96-107 (1930), and WEBB, E., "Character and Intelligence," *Brit. Jour. Psych.*, Monograph supplement vol. i, no. iii (1915).

[20] FREYD, M., "Introverts and Extroverts," *Psych. Rev.*, vol. xxxi, p. 74 (1924).

breder, Conklin, Neymann and Kohlstedt, and others.[21] The subject answers yes or no, or bases his answer on some scale of more or less. Each answer is scored so much for introversion or extroversion, and the total score on some 50 questions then indicates where the individual stands among his fellows. One of the most convenient tests is that of Neymann and Kohlstedt. This consists of 50 questions, each allowing a yes or no answer, such as: "Do you like to be by yourself a great deal?" "Do you like to confide in others?" The possible score ranges from + 50 (extreme extroversion) to — 50 (extreme introversion). The test was tried on a group of mental patients. With only 7 per cent exception, the manic-depressive patients tested extrovert (centering about + 25), and the schizophrenic (dementia præcox) cases introvert (centering about — 18). These results are very significant. If a test correlates so well with definitely known types of mental disease, it should reveal really fundamental trends in normal subjects.

Neymann and Kohlstedt found bimodal distributions of their test scores among 300 college students and among 300 tuberculosis patients.[22] However, the writer, applying this test to 80 college girls, found no distinct bimodality. A bimodal curve tends to indicate that there is really an extrovert and an introvert type, according to our first definition of type.

Another important test is based on Freyd's 54 characteristics. These have been made into a standard test by Laird (Colgate Personal Inventory, form C2), and used by Miss Heidbreder, Campbell, Guthrie, Elwood, and others.[23] The questions are of the same general character as those used by Neymann and Kohlstedt, some of them being practically identical. But they permit answers along a graded scale, not merely

[21] THOMAS, W. I., and D. S., *op. cit.*, chap. ix; NEYMANN, C. A., and KOHLSTEDT, K. D., "A New Diagnostic Test for Introversion-Extroversion," *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 482 (1929).

[22] "The Relation of Extroversion-Introversion to Intelligence and Tuberculosis," *Amer. Jour. Psychiatry,* vol. ix., p. 46 (1930).

[23] LAIRD, D., "How Personalities Are Found in Industry," *Ind. Psych.*, vol. i, p. 654 (1926); "Detecting Abnormal Behavior," *Jour. Abn. Psych. and Soc. Psych.*, vol. xx, p. 128 (1925); HEIDBREDER, E., "Measuring Introversion and Extroversion," *ibid.*, vol. xxi, p. 120 (1926); see also *ibid.*, vol. xxii, p. 52 (1927); FREYD, M., "Personalities of the Socially and Mechanically Inclined," *Psych. Monographs,* vol. xxxiii, no. 4, whole no. 151 (1924).

"yes" or "no." Miss Heidbreder found the distribution of cases to be normal rather than bimodal. She and R. H. Whitman found the sexes to average about the same, while Laird gives results showing women more introvert (median 15.4 points, men 10.0 points, high scores in this test meaning introversion). The reliability of this test is + .90.

R. H. Whitman has worked out a "Short Scale for Measuring Extroversion-Introversion," which correlates + .81 with the longer Laird test, and + .58 with a composite of 2 ratings. It contains only 10 questions.[24]

Katherine Campbell applied the Freyd trait list to 27 insane cases. The dementia præcox and paranoid cases were on the introvert side of the scale, the paretics and manic-depressives decidedly on the extrovert. The cases were too few, however, for final generalization.[25] According to Elwood's results with the Laird test, the average nurse tests more extrovert than 94 per cent of college girls. The medians were 11 and 18 respectively. Nurses, compared with college girls, remember details better, move more quickly, prefer to work with others, are less radical, less attentive to personal appearance, do less daydreaming, are less self-conscious, less reserved about their acquaintances, less moody, less inclined to blush.[26]

Hubbard found engineering students introvert, law students extrovert.[27]

E. S. Conklin has a similar test based on attitudes toward occupations and recreations. He found women to average 1062, men 75.3 (high scores mean introversion). Students majoring in journalism and English tested introvert. Students of business, life insurance, physical education tested extrovert, as did salesmen. The reliability of his test is + .92.[28]

(2) Word-association tests of the type devised by Jung have been thought to measure introversion. The so-called *predicate type* of response, in which the subject gives an attitude, or personal opinion of quality or value (such as "bread-good,"

[24] *Jour. Appl. Psych.*, vol. xiii, p. 499 (1929).

[25] *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 479 (1929).

[26] *Jour. Appl. Psych.*, vol. xi, p. 199 (1927). Of course culture might explain most of these differences, as will be shown later.

[27] *Jour. Educ. Psych.*, vol. xvii, p. 617 (1926).

[28] "Determination of Normal Extravert-Introvert Differences," *Ped. Sem.*, vol. xxxiv, p. 28 (1927).

rather than "bread-butter"), is supposed to indicate introversion. This, however, has not been statistically proved. Guthrie assumed that extroverts would give the more common types of response, introverts the more unusual responses (*i.e.*, test high in "idiosyncrasy"). He found, however, no correlation between idiosyncrasy of response and introversion as measured by the Laird test.[29]

M. F. Washburn found that extroverts tend to show relatively more extreme emotional reactions to nonsense syllables.[30]

(3) Lee Travis devised a test of very different character.[31] He determined the auditory thresholds (the intensity of sound which one can just barely hear) of his subjects. He did this by having them press a key whenever they heard a certain tone in a receiver placed over the ears. He then turned out the lights and asked them to relax and daydream while gazing into a large crystal, illuminated by a blue light underneath. While they were thus occupied they were also to press the key whenever they heard tones. Among his subjects were psychoneurotics (some definitely diagnosed as hysteric), dementia præcox cases, and normal persons.

This very significant result occurred: all the psychoneurotics had their thresholds lowered by the crystal-gazing (*i.e.*, could hear fainter tones than before), 21 out of 24 dementia præcox cases had their thresholds raised (could not hear as faint tones as before). With the three exceptions there had been some doubt about the diagnosis of dementia præcox. Of the normal persons, all who showed raised thresholds were agreed upon, by judges who knew them well, as being of "negativistic, inaccessible, seclusive" personality. Four out of the six normals with lowered thresholds were judged "suggestible, accessible, sociable." The normals showed less change of threshold than the abnormals.

Roland C. Travis performed a similar experiment with visual thresholds, using a light which could be made dimmer

[29] *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 82 (1927).

[30] "Reaction Time, Flicker, and Affective Sensitiveness as Tests of Extroversion-Introversion," *Amer. Jour. Psych.*, vol. xlii, pp. 412-413 (1930).

[31] "Suggestibility and Negativism as Measured by Auditory Threshold During Reverie," *Jour. Abn. Psych. and Soc. Psych.*, vol. xviii, p. 354 (1924). See also *ibid.*, vol. xix, p. 283 (1924).

and dimmer till it could be seen by no one. His results showed a less perfect but significant correlation. Fourteen out of twenty schizophrenic cases showed raised thresholds, seventeen out of twenty psychoneurotics lowered their thresholds.[32]

There seems to be something fundamental in this extroversion-introversion. For hysteria and schizophrenia long have been recognized as two definite patterns of abnormal behavior, which stand at opposite extremes of a scale. Here we find a question-and-answer test, such as the Neymann-Kohlstedt, and a non-verbal, sensory test, such as this crystal-gazing experiment, both of which draw clear-cut lines between these two types of cases.

G. W. T. H. Fleming found that chemical students are relatively more inclined toward schizoid insanities, shopkeepers and managers more toward syntonic (extrovert) insanities.[33]

Neither extrovert nor introvert is more "normal" than the other. Abnormal behavior, mental diseases, occur all along the scale from extreme extroversion to extreme introversion. Some findings suggest that the ambivert is more apt to be normal; the extreme extroverts and introverts, to develop disorders. But this is not certain. In general, the various types of disorder seem to group themselves as follows:

Extrovert!	*Extrovert?*	*Introvert?*	*Introvert!*
Hysteria	Paresis	Psychasthenia	Schizophrenia (dementia præcox, including catatonia)
Manic depressive insanity		Neurasthenia	
		Epilepsy	Paranoia

(4) Still a fourth kind of test was devised by Leslie Marston.[34] He used it on children from 23 to 71 months of age. It consists of four parts: (a) social resistance is measured by the manner and speed of the child's approach to the experimenter

[32] "Diagnosis of Character Types by Visual and Auditory Thresholds," *Psych. Mon.*, vol. xxxvi, no. 2, p. 18 (1926).

[33] *Jour. Ment. Sci.*, vol. lxxiii, p. 233 (1927).

[34] "Emotions of Young Children," *University of Iowa Studies: Studies in Child Welfare*, vol. iii, no. 3, p. 1 (1925).

who displays a toy. The introvert is supposedly slow and hesitating in his approach. (b) Compliance is measured by the child's reactions when it is suggested to him to open a box with complicated fastenings, containing toy ducks. Moderate compliance is regarded as an introvert trait, but complete noncoöperation is regarded as extreme introversion. The extrovert shows interest, but is impatient with the fastenings. (c) Interest reactions in a museum are observed. Supposedly, the extrovert walks far, stops often, shows a keen but shifting interest; while the introvert walks far and shows no interest, or remains a long time looking at one exhibit, or refuses to move spontaneously, or refuses altogether to coöperate. (d) Self-assertion is measured by asking the child to choose one of three toys and then giving him one he does not choose. The introvert supposedly fails to ask for another toy, or refuses to coöperate. The extrovert soon demands the preferred toy. Assuming introversion-extroversion to be indicated by the supposed reactions, and scoring the tests accordingly, each test shows a high correlation with each of the others. Each of the four component traits shows a correlation of around 50 with a rating, by judges, on that trait.

The Consistency and Nature of Extroversion-Introversion.—There is great need for studies which correlate these various tests. E. R. Guthrie tested a number of students (1) on the Colgate introversion test, (2) for idiosyncrasy of reactions to a word association test, (3) on the extent of their campus information, and (4) on their ability to rank their instructors as the average student ranks them.

No correlations were found between any of these tests. But there was no great reason to expect any correlation. It has not been seriously claimed that introversion implies unusual word associations. Again, while the extrovert might be expected, because of his sociability, to share current information and the group attitudes toward instructors, better than does the introvert, yet the introvert may, in the long run, get these things just as well through reading, or through his more occasional but perhaps more concentrated attention to what he hears about him. Campus information correlated + .40 with

general intelligence, but not with introversion as per the Colgate test.[35]

H. B. Hovey found correlations as follows:

Conklin and Laird tests	+ .27
Conklin and Freyd-Heidbreder	+ .39
Laird and Freyd-Heidbreder	+ .42

He also found no correlation between extroversion and distractibility.[36]

M. E. Broom and others have found that introversion (per Laird test) correlates with scholarship (Broom .26) but not with intelligence. It is claimed that introverted students of somewhat below average intelligence make better grades than extroverts of somewhat over average intelligence.[37]

At Sweet Briar College the 80 seniors showed no significant correlation between extroversion (per Neymann-Kohlstedt) and campus leadership, as might have been expected from the supposed social tendencies of extroversion. In fact, four out of the six highest in campus activity "points" were introverts.

F. H. Steen and E. C. Huntington found no relation between extroversion, intelligence, or psychoneurotic traits on the one hand, and the tendency to prefer team sports or individual sports on the other.[38]

T. M. Newcomb observed boys' behavior at camp. He found that the various behavior patterns supposed to indicate introversion or extroversion were correlated no more closely than these traits were correlated with other irrelevant traits. There was no trait consistency.[39]

McDougall holds that introversion-extroversion is a fundamental property of the nervous system, that it is a temperamental trait, probably based on chemical conditions. He notes that alcohol causes one's behavior to become more extroverted; that morphine, strychnine, tea, and coffee tend to produce introversion.[40]

[35] "Measuring Introversion and Extroversion," *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 82 (1927).

[36] *Jour. Genetic Psych.*, vol. xxxvi, p. 319 (1929).

[37] *Jour. Juvenile Research*, vol. xiii, p. 104 (1929).

[38] *Amer. Physical Educ. Rev.*, vol. xxxiv, p. 216 (1929).

[39] "The Consistency of Certain Extrovert-Introvert Behavior Patterns in 51 Problem Boys," *Teachers College Contributions to Education*, no. 382 (1929).

[40] *Outline of Abnormal Psychology*, Scribner's, 1926, pp. 442 ff. See also "The Chemical Theory of Temperament Applied to Introversion and Extroversion," *Jour. Abnormal and Social Psych.*, vol. xxiv, pp. 293-309 (1929).

Others think that introversion-extroversion may be merely a very general attitude trait, one which functions in so many specific situations that it becomes an important key to personality. If this be true, the trait can be determined by early experiences and perhaps greatly changed by later training. If it be temperamental, on the other hand, it can be changed only by feeding, drugs, health, or other things which change the body chemistry; or again, it may be rigidly fixed by heredity.

It may well be that the question is one of definition rather than of fact. Certainly there is a general chemical condition which produces many of the symptoms which are called extrovertive: suggestibility, responsiveness to the social surroundings, easily shifting and outwardly directed attention, lack of profound and logical thinking, lack of inhibitions upon outward expression—such a condition as is produced by alcohol. It seems reasonable to believe it might be produced also by other chemical conditions self-generated within the body, as McDougall holds. Such a condition, whatever its cause, might be called *temperamental* or *chemical extroversion.* It probably varies in degree, as between persons, and also from time to time within the same person. Again, some or all of these same symptoms might become habits, either as a result of unusual frequency of the chemical extrovert condition, or from other causes. As habitual attitudes they might continue to function even when the chemical condition was not favorable to extroversion. And so it might happen that some of the persons who test high in extroversion are extroverts mainly by temperament, and others are extroverts mainly through acquired attitude. The test may be measuring the algebraic sum of these two kinds of extroversion.

We need to know whether suggestibility as measured by tests correlates with extroversion. Suggestibility, as inferred from the subject's answers to questions and as rated by judges, does correlate with other supposed indices of extroversion. And we know, furthermore, that hysterics and manic-depressive patients, who are definitely suggestible as defined by the

psychiatrist, test extrovert on question tests. But we have no certainly valid *tests* of general suggestibility.

Miss Otis has found that with children there is a *general* trait of resistance to suggestion, showing itself in several different kinds of situations (with correlations +.45 to +.74). This resistance correlates +.66 with age, but the kind of "suggestibility" involved in extroversion is something which, theoretically, should be more or less constant in the personality, independent of age.[41]

W. W. Brown tried several tests of suggestibility upon a group of students. He found that the various tests had very low correlations with each other, and failed to demonstrate any general factor. According to his tests, women were more easily misled than men by written directions giving rise to false anticipations, and by statements about the alleged "usual course of most persons."[42]

P. C. Young found light-colored Negroes 19.7 per cent more intelligent than the black, but yet equally suggestible according to the Binet suggestibility tests. He suggests that suggestibility, therefore, is probably due to environment.[43]

Bodily Form and Extroversion-Introversion.—There have been some important discoveries of correlations between bodily form and fundamental behavior. Kretschmer classifies people as asthenic, athletic, and pyknic.[44] The asthenic "type" is slender, has an angular profile, is poor in blood and secretions. The athletic "type" has a strong development of the skeleton, muscles and skin, has wide shoulders and a large chest. The pyknic "type" has a rounded figure, a soft, broad face, vaulted chest, high rounded shoulders, soft rounded limbs, broad hands, a large development of the head, breast, and stomach. Then there are various *dysplastic* or mixed "types." Kretschmer has not proved a bimodal distribution for any one of the bodily measurements he considers; but he believes, from his observations, that certain characteristics go

[41] Suggestibility in Children," *Arch. Psych.*, no. 70 (1924).

[42] "Individual and Sex Differences in Suggestibility," *University of California Publications*, vol. ii, p. 425 (1916).

[43] "Intelligence and Suggestibility in Whites and Negroes," *Jour. Comparative Psych.*, vol. ix, p. 359 (1929).

[44] *Physique and Character*, Harcourt, Brace, 1925.

together, such as broad face and tendency to fat. What he has, therefore, is *classes*, not types.

Here is the significant point. He classified a few hundred insane patients according to his scheme, and found that 72 out of 85 patients with circular psychoses (manic-depressives) were pyknic or pyknic mixture, while 123 out of 175 schizophrenics were asthenic, athletic, or mixtures of these types. Only 5 out of these 175 were pyknic or pyknic mixture. Other German investigators have corroborated him. Kretschmer gives the name "cyclothymes" to *normal* persons whose tendency is toward manic-depressive insanity—in other words, extroverts—and the name "schizothymes" to normal persons having a dementia præcox tendency—that is, introverts.

Mohr and Gundlach tested Kretschmer's findings by statistical methods used upon prisoners. They too found that asthenics show more schizothymic tendencies, pyknics more cyclothymic tendencies; that there are no real physical types, but simply classes. They found a correlation of —.34 between intelligence and pyknic tendency.[45]

Laird, at the Colgate laboratory, found a correlation of +.60 between introversion and morphologic index (*i.e.*, introverts are slender and long-limbed).[46]

Other investigators have classified human beings, according to their physical characteristics, in much the same way as Kretschmer. The names and definitions they give to their "types" or classes differ: but a fundamental similarity runs through all: the fat, broad body versus the lean, slender body. Here are some of the terms used.

PHYSICAL CLASSIFICATION

Kretschmer	Pyknic	Athletic	Asthenic
Naccarati[a]	Low morphologic index		High morphologic index
Viola[a]	Macrosplachnic	Normosplachnic	Microsplachnic
Bean[b]	Hypomorphs	Mesomorphs	Hypermorphs

[a] NACCARATI, S., and GARRETT, H. E., "The Influence of Constitutional Factors on Behavior," *Jour. Experimental Psych.*, vol. vi, p. 257 or 455 (1923).

[b] BEAN, R. B., "Human Types," *Quar. Rev. Biol.*, vol. i, p. 360 (1926).

[45] "Relation between Physique and Performance," *Jour. Experimental Psych.*, vol. x, p. 155 (1927).

[46] *Ind. Psych.*, vol. i, p. 654 (1926). See next topic heading for definition.

Bryant, Goldthwaite, Lewis[c]	Herbivorous	Carnivorous

BEHAVIOR CLASSIFICATION WHICH CORRELATES MORE OR LESS WITH THE ABOVE

Kretschmer	Cyclothymes		Schizothymes
Bleuler[d]	Syntonic		Schizoid
Wertheimer and Hesketh[e]	Syntropic		Idiotropic
Jung	Extravert	Ambivert	Introvert

[c] Summarized by LEWIS, C. B., "Adolescent Physical Types," *Ped. Sem.*, vol. xxiii, p. 295 (1916).

[d] BLEULER, E., *Textbook of Psychiatry*, Macmillan, 1924.

[e] The Significance of the Physical Constitution in Mental Disease," *Medicine Monographs*, vol. x (1926).

Sheldon, studying 155 freshmen who were rated in various traits by their fraternity brothers, found a correlation of —.22 between morphologic index and sociability.[47]

Ozeretzky found that persons of slender build are relatively low in prompt innervation and rhythm, in automatic and defensive reactions, and energy, but excel in forming new complexes of motor habits. Here again we see phases of the general picture of extrovert-introvert.[48]

Other Behavior Correlations with Bodily Form.—Bean has discovered that hypermorphs (microsplachnics or asthenics) are relatively much more prone to tuberculosis, cancer, and to skin, alimentary, and nervous diseases. Hypermorphs have a relatively high death rate between 20 and 40, but if they get through that period they tend to outlive the hypomorphs, who show a relatively high death rate between 40 and 60.[49]

Draper, at a recent personality conference, held that physical type determines the most probable diseases, and W. A. White reported his experience that pyknics are more likely to die a cardiac death, phlebotosomes (the opposite type) a gastro-intestinal death.[50]

Naccarati and Garrett found a +.36 correlation between intelligence and "morphologic index," thus checking up Mohr

[47] *Person. Jour.*, vol. vi, p. 47 (1927).

[48] See ROBACK, *Psychology of Character*, Harcourt, Brace, 1927, p. 97.

[49] "Disease and Death Rate in Human Types," *New Orleans Medical and Surgical Journal*, vol. lxix, no. 3 (1916).

[50] *Amer. Jour. Psychiatry*, vol. viii, pp. 1089 ff. (1929).

and Gundlach. The morphologic index is the length of one arm plus the length of one leg, divided by the volume of the trunk. That is, people who have long limbs in proportion to the size of their trunks have a high morphologic index. The trunk volume is computed from several different measurements. Height divided by weight is a simpler but rougher method of measuring the same general variables (correlation between the two is +.75 to +.70). Naccarati and Garrett found correlations of +.30 to +.40 between intelligence and this height-weight index. But Miss Heidbreder, working on 1000 cases which were more unselected than Naccarati's, found absolutely no correlation between intelligence and the height-weight ratio.[51] Hence the correlation of form with intelligence remains uncertain, although the correlation of form with extroversion-introversion appears to be well established.

Naccarati found also that both macrosplachnics and microsplachnics yield a greater proportion of psychoneurotic cases than do the normosplachnics or "average" people. The "emotional psychoneurotics" were more common among the macrosplachnics, and the patients of weak emotion among the microsplachnics.[52]

Emotional Maladjustment or Neuroticism.—Evidently there is another dimension or variable of personality which runs crosswise to extroversion-introversion. This variable is the quantitative expression of that difference between the normal and neurotic personality which we considered in the preceding chapter. It might be called simply normality-abnormality. Sometimes it is called emotional stability-instability, or psychoneuroticism-normality. Strictly speaking, "emotional instability" and "psychoneurosis" refer rather to the extrovert types of disorder, which can usually be helped, while the introvert types of disorder lead toward schizoid "psychoses" which are usually incurable. But the tests for psychoneuroticism or emotional instability, which we are about to describe, show no correlation with extroversion-introversion. They are made up to include introvert as well as extrovert symptoms; whatever they test is an independent variable.

[51] *Jour. Appl. Psych.*, vol. x, p. 52 (1926).

[52] *Jour. Abn. Psych. and Soc. Psych.*, vol. xix, p. 254 (1924); *Amer. Jour. Psychiatry*, vol. iii, p. 3 (1924); *Arch. Psych.*, vol. vi, no. 3 (1921).

The classic test of emotional maladjustment was devised by Woodworth.[53] It is a question and answer test, asking for yes or no answers to about 100 questions such as: "Does it make you uneasy to cross a bridge over a river?" "Do you make friends easily?" "Do you ever walk in your sleep?" The test has been variously revised and used. It is one of the fundamental tests (B2) of the Colgate series. A high score on the test means maladjustment or psychoneuroticism. The average normal person scores about 10, while over 20 is regarded as abnormal. Patients in army hospitals scored 30 and 40. The reliability of the test is from +.55 to +.90, depending on the particular study. Its validity, as measured by correlating it with ratings of "emotional stability," has been found as anywhere from +.12 to +.66. Obviously the thing it measures is quite different from what the observer thinks of as "emotional stability" when he is judging a subject, but yet it does correlate to some extent with such a judgment.[54]

L. L. and T. C. Thurstone have devised a "Neurotic Inventory" of 223 questions (originally 600), showing a reliability of .95. It includes many of the Woodworth questions. Taking the 50 most neurotic (per this test) of the 694 students tested, they found that they gave a higher percentage of unfavorable answers to every single question than did the 50 least neurotic.[55]

The Colgate (Laird) extroversion-introversion test can be made into a test of emotional maladjustment by scoring it for number of *extreme* responses rather than for excess of extrovert over introvert responses. When this is done, a correlation of +.49 is found with the Woodworth test.[56]

[53] Published by C. H. Stoelting & Co., 424 N. Homan Ave., Chicago. See FLEMMING, E. G., and C. W., "The Validity of the Mathews Revision of the Woodworth Personal Data Questionnaire," *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii (1928).

[54] The term "emotional instability" is misleading in this connection. The psychasthenic, who scores high on this test, is characterized not so much by unstable or changing emotions as by rather unchangeable emotional fixations upon abnormal stimuli. "Instability" is rather the characteristic of the manic-depressive.

[55] *Jour. Social Psych.*, vol. i, pp. 3-30 (1930).

[56] HOFFSMA, R. K., "Reliability and Relationships of the Colgate Mental Hygiene Test," *Jour. Appl. Psych.*, vol. ix, p. 293 (1925).

Correlations of Emotional Maladjustment with Other Factors.—Emotional "stability-instability," as measured by the Woodworth test or its revisions, is quite independent of intelligence as well as of extroversion, nor does it correlate in general with college grades. Young found at Colgate, however, that if one is extrovert, he is more likely to fail in college work if he is "stable" than if "unstable"! The test does not correlate with emotionality as measured by the Pressey tests, nor with idiosyncrasy as measured by the word-association method.

Among the findings are that women are more unstable than men, that 25 per cent of the college women and only 10 per cent of the college men score above 25, that arts students are more unstable than medical students, and students in general are more unstable than the general population (medians about 19 and 11 respectively). College girls are more unstable than nurses (20 and 12). The third of the Columbia students having the highest (unstable) scores average one-half hour less sleep per day than the third with the lowest scores.[57]

The Thurstones with their neurotic inventory found the mean score for men to be 37.32, for women 43.82 (high scores mean neuroticism). Jews were more neurotic than Gentiles, scholars than non-scholars.

Ellen Mathews revised the Woodworth test for use with children. She found that children of known nervous difficulties score higher than others. Older boys score lower than younger, and older girls higher than younger.[58] John Slawson found that children in schools for delinquents score significantly higher than unselected children.[59] Buford Johnson found that children in a defective nutrition class scored twice as high as other children.[60]

Yet on another "emotional inventory," E. J. Asher and S. E. Haven found no significant difference between public school and correctional school boys; 10 of the 37 questions to which the boys in the correction school gave more unfavorable an-

[57] ELWOOD, R. H., *Jour. Appl. Psych.*, vol. xi, p. 199 (1927); LANDIS, C., *et al.*, *Ped. Sem.*, vol. xxxii, p. 209 (1925); FLEMMING, E. G., *Arch. Psych.*, no. 96 (1928); BRIDGES, *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 227 (1927).

[58] *Jour. Delinquency*, vol. viii, p. 1 (1923).

[59] *The Delinquent Boy*, Badger, 1926.

[60] "Emotional Instability in Children," *Ungraded*, vol. v, p. 73 (1920).

swers dealt with traits which could have been produced by the confinement itself.[61]

R. J. Ball reports that he can discriminate pathological from normal persons very well by means of a maze-test with raised walls, which maze the subject must trace with his finger, while blindfolded. Slow learning, many errors, and the variability of his several performances are indicative. Psychopaths show high variability or irregularity of success.[62]

General Emotionality or Excitability.—There seems to be a general factor tending to produce defensive emotions (either pleasant or unpleasant excitement), regardless of the particular kind of emotion or of the normality or abnormality of the conditioned stimuli.

G. M. Stratton found that subjects prone to anger were also somewhat more inclined than the average toward fear (correlation +.25).[63] In other words, people divide themselves into the emotional versus the unemotional more distinctly than into the irascible versus the timid. This general tendency to excitement showed no significant correlation with academic grades. The first-born were more irascible than others, but this difference was not related to the fact of their having brothers or sisters.

Stratton also found that persons who have had disease show significantly more intense fear and anger responses than those who have not. The ratio of the disease-history to the normal group in the case of fear was 100:81.[64]

C. O. Weber has devised a test to measure *emotional age*, which correlates .42 with mental and .52 with chronological age, but not with I.Q.[65]

E. Duffy told school children to press, or not to press, a key, according to the color of a light (red or white) which would be shown. While each subject was engaged in this discrimination-reaction test, he held a bulb in his other hand. His teacher, independently of the experiment, estimated his general degree of excitability. A high correlation was found between this esti-

[61] *Jour. Juvenile Research,* vol. xiv, pp. 96-106 (1930).

[62] "An Objective Measure of Emotional Instability," *Jour. Appl. Psych.,* vol. xiii, pp. 226-256 (1929).

[63] "Anger and Fear: their Probable Relation to each other, to Intellectual Work, and to Primogeniture," *Amer. Jour. Psych.,* vol. xxxix, pp. 125-140 (Dec., 1927).

[64] "Emotion and the Incidence of Disease," *Psych. Rev.,* vol. xxxvi, p. 242 (1929).

[65] *Jour. Abnormal and Social Psych.,* vol. xxiv, pp. 466-471 (1930).

mate and the degree of pressure the idle hand "unconsciously" exerted upon this bulb. There was no correlation between the pressure and the pupil's efficiency in doing the discrimination task. We seem to have evidence here for a correlation between general tension (as defined in Chapter II) and excitability.[66]

G. J. Rich has found significant correlations of +.25 to +.45 between alkalinity of saliva and urine, on the one hand, and ratings of emotional excitability, on the other. Also the more excitable individuals show less creatinine in blood and urine.[67] Ludlum finds two "types" of acute insanity, the excited type with alkaline saliva and much perspiration, and the confused type with acid saliva.[68] H. E. Starr finds that subbreathing leads to acidity, excitement to alkalinity.[69]

An inconclusive (because of the small number of cases) but highly suggestive result was obtained by E. G. Flemming, who found a correlation of .44 between the initial skin resistance of 18 subjects, as measured by a galvanometer, and ratings by three judges of those subjects on the trait "magnetic personality." Similarly, the skin resistance correlated .40 with a rating on "nervous temperament."[70]

A. H. Lauer and J. E. Evans found academic grades to correlate +.35 with return time of galvanometer deflection after stimulation by fear stimuli (shot, sight of human brain, etc.), and —.65 with change in heart rate after exercise. Body resistance as measured by the galvanometer correlated —.34 with grades and —.42 with intelligence. Neither grades nor intelligence correlated significantly with the heart changes after stimulation, nor with the *amount* of galvanometer deflection.[71]

Pressey Tests.—The Pressey X O tests present the subject with several lists of words which tend to have emotional associations, such as "flirting," "spitting," "fire," "God," "death," etc. He is asked to cross out words which carry or indicate, from his point of view, (1) unpleasant meanings, (2) wrong

[66] "Tensions and Emotional Factors in Reaction," *Genetic Psych. Monographs*, vol. vii, no. 1 (1930).

[67] "Bodily Acidity as Related to Emotional Excitability," *Arch. Neur. and Psychiatry*, vol. xx, p. 589 (1928).

[68] "Physiologic Psychiatry," *M. Clin. N. Amer.*, vol. ii, p. 895 (1918).

[69] *Amer. Jour. Psych.*, vol. xxxiii, p. 396 (1922).

[70] "Personality as Revealed by Galvanometer," *Amer. Jour. Psych.*, vol. xxxviii, p. 128 (1927).

[71] "Note on the Influence of a so-called Emotional Factor in Academic Success," *Jour. Abnormal and Social Psych.*, vol. xxv, pp. 57-59 (1930).

acts, (3) worries. He is asked (4) to cross out all the words in a given list of five which are associated in his mind with a given word, and so on for twenty-five given words. He is then asked to go through the 4 tests and circle with an O the most unpleasant, the most incorrect item, etc.[72]

The test is scored to measure affectivity (total number of words crossed out) and idiosyncrasy (number of words encircled which are not commonly encircled).

General affectivity and general idiosyncrasy, measured in this way, show practically no correlations with any other kinds of tests or ratings. The chief value of the Pressey tests lies in the reactions to selected words. Several investigators have played with the test and have discovered which words are reacted to by good students quite differently than by poor students, and so on. In this way various "differential" scores have been made up. A correlation of +.58 has been found between one such differential score and college grades, +.51 between another score and intelligence.[73]

No diagnostic Pressey scores have been found which will distinguish delinquents from non-delinquents. Flügel and Radclyffe correlated various parts of the test with question-and-answer tests aiming to measure the same traits. They found a wide range of correlations from +.54 to —.87, with an average of zero.[74] In the writer's opinion there is little hope for light in tests based on the Pressey technique. The pencil-and-paper reaction to one's emotional reaction to a single word is too indirect. Definite questions about one's behavior, such as Woodworth asks, though even they permit misrepresentation and uncertainty, come theoretically much closer to validity. Actual observation of behavior comes closer still.

[72] Test forms published by C. H. Stoelting & Co., Chicago. See PRESSEY, S. L., *Jour. Abn. Psych.*, vol. xvi, p. 55 (1921), and CHAMBERS, O. R., *Jour. Abn. Psych. and Psych.*, vol. xx, p. 303 (Oct., 1925); MCGEOGH, J. A., and WHITELY, P. L., *Ped. Sem.*, vol. xxxiv, p. 255 (1927).

[73] THOMPSON, L. A., and REMMERS, H. H., *Jour. Appl. Psych.*, vol. xii, p. 477 (1928); CHAMBERS, O. R., *Jour. Abn. Psych. and Soc. Psych.*, vol. xx, p. 303 (1925).

[74] *Brit. Jour. Medical Psych.*, vol. viii, p. 112 (1928).

Kinetic Traits—the Downey Will-temperament Tests.—Well known are the Downey Will-Temperament tests.[75] They test 12 traits relating to motor behavior or "will," and they do so mainly through handwriting. These traits are speed, freedom from load (hyperkinesis-hypokinesis) flexibility, speed of decision, motor impulsion, reaction to contradiction, resistance to opposition, finality of judgment, motor inhibition, interest in detail, coördination of impulses, and volitional perseveration. Hyperkinesis, for example, is measured by the ratio of one's natural speed of writing a sentence to his greatest possible speed. Perseveration is measured by the time spent in working out a disguised script.

When the 12 traits are combined, letting the high scores always represent the more desirable or efficient extreme of the trait in question, the total score correlates about +.50 with intelligence. There is little or no correlation with college grades, or with ratings on industry, accuracy, or initiative.

G. D. Stoddard and G. M. Ruch failed to find any correlation higher than +.17 between any one of the traits as measured and the same trait as rated by judges.[76] Miss Downey and Wagoner worked out a W-T test in which speech behavior was substituted for writing. Correlations between each writing trait and the corresponding speech trait varied from +.05 to +.63.[77] But there is little or no evidence to show that any of these traits, as shown in writing or speech, is general for all behavior. We can place little reliance on them as tests of fundamental behavior traits.

D. W. Oates, using 50 subjects, correlated each of the Downey tests with all the others. The only raw intercorrelations over .40 were .61 between actual speed and hyperkinesis, and .43 between speed of decision and coördination of impulses. He concluded that the tests measure traits which are grouped around two basic factors, (1) speed and ease of emotional expression, (2) inhibition.[78]

Margaret Kennedy found correlations of .11 to .81 (aver-

[75] DOWNEY, J., *The Will Temperament and its Testing*, World Book Co., 1923.

[76] *Jour. Appl. Psych.*, vol. x, p. 421 (1926).

[77] MAY, M. A., "Present Status of the Will-Temperament Tests," *Jour. Appl. Psych.*, vol. ix, p. 29 (1925).

[78] "Group Factors in Temperamental Qualities," *Brit. Jour. Psych.*, vol. xx, p. 118 (1929).

age .45) between speed in different tasks. She concludes that there is a general trait of "irritability" or "rate of work" which is independent of intelligence, for it fails to correlate with army alpha double-time scores.[79] The more complex the task, the more its success depended upon general intelligence and the less upon the speed factor.[80]

T. Furukawa gave an isoagglutin blood test to 269 girls who were rated as "active" and "passive" in personality. Eighty-two per cent of the active group had blood of types I and III, and 79.5 per cent of the passive group had blood of types II and IV.[81] Certainly here is something worthy of further investigation.

Ascendance-submission.—Another important and rather definite variable of personality is aggressiveness, or ascendance-submission. This means the tendency to show self-assertive or mastering behavior as opposed to submissive behavior. It may be temperamental. More probably it is merely a general attitude, more or less influenced by temperament.

Tests for this trait have been devised by H. T. Moore and A. P. Gilliland[82] and by G. W. and F. H. Allport.[83] The Moore-Gilliland test has three parts. First, the subject is asked to return the fixed gaze of the experimenter while performing mental arithmetic. The 13 most aggressive men, as judged by ratings, dropped their eyes a total of 6 times, and the 13 least aggressive men 72 times. Second, the subject is asked to do mental arithmetic under distracting fear stimuli, such as staring, an electric shock and a snake. Third, the subject gives reactions to a word association test. In the aggressive subject, the reaction time to "enterprise" and "danger" should not be longer, for example, than the normal reaction time to other words. Moore claims that this test measures aggressiveness more accurately than most intelligence tests measure intelligence.

[79] By giving the subjects a double amount of time to do the intelligence tests, we are more likely to eliminate a possible speed factor which might contribute to the success of some persons.

[80] "Speed as a Personality Trait," *Jour. Social Psych.*, vol. i, pp. 286-299 (1930).

[81] "A Study of Temperament by Means of Human Blood Groups," *Japanese Jour. Psych.*, vol. iv, pp. 613-634 (1927).

[82] *Jour. Appl. Psych.*, vol. v, p. 97 (1921), and vol. x, p. 143 (1926).

[83] *A-S Reaction Study*, test sheets and directions, published by Houghton Mifflin, 1928. See ALLPORT, G. W., *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 118 (1928).

The Allports' test is a question test. It asks the subject, for example: "At a reception or tea do you seek to meet the important person present? usually ——; occasionally ——; never ——."

The reliability is +.58, validity (through correlation with ratings) is about +.40. It has no correlation with intelligence, height, weight, or scholarship, but correlates +.38 with the Heidbreder extroversion-introversion-test. This leads us to suspect that ascendance submission may be in part a phase of extroversion-introversion. "Intermediate" children tested significantly lower than "only" children (the difference was 3 times its own P. E.).[84]

Moore's Tests of Instincts.—H. T. Moore devised tests for the strength of various so-called instincts: anger, fear, disgust, sex, and so on. He observed actual behavior in laboratory situations. For example, he found out how fast a subject could do problems in mental arithmetic. Then he jolted him under the nose, or made him put his hand into a pail of slimy things, and then again measured his speed. He found several significant correlations between traits thus measured and the same traits as rated by judges.[85]

Temperaments and Their Classification—Hyperkinesis—Hypokinesis.—Many are the classifications of temperament. Most likely to be fundamental are those which can be proved to be related to physical or chemical factors, or to well-recognized patterns of mental disease. For this reason extroversion-introversion may be regarded as possibly fundamental. The classic division into choleric, sanguine, phlegmatic, and melancholic, was supposed to be based upon the relative predominance of bile, blood, lymph, and "black bile." But this cannot be demonstrated.

Since the discoveries of Cannon, Crile, and others, it has been well known that gland secretions influence behavior and also regulate the growth of various bodily tissues. It has been shown that adrenal secretion mobilizes energy. Excess thyroid secretion, or hyperthyroidism, as it is called, leads to certain well-known symptoms: rapid heart, overactivity, insomnia, sometimes protruding eyeballs, underweight, and impulsive

[84] BENDER, I. E., in *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 137 (1928).
[85] *Amer. Jour. Psych.*, vol. xxvii, p. 227 (1916), and vol. xxviii, p. 390 (1917).

movements. Deficiency of thyroid secretion produces cretinism: dry skin, obesity, excessive fatigue, slow perspiration, need of much sleep. The important element in thyroxine is iodine. It appears that thyroid excess may be the secret of that general trait which appears, in various studies, as *hyperkinesis,* excessive bodily activity, quickness, impulsiveness; and thyroid deficiency may explain the opposite characteristics. Possibly this deserves to be ranked with extroversion-introversion as a basic temperamental trait.[86]

Excess in the secretion of the pituitary gland, which is at the base of the brain, is believed to cause thick skin and overdevelopment of the bones, producing a broad face and large hands and feet. Deficiency is believed to cause obesity, dullness, subnormal blood pressure. Excess adrenal secretion is believed to produce excessive pigmentation, and to cause masculine characteristics in women. Its deficiency seems to lead to lazy, indecisive behavior, poor circulation, fatigue. Deficiency in the internal secretions of the sex glands leads to flabby muscles, high-pitched voices in men, and other eunuchoid characteristics. The thymus gland controls growth during childhood, and then normally yields its predominance to the sex glands. If it continues to function beyond the normal time, it causes the adult to have a graceful childlike body, smooth delicate skin, small heart and fragile blood vessels, delicately chiseled features, lack of hair on the face.

The relations between behavior traits and gland functions have not been fully worked out, the most definite relation seeming to be that excess of thyroid, and perhaps of other secretions, leads to "hyperkinesis" or overactivity, while the reverse leads to "hypokinesis" or the phlegmatic temperament. In everyday language, hyperkinesis is wrongly called "nervousness." By "nervous" the psychiatrist means neurotic or psychoneurotic, inclined toward nervous disorders, which is something entirely different. Some of the most "nervously" active and impulsive persons are emotionally stable and very far from neurotic.[87]

[86] ALLPORT, *Social Psychology,* pp. 105-106.
[87] BERMAN, L., *The Glands Regulating Personality,* Macmillan, 1921.

It seems, then, that there are temperamental factors of (1) extroversion-introversion, (2) normality-neuroticism, (3) excitability-calmness, and (4) hyperkinesis-hypokinesis. There is some evidence for low correlation between (1) and (3) and between (3) and (4), but in general these factors are more or less independent. They and other factors group themselves in various ways to form temperament types, if such real types exist.

In many ways the most useful classification of supposed temperament types is the psychiatric:[88]

1. *Cyclothymic.*—A temperament which adjusts to difficulties by large emotional swings between excitement and depression, keeping always extrovert, responsive to surroundings.
2. *Hysterical* or "anti-social."—A temperament which adjusts by various subterfuges, physical symptoms, abnormal dissociations, and flights from reality into another less disagreeable reality, but which is always extrovert, suggestible.
3. *Autistic or shut-in or schizoid.*—A temperament which adjusts by regression, day-dreaming, retreat into one's self, flights into unreality, indifference to surroundings (introvert), dementia præcox.
4. *Compensating or fighting.*—A temperament which adjusts by persistent fighting of difficulties, often leading to abnormal suspicions, misinterpretation of other people's motives, delusions of grandeur and persecution, paranoia. This temperament is introvert but does not so completely break with reality as the autistic.
5. *Epileptic.*—A temperament which shows periodic fits of emotion—in extreme cases, of unconsciousness—and more or less irritability at all times. This is probably introvert.

These tendencies have never been studied by reliable statistical methods, so it is not known whether they are real *types* or merely normal variations around the general average type of mankind. But in any case, within each type are variations due to various degrees of hyperkinesis, excitability, and neuroticism.

There are certain suggestive relationships between temperaments and the four basic neuromuscular sets described in

[88] Adapted from ROSANOFF, A. J., "A Theory of Personality Based Mainly on Psychiatric Experience," *Psych. Bull.*, vol. xvii, p. 281 (1920); and MORGAN, J. J. B., *op. cit.*

Chapter II. The cyclothymic and hysterical types, and the extrovert temperaments generally, suggest a person who is, more than the average, inclined toward attentive relaxation. Such a person seems to take his shocks from the environment with relaxed muscles, wide-open sense organs and neural pathways, with the result that he is exposed to unusual and accidental emotional conditionings. The compensating temperament suggests a person prone to tension, taking his shocks with tensed muscles and fighting against them. The abnormal attitudes he develops seem controlled and limited by the direction of his own fighting behavior rather than by the accidents of the external stimuli themselves. The autistic temperament suggests some characteristics of inattentive relaxation or drowsiness. It is subject to dreams and hallucinations. The hyperkinetic temperament, mentioned just before the last classification, suggests the set of muscular activity. As we have seen, chemical bodily conditions may predispose a person to one or another of those four states, and if some such condition is unusually frequent, it may determine his temperament. The temperament may be due simply to the present average chemical condition, or it may be a set of habits built up by the past average condition. In any case these speculations are highly suggestive for future research.

Social-Attitudinal Traits—Character

The traits discussed so far have been underlying, general traits; some of them, more or less temperamental. We come now to some groups of traits which are decidedly not temperamental, but wholly matters of attitude and habit.

Ethical and Social Traits—Character.—There are now many tests for ethical traits or virtues. These traits are socially more important than temperament, but they cannot be proved to be related to any temperamental factor. In general they are known as "character." No doubt there are certain more or less general attitudes or ideals which act as keys controlling many specific virtues. But these attitudes are not as general as we once believed. There is no certainty that honesty or

neatness or tactfulness, developed in one situation, will extend to all situations.

Folsom, Upton, Chassell, Peters, and others have devised long lists of specific items by which a child's behavior can be checked. For example: "The good citizen," among other things, "overlooks or forgives small wrongs which are not likely to be repeated, and greater wrongs when justly compensated," "puts away apparatus or materials when through with them," and so on for hundreds of items. The items are classified. Upton and Chassell assign each item a certain number of points, the total being 1000, and thus provide a quantitative scale of ethical behavior.[89]

H. E. Garrett made an interesting discovery by rating a number of subjects on the excellence of their habits in several different spheres: work, bodily play, and moral, emotional, and social habits. While the total "personality score" showed no significant correlations with anything, the "integration score" showed correlations of about .35 with the Moss Social Intelligence test and also the Woodworth test, but no significant correlation with general intelligence. This integration score was the average deviation of the various ratings from the mean of all the ratings—in other words, the tendency toward lopsided development of habit systems. This correlation suggests that persons of uneven habit organization, excellent in some spheres and poor in others, are more likely to be psychoneurotic, and to lack social intelligence, than persons of consistently good, or consistently poor, habits.[90]

The Measurement of Honesty.—Voelker, Cady, Lentz, Fenton, Hartshorne, May and others have devised tests of ethical behavior based upon observation of actual, overt behavior, rather than of verbal responses. May and Hartshorne have made the most thorough study of this kind.[91]

What Is Ethical Behavior? Character Education Institution, 3770 McKinley St., Washington, D. C., 1922; UPTON, S. M., and CHASSELL, C. F., *A Scale for Measuring the Importance of Habits of Good Citizenship,* Teachers College, Columbia University, 1921; PETERS, C. C., *Foundations of Educational Sociology,* Macmillan, 1930, pp. 109-149, 435-440.

[90] "Personality as Habit Organization," *Jour. Abn. Psych. and Soc. Psych.,* vol. xxi, p. 250 (1926).

[91] HARTSHORNE, H., and MAY, M. A., *Studies in Deceit,* Macmillan, 1928; VOELKER, R. F., "Function of Ideals in Social Education," *Teachers College Contributions to Education,* no. 112 (1921); RAUBENHEIMER, A. S., "Behavior

The more or less general factor measured by these studies is *honesty*. It proves to be less general than popularly supposed, but, from an ethical, social point of view, it is probably the most important of the many possible general attitudes.

The techniques used in these tests include the following:

Overchange test. Send subject to make a purchase and arrange that too much change be returned to him. Note whether he keeps the extra money.

Peeping test. Give subject parts of a form-board to assemble, instructing him to keep his eyes closed. If he succeeds easily, he has opened his eyes, for it is impossible to do the test under a certain time if the eyes are really kept shut.

Overstatement test. Ask subject if he knows about certain facts, record his answer, then give him an actual test of his knowledge about these facts. Ask questions which very few persons could truthfully answer with a "yes," such as: "Do you read the Bible every day?" A yes answer is almost certainly proof of exaggeration.

Stealing test. Place a dime in box of puzzles or other test materials. On collecting material, experimenter can tell whether subject has taken the dime.

Athletic cheating tests. By leaving subject alone a few moments, give him an opportunity to cheat in pressing a dynamometer, breathing into a spirometer, reporting upon the number of times he can chin a bar.

Copying test. Different forms of printed material are "staggered" through the room so that any two adjacent papers are different in some essential details. If the student copies from his neighbor, it will be discovered, for the material which offers temptation will be irrelevant to his own paper and cannot possibly be obtained except through copying.

Duplicating test. Give subject an opportunity, but forbid him, to use a key on the rear of the paper. A part of the paper, which bears the wax or carbon imprints of the original answers, is collected between the doing and scoring. The subject is then given a

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Traits of the Potentially Delinquent Boy," *Psych. Mon.*, vol. xxxiv, no. 6 (1925); LENTZ, T. F., "An Experimental Method for the Discovery and Development of Tests of Character," *Teachers College Contributions to Education*, no. 180 (1925); FENTON, N., "An Objective Study of Student Honesty During Examinations," *School and Society*, vol. xxvi, p. 341 (1927). See also THOMAS, W. I. and D. S., *op. cit.*, chap. ix, for summary of many experiments.

key and told to score his own paper. If he changes any answers, this is discovered by comparison with the already collected imprint.

Improbable achievement test. Same in principle as peeping test. Give subject a task in which certain achievements are impossible or highly improbable without violating the rules of the task. If he makes this superior achievement, he has cheated. Puzzles, solitaire games, etc., are used.

Double-testing technique. A test is given twice, once with an opportunity to cheat, once without. Cheating is thus detected.

Among the findings of the May and Hartshorne study are the following:

Children with high grades in deportment are less given to cheating.

Children *enrolled* in Protestant Sunday schools are less deceitful than others, but there is no correlation between honesty and *attendance* at Sunday school.

Children belonging to certain organizations, such as the Boy Scouts, which purport to teach honesty, are no more honest on the tests than others.

In progressive schools there is less cheating than in conventional schools. Good school morale, quite regardless of individual personalities, reduces cheating. This conclusion is significant and illustrates the importance of social interaction as distinguished from individual character.

In general, there is no sex difference in honesty.

Honesty correlates significantly with intelligence.

Children having more symptoms of emotional instability do more cheating.

Physical condition shows no correlation with honesty, not even on athletic tests.

Children of wealthier parents are less deceptive than those of the poor.

Children of better manners and refinement are less deceptive than others.

Children of American and North European parents are less deceptive than those of South European parents.

Colored children are more deceptive than white.

There are certain racial and nationality differences even when due corrective allowance is made for intelligence and social economic level.

There are no general differences between religions, except those which can be explained by differences in intelligence and in social-economic level.

Pupils over age for their grade cheat more than others. This seems explainable by their lesser intelligence.

Deception is correlated with disorganized homes, impoverished communities, and changing social-economic situations.

Cheating tends to run in families to the same extent as does eye color and other biologically inherited traits. This does not mean, of course, that cheating is hereditary. Parental influence may amply explain it.

May and Hartshorne conclude from their statistics that cheating is not a unit trait of personality. Behavior is highly inconsistent: most subjects who cheat in one kind of situation will be honest in many other kinds of situations.

N. Fenton, studying college cheating, found that 63 per cent of his group actually cheated in at least one situation. When the instructor was in the room, 31 per cent cheated; in the next room, 39 per cent; when they went to the library on their honor, 45 per cent cheated. Most significant was the discovery that only 20 per cent of those who had had an honor system in high school cheated, and these were not superior students. He found that honesty correlates with intelligence and with success in the course. Which may mean merely that intelligent and successful students have less temptation to cheat.

H. C. Brownell examined 30 students who were known to have cheated on a final examination. They proved to be equal to the campus average in intelligence, but far exceeded it in psychoneuroticism and extroversion.[92]

Other Ethical Tests.—Ethical tests based upon verbal reactions are numerous. The subject is asked to rate several acts in the order of their rightness or wrongness, to check which of several things he would do in a given moral dilemma, to designate whether certain statements about conduct and duty are true or false, to designate acts as right, wrong, or excusable, to indicate which ethical principle applies to a given situation, to give the meaning of words of ethical significance, to indi-

[92] "Mental Test Traits of College Cribbers," *School and Society,* vol. xxvii, p. 764 (1928).

cate his knowledge of slang, to indicate the opposite to a given word, to rank several book titles in order of their interest to him.

But these verbal tests are of doubtful validity. Raubenheimer found that Whittier State School boys, who are serious actual delinquents, gave relatively favorable scores on his battery of language tests. Lentz tried 40 tests, verbal and otherwise, on two groups of boys alike in age and intelligence, one group of which was delinquent, the other non-delinquent. Only two tests showed significant differences between the two groups: a questionnaire as to activities and interests, and a daily contribution test, which was based on actual behavior rather than language reactions.[93] This test asked the subjects to bring daily to school some piece of information, and scored them upon their fidelity in complying with instructions.

Lowe and Shimberg conclude, after a try-out of a moral-judgment test based on fables, that "we are convinced that verbal judgments of moral situations are an index of the individual's intellectual and social apperceptions and not of his moral character."[94]

G. C. Schwesinger found "social-ethical vocabulary" correlates .88 with intelligence, and is hence of doubtful value as an indicator of any separate moral or social factor in behavior.[95]

J. N. Washburne has developed a simple technique which may prove very valuable in testing character. Seventy-three children were asked to make choices between such items as: one piece of candy now and five pieces next week, one cent now and ten cents next week, an auto now or an auto and $100 one year from now.[96] The children over eight known as "good" consistently chose the later and greater satisfactions; the "bad" chose the immediate satisfactions. There was also a correlation between the degree of unwillingness to postpone satisfaction and the degree of incorrigibility. For any given age there was no relation between this unwillingness and I. Q., but the unwillingness decreased with age. The older the child, the worse was the significance of choosing "now," and the

[93] LENTZ, *op. cit.*

[94] "A Critique of Fables as a Moral Judgment Test," *Jour. Appl. Psych.*, vol. ix, p. 59 (1925).

[95] "Social and Ethical Significance of Vocabulary," *Teachers College Contributions to Education*, no. 211 (1926).

[96] "An Experiment in Character Measurement," *Jour. Juvenile Research*, vol. xiii, pp. 1-18 (1929).

younger the child, the better was the significance of choosing "later."

May, and Hartshorne, after finishing their really epoch-making studies of honesty, turned their efforts toward *Studies in Service and Self-Control.*[97] They devised seven tests for service, such as voting, collecting pictures, etc. As in the case of honesty, they found service traits to be much more specific, much less expressions of some general quality of character, than was previously supposed. Service traits showed good correlations with companions' similar traits, with classroom code, parental example, and school adjustment, but not with age, sex, intelligence, sociability, or emotional conditions. Sunday school and club children were slightly more coöperative than others. Self-control also proved to be less generalized than was popularly supposed.

Social Intelligence Tests.—F. A. Moss, T. Hunt, K. T. Omwake, and M. M. Ronning have devised a test of "social intelligence." It correlates .25 to .68 with general intelligence, .53 with (Colgate) extroversion. It emphasizes judgment in social situations, ability to remember faces and names, knowledge of etiquette, and so on. It is not a test of ethical behavior.[98]

The Measurement of Interests.—There are many tests for vocational and other interests. Here again the various separate traits seem to group themselves around certain more or less general factors. From the vocational interest tests the most general classification of personalities seems to be that of mechanics versus humanics, *i.e.*, interest in things versus interest in persons. Douglas Fryer further subdivides interests into concrete and abstract humanics, concrete and abstract mechanics. In general, people are unable to make the distinction for themselves; their classification must be found by scoring a number of specific interests and then making up a combined score.[99] R. S. Uhrbrock classifies interests under three headings: things, people, ideas. He found that, classified on

[97] Macmillan, 1929.

[98] Obtainable from Center for Psychological Service, 2024 G St., N.W., Washington, D. C. See Moss, "Are You Socially Intelligent?" *Scientific American,* 1927, p. 108.

[99] "Types of Work," *Jour. Appl. Psych.,* vol. ix, p. 304 (1925).

their own say-so, persons primarily interested in "ideas" averaged 68.7 on the Thorndike intelligence test; in "things," 64.8; in "people," 61.0.[100]

Significant correlations have been found between humanics-mechanics interest and extroversion-introversion. Theoretically the extrovert is one who is dominated by external stimuli, be they from things or from persons. But the quick adaptability and suggestibility of the extrovert seems to make him more successful than the introvert in face-to-face contacts; and success fixates interest. We enjoy doing what we do successfully. On the other hand, J. B. Young and E. Shoemaker found strong introversion trends among students majoring in literature, while those majoring in science were extrovert.[101] Hence, though mechanical or scientific interest seems to indicate more introversion than does business or law interest, yet it probably does not represent as much introversion as do literary interests. Max Freyd found that students in the industries courses showed very different interests as regards kinds of people, games, activities, magazines, and preferred occupations, from the students in life-insurance salesmanship.[102] This might be expected as regards vocational interests, but it is interesting to note with how little overlapping their interests differ in *avocational* matters. Freyd's interest test, however, showed a reliability of only + .50 when repeated after six weeks, while the better intelligence tests show reliabilities of .80 or .90 on repetition. Women are more social, men more mechanical in interest. But men are not more introvert than women. They are either more extrovert, or the same. We must by no means identify mechanical interest with introversion.

Douglas Fryer has shown that expressions of interest in occupations are of no value as indicators of ability in these

[100] "Interest as an Indication of Ability," *Jour. Appl. Psych.*, vol. x, p. 487 (1926).

[101] "Selection of College Majors as a Personality Expression," *School and Society*, vol. xxvii, p. 119 (1928).

[102] "Measuring Interests in Vocational Selection," *Jour. Pers. Res.*, vol. i, p. 319 (1922).

occupations. The same is true for interests in college subjects.[103] Vocational guidance experience indicates that in the elementary schools children tend to express choices of occupation above their intellectual level; as they grow older their choices become more like the actual vocations they enter.[104] Fryer found that 75 per cent of the men coming for vocational advice had too much intelligence for the vocations they were in, and 58 per cent had too much intelligence for the vocations to which they desired to change. Interest alone is an inadequate test. Still it is reasonable for the personnel manager to demand that the persons chosen for a job shall have, if possible, *both* ability and interest. And "ability" should include "not too much" as well as "not too little" intelligence. Otherwise maladjustment may occur.

Carnegie Institute of Technology has become a center for the study of interests by the questionnaire-test method. By this method the subject is asked to check each item with an L (like), I (indifferent) or a D (dislike). The items include 84 occupations, 78 types of people, 34 sports, 6 pets, 13 kinds of reading, 23 miscellaneous activities, 25 school subjects. The group showing the highest interest score for items in its own vocational field was the engineers. The lowest score was made by the medical students. The greatest dislike score was of engineers for matters connected with law.[105]

One large practical value of these tests is that they are foundations for other more specific interest tests for specific occupations. Thus E. K. Strong found that 75 per cent of personnel managers scored above a certain grade in an interest test devised specially for that occupation. Only 3.5 per cent of other persons scored above this grade.[106] Such a test would be a valuable means of selecting persons likely to become good personnel managers.

Interests are fairly permanent. E. K. Strong, Jr., gave the Cowdery interest test to 100 certified public accountants and 100 ministers. After a year and a half he retested them, mix-

[103] *Op. cit.*

[104] For a summary, see LEHMANN, H., and WITTY, P. W., "Constancy of Vocational Interest," *Person. Jour.*, vol. viii, p. 253 (1929).

[105] COWDERY, K. M., "Measuring Professional Attitudes," *Jour. Pers. Res.*, vol. v, p. 131 (1926).

[106] *Jour. Pers. Res.*, vol. v, p. 194 (1926).

ing the original questions among others. The correlations between the two tests were from .74 to .90.[107]

The Measurement of Radicalism-conservatism.—One other socially important variable of personality is radicalism-conservatism. Some hold that this is merely a bundle of specific attitudes; others, that it is based upon some general factor.

H. T. Moore, Allport and Hartmann, Symonds, Harper, Hart, G. B. Watson, Porter, Folsom, and others have devised tests, most of which ask the subject to mark one of several possible word reactions to each proposition. The reactions vary in their degrees of supposed radicalism.

In general, these tests show more or less positive correlation between radicalism in one sphere, such as politics, and radicalism in another sphere, such as religion or sex. But there were many questions whose answers failed to correlate with the others.[108]

Moore compared his subjects who tested near the radical end of the scale with those who tested near the conservative end. He found there was no difference in intelligence or emotional stability (by the Woodworth test). The radicals had quicker reaction times. They were more resistant to majority opinion, as evidenced by the fact that they accepted on the average only 12 per cent of opportunities to reverse their judgments on a different kind of a test so as to agree with the majority, while the conservatives accepted 31 per cent of such opportunities to join the herd. The radicals had greater ease of habit breaking: 81 per cent of them were better than the average conservative on a test of tracing a paper design while looking in a mirror.[109]

Allport and Hartmann found their extreme radicals and reactionaries to be similar to each other, and unlike the middle-of-the-road group in several traits of which, however, the subjects themselves were the judges. The radicals were unlike the reactionaries in being more retiring, sensitive, aware of inner motives, tender-minded. The reactionaries were more

[107] "Permanence of Interests in Adult Men," *Jour. Social Psych.*, vol. i, pp. 152-159 (1930).

[108] See chap. xi.

[109] "Innate Factors in Radicalism and Conservatism," *Jour. Abn. Psych. and Soc. Psych.*, vol. xx, p. 234 (1925).

self-reliant, tough-minded, certain in their opinions, lacking in insight.[110]

P. M. Symonds, testing students in several grades of school and college, found a correlation of + .28 between liberalism and intelligence, + .56 between information (on the subjects covered by the opinion test) and intelligence. There was little increase in liberalism from eighth grade to college seniority, but a decided increase in information.[111]

Harper, testing American educators, found no correlation of radicalism-conservatism with age, sex, religious denomination or political party, but found that radicalism was increased 2 intervals per year of undergraduate education, 4 intervals per year of graduate education, and 14 intervals by a special course in social conceptions and issues.[112]

G. B. Watson has devised a test of *fair-mindedness*, independent of radicalism. The reliability of this is + .96.[113]

E. D. Starbuck tested a group of university students known to be "mystical" in attitude. They did not differ from the non-mystics in sensory discrimination, reaction time, motor control, or perceptual ability. But they were more suggestible, only half as good in tests of central coördination, and inferior in mental effort and ingenuity.[114]

In this chapter we are considering only a few studies of social attitudes, namely, those which throw some light on the relation of these attitudes to other individual differences in personality. In Chapter XI we shall take up the study of social attitudes from the standpoint of group differences and their causes.

Individual Differences in Humor.—P. Kambouropoulou had Vassar students keep diaries of all the things they laughed at during seven successive days. The most amused subject reported 119 instances of laughter, the least, 8. The stimuli to laughter recorded by these diaries were classified as follows:

[110] "Measurement and Motivation of a Typical Opinion," *Amer. Pol. Sci. Rev.*, vol. xix, p. 735 (1925).

[111] "A Social Attitudes Questionnaire," *Jour. Educ. Psych.*, vol. xvi, p. 316 (1925).

[112] "Social Beliefs and Attitudes of American Educators," *Teachers College Contributions to Education*, no. 294 (1927).

[113] *Ind. Psych.*, vol. ii, p. 84 (1927). See also chap. xi.

[114] "An Empirical Study of Mysticism," *Proceedings, 6th International Congress of Philosophy*, Longmans, Green, 1927.

Cause	Frequency Per Cent
(a) No objective cause. General feeling, pleasant weather, etc.	4
(b) Physical objective causes, such as seeing awkward people, etc.	26
(c) Mental inferiority of others	38
(d) The same, but brought out by teasing or some directed remark	12
(e) Unlooked-for event or turn of conversation, creating an incongruous situation, but not due to anyone's stupidity or ignorance. Laughter not *at* a person	19
(f) Incongruity of *ideas* only	5

As might be expected, there was found to be some relation between a person's intelligence and what he laughs at. The per cent of class (a) humor correlated — .29 with intelligence and — .37 with grades. But it was the absence of other humor, rather than the mere presence of class (a), which was most closely associated with low grades. There were very slight positive correlations of the total number of laughter instances with grades and with intelligence. But this might be due to the brighter students keeping more complete records. The most important difference brought out by the study is that between those whose laughter is related to personal superiority (classes [c] and [d]), and those whose humor is more impersonal ([e] and [f]). There was a consistency correlation of .49 between per cent of (e) and of (f), and a similar correlation of .32 between (c) and (d), showing that these two pairs (cd) and (ef) actually did represent two general factors (or "types" of attitude). However, there was no difference in intelligence between the personal and impersonal humor groups.[115]

Personality Differences from the Genetic or Psychoanalytic Viewpoint

The Genetic Versus the Cross-sectional Approach.—All these tests and ratings have assumed personality to be composed of quantitative *variables*, some fundamental, some superficial—but in any case, variables. The traits are considered as quantities which can be measured along a scale.

[115] "Individual Differences in the Sense of Humor," *Amer. Jour. Psych.*, vol. xxxvii, pp. 268-278 (1926).

If you *measure* all the important traits of a personality, it is assumed by many that you understand that personality through the best method of science.

But as Kimball Young points out, this cross-sectional *quantitative* method is only one approach to the study of personality,[116] and it is limited by its own assumptions. There is another method of study. It is a biographical, genetic, functional, *psychoanalytic* approach. It is the method used by the psychoanalysts, and by those who, like Krueger, are studying life histories. This genetic study of personality does not begin by defining a few quantitative variables and then attempting to measure them. It assumes, rather, that the important personality differences are *qualitative*, that is, they are attributes. It sometimes finds these attributes to be correlated in certain general patterns. Possibly some of these patterns can be expressed as quantitative variables and measured by tests. But that comes later. Our genetic method first studies one or more personalities without any preconception as to what traits ought to be defined and measured. It asks: "What seems important in this personality? What are its leading motives, how have these motives become fixated and transferred (conditioned), and how does the personality adjust to its frustrations?" It goes into the history of the personality, tries to trace each motive or pattern of adjustment to its childhood origins. We used the genetic approach in Chapters IV and V, to see how personality is formed. We shall now see how it may be used also in the *differential* study of personality.

The Gestalt Conception of Personality.—This genetic analysis, or "psychoanalysis," of personality is quite in line with the new thought of the day. It is in line with the German *Geisteswissenschaften* and *Struktur* school of psychology, which includes the Gestalt psychology. The Gestalt idea can be applied to the analysis of the whole personality as well as to that of special processes, such as perception and learning. According to this school of thought, it is the total form or pattern of personality which is important, not its specific

[116] "The Measurement of Personal and Social Traits," *Publications of Amer. Sociological Society*, vol. xxi, p. 92, (1927).

traits. Spranger, for example, says there are six fundamental *Weltanshauungen*, or general attitudes toward the world—the theoretical, the economic, the æsthetic, the social, the political, the religious. It is more important to classify a man as economic or æsthetic than to measure his hyperkinesis—hypokinesis, or his ascendance-submission.[117]

Gordon Allport says: Suppose that A and B test the same in extroversion-introversion; A may nevertheless be sociable, and B morose. A's introversion may play a very different part in the total pattern of his behavior from B's introversion in his.[118] But suppose we gave them also tests for sociability and for cheerfulness-moroseness. Adding these data would not enable us really to understand the two personalities. Any trait which we *measure* must always be measured by *lumping* many different situations. We might find A 20 points more cheerful than B, and yet B might prove a more agreeable person to live with. Cheerfulness in some particular situation, such as in physical hardships, may be more important than cheerfulness in general. And it may be far more important to discover that B became introverted in compensating for some difficulty, while A was originally that way, than to know that each of them is just 10 points introverted.

The analysis of personality into quantitative traits, says Gordon Allport, loses the form in which the traits are put together.

As usual, the Gestaltists make this principle unduly mysterious. They say that we must perceive the "form-quality" of a personality as a whole, that this form-quality "pervades" all their reactions, that we must perceive this form-quality through "empathy" rather than analysis. "How typical of him!" means that we have "grasped" the mysterious "Gestalt" of his personality.

What we must see is not a pervading *quality*, but a *pattern*, To "grasp a Gestalt" is simply to describe a pattern, as one would describe the pattern of a rug or a city map. And we do

[117] ROBACK, A. A., *op. cit.*, chap. xviii, and p. 336.

[118] "The Study of the Undivided Personality," *Jour. Abn. Psych. and Soc. Psych.*, vol. xix, p. 132 (1924).

this by describing first the details and then how they are put together. The genetic method really requires finer analysis than the cross-sectional method. It requires us to say how A behaves in particular situations; it demands that we get down to specific *S*—*R*'s, and not merely supposedly general traits. But the point is that the genetic method must then synthesize these *S*—*R*'s—must show their relation to each other.

The psychoanalytic method is like describing the geography of a city in terms of its own natural areas or groupings of buildings and streets. The cross-sectional method is like describing it in terms of arbitrary areas, each a mile square, laid off regularly from the center.

Genetic Approach the Most Natural Method.—The writer often receives letters from employers asking him to rate some former student with an A, B, C, D, or E on each of several traits: industry, judgment, integrity, adaptability, and so forth. Well as he has known the student, he cannot for the life of him rate these traits with any sense of accuracy. He has the feeling that he is doing something very artificial. But he can readily tell the employer *what is important* in this individual's personality, what are his chief sources of strength and his chief limitations. No standard list of traits helps very much because we feel impelled to use a different list of trait-words for each personality. In thinking of some persons, we immediately think of "aggressiveness," and of others, of "timidity" or "submissiveness." But in thinking of many other persons we feel that none of these words applies. Some of them doubtless would *test* as high in aggressiveness as those we spontaneously label "aggressive," but yet we would never think of applying that word to them. When we come to analyze the matter, we suspect that what causes us to feel that Jones is aggressive is not some general quality or trait which an aggressiveness test measures, but rather some unique reaction we have observed in some particular situation. The professor may remember, for example, that Jones frequently quarreled with him about his grades, and that may be his whole basis for calling him aggressive.

In other words, the psychoanalytic approach rather than the

cross-sectional approach is the one we spontaneously use in our everyday observation of personalities.

Southard enumerates these kinds of misfits in industry: queer guys, disturbers, false accusers, unreliables, the irritable, sullen, socially disgruntled, negative, conscientious, litigious, bear-a-grudge, glad-hand, gossipy, roving, restless, malicious, lying, swindling, sexually perverted, suggestible types.[119] We get here the suggestion that these terms refer to patterns of behavior, existing all-or-none, rather than variable traits to be measured on a scale. Such a conception seems better to fit common observation and many practical needs.

Genetic Method Not Inconsistent with Quantitative Comparison.—Does this mean, then, that there are no useful common denominators of personality, that every personality is so unique that it must be described by a different list of trait-words? Some statistically minded psychologists object to the psychoanalytic method on these grounds. They say there is no true science unless there is something you can measure and compare. If two personalities are described in terms of *different* traits, how can you compare them?

The answer is that there *are* common denominators, but of a different sort from the usual "traits." It is true that we shall need much more study to discover what these common denominators are.

Let us consider again the analogy of the city geography. It is easier to compare two cities if you rule off the maps into square-mile areas. If you can say just what kind of buildings and people are found two miles due east of the center of Cleveland and two miles due east of the center of Pittsburgh, and so on for other arbitrary points, you have made a comparison which is perhaps useful for certain purposes. If you refuse to use these arbitrary points, but insist upon studying Pittsburgh and Cleveland as two unique layouts, comparison is at first more difficult. But after you have studied many cities in this way, you discover that every city has a downtown financial district, a business district, a chief residential dis-

[119] *Mental Hygiene,* Jan., 1920. See also PRATT, G. K., "Problem of Mental Misfits in Industry," *Mental Hygiene,* vol. vi, p. 526 (1922).

trict, and so on. These districts can be measured in area; their shapes can be classified, and so on. Instead of asking, "What exists two miles east of the center," you ask, "Where does the residential district begin?" Your *functional* concept of "residential district" is made fundamental, in place of the arbitrary *structural* concept "end of second mile."

Now the cross-sectional study of personality standardizes *situations,* and then discovers what or how much the reaction is. But it is never possible to test or observe more than a few of the many situations of life. To know a person's reactions to some 50 or 100 given artificial situations out of many million is like knowing so many arbitrary points on the city map.

The psychoanalytic method, on the other hand, gives the reaction and asks for the situations. It inquires, not how aggressively does A react to this and that given situation, but what are the situations to which he reacts with decidedly aggressive behavior? How did his aggressive reactions get conditioned to these particular situations? This approach is advocated by P. E. Vernon, who argues for unstandardized quality observation tests of "temperament" on the ground that an objectively standard stimulus is really not the same stimulus, subjectively, to different individuals.[120]

Biography and History Illuminated by Psychoanalysis.—E. T. Krueger studies personalities by getting their life histories. He classifies such diaries and autobiographies as confessional, egotistical, scientific, and naïve-conventional. He considers even falsified statements valuable; they reveal what the person wishes to be true.[121]

Harry E. Barnes summarizes many psychological studies of historical persons. He cites these as illustrative of a new and psychological approach to the study of history. He thinks this approach will add much to our understanding.[122] Jefferson's democratic policies, for example, are interpreted as the result of Jefferson's domination by his father and his consequent *rebellion complex.* Hamilton, on the other hand, who

[120] *Brit. Jour. Psych.*, vol. xx, pp. 97-117 (1929).

[121] "Personality and Life History Documents," *Publications of Amer. Sociological Society,* vol. xix, p. 176 (1925).

[122] *Psychology and History,* Century, 1925. A useful summary.

got along well with his father, became the apostle of centralized power and authority. Ascetic morality may owe much to Augustine's *purity complex*, developed as a compensation for his wild youth. Kipling and Rhodes were motivated by a *mother complex* which they sublimated into a devotion to Mother Britannia. History has been profoundly influenced by Napoleon's epilepsy, Lincoln's melancholia, Jackson's alleged *Jehovah complex* and sadism. Walt Whitman's erotic literature has been interpreted as a compensation, not a primary expression of his personality; Poe's poetry, as a compensation for physical weakness and thwarted love.[123]

Examples of Psychoanalytic Observation.—In the writer's notes are the following comments on various personalities. They are impressionistic and incomplete, but they illustrate the psychoanalytic approach, and are probably worth more than many statistical measurements of traits.

A has keen perceptions of differences in objects. A keen eye for machinery, goods, clothes, etc., is a good mixer, but not interested in politics. He is easy going, likes convivial pleasures, has keen repartee and is apt at flattery.

B is active and energetic, keen for politics, but not a good mixer, not very personal in his remarks, not very witty. Interested in things in general rather than in particular.

C is an uneducated man, but always seeks the company of leading people—is this compensation or direct satisfaction of wish for recognition?

D is irritated by taking orders, but works well on his own initiative.

E finds work of the personal service type, responding to the whimsical demands of others, a much greater emotional strain than tending a machine.

F doesn't like to do a little of each task each day, but to put one job through before tackling another.

G is bored if he has to be shown pictures by somebody else, but if he can take them in his own hands and control the time he spends on each, he likes to look at these same pictures.

H likes to cook, sew, decorate, set the table, dress and bathe

[123] PRUETTE, LORINE, in *Amer. Jour. Psych.*, vol. xxxi, p. 370 (1920).

children, but hates to put away utensils in their places after finishing a job.

I enjoys putting and keeping utensils in their places, enjoys housework when she can find things instantly, but the slightest uncertainty about what utensil to use or where to find it, blocks her reactions and makes her turn away from the task in great irritation.

J hates to borrow anything or ask assistance, likes to work rapidly in one place without being interrupted to go out and get things.

The Professor in Percy Marks' *Plastic Age* couldn't understand how students could weep over a football defeat. But he undoubtedly could weep over *something* equivalent—psychoanalysis asks: what was *his* equivalent?

Really to understand a personality we must know its *key patterns.* They are more important than any inventory of traits. For example, one person on pleasure jaunts has a distinct aversion to returning by the same route. He has more aversion to this than to bad roads, lost trails, tearing thickets. His friends are able, by knowing this, to predict his behavior.

Systematic Plans for the Study of Personality.—Working along these lines, F. H. Allport has published a *Systematic Questionnaire for the Study of Personality,*[124] and F. L. Wells has outlined a series of questions for the "Systematic Observation of the Personality—in Its Relation to the Hygiene of Mind."[125] These writers classify their questions under such heads as "intelligence and abilities," "habits of work," "recreative activities," "emotion," "position toward reality," "sexual sphere," "compensation."

If we were to make a complete study of several personalities, we might profitably measure by tests the following general variables:

General intelligence
Extroversion-introversion
Emotional abnormality or neuroticism
Emotional excitability
Ascendance-submission

[124] Published by C. H. Stoelting Co., Chicago, 1925.
[125] *Psych. Rev.,* vol. xxi, p. 295 (1914).

Hyperkinesis-hypokinesis
Conservatism-radicalism
Interest in things, persons, ideas

We might well spend the rest of our time investigating the personality by the genetic method. In so doing we could guide ourselves by our lists of fundamental wishes and their goal situations.

Summary.—A trait is any element or larger phase of behavior organization, inborn or acquired, regarded from the standpoint of individual differences. It may be an attribute or a variable. Most variable traits tend to have normal frequency distributions as do physical characteristics. Traits are measured by ratings and by tests. Most of what are popularly supposed to be physical indicators of personality traits have no real validity.

Heredity plays the main rôle in determining physical characteristics and intelligence and, probably to a lesser extent, temperament. It plays no direct part in determining attitudes. The socially more important personality differences are produced by environment; not so much, however, by general conditions as by specific events and circumstances in the environment.

The important general factors in personality include (1) general intelligence, (2) extroversion-introversion, (3) emotional normality—neuroticism, (4) emotional excitability, (5) hyperkinesis-hypokinesis, (6) ascendance-submission, (7) interest in persons, things, or ideas, (8) radicalism-conservatism. Factors (2) to (5) inclusive are probably temperamental, because they show definite correlations with physical or chemical characteristics or with recognized types of mental disorder. Temperamental differences are those due to general, all-pervasive differences in bodily chemistry or physiology. Factors (6), (7) and (8) are probably attitudinal. Attitudes, in so far as they are general, become so through conditioning to wider ranges of similar situations, and not through general bodily conditions.

There are several important social traits, such as honesty

and social intelligence, which can be measured by rather valid tests. But these traits are aggregations of specific attitudes and habits, rather than underlying general factors.

Personality differences are further illuminated by the genetic or psychoanalytic method of study. This method, instead of measuring certain standard traits among many individuals, studies whatever traits seem important in each particular individual, and seeks to discover the origin and development of those traits. Psychoanalysis is being used to explain biography and history.

The most important material in this chapter, unlike that in previous chapters, cannot be summarized. It consists in the many specific conclusions of research studies, and the various techniques which were used in these investigations. This chapter has presented more research material than any previous chapter. This is not because research workers are neglecting other problems, or overemphasizing the study of individual differences. It is because we cannot observe directly the minute conditions and processes in the nervous system, while we can get a great deal of indirect evidence by making comparisons between individuals. The study of individual differences is not so much an end in itself, as it is a means to the better understanding of fundamental principles of psychology.

We are not yet in a position to understand fully the differences between personalities, for we have not yet studied social interaction and culture; hence we shall return to this subject in Chapter XI.

CHAPTER VII

THE INTERACTION OF PERSONALITIES—SOCIETY

In Chapters IV and V we studied the interaction of wish-forces within the same individual. We saw that personality itself is produced and changed by this interaction. Now we shall see how this interaction within the individual is both a cause and a result of a larger interaction of forces *among* individuals.

The Reality of the Group

The Group-mind Controversy.—Many social psychologists, such as Allport, Dunlap, Lacombe, MacIver, and Ginsberg, hold that the social group is merely an aggregation of individuals, and that social psychology can be reduced to terms of individual psychology. Allport is emphatic in his condemnation of the "group fallacy," and begins his well known and valuable text by proclaiming "social psychology as a science of individual behavior and consciousness."[1] "Social psychology," he says, "must not be placed in contra-distinction to the psychology of the individual; it is a part of the psychology of the individual, whose behavior it studies in relation to that sector of his environment comprised by his fellows." It is misleading, he holds, to say that a crowd is emotional, intolerant, immoral; it is better to say, "the individuals in the crowd are emotional, intolerant, immoral." "Crowd mind," "collective mind," "group mind," are misleading metaphors.[2]

Most social psychologists, on the other hand, hold that the "group" is an organic whole, that it is something much more than a collection of individuals. Wallis, who expresses cogently the view of this school, points out that the psychology of individuals cannot explain the differences between group and group. "The psychic equipment of the individual enables him to imitate his fellows, but this affords no inkling of why

[1] *Social Psychology*, chap. i.
[2] *Ibid.*, pp. 4, 7.

in one group men imitate warriors, in another, hunters." The mechanism of speech does not explain "why one group speaks English and another Eskimo. Nor will any analysis of individual psychology predict the attitude of a Dakota toward a Cree, or of a German toward a Frenchman, or of anybody toward anything. In order to understand these specific attitudes, and even to discover them, one must analyze the culture of the group."[3]

In other words, this organic school of social psychologists applies the general principle that a whole is more than the mere sum of its parts. A table is more than a flat board and four sticks: it is these parts *in certain relations to one another.* And a group is not merely so many individuals, but these individuals *in certain relations to one another.*

The Controversy a Matter of Terms.—But after all, what we have here is only a controversy over words. Allport himself admits that "there is surely occasion for speaking of the group as a whole so long as we do not regard it as *an organism or a mental entity.* The study of groups is, in fact, the province of the special science of *sociology.* While the social psychologist studies the individual in the group, the sociologist deals with the group as a whole."[4]

So the issue boils down to this: Allport says (a) that the group is not an "organism" or a "mental entity," and (b) that the "social psychology" of the organic or Wallis school is really "sociology."

To (a) the reply is that Allport is right in refusing to call the group an "organism" or a "mind." An organism is a plant or an animal; mind is the functioning of the nervous system of an animal. The group is an *organic whole* (not a mere aggregation), but not an "organism" in the strict sense. Again, if, as the organic social psychologists claim, the laws of the "group mind" are quite different from the laws of the individual mind, then these two entities should not be called by the same name "mind." Logically, the word "mind" should be retained for its original use, referring to the individual. The so-called group

[3] WALLIS, W. D., *An Introduction to Sociology,* Knopf, 1927, pp. 147-148.
[4] *Social Psychology,* p. 10. The italics are the author's.

mind should be called, as it is by many social psychologists, *social interaction.* The processes in the individual are *mind* or *behavior*; the processes in the group are *interaction* and *social (or cultural) change.* A *conflict* is not a kind of "group behavior," but a kind of *interaction* of the behavior of individuals. The conflicting individuals are *behaving,* the group-as-a-whole is not "behaving," but is *acting* according to a certain pattern of *interaction* which we call "conflict."

As regards point (b), Allport also is logical in his use of terms. Since there is no group mind (or behavior) and since psychology means the science of mind (or behavior), then, literally, there can be no "social psychology" except as a convenient subdivision of individual psychology. But certainly there is a "social-interactionology" which is quite distinct from individual psychology. This "interactionology" is not exactly the same thing as sociology; it is rather that subdivision of sociology which deals with the interrelations of attitudes and wishes within the group, as distinguished from the material culture, activities, and bonds of social organization (see Chapter I). Allport's social subdivision of the psychology of the individual is dependent upon this "interactionology" just as much as "interactionology" is dependent upon individual psychology.

But a term such as "interactionology" would be so cumbersome or so puzzling that it seems better here to let logic yield to practicality, and to use the old term "social psychology" to mean the science of the *interaction* of individual behavior (or minds), and not merely of a phase of individual behavior itself.

If we follow this use of terms, the Allport-Wallis controversy liquidates itself.

Society as Real as the Individual.—As Weiss says, "The individual is a *locus* in a movement *continuum.*" According to Durkheim, *"l'individu n'existe pas."* Society is a complex of forces, the individual, like an automaton operated by wires, behaves as he is forced to behave by the social forces surrounding him. Cooley says that society and the individual are two aspects of the same thing. Individual personalities as they

are would not exist if it were not for their having been brought up and trained in social groups. Every personality is the product of many contacts with other personalities. Even a hermit had these contacts in his childhood. Mere individuals, kept always in isolated cells, having no contact with one another, would not make up a society. Moreover, such creatures would not be human personalities. They would merely have human bodies. It is *contact* between individuals which makes them what they are, and which also makes society. Hence it would be logical to hold that the real units of society are not individuals, but *social contacts*. Instead of saying, "This college community today consists of 500 persons," we might make a far more significant statement: "This college community today consists of about 1500 social contact situations: 30 classes listening to lectures, 45 reciting classes averaging about 25 students each, 5 committee meetings, 1 athletic mass meeting of 400 persons, 1 religious meeting of 200, 1 assembly of 500, 752 private paired conversations, 234 private conversations in groups of three or more, 1 fraternity initiation, 1 paddling bee, 47 conventional dates, and 36 petting parties."

In any case, human society is a reality just as truly as the individual. It is not a mere abstraction. Its separate parts may not appear to touch each other, but they are nevertheless parts of an organized whole, and not independent unrelated lumps of matter. In fact, the impression of oneness, of definiteness of outline, of solidity, which we get when we look at an animal, or a man, or a block of wood, is misleading. Physics indeed tells us that all matter is made up of molecules, and molecules of atoms, and atoms of electrons, and that these smallest units are infinitesimal particles revolving about each other. The space between these ultimate particles is thought to be much greater than the particles themselves, so that, after all, matter may not be so solid as it looks.

We can analyze a society into individuals, groups, attitudes, or institutions, according to our purpose. The analysis into individuals is a spatial, visible analysis. You can pick the group to pieces physically by dividing it into individuals, but

not by dividing it any other way. Yet for scientific purposes a non-spatial analysis may be more useful.

The family, as E. W. Burgess shows, is not a mere aggregation of persons, but "a unity of interacting personalities."[5] There are integrated families and non-integrated families. The integrated family shows one or more of these traits: elaborate ritual, rigorous discipline, sentimental interdependence, stimulating coöperative activity or objectives. None of these are traits belonging to individuals as such, but rather to the relationships between individuals.

Now of course it is true that there must be some difference between the individuals who make up the integrated family and those who make up the unintegrated. If we tried to take the members of an unintegrated family and put them together in a new way to make an integrated family, we would need to change them slightly. It would be necessary to make some changes in their attitudes toward the family situation. But these changes would be insignificant compared with their total personalities, which in most respects might remain the same as before.

A child has atrocious table manners at home, but is a perfect gentleman when eating elsewhere. What needs change is not any general trait of the child's personality, but his attitude toward a particular situation, "the home table." Our best chance of accomplishing this change is to make some adjustment in the situation itself. Probably what needs to be changed first is the parents' table behavior.

In boyhood days the writer used to attend temperance meetings. Some spellbinding orator would paint the horrors and the sinfulness of alcohol, and then to cap the climax would ask those who would pledge themselves never to touch a drop to rise. Everybody rose. Yet such episodes always left him wondering what results would be brought out by a secret ballot from the same group, under the direction of a research worker, asking them to say frankly whether they really intended to be total abstainers. In the 1920 elections in Czechoslovakia, many was the Slovak peasant who listened reverently to his

[5] *The Family*, vol. vii, p. 1 (1926).

priest on Sunday morning, and then went to the polls and voted the social democratic ticket—anathema to the Church in that region. Personality varies with the situation in which it is placed. A church service stimulates wishes for security and response; election day in a new and revolutionary republic may be expected to stimulate motives of rebellion and freedom.

Equilibrium of Interaction versus Social Change.—We must distinguish between social interaction and social (or cultural) change. Social interaction always means change from the standpoint of the individual. But from the standpoint of the group it may lead either to an *equilibrium*, or to a change.

By way of analogy, let us consider a waterfall. The stream flow above the fall, the dropping, the resistance of air causing the falling water to separate into strands, threads, and separate drops, the striking of these particles of water upon the surface of the pool below, the splashing, the spray, the churning in the pool, the escape of the water from the pool downstream, all are motion or change, with respect to *any given bit of water*. But all in all they *balance* one another, and the waterfall remains as before. It is a moving equilibrium. But now comes on a freezing of the water in winter. The flow above is reduced. Icicles form above, and perhaps a huge cone of ice is formed underneath the fall. Less water now goes over; the flow and quantity of the waterfall have changed. Again, considering a much longer period of time, the gradual wearing away of the stream bed causes the cascade to recede, little by little changing its position, its form, its height. These processes cause change, they disturb equilibrium.

By the same token, social interaction processes may balance one another, producing an equilibrium, or there may be a preponderance of one process over another, leading to change in the group or the culture as a whole.

For example, *promotion* is a process which continually raises individuals in a business organization. From the standpoint of individuals it means change. But from the group standpoint it commonly leads to an equilibrium, because it is balanced by the deaths, dismissals, and other separations

which are taking place at the same time. The general structure of the organization may remain as before, and each rank may always contain the same number of persons.

Such social equilibria, however, seldom remain long undisturbed. Usually one process overbalances another, and change results. Thus Sorokin has shown that the social stratification of a society is constantly changing. Always some individuals are climbing the social ladder, others falling or dying. But the upward and downward movements do not perfectly balance. During certain periods the gap between the upper and lower classes widens, the total "height" of the stratification increases. During other periods the gap lessens, the "height" of the stratification decreases, we have what Ross calls the process of equalization. Again, the "profile" of the stratification may change. That is, there is a change in the relative size of the different social classes.[6] J. A. Hobson has shown that machine industry tends to reduce, *relatively,* the number of persons engaged in the manual work of producing any given commodity and to increase relatively the number engaged in the sales and clerical work of distributing it.[7] P. Krische has shown that the change from steam to electric power in German industry has increased the ratio of officials to workers.[8]

In general, because of the large degree of balancing between social processes, the total amount of social motion or activity is much greater than the resulting social changes or, more accurately, than would be necessary to produce a given social change if the processes leading in one direction were to operate unopposed by contrary processes.

Processes of Social Change.—The following concepts, used by various authors, denote processes of social (or cultural) change, as distinguished from ordinary interaction processes, which may be in equilibrium. These processes are *dynamic* from the standpoint of society and not merely from the standpoint of the individual.

[6] SOROKIN, P., *Social Mobility,* Harper's, 1927.
[7] *The Evolution of Modern Capitalism,* Scribner's, 1917.
[8] *Zeitschrift für Völkerpsychologie und Sociologie,* vol. iv, p. 11 (1928).

Invention
Diffusion of culture traits
Accumulation of culture traits
Selection of culture traits
Adaptive cultural change
Stratification and equalization (rise of inequalities, etc.)
Centralization and decentralization
Liberation and increase of restraint[9]
Social deterioration, decadence, ossification, etc.
Commercialization, professionalization, etc.
Increase and decrease in mobility
Revolution

Social Change Not Explainable by Individual Psychology.—In explaining the psychology of social (or cultural) change, Allport's view again leads to controversy with thinkers, such as Ogburn, who view change from the organic group point of view. Thus Allport, criticizing Ogburn's *Social Change,* says:[10]

It must be remembered that in so far as culture has any dynamic or causal character it is to be defined as culture habit. . . . Conflict, or lack of adaptability of a new form to the cultural pattern already existing, is also readily understood through psychological categories, as habit interference. Fundamentally the conflict is in the habit system of individuals, not in the culture pattern as an abstract entity.

No one claims that causal processes take place in any abstract form or pattern of culture dissociated from culture itself. Culture consists not merely of habits and attitudes in individuals, but also of material products and other external situations. These situations are the results of habits, but they are also the causes of further habits.

It is idle to attempt to locate causation in either the situations or the habits. We know no *original* causes, but only con-

[9] This term illustrates the clumsiness of our language, in symbolizing social phenomena. The term "liberation" is generally understood as meaning the *increase* of liberty in the aggregate, as well as for particular individuals. Hence it can be used as a socially *dynamic* term. But there is no equivalent opposite word to mean a decrease of liberty in society. "Restraint" and "coercion" carry only a socially *static* meaning; they mean a condition rather than a change of condition. So we have to say "increase of restraint."

[10] "Social Change: An Analysis of Professor Ogburn's Culture Theory," *Soc. Force,* vol. ii, p. 674 (1924).

tinuous chains of cause and effect. If we were to follow in detail one of these threads of cause and effect which is working out social changes, we should find it now darting into the realm of nervous systems and habits, then into the realm of external objects and situations, then back again into habits, and so on.

E. A. Ross says: "History abounds in striking instances of large changes brought about by processes which left a *little more or less* of something," more or less of land, metals, forests, positions of leadership, or of population itself.[11] For example, one modern culture trait is the practice of using street cars and railways to travel between residences and daily business. Another culture trait is the use of private automobiles for the same purpose. Recently there has been severe competition between these two traits. For a time it seemed as if the motor vehicles would continue to gain till they drove tracked vehicles out of business. But then in congested cities the tide turned, the progress of downtown automobile transportation suffered a retardation, and the street cars, subways, and railways began to hold their own. Why? Because at a certain stage the use of automobiles was checked by the inadequacy of the streets and the limited quantity of parking space. The law of diminishing returns had set in. Would Allport claim in this case that "fundamentally the conflict [and its outcome] is in the habit systems of individuals"? It is just as correct to say that the conflict is in the geography of the city.

What does Allport mean by habits and habit systems? Does he mean merely what takes place in the individual's body—the stimulations of the sense organs, the neural pathways, and the responses? Or does he include the external situations which furnish the stimuli? It is from the various permutations and combinations of these external situations that the habit systems derive their chief significance.

A cause is only a link in an endless chain which cannot be located in any one factor—biological, psychological, cultural, or geographic-environmental—because it wends its way through all of them. When we say, in a more practical vein,

[11] *Outline of Sociology*, Century, 1923, p. 354.

that some particular kind of factor—the cultural, for example —is the determining "cause," we simply mean that it is the significantly variable factor. That is, in a large number of situations of the same class, this factor would be the one whose variations best correlate with the result in which we are interested, and would serve as the best index for predicting that result. What is the cause of a given railroad accident? In a philosophical sense the steam, the wheels, the men who laid the tracks, the inventor of the steam engine, were all causes. Without them it could not have happened. But these elements are uniform in every railroad situation. It is the variable or irregular element, the sleepy engineer or the failure of a signal, which we say is the determining cause.

So, in explaining social change, the question is: Are the psychological factors or the external situations more variable and how do their variations correlate with the results we are studying?

Allport's book explains so thoroughly the nervous mechanism of adaptation to social environment that we cease looking for significant variations in that mechanism itself, and direct our attention even more to the environmental factors. We see more clearly how the individual comes to reflect his environment. So Allport himself unwittingly demonstrates the need of a social psychology which is something more than a mere sector of the psychology of the individual.

The Analysis of Interaction.—In this and the following chapter we shall study social interaction, regardless of whether it produces equilibrium or change. We shall study social changes themselves in Chapter XII.

Social interaction is called by Allport social behavior. He defines this as *"behavior in which the responses either serve as social stimuli or are evoked by social stimuli,"* that is, any behavior which stimulates another's behavior, or is a reaction to another's behavior.[12]

The unit of individual behavior is an *S—R*. The unit of *behavioristic interaction* (to be defined later) is $-R_a- - - S_b—R_b$, in which R_a is a reaction by individual A, S_b *the*

[12] *Social Psychology*, p. 148.

stimulus which this reaction gives to individual B—in other words, the stimulus-medium of the interaction—and R_b the reaction produced in *B*.

The interaction of human beings may be analyzed and classified in two ways: (1) according to the *stimulus-medium* of the interaction, that is, the nature of the *contact* involved, and (2) according to the form or *pattern* of the interaction process, regardless of its medium. For example, "conflict" obviously is a pattern of interaction; it may take place, as in a prize fight, through the medium of direct perception of the one pugilist's muscular movements by his opponent, or, as in verbal repartee, through the medium of direct perception of language behavior, or, as in literary debate, through the medium of the externally stored and transmitted (printed) symbols, the two opponents never seeing or hearing one another. Again, a conflict may take place between two individuals, or two groups, or an individual and a group; between two crowd-groups which meet and see each other, or between two groups of thinkers who do not physically meet, see, or hear one another.

The Media of Interaction—Contacts

Social Contacts.—"The simplest aspect of interaction, or its primary phase," say Park and Burgess, "is contact. Contact may be considered as the initial stage of interaction, and preparatory to the later stages."[13] Individuals physically distant may be socially in contact, as by telephone or letter. But contact is not a stage in the interaction process, for it obviously exists through all the time that interaction is taking place. It seems clearer to say that contact is merely the *stimulus-medium* of interaction.

The complicated movements of a set of billiard balls when struck is an interaction process. The balls interact with one another and with the sides of the table. This interaction leads finally to a new arrangement of the balls on the table, different from the original arrangement. In this case the interaction consists in the balls striking one another. The balls interact

[13] *Op. cit.*, p. 280.

only when they come into direct *physical* contact. On the other hand, the heavenly bodies interact gravitationally in such a manner as to produce certain movements. They are not in direct physical contact, but interact through the supposed medium of the ether. What is the medium of contact when individuals interact in society?

The individuals in a dense crowd make direct physical contacts. Sometimes they are forced this way and that through the physical pressure of one another's bodies. But these bodily contacts are not what we mean by social interaction. Park and Burgess say that the medium of social interaction is communication. In this they include, however, not only language communication, but also other behavior or characteristics which stimulate the sense organs of other persons. Elsewhere they say that the idea of *contact* may be extended to include the influences which widely separated individuals exert upon each other through world commerce, even when they do not know of each other's existence. Thus they say there is a contact between the man gulping down coffee at the breakfast table, and the Java planter.[14]

Behavioristic versus Environmentally-mediated Interaction.—According to the medium of contact or interstimulation, we may classify all interactions of human beings as environmentally-mediated, behavioristic, and bodily. In behavioristic interaction the one individual (or aggregation of individuals) reacts directly to what the other *is, says,* or *does.* He perceives the presence or the behavior of the other. In one sub-class of behavioristic interaction, the one individual does not perceive the actual behavior of the other, but perceives externally stored symbols of that behavior (writing, print, pictures, etc.). For all practical purposes this is equivalent to perceiving the behavior itself. For example, our reaction to a friend's letter, or to a newspaper account of something he has done, follows much the same principles as our reaction to his words, spoken in our presence or over the telephone, or to his acts, directly observed by us. It belongs essentially to the large class "behavioristic interaction."

[14] *Ibid.,* p. 281.

In environmentally-mediated interaction, one individual (or aggregation) does not react to the behavior of another, or to any symbol or equivalent which he identifies by internal symbolization with that behavior. He reacts rather to some environmental condition or change produced by the other's behavior. By environmental we mean here environmental from the standpoint of *all* the interacting individuals. Of course one person's behavior is a part of another person's environment, but we include here only those natural and cultural factors which are environmental, or external, from the standpoint of *behavior in general.* In environmentally-mediated interaction, the behavior of one individual (or group) leads to some external, impersonal situation which is not essentially connected with, or symbolical of, the behavior which caused it. This situation then acts as a stimulus upon the behavior of another individual.

Perhaps this seemingly difficult but important distinction may seem clearer if we consider a case in which behavioristic interaction through externally stored symbols borders upon environmentally-mediated interaction. A teacher, coming into his classroom, finds the blackboard filled with playful literature and pictures. His own attitude, or preparatory set, is to write on the board something about the lesson. His reaction to the total situation is therefore to erase the material he finds there. This is a case of environmentally-mediated interaction between the playful students and the teacher. Their behavior caused a condition in the external environment, namely, "shortage of clean blackboard space," and this condition then stimulated erasing behavior in the teacher. Now, on another similar occasion, the teacher observes that the phrases and pictures on the board are designed to make fun of him. This time his reaction is to scold, punish, or perhaps to retaliate in jocular vein. The blackboard writings now play an entirely different rôle. They are not merely an impersonal, environmental situation, but they are symbols aiming to communicate to him or to third parties the attitude of the writers. When he reacts to these writings *as symbols,* he is reacting essentially to the behavior which produced them. He is now

engaged in behavioristic, or true social interaction, with the playful students. Their behavior stimulated his behavior in a direct, personal way. The interaction in this case has the pattern of conflict.

Utility of the Foregoing Distinction.—We may merely consider here some of the values of this distinction. For one thing, it helps make clear certain distinctions between pure economic processes on one hand, and political and social processes on the other. Thus an employer may be forced to raise wages through the environmental medium of a labor shortage, caused by many independent decisions of individual workers to enter other occupations. The labor shortage is the medium between the workers' behavior and the employer's behavior. On the other hand, he may be forced to raise wages through the threats of a labor union, or by public opinion, or by minimum wage legislation. In such cases his behavior is a direct reaction to the behavior of the workers, the public, or the legislature.

Second, this distinction is important in ethics. A leading ethical principle, omitting numerous qualifications, is that one should have liberty if it does not hurt others, but that one's liberty should be restrained if it is harmful to somebody else. But the keen thinker immediately asks: What does it mean to "hurt" somebody? Should you restrain every act which hurts my feelings, or only acts which hurt my health or my pocketbook? Modern psychiatry, to be sure, shows that you may sometimes hurt my health more through hurting my feelings than by exposing me to some bacterial disease. Now let us apply our distinction. If you hurt me by taking something which I should have, either in material wealth or social position, or by creating an adverse condition in the natural environment, as by leaving broken glass on the highway or blowing streptococcus germs through the air near my face, then you are hurting me through an environmental medium, and your action deserves a certain ethical condemnation. Such an injury is mechanical and inevitable; it can be prevented *only* by restraining your behavior.

On the other hand, if you and I are in close personal relationship, you may hurt me merely by doing or saying something which I do not like. You may amuse yourself in a manner repugnant to me. Your behavior arouses painful responses in me directly, and not through any change it produces in the impersonal environment. You do not affect my physical person, my wealth, my social position or reputation, my rights and privileges, or my labor.

Now in such a case of behavioristic interaction, an ethical question may arise which could not possibly arise in the case of environmentally-mediated interaction. Namely, are you wrong in doing this thing which pains me, or am I wrong in being pained by such an act? My repugnance to your act is obviously a conditioned emotion or sentiment. It may be a sentiment which is peculiar to me or to a limited class of persons. It might be ethically more justifiable for me to try to recondition my emotion than for you to restrain your act. To restrain you is not the *only* possible way to prevent the injury. One might *reëducate me.* You may suffer as much frustration from restraining this act as I do from your performing it. The problem must be solved by criteria quite different from those applied to the first problem.

Third, our distinction helps to make clear the distinction between social interaction proper, and culture. Behavioristic interaction does not in itself produce cultural change. Only when it affects the cultural environment, the traits, complexes and patterns of culture, considered as more or less permanent factors apart from the behavior which produced them, does human interaction bring about social (or cultural) change. This we shall discuss more fully in later chapters.

Kinds of Contacts or Interaction-media.—We may therefore classify interaction as follows:

(A) *Environmentally-mediated interaction,* in which the behavior of one individual (or group) affects the behavior of another through the medium of some product or result which is not behavior or a symbol of behavior. This may be subdivided into:

(1) *Ecological* interaction, in which the medium is some condition or change in the natural environment. For example, the down-

river farmer is obliged to change his planting policies or move his home by the fact that lumbermen have deforested the headwaters, thus producing more frequent floods and droughts. The primitive tribe is obliged to give more effort to agriculture and less to hunting because the increasing density of surrounding tribal populations has made game scarce. Indians change their manner of life and die off because of tuberculosis germs brought by the white man.

(2) *Economic* interaction, in which the medium is some condition or change in the material culture or in the quantitative proportions of useful human activities. Thus Japanese hill families are stimulated to plant mulberry trees by the fact that American women wear silk dresses. Mother is led to buy a new jar of marmalade sooner than she had intended by the fact that Johnny, though quite without anyone's knowledge, has been robbing the pantry. The most common type of economic interaction today is that which is mediated by money or credit.

(3) Interaction through the *social structure,* in which the medium is some condition or change in the social organization, quite apart from the behavior of individuals who compose it. Thus college club members "lose interest" and finally disband because the multiplication of other college organizations has increased the demands upon their time. A candidate is debarred from joining an exclusive club not because of anything he has done but because some other candidate, perhaps unknown to him, has just filled the vacant place in the limited membership.

Before going further, let us note that symbols may be of four kinds: (1) overt behavior symbols, consisting of speech and most gestures, which are specialized reactions produced for the purpose of communicating with others; (2) internal symbols or thought; (3) stored internal symbols or memories; and (4) stored external symbols such as writing, print, and pictures, which are produced for the purpose of communicating with others who are not physically present. These externally stored symbols are not transient things, lasting only as long as the behavior which produces them, but they become more or less permanent, may outlive the person who produced them, and may be transmitted to distant places independently of the producer.

(B) *Behavioristic or true social interaction,* in which the *behavior* of one or more individuals is a reaction to the *behavior* of others, either directly or through the medium of symbols. This may be subdivided into:

(1) Interaction through *externally stored symbols*, in which the interacting individuals do not perceive each other's persons through the senses, but one stimulates the other through the medium of writing, print, pictures, etc. For example, the French people were frightened or encouraged by newspaper reports of action on the Western Front. I am thrilled by a letter from a friend in China. The stimulating individuals may even be dead long before the reacting individuals react. For example, modern scholars are stimulated to reading and thinking about ancient Egypt, and perhaps the imitation of Egyptian art is stimulated, by hieroglyphic records unearthed in that country.

(2) Interaction through *overt symbolic behavior*, in which one stimulates another through oral speech or purposive gestures. Pantomime belongs in this class. Here the reacting individual perceives the actual behavior of the stimulating individual and not merely the stored symbols which that behavior produces. While printed telegraph communication and the phonograph record belong to class (1), telephone and radio communication and visual signaling form a special type under class (2); they make it possible for interaction to take place at a distance by means of transient, non-stored speech. The direct reading of a telegraphic message by the operator, without committing it to writing, belongs also in class (2).

(3) Interaction through *non-symbolic overt behavior* (kinetic, postural, and emotional). For example, a prize-fighter reacts to the movements and postures of his opponent; the member of a crowd runs where he sees others running; we are frightened when we see certain persons display anger.

A special type of interaction, combining (1) and (3), exists in warfare and some other activities, where the one group reacts to the overt behavior of the other group, but is able to perceive that behavior only through the medium of symbols transmitted by intelligence officers, aviator signalmen, etc. The behavior of the enemy is mapped or charted, from these reports, and our own general directs our movements according to the information conveyed by this chart. The enemy does not symbolize its behavior or communicate it to us; in fact, it tries to conceal its movements. But these movements are observed nevertheless by specialists, and their observations are so organized as to guide our behavior.

Among the kinds of non-symbolic overt behavior are non-purposive emotional gestures, facial expressions, and bodily postures. We have seen in Chapter III that such reactions play the rôle of

signs or signals rather than symbols. That is, they are not intended to convey meaning to the observer, but they nevertheless are observed and reacted to adaptively by him.

A border-line case between (2) and (3) appears when an individual performs some act for the sake of "threat," "precedent" or "example." In such a case his act is not merely a reaction to the previous situation. He plans it as a symbol of what he will do in the future or of what he wants others to do. Thus his act takes on the character of language.

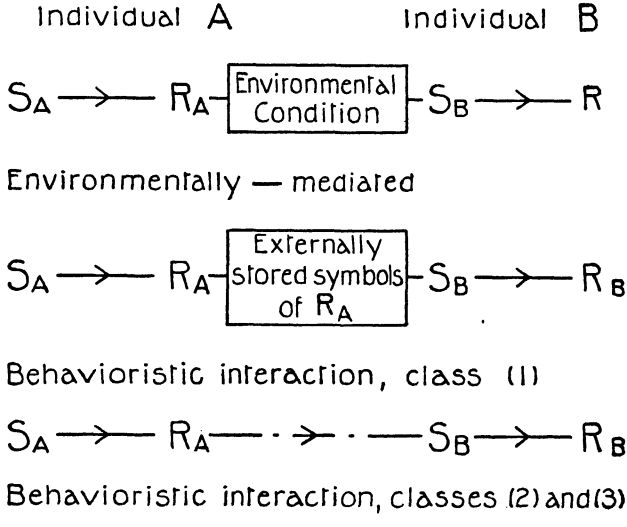


FIG. 28.—TYPES OF INTERACTION ACCORDING TO MEDIUM

(C) *Bodily interaction,* such as we have already noted when individuals physically press upon each other in a crowd. This is not in itself social interaction in any sense, and it plays a minor social rôle.

Roughly, behavioristic interactions (B) of classes (2) and (3) have been called *primary,* those of (B), class (1), *secondary.* Primary contacts or interactions may be *transient,* such as the superficial and intermittent meetings of people on the street or in social gatherings, or they may be *repeated* or *permanent,* as in the relations between the members of a family or a neighborhood.

N. S. Shaler has called our contacts with strangers "cate-

goric," and with acquaintances, "sympathetic."[15] We classify the stranger according to his race, class, religion, nationality, manner of dress, occupation, and so on; we react to him as a representative of a certain group. As we get to know him we qualify his category, we react to him sympathetically, as a unique individual. The Gentile reacts to the strange Jew as simply "a Jew." After personal acquaintance develops, the fact that the man is a Jew may seem much less important than other characteristics. Conversely, the Jew may have the same reactions.

Kinds of Social Groups.—Behavioristic interaction may take place in several kinds of social groupings. Allport classifies these as follows:

1. *Groups-proper,* distinguished by deliberate activities: (a) Coacting groups, in which members are responding primarily to some stimulus other than to one another. Ex.—pupils in a classroom. (b) Face-to-face groups, in which members respond primarily to each other. Ex.—social gatherings, discussion groups.
2. *Crowds,* distinguished by emotional excitement and domination by "prepotent" or primitive drives. Members respond primarily to a common stimulus rather than to one another.
3. *Audiences,* distinguished by open-mindedness, curiosity, lack of prepotent drives. Members respond almost wholly to the common stimulus, only incidentally to one another.

The above are actual physical assemblages of persons. But there are also sociological groups: persons united by bonds and common interests but not always physically together in space. These may be classified as (1) sociologically primary groups, which do at times come together physically, and whose members know one another personally, such as the family, the small school, the neighborhood; and (2) secondary groups, seldom or never physically assembled, whose members are not personally acquainted, such as the larger community, the national labor organization, the "public."[16]

The radio produces a new type of audience, without physical togetherness. The principal medium of interaction is the same

[15] *The Neighbor,* Houghton Mifflin, 1904, pp. 207-227.
[16] ALLPORT, *Social Psychology,* chap. xi.

as in other audiences (symbolic behavior or speech). It is not externally stored symbols, as in letter writing, for the word stimuli perish as they are produced. They are merely transmitted to a distance. The communication is entirely limited to the speaker-hearer channel. There is no return stimulation of the speaker by the facial expressions and minor movements of the hearers, no interstimulation of the hearers by one another. And the members of the audience metaphorically walk in and out of the hall at will, by the mere turn of a dial. There is no disturbance by late arrivals, no embarrassment of the speaker by premature departures.

Beuick[17] and Lindeman[18] suggest that the lack of visual stimulation by the speaker and by fellow members of the audience accounts for the fact that the radio has not played a greater part in social change. Yet there were, in 1928, about 7,500,000 homes in the United States equipped with radios, the number having grown steadily since 1922, when there were only 60,000. Opinion now inclines to the view that the radio in itself represents a very significant change, and that it has large future possibilities for education as well as for entertainment. It intensifies our leisure-time gratifications; we may have music with our meals, and listen to the news of the day when we are too tired to read.

Perhaps the early establishment of government control over the radio illustrates a general principle that any activity which lends itself easily to interference and conflict will inevitably bring about its own social regulation. And the regulation which prevents interference will also prevent the use of the air by any group to broadcast ideas fundamentally opposed to the existing cultural values. The radio will probably not be used for propaganda, except such as the majority approve. The only possibility of that lurks in broadcasting from some foreign country, and even then only those who wish will listen.

The radio, in short, represents an important change in our overt recreational behavior, but will produce no changes in

[17] "Limited Social Effect of Radio Broadcasting," *Amer. Jour. Sociology,* vol. xxxii, p. 615 (1927).

[18] "Radio Fallacies," *New Republic,* Apr., 23, 1924.

our ideas except those which would be produced by the newspaper and other traditional media.

In-group and Out-group.—From the standpoint of the individual in primitive society, all persons in the world belong either to the "in-group" or an "out-group." The in-group is one's own group, which may be a local unit, or a larger, more scattered body whose members live in relations of peace, law and order.[19] The in-group may be larger than the circle of personal acquaintance, but there is always some indication, such as name, language or dress, by which the members recognize one another. All other persons are "outsiders," and one's relation to them is one of independence or of potential hostility. Actual hostility is probably rarer than the earlier anthropologists believed.

In modern society the distinction between in-group and out-group becomes less clear cut. A person may belong to our in-group from the occupational point of view, but to the out-group from a religious point of view. But when conflict arises, we draw the line clearly and definitely, as in primitive society. In the World War, for example, we regarded even the Japanese, in a sense, as belonging to our in-group, and the Germans as outsiders and enemies. Conflict breaks communication; we think the worst of our enemies because we cannot or will not communicate with them, while we communicate freely with others who think ill of them. Primitive ethnocentricism, in modern society, becomes patriotism.

Social Distance.—Sociologists now speak of race prejudice and other "prejudices" between groups as *social distance.*

Bogardus has devised a method of measuring social distance. To measure, for example, the social distance you feel toward Armenians in general, we ask you to state your feeling toward Armenians in terms of 7 possibilities. According to your first feeling reaction, would you admit an Armenian (1) to close kinship by marriage, (2) to your club as a personal chum, (3) to your street as a neighbor, (4) to employment in your occupation, (5) to citizenship in your country, (6) as a visitor only to the country, or (7) would you exclude him altogether

[19] SUMNER, W. G., *Folkways,* Ginn, 1906, pp. 12-13.

from the country. Wherever your answer is yes, you mark an X. If you X (6) or (7), of course you would not X any others, but you may X any one or more of the first five possibilities. An X after question (1) of course indicates a lower social distance than an X after question (2), and so on. As a rule, the subject marks all of the questions 1 to 5 which follow the one to which he gives his first X, so that in practice the position of the first X substantially measures his attitude.

By having a group of people mark these questionnaires for each of the several nationality groups, we measure the average social distance felt by our subject group toward each of the groups in question.

Trying the questionnaire on 1725 native Americans, Bogardus found the following percentages of yes answers to "close kinship by marriage." We arrange the nationalities in descending order and include only the more significant items, given in percentages: English 93.7, native white American 90.1, Canadians 86.9, Scotch 78.1, . . . Irish 70, . . . Germans 54.1, French Canadians 49.7, Swedes 45.3, Dutch 44.2 (!) . . . Danes 35 (!) . . . Russians 15.8, Italians 15.4, . . . Czechoslovaks 8.2 (!), Indians 8.2, . . . Russian Jews 6.1, Greeks 5.9, . . . Mexicans 2.8, Japanese 2.3, Negroes 1.4, Turks 1.4 (!), Chinese 1.1, Mulattoes 1.1, Koreans 1.1, Hindus 1.1 (!).

Two hundred and two Negroes and mulattoes answered the questionnaire. Their greatest sympathies were with Negroes, mulattoes, French, Spaniards; their greatest antipathies toward Russian Jews, Greeks, Russians, Turks.

One study revealed that adults feel less friendly than do adolescents toward Jews, Japanese, and Negroes, while they feel more friendly toward Germans. Women have more antipathy than men toward Armenians and Russian Jews, but less toward Chinese.

In general, women are more friendly toward immigrants than are men, except in relation to marriage. In that respect they feel a greater distance.

Bogardus and others have used this measuring device to determine the effect of various teachings and experiences. It would be possible to measure the effect of a course of study in producing race friendliness by measuring social distance before and after the course.[20]

[20] BOGARDUS, E. S., *The New Social Research,* Jesse Ray Miller, 1926, chap. x; *Immigration and Race Attitudes,* Heath, 1928; PARK, R. E., "The Concept of Social Distance," *Jour. Appl. Soc.,* vol. viii, p. 339 (1924).

Social distance is usually the unplanned result of the teachings and experiences of early years. Bogardus has pointed out that accidental experiences with individuals of various nationalities play a large part in determining one's distance-attitude toward that whole nationality. But sometimes social distance is influenced by deliberate planning. Organizations embark upon programs to increase the friendliness between certain nationalities. Other organizations help to maintain antipathy. The Papacy, it is said, refused to publish the reports of the painstaking Jesuits in China in the sixteenth century because they showed Buddhism too close to Christianity.

W. C. Poole points out that the social distance measured by these methods is subjective; it is the attitude which the typical in-group man has toward the typical man of some particular out-group. But there is also an *objective* social distance, the actual difference in culture between groups. Thus, Germany is objectively much nearer in its culture to France than it is to England. Yet subjectively, during the War period at least, Frenchmen felt a much greater social distance toward Germans than toward English.[21]

W. G. Binnewies made a social distance index for attitudes toward rural life, and tried this on 456 young women. The results were:[22]

	No. of Answers
1. I would prefer to marry a farmer	13
2. I would prefer to live on a farm	31
3. I would prefer to spend most of my time in the country	56
4. I would prefer to spend my vacation in the country	102
5. I would prefer to go to the country once in a while	225
6. I do not care for the country	26

Seymour found, through a similar questionnaire given to young women in North Carolina normal schools, that the strongest advocates of urban life were those of no rural experience, and the strongest advocates of rural life those of no

[21] Poole, W. G., "Distance in Sociology," *Amer. Jour. Sociology*, vol. xxxiii, p. 99 (1927).

[22] Bogardus, *The New Social Research*, p. 215.

urban experience.[23] It would appear that life in each type of locality tends to create sympathy rather than antagonism toward it. But among the young women who had experienced both kinds of life, the town and village attraction was greater than the rural attraction.

A significant illustration of social distance was afforded by an American journalist who came into the office of an American welfare organization in Central Europe. Asking how many men were on the staff, and being told about fifty, he unthinkingly replied, "But I mean how many white people [meaning Americans]?"

Elementary Mechanisms of Behavioristic Interaction

Imitation.—Gabriel Tarde made imitation the very essence of society.[24] Imitation, he held, is a case of a more fundamental law of nature, *repetition.* In the inorganic world, repetition shows itself as undulation or wave motion. In the organic world it takes the form of generation or reproduction. The offspring is a repetition of his parent. In the cultural or "superorganic" world, repetition manifests itself as imitation. Imitation proceeds from the superior to the inferior, and from within to without. Dogmas are imitated before rites, ideas before their expressions, ends before means.

E. A. Ross, American pioneer in social psychology, makes many applications of Tarde's principles. In society we can discern, he says, several planes or currents of imitation: fashion, or imitation of the new; convention, or imitation of well established present-day standards; custom, or imitation of the past; rational imitation, or imitation of what is reasonable.[25]

What anthropologists call the *diffusion of culture* is imitation. A culture trait, such as the custom of worshiping the bear or of smoking tobacco, happens to be started among some people. From them it spreads to surrounding peoples, and so

[23] "Rural Social Distance," *Sociology and Social Research,* vol. xiv, pp. 238-248 (1930).

[24] *The Laws of Imitation,* Holt, 1903.

[25] *Social Psychology,* Macmillan, 1914.

on in wider and wider circles until stopped by some interfering trait or condition.

Imitation not an Instinct.—Further importance was added to imitation by the theory that it is an instinct. A "general" instinct, indeed, but nevertheless an instinct. Thorndike, Allport, and others have completely exploded this theory. They have shown that we have no inborn drive to imitate, but do so only when it serves our other purposes. Tommy imitates the language and mannerisms of his older brother who is on the college football team and whom he sees once a month, but he does not imitate the sniveling and the baby-talk of his ever-present younger brother. If imitation were an instinct, he would be more likely to imitate the latter. Against the theory of instinctive imitation Allport argues: (1) that actual experience shows it is very difficult to evoke an imitative reaction in a baby under 18 months; (2) that when imitative reactions finally do occur, they can be explained by the process of the conditioned reflex; (3) that many apparently imitative acts are due to the fact that several people are reacting to the same stimulus in the same way, and (4) that when we try to imitate some act of skill we require much practice before we can copy it perfectly. For example, imitation helps us very little in learning to swim. Allport adds that there is no evidence even for a *general* instinctive drive to imitate. We imitate only when so doing will help us to satisfy our own motives.[26] Tommy, mentioned above, was trying to satisfy a wish for superiority. He found that he could do so by imitating his older brother. When imitation did not satisfy, he did not imitate.

(1) *Conditioned imitative responses.*—Let us examine some cases of imitation. We yawn when others yawn, we remove our hat automatically upon seeing another do so, we spontaneously stop and stare at the top of a high building when we see a crowd doing so. In these cases no symbolic behavior intervenes between stimulus and reaction. The imitation is spontaneous and immediate. Bernard calls it *suggestion*

[26] *Social Psychology*, pp. 241-242.

imitation.[27] Cases of this kind have led to the false belief that imitation is instinctive. But we have seen that a spontaneous and automatic reaction is not necessarily an instinct (innately connected to its stimulus). Usually it is a *conditioned response.* Many times in the past we have been stimulated to yawn by long speeches and hot air (literal or metaphorical), and at the same time have seen others yawning. The sight of the neighboring yawns has become a conditioned stimulus which now automatically produces our own yawn. But the only inborn stimulus was the warm air or the prolonged strain of attention (underbreathing, which leads to a compensating overbreathing in the form of a yawn after the tension is relieved). Other automatic imitative acts may likewise be explained by the principle of conditioned response.[28]

Sometimes the primary stimulus in the conditioning process is something altogether different from the response, as in the case of S(warm air)—R(yawning). In other cases the primary stimulus is the return stimulus S_r from the same act just previously performed by the subject himself. We gave an illustration of this in Chapter III. The baby's first "da" R is stimulated as a random response by the S "general condition of bodily energy." Later, he learns to say "da" as a response to the previous "da" he just uttered (circular response). Then he learns to say "da" as a response to a "da" just spoken by somebody else. The S_r from his own "da" is thus the primary stimulus in the imitative conditioning; the "da" spoken by another becomes a conditioned stimulus.

Allport gives this example: "One day while the writer's baby was visiting, the hostess observed him wave his hand aimlessly up and down. She at once drew his attention and waved her hand, at the same time crying 'bye-bye.' The affair interested him greatly, and thereafter he would react either to the sight of the waving hand or to the sound of 'bye-bye' by waving his hand."[29] Bernard calls this *accidental imitation.*

[27] *Introduction to Social Psychology,* Holt, 1926, p. 323.

[28] HUMPHREY, G., "Imitation and the Conditioned Response," *Ped. Sem.,* vol. xxviii, p. 1 (1921).

[29] *Social Psychology,* p. 240.

It likewise represents a simple conditioned response, brought about by the peculiar circumstances under which the act was once performed.

(2) *Purposive imitation.*—When we imitate the movements of a swimmer or the mannerisms and phrases of some person we admire, we are intentionally *copying a model.* We are engaged in *purposive imitation.*[30] We imitate as a means to an end, the end being to satisfy a wish, usually for superiority or new experience. Symbolic behavior (thought) intervenes between the stimulus produced by our model's behavior and the reaction in our own behavior. If the imitated act is a complicated one which has not yet been integrated or perfected in our own behavior, we require a period of trial-and-error learning to make the imitation complete. This learning process may require months or even years, as those know who have had difficulty in learning to swim. In other cases, the imitated act is already established in our nervous system, and then the behavior of our model becomes merely a cue stimulus which sets off the act. But this stimulus arouses the imitative act in us only if and when we symbolize to ourself that such imitation is likely to satisfy some wish. Otherwise we do not imitate.

Purposive imitation is hence a process of a much more complicated order than the simple conditioned response type described under (1).

When purposive imitation uses symbolic rather than overt trial-and-error learning, Bernard calls it *projective imitation.*[31] Learning to drive a car by means of printed directions or verbal instructions is a case of *projective imitation.* The learner does not merely try, with increasing success, to copy the movements of the teacher. He analyzes the whole process symbolically, translates visual stimuli into words, words into movements.

(3) *Like responses to a common stimulus.*—Other cases of so-called imitation are merely *like responses to the same*

[30] BERNARD, *op. cit.*, p. 324.
[31] *Ibid.*, p. 325.

stimulus. For example, a cold wind causes you to shiver and also causes me to shiver. Your shivering has no more to do with mine than it has with the shivering of Commander Byrd's men in the Antarctic when and if they attempted to take a bath. But there are many less obvious cases. For example, the hearer of a joke usually laughs, not because he hears others laugh, but because the joke is funny.

Imitation Not a Single Process, but a Blanket Term.—Imitation is thus a general term which covers many different relationships between stimulus and reaction. The only common factor in all cases of imitation is the mere fact that the *stimulus resembles the response.* Resemblance is not the result of any single, peculiar process; it may be the result of any one of several different processes. Moreover, resemblance may be of several different kinds: resemblance in overt patterns of movement, in visceral reactions, in general attitudes, in purposes. Any superficial resemblance is enough to make some philosophers cry, "Behold, imitation!" They talk as if some one mysterious principle could explain the fact that two women wear the same kind of hat, that two men are both running at the same moment for the same subway train, or that one mule follows another to a haystack. Resemblances between the behavior of two individuals require explanation just as much and no more than differences require explanation. There is no peculiar, single principle which explains all resemblances, as distinguished from the principles which explain differences. To study imitation as if it were a unitary principle by itself (whether instinctive or non-instinctive) adds no more to our knowledge of social psychology than a special study of all those cases where one house resembles its neighbor would add to our knowledge of the construction industry.

Sympathy.—Sympathy is the automatic imitation of another's *emotional responses,* and belongs to type (1) above. It must be sharply distinguished from pity. Pity is always the same response: an attitude composed, more or less, of superiority, tender emotion, and mild anguish, stimulated by the

suffering of another. But sympathy, literally and technically, means feeling *with*, or similar to, the other. If I see my brother in a rage, sympathy does not consist in feeling "sorry" for him, but in getting angry myself.

There is no inborn tendency toward sympathy. The experiments in reading facial expressions show that on the average our accuracy is less than 50 per cent in recognizing the emotion shown by another person. Again, these experiments show that most persons strive to recognize an emotional facial expression by recalling specific situations for which the expression would be appropriate. They do not recognize it directly.[32] Finally, everyday experience shows many cases in which our seemingly most "natural" response to another's emotion is not the same, but a different, emotion. When we see anger, we are likely to show fear or amusement. Sympathetic emotion, when it does occur, is simply a conditioned response to the total situation. One animal running and uttering cries of fear commonly provokes similar behavior in others, but this is because of their past experiences. Some prior fear stimulus, such as the sight of an enemy, frequently has been accompanied by the sight of fear behavior in their fellows who also saw the enemy at such times. Hence, by conditioning, the mere sight of fear in the others becomes sufficient in itself alone to produce fear. Likewise, others' laughter commonly becomes a conditioned stimulus to one's own laughter. But the sight of fear in a fellow animal who is in combat with oneself does not produce fear: it relieves fear and gives a sense of triumph. The total situation is different.

Among animals, sympathetic fear shows itself in the stampede. The Biblical herd of swine which committed suicide over a cliff doubtless was so motivated.

Humans experience *panics*, some of which are of the simple physical order of the stampede—such a panic often occurs among a crowd watching a dangerous fire. Others, such as financial panics, are mediated by thinking processes. They are not cases of sympathy.

[32] ALLPORT, *Social Psychology*, pp. 225 ff.

Suggestion.—Unlike imitation and sympathy, suggestion is an elementary interaction mechanism of a more or less single and definite type. It may be imitative or non-imitative.

A professor displayed before his class an important-looking piece of apparatus, and told them that when he opened a valve a gas of a peculiar odor would pour into the room. He wished to see how long it would take for the odor to travel through the room, and therefore he asked each student, as soon as he detected it, to raise his hand. The professor then opened the valve. Hands in the front row began to go up, then in the next row, and soon nearly all hands in the room had been raised. Then he explained to the class that there was no gas and no odor.

This episode illustrates suggestion. There is nothing mysterious about it, nothing that cannot be explained by the conditioned reflex mechanism. The verbal R "I smell" (or its equivalent, in this case raising the hand) is, in the normal course of anyone's training, conditioned to the stimulus S_1 "an actual odor." This S_1-R of smelling and responding by a signal is very commonly accompanied by the stimulus S_2, "hearing or seeing another person indicate the odor." A further conditioning thus takes place, by which S_2 becomes more or less connected to R; that is, the mere hearing of the remark, or seeing the signal made by the other person, tends to arouse the response formerly provoked by the odor alone. But this connection S_2-R does not develop freely like some conditioned responses, because other phases of our training lead us to interpose a critical or thinking response. That is to say, we learn, through various experiences of "being fooled," not to respond directly to another person's remarks about the environment without first checking up for ourselves.

But in spite of this training in critical attention, we meet with occasional situations where the more direct connection S_2 (other person's remarks)—R (our own final reaction) holds sway. This connection short-circuits the thinking process which ordinarily would intervene, and once more we are fooled. Or at least we are as good as fooled. For the suggested reaction is often correct. But this, so to speak, is merely our

good luck. If the suggestion had been false, we would have responded to it nevertheless.

In another type of experiment, subjects are shown a row of six squares like those in Fig. 29. They are told to "choose one of these squares." These instructions call for a random choice; hence in any large number of cases we should expect each square to win about one-sixth of the choices. But actually square No. 3 is chosen much more often than this random choice expectancy of one-sixth. The squares next to it also get more than their share of choices. This test indicates *suggestion,* for the subject is given no *reason* to believe that he will earn a higher score, or will please the experimenter any better, by choosing the conspicuous square.[33]

There is a story of an old veteran walking down the street with his arms full of bundles, to whom someone jokingly

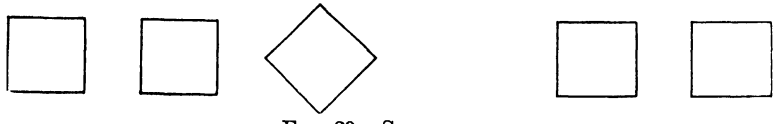


FIG. 29.—SUGGESTION

called "attention." Immediately he dropped the bundles and came to the proper military posture. He had responded directly to a social stimulus, short-circuiting or "cutting out" the critical thinking process which ordinarily occurs when one hears such a command in a non-military situation.

There is an old riddle:

As I was going to St. Ives,
I met a man with seven wives.
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits,
Kits, cats, sacks, and wives,
How many were going to St. Ives?

The majority of persons on first hearing this riddle respond by counting wives and cats and so on. In this case the suggested response happens to be a thought process, but it is the wrong thought process. The thinking logically called for by

[33] SIDIS, B., *The Psychology of Suggestion,* Appleton, 1898.

the evidence is this: "If you *met* these wives, sacks and so on, *they* must have been going in the opposite direction and hence are irrelevant to the question." This logically required thought process is short-circuited; the person makes the suggested rather than the logical response. The suggestive power here lies in our general experience that all seriously given facts are important and worthy of consideration. Since most of the talk was about the wives, cats, and so on, and since statistics are seldom quoted for fun, the most usual response is to ignore the inconspicuous phrase "I met," and to give attention to the long string of irrelevant statistics which make up the body of the statement. So few hearers resist the suggestion that the suggested reaction here might be considered the normal reaction.

Let us consider a hypothetical case standing at the other extreme.

A, it is reported, established a casual acquaintanceship with B, a man sitting beside him in a train approaching a large city. B became interested in the stories told by A and responded to the sympathy with his own problems displayed in return. After leaving the train he accompanied A for some distance into the city. Heretofore there had been no suggestion that A needed any assistance; he had posed as a man of some means. Suddenly, as they were about to part, A felt in his pocket and exclaimed, "Gosh, I've left my wallet on that train, and haven't a cent to send this telegram. What'll I do?" B, believing him to be a man of standing in the city, offered to lend him some money, dug into his own pockets and found that he had nothing but a twenty-dollar bill. "This is the smallest I've got," he said, holding out the bill. "That's mighty kind of you," the other replied, "suppose I go across to the telegraph office and get this changed while you go in that restaurant there and order us both breakfast. I want ham and eggs and coffee. Let them turn the eggs over. After breakfast this bank here will be open and I'll get some money." B complied with the suggestion, and never again saw his acquaintance or the twenty dollars.

The writer cannot vouch for the actuality of this, but it is typical of the confidence games used by a certain class of criminals. It would seem that B must have been a man of

unusual suggestibility, at least as regards personal contacts of the kind described. Of course a possible interpretation is that B was not suggestible, but really thought of the possibility of being defrauded and then made a reasoned judgment that A was a safe man.

In any case, situations vary in their suggestive power, and persons vary in their degree of suggestibility. Some suggestive situations will work upon practically all; others will get a suggested response out of only the most suggestible, leaving the rest critical, resisting, laughing at the unsuccessful attempt to bamboozle them.

Beside the subject's personality and the suggestive stimulus itself, there are other factors which help determine the result. Among the conditions which render most persons more suggestible than usual are alcoholic intoxication, fatigue, monotonous and rhythmical stimuli, and a submissive attitude toward the source of the suggestion. Thus, hypnotism is most successfully practiced by a person of mature years with a halo of prestige, because subjects will really believe in such a person and trust his powers.

Hyper-suggestible persons are extroverts. They are controlled more by outside stimuli, particularly social stimuli, and less by their inner thought processes. They dissociate easily; hence it is easier for them to surrender themselves to outside influences, to be hypnotized. Suggestibility, says Morgan, is an attitude. It may be temporary or chronic. It may involve the whole organism, in which case it shows itself in great expressiveness, or it may involve only a part of the personality, in which case it leads to dissociation and even to double personality.[34]

Allport defines suggestion as follows:[35]

Suggestion is a process involving elementary behavior mechanisms in response to a social stimulus; the nature of the process being that the one who gives the stimulus controls the behavior and consciousness of the recipient in an immediate manner, relatively uninfluenced by thought, and through the method of building up

[34] "The Nature of Suggestibility," *Psych. Rev.*, vol. xxxi, p. 463 (1924).
[35] *Social Psychology*, pp. 251-252.

motor attitudes, releasing them, or augmenting the released response as it is being carried out.

"A suggestion" is a social stimulus producing the effect thus described.

Suggestion a Relative Matter.—Suggestion is a process of responding directly to a social stimulus without the intervening thought process which normally would occur. This definition, however, is obviously relative. Suggestion is not a unique process. Whether a given case of behavior is suggested or not depends on what is the "normal" response to the situation. And often that is difficult to judge.

Conversation.—Interaction in primary contacts takes place largely through speech. In Chapter III we studied the development of speech in the child. We note here some interesting studies upon speech in social interaction—in other words, conversation.

J. Piaget classifies the language of a child as egocentric and socialized. Egocentric speech doesn't know to whom it is addressed or whether it is listened to or not. It is subdivided into repetition or baby prattle, monologues, and dual or collective monologues (talking in the hearing of another but not considering his point of view). Socialized speech considers the hearer; it is subdivided into adapted information, criticism, commands, requests or threats, questions, and answers. Piaget recorded carefully the speech of two six-year-old children during a certain period each day for a month. Forty-three to 47 per cent of their speech (except answers) was egocentric. By a different method he observed the conversation of 20 children aged 4 to 7, this time recording all the speech heard within a certain room. The average egocentricism was 45 per cent. *At the age of 7 to 8, egocentricism diminished to 25 per cent.*[36]

Several studies have been made of conversation and discussion. By taking notes on 500 conversations, M. H. Landis and H. E. Burtt found that men (in the United States) talk, in greatest amount, about business and money, and next, sports and amusements. Women's leading subjects are men and clothes. Business people talk shop, even outside business situations. Persons play a large part in women's, a small part in men's, conversation. The place where the conversation takes

[36] *Language and Thought of the Child,* Harcourt, Brace, 1926.

place alters the subject matter but does not obscure the fundamental trends of sex difference.[37]

C. I. Zyve recorded the free conversation of 30 third-grade children during two daily periods of 15 minutes each, over a period of three months. Play proved to be the leading subject, then, in order, automobile trips, school work, special subjects, coöperative activities.[38]

Dorothea McCarthy took toys to the homes of children and recorded the language they used on receiving them. She found that the simple naming of objects decreases with age; remarks about the immediate situation increase; remarks associated with the situation appear later and increase with age, and irrelevant remarks occur about equally at all ages. The length of the child's response correlates significantly with his I. Q., and is significantly greater in the children whose parents have the more intellectual occupation.[39]

Discussion.—Discussion is conversation organized about a definite subject or purpose. Remarks irrelevant to this central theme are excluded. The Greeks had a well developed technique of discussion, known as dialectic. They knew less than we about the subjects they discussed, but they had a better method of discussing. True discussion, sticking to the point, and excluding the irrelevant, is a rare art. It is an art which has possibilities of immediate pleasure as well as of utility.

H. E. Burtt had "witnesses" testify before a "jury" concerning an imaginary crime. In some cases the witness was supposed to tell the "true" story as given him by the experimenter; in other cases he was told to make up his own falsification of this story. The jury members were asked to judge from the witness' observable behavior whether he was telling the given story or falsifying it. Each person's judgment was recorded separately; then they discussed their observations, and again voted separately. With the women "jurors" 48 per cent of the initial judgments were correct. Discussion raised the percentage to only 52. With the men, discussion reduced correctness of judgment from 48 to 47 per cent. Discussion considerably altered the individual judgments, but altered almost as many in the wrong direction as it did in the right

[37] "A Study of Conversations," *Jour. Comparative Psych.*, vol. iv, p. 81 (1924).

[38] *Teachers College Record*, vol. xxix, p. 46 (1927).

[39] See THOMAS, W. I., and D. S., *op. cit.*, p. 537.

direction. The approximately 50-per-cent figure, in judging two alternatives (truth or lie), simply means that the judgment was a mere guess. It was impossible to tell from the outward behavior of the witness whether he was telling the truth or not.[40]

Any amount of discussion fails to bring us nearer to correct judgment when all the participants lack access to the facts. The reason why discussion in many situations does lead toward truth is that some of the participants already have an insight which others lack, and are enabled thereby in some degree to educate the others.

The Patterns of Behavioristic Interaction

Classification of Interaction According to Pattern.—Let us now analyze behavioristic, or true social, interaction from the standpoint of its form or pattern. The medium of interaction does make a difference; there are phenomena which occur when people are physically in each other's presence and which cannot well occur when they communicate from a distance by external symbols. But these differences are less important than those we are about to study. Even the phenomena of crowd behavior, which we usually think of as occurring only when the interacting individuals are physically together, nevertheless take place also through more indirect media. The interaction of individuals in the Klondike gold rush, for example, was largely mediated by newspaper reports; the gold-seekers did not generally come into each others' presence until they arrived in the Klondike or on board ships bound thither.

Let us first consider a few helpful preliminary distinctions.

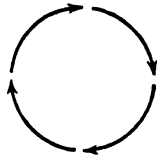
Interaction may take place between (1) individuals and individuals, (2) individuals and groups, (3) groups and groups, (4) culture traits and culture traits. The last kind of interaction will be considered in Chapter XII under Cultural Change.

Allport differentiates *linear* from *circular* social behavior.

[40] Burtt, H. E., "Sex Differences in the Effect of Discussion," *Jour. Experimental Psych.*, vol. iii, p. 390 (1920).

In linear behavior, A stimulates B, and perhaps B stimulates C, and so on through a line of one-way transmission, but there is no return stimulation of A by B. Stalking games and the passing of orders down the line from superior to subordinate in an army illustrate linear behavior. In circular social behavior (interaction) the movement is back and forth. A stimulates B and B then stimulates A to further reaction, as in conversation or fighting. Allport further distinguishes *direct* from *contributory* social stimuli. A direct social stimulus "holds the focus of attention and maintains exclusive control of the final common paths of response." A contributory social stimulus merely modifies, redirects, augments, or diminishes a response which is called forth and controlled mainly by some other stimulus, which may be non-social. Thus the stimulus of my companion's question in a conversation is direct, it controls my answer completely; the excited yelling of my neighbor in a crowd is contributory, it merely augments my own excitement, which is caused primarily by the common stimulus (perhaps non-social, like a burning building) which assembled the crowd.[41]

F. M. Thrasher, in his study of "The Gang," classifies "collective behavior" into five main patterns. These are described and diagrammed as follows:[42]

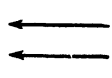


1. *Circular movement.*—Includes all forms of mutual excitation, such as milling, "talkfests," "rough-housing," games, dancing, parties, picnics, etc. (Typified in Indian War Dance.)

2. (a) *Linear, parallel movement.*—Includes such movements as a rush for seats or for a prize. (Typified in "Gold Rush.")

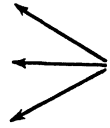
[41] *Social Psychology*, pp. 148-151.

[42] From THRASHER, F. M., *The Gang*, University of Chicago Press, 1927, p. 56. Reprinted by permission.



2. (b) *Linear, coöperative movement.*—Includes gang exploits, such as roaming, migration, attack, stealing, games, etc.

3. *Combative movement.*—Includes conflict behavior of a group, such as a gang battle, war, or feud.



4. *Dispersive movement.*—Includes panic type of behavior, such as a rout or a stampede.

A single unit of interaction, $-R_a- - -S_b\text{——}R_b$, such as —A says "How do you do?"—B hears words—B replies "Pretty well, thank you,"—cannot by itself be classified as belonging to some particular pattern of interaction. It might occur alone, or in almost any pattern. Nor does every large group of $R- - -S\text{——}R$'s necessarily constitute a typical pattern which is worth while distinguishing and classifying. The patterns which we shall study are the large, important type patterns which we discern when we are free to consider all the other elements which are related in any way to the element or group in question. To discern a pattern, we must take the point of view of the Gestalt psychology; we must see, not the parts separately, but the whole. We must see the relations between the elements. And we may see these relations in many different ways. In looking at the painting of a pastoral landscape, the patterns which my eye picks out may be groupings of animals, while those your eye selects may be color arrangements.

By the same token, in viewing social interaction, some psychologists see patterns of grouping of individuals, some see patterns of relation between the visible, overt reactions of the individuals (such as Thrasher's "dispersive movement"), and some see other kinds of patterns. The writer believes that the most significant and useful way to view interaction is to focus upon the relations between the largest, most significant patterns which we discerned in our study of individual behavior—namely, the *wishes.*

Wishes the Keys to Behavioristic Interaction.—Let us return to our analysis of human motives which is summarized in Chart I. We have seen that each individual is a bundle of thousands of *S-R* connections, a few inborn, most of them acquired. We noted that certain postural and emotional *S-R*'s, which we called attitudes, are the keys to that jumble of varied kinetic and symbolic reactions which we call action, feeling, thought. Furthermore, we learned in Chapter IV that even the attitudes are a hopeless confusion which makes no sense until we study them from the standpoint of purposes or wishes. There we find the real keys to the individual's behavior.

Therefore the *relations among wishes* of two or more individuals are the keys to real understanding of social interaction. Individuals react to each other in certain ways, because to do so helps, or seems to help, the satisfaction of their wishes. While some interaction is the impulsive operation of conditioned responses without purpose, yet the more important and prolonged interactions are determined by the purposes or goals of the interacting persons. The nature of the social stimulus does not alone determine our reaction. The important factor is *what we are trying to do.* Allport recognizes this fact in his explanation of crowd psychology. He says: "Action is facilitated and intensified through the presence of the crowd; but it originates in the drives of the individual."[43] In speaking of the face-to-face group, however, Allport says that the "individuals react mainly or entirely to each other," and that the crowd differs from the "group" (both face-to-face and "co-acting") in the "presence of emotional excitement and the replacing of deliberate group activities by drives of the more primitive and prepotent level."[44] In making the distinction, Allport seems to convey the false impression that crowd action is relatively more determined by individual wishes and less by the stimuli received from one's fellows. Even the face-to-face "talkfest" must be explained by the fact that the several participants are motivated by a drive for a certain

[43] *Social Psychology*, p. 296.
[44] *Ibid.*, pp. 260-261.

kind of fellowship experience, which drive is satisfied by conversation. It is a form of the "wish for response." This wish is not less prepotent, primitive, or individual, nor is it always and necessarily attended by less emotional excitement, than the drives which actuate crowds. We always act in groups to satisfy our wishes.

Behavioristic Interaction Patterns Classified According to Wish Relations.—Now, from our fundamental viewpoint of wish or purpose, two distinctions seem clear and important. First, two or more activities either interact with each other without changing, or they are changed by the interaction. Second, two or more activities either help each other or oppose each other. Of course there are mixed cases, but these could be analyzed into smaller elements which would be either changing or unchanging and either mutually helpful or opposed. The writer proposes, therefore, the following classification of behavioristic interaction:

A. Interaction which *does not recondition emotions nor substitute wish goals,* but leaves the wishes substantially unchanged.

(1) *Mutual gratification.*—In this type, we satisfy a wish through some social activity which also satisfies the other individuals with whom we interact. Their wishes may be of the same type as our own, as in conversation, dancing, and love-making, or they may be different, as when we tell stories while the others enjoy listening, or when we watch with pleasure an amateur performer while he "does his stuff." Interaction is necessary to the full satisfaction of the wishes of both or all parties. If the wishes are of the response type, the presence and responsive behavior of the other (or others) is in itself the goal situation of the wish. If the wish is of the superiority type, it is satisfied through the admiring behavior of the others. They perhaps may gain superiority through being admired in return for some other quality, or perhaps they may forego superiority entirely in the given situation in return for having other wishes gratified. Again, the security wishes of two or more persons are satisfied through the fact of their being together, in the darkness or in some dangerous situation. Each helps allay the fears of the other.

(2) *Conflict.*—In this case, we attempt to satisfy a wish through some activity which, if successful, must necessarily

oppose or frustrate the satisfaction of others. Applying the logic of wishes rather naïvely, we might hold that conflict is impossible unless somebody is a fool, for no one would knowingly engage in an interaction in which he expected to be frustrated. But of conflict there is nevertheless plenty in human society, because (a) frequently it is not known in advance who will win, and (b) even when the winner may be guessed beforehand, the prospective loser enters the conflict and endures the frustration because such behavior is culturally necessary to avoid some greater, long-run frustration (such as being known as a coward or a "poor sport").

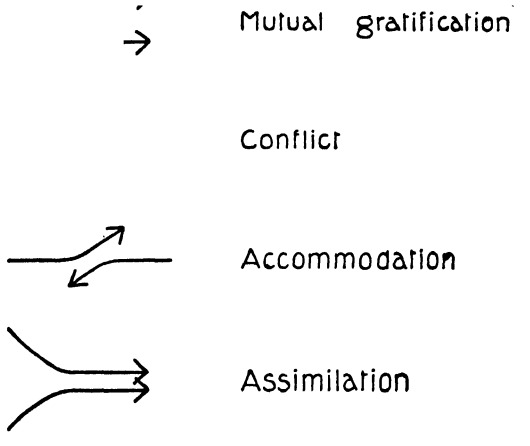


FIG. 30.—PATTERNS OF BEHAVIORISTIC INTERACTION

B. Interaction which *reconditions emotions* or *substitutes wish goals*.—This does not mean interaction which we enter in order to get a substitute satisfaction for some frustrated wish. It does not include the case of the man who throws himself into the excitement of a religious revival to help him forget a disappointment in business or love. The substitution of wish goals, the redirection of the wish, must take place without our previous expectation, and as a result of the interaction process itself, it must be a substitution which is dependent upon the substitution made in the other personalities with whom we interact.

(1) *Accommodation or differentiation.*—This type of interaction commonly follows after a conflict, or is a substitute for a potential conflict. We cannot by interaction satisfy the original wishes with which we enter, but by gradual changes in the goals of these wishes we are able to achieve greater total satisfaction than by continuing in conflict or by avoiding altogether the social contacts involved.

Park and Burgess define accommodation as "a process of adjustment, that is, an organization of social relations and attitudes to prevent or reduce conflict, to control competition, and to maintain a basis of security in the social order for persons and groups of divergent interests and types to carry on together their varied life activities."[45]

(2) *Assimilation.*—In this type, we learn to satisfy a wish by modifying its goal toward greater similarity with the goals of others. Assimilation is thus mutual gratification on a new level. The social activity not only satisfies more or less the original wishes of the participants, but brings these wishes closer toward identity.

Park and Burgess define assimilation as "a process of fusion in which persons and groups acquire the memories, sentiments, and attitudes of other persons or groups, and by sharing their experience and history, are incorporated with them in a common cultural life."[46]

Criticism of the Park and Burgess Classification—What Is Competition?—Park and Burgess and their followers (often known as the Chicago school) hold that all types of "social interaction" are best grouped under four main headings: competition, conflict, accommodation, and assimilation. They make two important distinctions between competition and the other processes.

First: Competition, they say, is the "elementary, universal and fundamental form" of interaction. It is biological and economic, sub-social. "Competition, strictly speaking, is *interaction without social contact.*"[47] "Competition is a struggle for position in an economic order. The distribution of populations in the world economy, the industrial organization in the national economy, and the vocation of the individual in the division of labor—all these are determined, in the long run, by competition."[48]

Yet elsewhere Park and Burgess, with doubtful consistency,

[45] From *Introduction to the Science of Sociology* (1921), p. 735. Reprinted by permission of The University of Chicago Press.

[46] *Ibid.*, p. 735.

[47] *Ibid.*, p. 506. Italics ours.

[48] *Ibid.*, p. 574.

say that "the frontiers of *social contact* are farther extended to the widest horizons, by commerce. . . . This inclusion of unconscious as well as conscious reciprocal influences in the concept of social relations brings into *contact* . . . the pale-faced drug addict, with the dark-skinned Hindu laborers upon the opium fields of Benares. In short, everyone is in a real, though concealed and devious, way in contact with every other person in the world."[49]

But these impersonal, commercial contacts belong to the "economic order," they are determined by "competition," which Park and Burgess say is interaction *without* social contact. They could easily clear up this inconsistency of terms by showing that competition works through environmental, non-social contacts, while the other three types of interaction operate through behavioristic or true social contacts. They should distinguish social from non-social contact.

Second: "Competition . . . is unconscious. Conflict is always conscious, indeed, it evokes the deepest emotions and strongest passions and enlists the greatest concentration of attention and effort. Both competition and conflict are forms of struggle. Competition, however, is continuous and impersonal, conflict is intermittent and personal."[50]

"It is only in the plant community that we can observe the process of competition in isolation, uncomplicated with other social processes. . . . The members of a plant community adapt themselves to one another as all living things adapt themselves to their environment, but there is no conflict between them because they are not conscious. Competition takes the form of conflict or rivalry only when it becomes conscious, when competitors identify one another as rivals or as enemies."[51]

Now in our terms, what Park and Burgess mean by the statement that competition is unconscious and conflict conscious, is that conflicting individuals react to one another's behavior as such, while competing individuals react only to the environmental results of that behavior. In so far as this distinction of consciousness versus unconsciousness is valid, it is the very same distinction as that of social contact versus non-social contacts. But in part it is not valid. Whether the one party is "conscious" of the other is unessential. Standard Oil may be "conscious" or aware of the existence of Shell. But it is merely in competition with Shell so long as it reacts only

[49] *Ibid.*, pp. 280-281. Italics ours.
[50] *Ibid.*, p. 574.
[51] *Ibid.*, p. 506.

to the impersonal market conditions caused by Shell's activity. If Standard, however, ascertains and reacts to some particular thing which Shell does, such as lowering its prices or extending its territory, then conflict has begun.

Hence the only valid distinction here is that competition is an environmentally-mediated interaction, while conflict, accommodation, and assimilation are behavioristic. But Park and Burgess' analysis is incomplete, first, because the term competition does not, without much stretching of meaning, cover all the patterns of environmentally-mediated interaction. The relation between the Brazilian and the Java coffee producer may be one of competition, but the relation between the Brazilian producer and the American consumer is not "competition" but a producer-consumer, or exchange, relationship. Exchange as well as competitive processes determines one's "position in the economic order." And in the plant world, while "competition" may designate the relation between two trees growing close together in a forest, the relation between a tree and the ivy vine which climbs on it might better be called "parasitism."

Second, Park and Burgess fail to include one important type of behavioristic interaction, namely, what we have called mutual gratification.

E. C. Hayes defines competition in terms of pattern rather than of medium. He says that competition properly means a "relation between activities which exists when the success of one activity limits or prevents the success of another activity," while "conflict is a relation between activities which exists when one activity impedes or destroys the other activity." He points out that a foot race is competition, because one runner does not impede another, but merely prevents the success of the other. "Though there is *excited social contact* there is no conflict. Real conflict takes place only when one runner trips another, thus impeding or destroying the other's activity."[52]

But this distinction between "limits or prevents the success of," and "impedes or destroys," is not a clear distinction. Hayes draws the line easily in the case of a foot race, but where should we draw the line in the case of rival lovers? When are they competitors, when "rivals," and when in "conflict"? Shall we say that competition becomes conflict when the one suitor causes the girl to refuse dates with the other, or only when he challenges the other to a bloody duel? In

[52] "Some Social Relations Restated," *Amer. Jour. Sociology*, vol. xxxi, p. 337 (1925).

either case he is both impeding, and preventing the success of, his rival. It would seem better to adhere to the definition of competition in terms of medium rather than of pattern. Later we shall distinguish rivalry from other conflict.

Environmentally-mediated Interaction

Non-behavioristic interaction, properly speaking, does not belong to the province of social psychology at all. It belongs to economics, to sociology in general, to biology. Since, however, these interaction processes are frequently accompanied by behavioristic interaction, or influence it, we shall consider them briefly.

Environmental as well as behavioristic interaction may be classified according to its media (as we already have done), and according to its patterns. The patterns are various and need not here be analyzed in detail. For simplicity we may consider them under two heads: competition (already defined), in which the activities of the interacting individuals (or groups) hinder each other; and (non-social) coöperative processes, in which these activities help each other.

Competition corresponds to conflict. Non-social coöperative processes correspond to mutual gratification, accommodation, and assimilation.

Competition.—Competition may be, according to its media of interaction, ecological, economic, or social (see classification above). Competition is always a pattern in which the success (*i.e.*, wish fulfillment) of one individual (or group) is hindered by the success of another, *through the medium of some environmental factor which is limited in quantity.* If that limited factor be of the natural environment, the competition is *ecological*; if it be a factor of material culture or labor-time, the competition is *economic*; if it be a limited factor inherent in the social structure, the competition is *positional competition.*

Ecological competition.—Competition is ever present in the plant and animal world. The struggle for existence, the survival of the fittest, is competition. More individuals are trying to live than possibly can. But even among those which

manage to live out their normal span, there is a never-ending competition for space and relative advantage. In the north woods the white birch and poplar seize upon cut-over forest land and occupy it to the exclusion of pine and valuable hardwoods. Later other seedlings of slower growth may get a foothold under the birch trees and be ready to take over the land when the birch reaches its full size. Scrub oak and pine monopolize vast waste areas in the South, not because they are stronger plants in general, but because they can live better than others on poor soil. The number of songbirds in any given area is the result of competition. Every year they eat a certain quantity of insects. Every year a certain number of them are eaten by hawks, cats, and so on. Under conditions peculiarly favorable to itself, any species of birds could soon monopolize the entire country. The English sparrow has thus taken possession of city streets. The existing number of birds simply represents the "balance carried forward" from all past years, of "eating plus breeding" over "being eaten."

Human beings compete ecologically whenever there is a shortage of food or of some advantageous condition in the natural environment. Among humans the struggle appears to be a struggle for place and advantages rather than for mere existence, as in the animal world. This difference however, is not so great as it seems. Among humans, voluntary restraint of births, abortion, and infanticide are or have been important checks to population, whereas that rôle is played in the animal and plant worlds more largely by starvation and other natural agencies of death. Humans do not compete so much to avoid death, as for an opportunity to produce and rear more offspring. Again, *conflict* among humans (war, feuds, etc.) plays a part of the death-dealing rôle which *competition* for food does among animals.

Ecological competition commonly takes the form of migration. Migration is determined both by the natural conditions in the country of emigration and those in the country of immigration. Not mere space, but economic opportunity, is what counts. By competition individuals find their geographic positions in society. I live in America rather than England be-

cause my forefathers were by competition forced out of overcrowded England to the "land of opportunity."

Economic competition.—Economic competition is due to the fact that our material culture products (wealth) and the labor-time which can be used to increase those products, are limited in quantity, while our wishes for these goods and services are relatively unlimited. This basic competition of consumers for the world's wealth is more or less masked by two other forms of competition, which arise from it.

First, wealth competition becomes a competition of individuals for positions in the economic system. Strictly speaking, this is *positional* competition. (See next paragraph). For the mediating factor by which my competitor's wishes thwart mine is the limited number of business positions which we both want. This is due to the character of the established social structure. But fundamentally these positions are limited because wealth is limited, and we compete for them in order to get more wealth. Perhaps this very day your name is being mentioned in some inner office as a possible candidate for some position. At the same time another person's name is suggested, and after some discussion he is judged to be the better. To him is sent a letter offering him the job. You will never hear anything about the matter. You have been involved in competition, and yet you are utterly unaware of it. You could not be involved in conflict, however, without knowing it.

Second, the modern economic system has transformed the competition of consumers for wealth into a competition of producers for markets.

There is competition between different firms in the same industry and between different industries. Certain advertising episodes make us realize that there is not only competition between two brands of cigarettes, but between all cigarettes and all sweets. Giddings pointed this out long ago, when he showed that there was no great reason to worry about industrial combination destroying the beneficial effects of competition. For if every industry were a monopoly, there would still be competition between the several industries for the con-

sumer's dollar. Very few products are so essential that some product of a different industry cannot be substituted. It is possible to substitute, in a measure, automobiles for clothes. For, in the last analysis, both cater to the desires for adventure and superiority and also for warmth, though of course in greatly different proportions. There is reason to believe that our interest in competitive dressing has been somewhat checked by the time, money, and interest absorbed by the automobile.

There is economic competition between cities. Chambers of Commerce vie with each other in their efforts to boost their respective towns and entice new industries to locate.

Positional competition.—Human beings compete for social positions which satisfy wishes. They compete for desirable marriage partners, friendships, ranks, honors, memberships. They struggle to "belong." Some of these desirable positions in society are obtained through economic success, but a few are not. In so far as there are prizes in life which cannot be secured by financial success, to that extent is society free from the tyranny of wealth.

Competition for these prizes exists because they are limited in number. This limitation is inherent in the social system. The two suitors mentioned above, for example, were competing for a social position, "husband of this particular woman," which in our culture cannot be duplicated.

Especially does the wish for superiority lead to positional competition. This interaction is non-social so long as the struggling individuals do not react to each other but have their courses controlled wholly by the impersonal conditions in social institutions. Failure is due simply to the fact that the number of candidates exceeds the number of positions. When, however, one suitor buys a girl a box of candy because he learns that his competitor has done so, we have rivalry (conflict) which is behavioristic interaction.

An unusual kind of competition exists in a rural college town. There are too many brains for the community. Outside of the regular teaching, which never fully occupies experienced teachers, there is little intellectual work to be done.

Especially bad is the situation of the professors' wives, many of whom have intellectual interests and abilities, but no way to use them. The tendency is to create artificial activities, such as community pageants and dramatics, to spend much time playing cards, and much time discussing the "lack of intellectual stimulation around this place." On the other hand, it is difficult and expensive to get laundry and other manual work done. The manual workers of the community have plenty to keep them busy. Now if these intelligensia could be transferred to a large city, where there is a surplus of the lower ranks of ability, they would find plenty of opportunities not only to make extra money but also to satisfy suppressed wishes for superiority and adventure.

Coöperative-types of Environmentally-mediated Interaction.—Competition is not the only pattern of environmentally-mediated interaction. In general, it is merely one part or phase of a larger pattern of *coöperative* activity. Trees in a forest coöperate as well as compete. While each tree prevents the growth of other trees *beyond a certain number per acre*, yet it helps the growth of other trees up to that number. A few scattering trees are in greater danger from wind, drought, and the competitive growth of grass, than is a moderately thick forest. Seedlings of many trees grow more readily in the leaf mold of the forest than in open ground. Likewise, plants of different kinds mutually help each other. Trees support vines and protect woodland flowers; alfalfa enriches the soil for other crops. Again plants *adapt* to each other biologically, as individuals *accommodate* to each other behavioristically.

Likewise in economic life there are (1) the relation of *mutual aid*, and (2) the relation of *interdependent specialization* (division of labor). Mutual aid involves the principle that two or more individuals, by combining their similar behavior, can accomplish a result which may be indefinitely greater than any one could accomplish alone. When one man tries to lift a weight of, say, 300 pounds, the result may be zero; if two men take hold, the result is complete success. Pioneer log-rolling and house-building, fire-fighting, etc., illustrate this principle.

(2) The relation of interdependent specialization is based on the principle that greater results may be obtained when each

coöperator specializes his behavior than when all of them perform all parts of the work. The minute subdivision of processes in an automobile factory produces far more cars per man per year than would be produced if each man built a whole car. A greater value of material products is obtained when England sends cloth to Argentina and the latter sends food to England, than would be the case if each country were to produce all it consumed. In each activity there is a degree of optimum specialization; it pays to subdivide labor up to this degree but not beyond it. Just what this limit is depends upon factors of time, space, and material.

By modern commerce the whole world is integrated into a gigantic network of economic coöperative interaction. Within the framework of this coöperation exist many competitions, which are unessential to the coöperative process, and some of which are exceedingly wasteful. They exist because of the imperfect organization and control of the larger, coöperative process. For this economic coöperation is not directed from any single center; it is spontaneous and automatic. It builds itself gradually through millions of individual adjustments. It is never planned as a whole.

Within the general framework of coöperative interaction we find also, in spots, the process of *exploitation.* This corresponds to *parasitism* in the biological world. Exploitation, as Ross shows, is usually masked by a payment or return service which the exploiter gives to the exploited.[53] But this compensation falls short of justice. The whole problem is very complex because of the difficulty of finding any suitable measuring stick for comparing the values of services. The traditional economist holds that actual money price in the market is usually an adequate measure. "Everyone and everything gets what it is worth." But traditional economics assumes pure competition; modern social analysis shows that pure competition is always more or less, and nowadays to a decided degree, interfered with by (1) behavioristic interaction and (2) culture patterns (see Chapter X). To illustrate these factors, the impersonal, pure-competitive market value of the services of Southern

[53] *Outlines of Sociology*, p. 119.

Negro servants cannot be separated in practice from (1) their ability or inability to enter into group conflict with their employers (behavioristic interaction), and (2) the established customary rates and terms of payment (culture).

Summary.—As reflexes and other *S*—*R*'s are organized to form personality, so personalities are organized to form social groups. The group is as much a unified reality as is the individual. Its processes, however, are not a "social mind," but social interaction. These processes sometimes maintain the existing equilibrium or system of relationships, and sometimes they lead to social change.

The media, or contacts, through which individuals interact with each other, may be classified as environmental and behavioristic. In environmentally-mediated interaction, one individual's behavior stimulates another through the medium of some change it produces in the environment. In behavioristic interaction the one stimulates the other directly through his behavior, including in this, however, the externally stored symbols (writing, etc.) which may extend the stimulating effect of that behavior to a distant place or a later time.

Behavioristic interaction shows certain elementary processes, including imitation, sympathy, and suggestion. These are not inborn or basic reaction patterns of the individual, not in any sense instincts. Imitation and sympathy are not even unit processes; they are convenient labels for various kinds of processes resulting in similarity of behavior.

Behavioristic interaction may be classified under four main patterns: mutual gratification; conflict, including rivalry; accommodation, and assimilation. The keys to this classification are the relationships between the individual wishes which produce the interaction. All interaction results from efforts to satisfy the wishes of individuals.

Competition belongs to the category of environmentally-mediated interaction. It may be ecological, economic, or positional.

CHAPTER VIII

THE PATTERNS OF BEHAVIORISTIC INTERACTION

Mutual Gratification

The simplest form of social interaction is that which satisfies, without mutual interference, the original wishes of the participants. It is illustrated by the feasting group, the "talk-fest," the story-swapping group, hospitality, the "social gathering," the dance, the "petting party," the pair of lovers, the traveling party which seeks security by "sticking" close together in darkness or in a strange country. The mechanism of interaction is simple: each individual has had his pleasant emotions conditioned to the physical presence or behavior of others. One or more wishes of each participant requires social situations for its full satisfaction. Everybody who joins has something to gain through the social interaction process.

When the satisfactions are obtained primarily through the social contacts (stimuli) themselves, we may call the mutual gratification *primary*. When the satisfactions depend upon other stimuli, and are merely increased by the stimuli from one's fellows, we may speak of *contributory* mutual gratification. Dancing with your partner illustrates the primary type, and going with her (or him) to the theater, the contributory.

Like other interaction processes, mutual gratification may take place through overt or emotional behavior without speech (as in dancing), through speech, and at a distance through transmitted external symbols (as in friendly letter-writing).

Primary Mutual Gratification—the Wishes for Response and Superiority.—In general, the wish for response, including sex, love, gaiety, and fellowship, is the one which operates most frequently in primary mutual gratification. Groups formed to satisfy the wishes for response in this primary fashion are called *congenial* groups. The wish for response is the wish which is satisfied through perceiving others behaving

toward us in the same agreeable manner as we behave toward them. Other wishes also may be satisfied through primary mutual gratification, but when they enter the situation they produce danger of conflict. The wishes of the several participants for superiority may often be satisfied harmoniously through "mutual admiration societies," but sooner or later some member of the group is likely to make a misplay in this dangerous game. Such a group may be compared to a group of persons trying to toss a ball from one to another without letting it touch the ground. Some player sooner or later fumbles the ball or makes a wild throw: he unthinkingly sounds a note of self-praise instead of waiting for the praise to come spontaneously from others, or he makes an invidious comparison which causes another to feel inferior. The one who is thus mildly frustrated is likely to reply by a remark of self-defense or justification. Argument, or conflict, sets in; the participants begin to satisfy their superiority wishes at the expense of others, rather than harmoniously. The wish for superiority by its very nature tends toward conflict.

In the honeymoon stage of married life, mutual gratification bulks relatively large in the interaction processes between the mates. This is true because they have so far attempted to satisfy through each other only those wishes which are harmonious. Discordant wishes are suppressed or ignored. The powerful love satisfactions are in a measure substitutes for the goals of a variety of other wishes. In time these other wishes begin to assert themselves, and more or less conflict may result. Each partner finds that the other wants many things he or she did not seem to want at first. Normally, however, this conflict then passes into accommodation: the partners make concessions and compromises, readjust their wishes somewhat, and learn to tolerate what they did not originally like. A new harmony is established, a harmony of accommodation and mutual adjustment rather than one based on simple mutual gratification. This new harmony, once attained, is more stable and has a more promising future than the earlier, simpler harmony, for now all the cards are on the table.

A married couple may attempt to satisfy through conversa-

tion with each other the wish for response or for superiority. So long as they confine their conversation to the first purpose it proceeds harmoniously and successfully. The art of confining conversation to the response purpose consists in excluding all remarks which imply blame upon the other or invidious comparisons. Mutual praise which is not expected or "fished for" serves largely the wish for response; it intensifies love. But as soon as the conversation implies criticism or comparison, it has turned to the service of the superiority wish, and from then on is highly dangerous. The following dialogue illustrates this shift of interaction:

HUSBAND (feeling great desire for response but no great need for superiority through interaction with wife). You're the prettiest girl in the world. Somehow I never get tired of your beauty, it haunts me continually.

WIFE (response wish gratified by remark, but feeling a need for superiority). Oh, I don't see why. I'm getting old. I haven't got the looks I used to have.

H. (tactlessly trying to modify wife's attitudes). Oh, I've heard that bunk before. If you'd stop worrying about your appearance and try to cultivate more health and energy you'd be a lot happier. Why do you feel inferior about the very thing you're most superior in?

W. (superiority wish frustrated by implied criticisms in husband's remarks). Well, I'd like to see any other woman run a home and bring up three children, and still have the pep to run around like an unmarried girl of twenty.

H. (his superiority now for the first time ruffled). Well, *I've* done everything in the world to help you build up your strength. If you'd spend more money and time on outdoor recreation and less on your clothes, you'd feel better and look even more beautiful.

W. (mutual gratification now turned wholly into conflict). Oh, let's not discuss this any more.

F. M. Thrasher describes a group in which the interaction was mutual gratification rather than conflict, accommodation, assimilation, or coöperation toward further ends.

The Fusileers were college fellows with a few congenial friends and some women attached, who stuck together closely for two or

three years. They were bound together by ties of sincere friendship and by common standards of conduct. . . . They were hard drinkers and rounders, and they wanted complete freedom from traditional morality.

The chief activities and interest of the group were of the festivity type. The first year they had frequent parties on the south shore at the home of one of the members whose parents were away for the summer. . . .[1]

This group hired a flat where they could carry on their festivities unmolested. Some lived in this apartment and the others helped finance it. The neighbors were of the same behavior type, and the local police were brought under control by drinks and good fellowship. They furnished their own musicians and entertainers. Their women were mostly well-to-do but "wild"; the men protected their reputations. They had their own initiations and hand grips, composed their own songs and poems, and practised dancing contests and other special stunts.

The Adventure Wish in Interaction.—The wish for adventure may be satisfied through mutual gratification, usually of the contributory type. For brief periods of time it may be satisfied through the getting-acquainted experience of two or more persons who have recently met. This is primary mutual gratification. In the long run, however, adventure requires activities in which the behavior of one's fellows is merely a contributory stimulus in some larger situation. Environmental "scenery," "atmospheres," physical motion, events, are the main satisfiers of the wish for new experience. Adventure thus leads usually to interaction of a loose parallel type rather than of a circular type. The goals of the different individuals are likely to diverge; the social stimuli do not have the same binding power as in the interaction of response wishes. These diverging adventure goals may lead to conflict and subsequent accommodation, or to a complete dispersal of the group. When the adventure interests diverge, but at the same time the group is bound together by ties of friendship, familial relation-

[1] *Op. cit.*, pp. 51-52. Used by permission.

ship, or economic advantage, conflict and accommodation, rather than dispersal, usually result.

Crowd Behavior as Wish Fulfillment.—Crowd behavior is contributory mutual gratification. Allport defines the crowd as "a collection of individuals who are all attending and reacting to some common object, their reaction being of a simple prepotent sort and accompanied by strong emotional responses."[2]

E. D. Martin says: "In the crowd the primitive ego achieves its wish by actually gaining the assent and support of a section of society. The immediate social environment is all pulled in the same direction as the unconscious desire. . . .

"The crowd is always formed for the unconscious purpose of relaxing the social control by mechanisms which mutually justify such anti-social conduct on the part of members of the crowd."[3]

In other words, crowd behavior, like other social interactions, contributes to wish fulfillment. It serves perhaps more often the wishes for superiority and triumph, but it also serves other wishes at times. It gives the individual a feeling of superiority which he could not get alone. And the superiority is obtained through *power* or *rebellion* (see Chapter IV).

A panic-stricken crowd in a burning building is motivated by the desire for security; a crowd of unemployed men often by the desire for food; a revolutionary mob by the desire for superiority through rebellion; a crowd of bored, excitement-seeking college boys by the desire for adventure. In college towns student audiences often "razz" moving pictures which fail to come up to their standard of interest and novelty. Especially do they hoot at stereotyped characters and conventional love-making scenes, and they show great enthusiasm when the action takes a novel turn and the love-making becomes clever and unusual. A lynching crowd is motivated by the desire for vengeance (triumph), and a religious revival crowd by the desire for subjective security or solace. Occasionally we read in the papers of small criminal crowds which have committed assault or rape under the drive of sex desire.

[2] *Social Psychology*, p. 292.
[3] *The Behavior of Crowds*, Norton, 1920, pp. 35, 231.

Theories of Crowd Behavior—Allport versus Le Bon.—The crowd was one of the first objects of interest to social psychology in its earlier days. It was the observation of crowd behavior which led to the idea that the laws of individual psychology are not enough.

Gustave Le Bon says: "The fact that they [the individuals] have been transformed into a crowd puts them in possession of a sort of collective mind which makes them feel, think, and act in a manner quite different from that in which each individual of them would feel, think, and act were he in a state of isolation."[4] Thus went the earlier reasoning. But Allport points out that those French Revolution crowds, which so impressed Le Bon, were composed of individual citizens who had already, years before, in a state of isolation, "felt the same hatred and cherished the same spark of vengeance and lust for freedom that was now bursting into flame in the crowd. Nothing new or different was added by the crowd situation except an intensification of the feeling already present, and the possibility of concerted action. The individual in the crowd behaves just as he would behave alone, *only more so.*"[5]

Allport further points out that while a leader can sway a crowd, he cannot divert it from its original intent to the opposite. The man who speaks against the will of the crowd is ridiculed or forcibly silenced. If he does succeed in persuading many to adopt his view, the crowd disperses. It does not remain to carry out the new plan. A crowd is not clay in the hands of the potter. Its members are very suggestible, but only in the direction of the attitude which brought the crowd together. The common theory of the fickleness of crowds, so brilliantly stated by Le Bon, is certainly much overdrawn.

There are three steps in the crowd process: (1) the common interest or motive which brings the people together and prepares them for a certain type of action; (2) the harangue of the leader or other common stimulus which increases this preparation to the point of breaking forth; and (3) the command or first movement of some individual toward the pre-

[4] *The Crowd*, Macmillan, 1922, p. 6.
[5] *Social Psychology*, p. 295.

pared act, which gives the stimulus for release.[6] Words, postures, overt movements, or emotional gestures may serve as stimuli to release the prepared reaction. These principles hold good whether the goal of the crowd is to smash open a jail or merely to hoot at a sorry theatrical performance.

But Allport tells only a part-truth when he says, "the individual in the crowd behaves just as he would behave alone, only more so." What does this mean? A more accurate statement would be: "The crowd does not change the fundamental attitudes of its members, but does change the overt behavior in which their attitudes are expressed. It encourages the unrestrained and sometimes violent expression of the attitude which is common to all the members and which caused the formation of the crowd. *At the same time, the crowd restrains the overt expression of other attitudes, equally a part of the personalities of its members, but conflicting with the predominant attitude.*"

The Nature of Crowd Suggestibility.—The fickleness of crowds is a fickleness of stimulus rather than of reaction. It is easy to convince the lynching crowd that almost any Negro is the guilty man, but very difficult to change the lynching reaction into something else. Le Bon describes the crowd as impulsive, mobile, irritable, credulous, suggestible, prone to exaggeration of sentiment, intolerant, dictatorial, conservative, servile to strong authority, hostile to changes, subject to illusions. But this fickleness is more like the waxy flexibility of the catatonic patient than like the open-minded sensitiveness and adaptability of the extroverted personality. The crowd has an inner drive; it is suggestible and fickle only with regard to different possible outlets for this drive. It is not open to suggestions changing the drive itself.

E. D. Martin shows that the mechanisms of crowd behavior resemble those of the paranoid introvert personality. The crowd develops a closed system of ideas and substitutes them for the facts; it has delusions of grandeur and of persecution. These last are compensation for inferiority. Martin tells how Hylan defeated Mitchell in the New York mayoralty cam-

[6] *Ibid.*, p. 292.

paign of 1918 by attacking Mitchell's scientific experts and Garyized schools. He appealed to the "lowbrow" attitude toward the intelligensia, he pictured "trains crowded with experts" leaving the city if he were elected. The crowd, hence, serves as a relief from the feeling of inferiority. The crowd has power. It seeks a victim. It is intolerant and vengeful. When the struggle is won the crowd enjoys an exaggerated feeling of superiority. It worships a hero, who symbolizes the good qualities which the crowd believes itself to have.[7]

When we compare the crowd with an introvert personality, we do not mean that the people who form crowds are introverts. It is probable that extroverts more frequently get themselves into crowd situations because of their keener responsiveness to external, social stimuli. The individuals in the crowd may be unusually suggestible. But the resulting interaction process, the crowd itself, is rather of the type we call introvert and non-suggestible. It is guided by its own inner drives rather than by outside realities. New outside stimuli, or "suggestions," are interpreted by the crowd according to its own prevailing attitude. It does not discern the attitude of the speaker. Many a speaker has had the experience, when in a rather earnest mood and addressing a crowd whose attitude was more one of pleasure seeking, of having it laugh at some remark which he did not intend to be funny. On the other hand, the speaker often sees a subtle piece of humor in his subject matter but fails to get it across. A more experienced speaker can make his crowd laugh when and only when he so wishes. His success is not due to the suggestibility of the crowd but rather to his own suggestibility. He discerns through subtle cues the attitude of his crowd and therefore his own behavior adapts itself accordingly. He feels when the crowd is in the mood for a joke; his own joke-telling habits have been trained to respond to "hearers' need for a joke" rather than "a joke in me which I want to tell." By thus getting into rapport with his crowd, the able leader may be

[7] MARTIN, E. D., "Some Mechanisms Which Distinguish the Crowd from Other Forms of Social Behavior," *Jour. Abn. Psych. and Soc. Psych.*, vol. xviii, p. 187 (1923); see also *The Behavior of Crowds.*

able to render it more suggestible, and then perhaps, like Mark Antony, turn it into another introvert crowd with an opposite drive.

Crowd and Audience.—However, we must not forget that a crowd is not an audience. When the able leader renders his crowd suggestible, he may convert it into an audience. If so, the original drive which formed the crowd disappears, and the members now remain because of interest in the speaker and what he says. The group is now objectively oriented, extroverted. It has no prepotent inner drive. It is open to suggestion from without.

The audience also may change into a crowd. Martin has observed this phenomenon many times in his work with the Peoples Institute in New York. A public meeting is held to discuss some question. After a period of cool argumentation, the meeting suddenly changes into a crowd or a pair of conflicting crowds. Discussion ceases, people now merely repeat their creeds and hurl trite phrases. They ignore the concrete problems around which the discussion has revolved, and fight for abstract principles. They lose touch with reality.

Sympathetic Radiation in Crowds.—We often see in crowds sympathetic radiation of emotion, the induction of an emotion in one individual by his perceiving the same emotion in others. We have shown that there is no general tendency toward sympathy; when sympathy occurs it can be explained by a specific conditioned response. Yet the unusual frequency of sympathetic induction in crowds has led many to believe there is some general process at work. But Allport points out that "by similarity of human nature the individuals of the crowd are all set to react to their common object in the same manner, quite apart from any social influence. Stimulations from one another release and augment these responses; but they do not originate them."[8]

To the objection that some persons participate in the laughter and excitement of crowds when the cause is unknown to them, Allport replies that such laughter is usually a pretense. Usually we inquire what the joke was before we can laugh

[8] *Social Psychology*, p. 299.

whole-heartedly. To the objection that some persons not in sympathy with crowds are often won over, Allport replies that these are submissive persons, dominated by a general attitude of suggestibility. Their cases do not prove that specific responses are induced by the sight of these responses in others. More aggressive persons commonly report that their opposition to a crowd attitude was increased rather than abolished by the expressive behavior of those about them.[9]

When a member of a crowd, by expressing his emotion, stimulates the expressive behavior of his neighbor to a higher degree, he then sees his neighbor's expression which he himself has stimulated, reacts to that behavior as if it were an independent stimulus, and thus has his own behavior augmented by a sort of "circular reverberation."[10]

Impression of Universality and Social Projection.—Another phenomenon of crowd behavior is the "impression of universality." Each member actually observes the behavior of only a few others who directly surround him, but he imagines the whole crowd as behaving in the same way. He reacts *as if* the whole crowd, within and without his sight, were accepting the speaker's idea in the same way.

Still another phenomenon is "social projection." This means that in a crowd we attribute a certain attitude to the crowd in general, not because we actually observe the attitude in some *others*, but merely because we feel it *ourselves*. We interpret the behavior of our neighbors as expressing the same attitude we feel ourselves, whether it actually does or not. As Allport says, "(1) We react to the common object of attention; (2) we assume the attitude and belief that others are reacting in the same way, and interpret their expressions so far as seen with that meaning; and (3) our response is increased all the more because of this (assumed) agreement and support of others." [11]

Collective Behavior.—Collective behavior, according to Park and Burgess, is "the behavior of individuals under the

[9] *Ibid.*, pp. 299-300.
[10] *Ibid.*, p. 301.
[11] *Ibid.*, pp. 305-308.

influence of an impulse that is common and collective, an impulse, in other words, that is the result of social interaction."[12] It includes the various phenomena of crowd action, social unrest, manias, panics, mass movements, revivals, psychic epidemics, fashions, rushes, booms, etc. In other words, collective behavior involves contributory mutual gratification. It is a more general concept than crowd behavior; it may take place when the interacting individuals are not in physical proximity, but stimulate each other through transmitted external symbols.

Conflict

A group of Bridgeport people went for a picnic, in automobile trucks. They had to pass through Cicero on the way. Cicero gangs stopped some of the machines and took money, pop, and edibles. In retaliation four cars of young men from Bridgeport made a raid in Cicero. Any time they heard of a Cicero man coming to Bridgeport they would mob him. Gangs in both regions were involved, and the police had to put a stop to it by picking participants up and putting them into the "paddy" wagons.[13]

Conflict is completely absent from the plant world, but is common with animals. Two dogs eating out of the same dish represent competition, but the moment one lifts his nose out of the dish to bite at the other, we have conflict. Two male birds seeking to attract a female represent competition, but if they attack each other there is conflict.

Why Conflict Is Especially Common in the Human World. —Among humans, conflict is more prevalent than among other animals because of two causes:

(1) The greater intelligence of humans leads to the conditioning of their struggle reflexes by configurational stimuli which are quite remote from crude biological interference. The animal is aroused to anger only by situations which have directly thwarted his impulses. A dog readily gets his anger conditioned to the sight of another dog taking away his bone, because this sight has often accompanied the experience of

[12] *Op. cit.*, p. 865.
[13] From Thrasher, F. M., *op. cit.*, p. 175.

having his bone-gnawing movements thwarted. But the scenting of the trail of the neighbor's dog leading to our half-opened refrigerator, from which a fresh pot roast is missing, does not enrage our dog, for he is unable by symbols to establish the connection between this situation and the unjust beating he receives a little later. Man, on the other hand, perceives in the remote activities of other men the causes of his own sufferings and of frustration of his own wishes. He even sees "wrongs" and interferences which are not there.

(2) Humans are prone to conflict because their pleasure reactions become conditioned to "victory" itself. Victory becomes with them a potent satisfier of the wish for superiority. A feud may start over a trespass on somebody's pet lawn, and before long the combatants care more about humiliating each other in the eyes of the neighborhood than they do about the trespassing.

There are three stages or levels of complexity in the mechanism of conflict. On the lowest level stands purely biological conflict. The animal fights only when he is physically attacked or interfered with. Only a biologically adequate stimulus sets him off. On the second level, an animal or human fights a situation which does not physically interfere with him, but is associated in experience with such an interfering stimulus. An example is one dog chasing another who has robbed him of his bone or attacking a rival for the attentions of some female. On the highest level, symbols are necessary. One fights a situation which he has never experienced before, but which is connected by symbols with thwarting or interference. Most human conflict is of this type. We fight people who have never caused us any trouble, but who, through symbolizing, we predict are likely to cause trouble. Symbols can be used for attack and for defense. The human fighting group sometimes takes hostages as a measure of defense. No animal group does this because the enemy is not able to symbolize to itself the consequences of attacking those who hold the hostages. But the human enemy is often checked thereby. And the victory may thus turn upon threats rather than upon the actual force

used. It may be decided by the symbols of force rather than by force itself.

The Tendency of Many-sided Conflict to Become Two-sided.—There is a tendency for many conflicts to integrate into a single large conflict. Political parties illustrate this. Though originally the differences of political interest in a society may be numerous and specific, the tendency is toward one main line of cleavage between two parties of about equal strength.

The mechanism is this. Each struggling interest in the political arena strives to strengthen itself as much as possible for the sake of winning. The only way it can strengthen itself is to gain more adherents, and it can do this only by compromising on some minor issues for the sake of promoting its main cause. Thus the strong group caters to several weaker groups which it may hope to align with itself. On the other hand, these weaker groups, each hopeless of victory by itself, seek to get their principles adopted by stronger groups. The Republican party tries to capture the dry vote, and at the same time the drys try to capture the Republican party. Strange bedfellows are to be found inside any one party. Northern wet immigrant Catholic interests are united with Southern dry native-born Protestant interests by the common bonds of the Democratic party.

In time the few large parties tend to coalesce until there are just two, and those two so near to equality of size that the weaker has occasional victories. For if one were always victorious, then the main issue would no longer be between majority and minority party, but between two or more factions of the majority. Sooner or later one of these factions would see a greater hope of getting support through the minority party than by waiting any longer upon the unfulfilled promises of its own party. This faction would then break away and join the minority party, thereby giving it a majority and enabling it to win.

If the Democratic party were to go out of existence entirely, the Republicans, of course, would sooner or later split into factions which would become two new major parties.

If a third party were to exist alongside of the two largest, each of the large ones would of course do all in its power to win the adherence of the third party, even to slightly changing its own program so as to include some of the third-party aims.

It would not be able to win the die-hards, but the majority of the third-party members might be persuaded that it was better to get some of their desires satisfied through a party which really could win, than to fail in all their objectives through adhering to a third party which could not possibly win. The attitude that a vote for a third party is a vote wasted is the psychological background of the two-party system.

But what about the countries which do not have a two-party system? Even there, as in France for example, the final result in the parliament, where the social decisions are actually made, is a dual line-up: government versus opposition. The difference between this and the Anglo-Saxon system is that the differences of interest are not thrashed out and compromised until they get into the parliament, while in America this compromising takes place while the parties themselves are organizing and electioneering. A Czechoslovak landowning peasant, for example, joins the Agrarian party automatically because he is a landowning peasant; then he leaves it to his party organization in the parliament to decide whether his interests have the best chance by compromising one point with the socialists or by compromising some other point with the bourgeois national democrats. But the American farmer decides for himself with whom he will compromise. He may compromise with big business and vote Republican, or he may compromise with large groups of organized labor, Catholics, wets, immigrants, Southerners, Negro disfranchisers and States' rights advocates, and vote Democratic.

In other spheres the dual nature of conflict is illustrated. It is said that in the next great war there will be no neutrals.

Even in petty neighborhood quarrels, neutrals tend to be drawn in on one side or the other. Two dogs cannot fight long without the spectators dividing into hostile camps, each cheering its own favorite.

As Knight Dunlap says, When you stage a fight, stage it with those you do not hope to convert, for the benefit of those whom you do.

Conflict and the Superiority Wish.—Conflict may arise out of the opposition of human wishes of any character. It has,

however, a very special relationship to wishes for superiority, because victory in itself is a source of superiority feeling, while it only indirectly satisfies other kinds of wishes. The wish for superiority, in fact, leads to conflict for its own sake—conflict which sacrifices all other values, which leaves both contestants poorer and less satisfied in every way, except that one of them has the joy of triumph. In this respect, man is the most stupid of the animals, for he alone will knowingly sacrifice everything else for the mere satisfaction of victory.

The wish for superiority is closely connected with the defensive emotion of anger. We have seen that the defensive emotions have the right of way in the nervous system. Man's power of symbolization, while it allows him to make a more perfect and active adaptation to his environment, also tends to overwork needlessly his defensive emotions. His anger and fear become conditioned to numerous symbolic stimuli to which an animal would be quite indifferent. They invade and often poison the network of his complex social relationships. Having learned to overcome the enemies of his natural environment and to live in peace and toleration toward his human neighbors, he acquires a host of new hatreds and fears. He learns to hate and fear situations that occur in his work, subtle relationships, mannerisms of his fellows, and even words.

When conflict changes the wish goals of the contestants so that they adjust to each other, it becomes accommodation. Thus the conflict of business firms for markets has often led to secret agreements for the division of territory. Each firm thus substitutes the goal of complete control over a portion of the territory for the goal of increased or complete control over the whole territory, and conflict ceases. We have assumed that when conflict continues unabated, it has failed to change or adjust the goals. This is true so far as concerns the original wishes which produced the conflict. But we have seen that conflict itself brings a new wish into the situation, the wish for victory. This may largely eclipse the original wishes, and cause the conflict to continue even when an accommodation of the original wishes is possible.

The Media, or Stimuli, of Conflict.—As we have seen, the stimulus medium in conflict may be overt behavior, symbolic behavior, or stored external symbols which act even though the opponents are not in each other's physical presence. An interesting case of conflict through externally stored symbols occurred when two men wrote each other a series of letters attacking one another's scientific theories. The conflict became emotionally as bitter as if the two men had been in physical contact. One of them spent many hours daydreaming of how he would like to "show the other up" in the eyes of the scientific world, planning the sarcastic flings he would use in his next letter, working up courage to challenge the other to an open debate before some third party.

The Weapons, or Reactions, of Conflict.—Conflicts may be classified also according to the weapons or reactions used. In general, the reaction of the one party becomes the stimulus which provokes the next move by its opponent. But we must distinguish the actual use of a weapon from the symbols which threaten its use. In a popular movie plot, the hero tells the villain, a bank cashier, that he has discovered his crooked use of the bank's money. The actual weapon is the hero's power to cause arrest and imprisonment, but the mere threat of this causes the villain to acquiesce in the hero's wishes. The conflict continues to operate through the medium of symbolic behavior (speech) rather than of overt behavior (fighting, arresting, imprisoning, etc.). The real, overt behavior weapon is held in reserve.

In contrast with this case, we may note verbal conflicts in which the verbal symbols do not threaten overt behavior, but do their work by their own power. In a conversational battle of wits, or repartee, the contestants fight, win, and lose, wholly by the force of the verbal invective itself. When one of the contestants finally is stimulated into an attitude of silence, submission, apology, or admission of fault, he is beaten.

Conflict and Human Welfare.—We lump under the heading "conflict" everything from a game of checkers to a bloody war. This does not imply any ethical attitude toward conflict in general. Conflict in itself is not necessarily undesirable. One

preacher remarked that the quarrels between the Fundamentalists and Modernists reveal a spirit as un-Christian as that which animated those mediæval factions which burned each other at the stake. What this preacher overlooked was the great difference in painfulness between being criticized or dismissed from one's church, and being burned. Not all conflict is cruel. Some is relatively painless, some is actually beneficial. The social value or harmfulness of any conflict depends upon the amount of suffering and of wasted energy it involves, and this depends upon the weapons and the rules of the game.

The Regulation of Conflict.—Culture regulates the weapons of conflict by "rules of the game." In our culture it is tabu for a man attacked by the fists of another of equal strength, to react by drawing a knife or a revolver. In the Latin countries, fist-fighting is less respectable than in Anglo-Saxon countries and Ireland; verbal insults and manual attacks may, with some social approval, call forth deadly weapons. In the Latin countries, the challenge to a duel with revolvers is approved by the mores even though recently made illegal; with us it is regarded as wholly immoral as well as illegal, and quite unnecessary to "honor."

The rules of the games are complex and specific, and cannot be generalized. Sometimes they demand similarity of weapons, sometimes they permit one contestant a weapon quite different from, but supposedly equivalent to, that of his opponent. Labor unions and strikes have won approval by the argument that even where the employer could use no similar weapon, he had a strong or stronger weapon in his right to discharge. It is socially approved that a wife, frustrated by her husband's extra-marital amours, may use the right to alimony, even though he has no similar weapon. She is economically dependent, he is not. It is much less respectable for her to retaliate in kind.

Secrecy and Conflict.—Secrecy is an important weapon in social conflict. Just as a conflict group may be helped by exaggerating its real strength, so it may be helped by concealing its weaknesses. What a weakness is depends upon the nature of the struggle. Every employer, when hiring a person, is tem-

porarily in conflict with him concerning the amount of compensation. The conflict may be tacit, but it is there. The employer tries to conceal the maximum he would be willing to pay and the employee the minimum he would be willing to take. To reveal such would be to weaken one's bargaining position.

Bargaining groups use secrecy. A labor union committee instructs its executive to get a wage agreement of $5.00 per day, with a secret amendment to compromise on $4.50 if he cannot get the $5.00 without a strike. If this latter instruction were published the employer would insist on $4.50; otherwise he might give $5.00. Many lamented the fact that secret sessions were held at the conference of Versailles, which was supposed to end secret diplomacy and war. But secrecy is an inherent and perhaps inevitable feature of all conflict, and making treaties of peace is conflict as truly as is war. If every word spoken by Lloyd George, Clemenceau, and President Wilson had been made public, these leaders would not have dared to make to each other the scores of unofficial trial suggestions, out of which the final agreements emerged. Unless one is free from such premature criticism, he cannot negotiate.

There is, indeed, something in the use of secrecy in social conflict which is analogous to the repression mechanism of the individual. When a representative body acts in a secret session, it does so because it wishes to conceal part of the deliberation which leads to decision. It wishes to conceal some of the reasons for its action. Why? To avoid stirring up a possible hornets' nest. It wishes to prevent the public's discussion of certain points which of right the public ought to discuss, in order to check the much greater flood of irrelevant and prejudiced discussion which would be sure to go with it, and which would seriously embarrass many of the legislators and compel them to spend time mending political fences when they should be tending to legislation.

Similarly, the individual, in choosing a stenographer, or a doctor, or a mate, has a secret session with his inmost "unconscious" self, in which he actually makes the decision. Then he tries to conceal from his outward, social, respectable self

some of the motives on which his decision was based. He has a set of "reasons" or, rather, rationalizations, which he uses not only in talking to others, but even in talking to himself. He tries to make himself think these are the only reasons for his decision, for he cannot respect a person who would let himself be influenced by certain considerations which actually did influence him in his "unconscious" decision. He cannot brook the thought that he would be influenced in his choice of an employee by the way she pronounced a certain word, or by an almost imperceptible odor which happened to appeal to his conditioned reflexes.

The Regulation of Secrecy.—Secrecy cannot be successfully attacked or defended as a thing in itself. It must be always considered in relation to the larger interaction process of which it is a part. Usually it plays the part of a weapon in some process of conflict or rivalry. If a weapon is to be given up without resistance, either another weapon must be substituted, or some equivalent weapons must be taken away from the opposing party. When we advocate publishing income facts we should remember why so many people wish to conceal their financial standing. Publicity would render them prey to many troublesome solicitations, demands, blackmail; expose them to criticism for gifts they do make, and so on. Likewise, publicity regarding disease conditions in individuals would put many at a disadvantage in relation to marriage, employment, and so on. Others might gain by the publicity, but all would feel insecure. When a government or other institution can absolutely guarantee, and prove through years of trial, that it will not use information about individuals to their personal disadvantage, then it will be able to obtain much more information about them than is possible under present conditions.

In competition and conflict there are rules of the game. One interesting example is the custom of secreting our faults and "putting our best foot forward" in the competition for friendship and social position. As long as "everybody does it," this is not considered unfair. By the same token, it is now considered proper for women to compete in personal appear-

ance by the help of cosmetics. Yet men who represent an older code say that this is deceiving and unfair, because it gives some a status in the beauty market which they do not really deserve. And, to be sure, what would we think of a college athlete who wore padding on his shoulders in order to appear larger and more muscular than he really was? It all depends upon what the rules of the game are, and these, as we shall see later, are *culture.*

Personal Discord.—Perhaps the greatest sum total of human conflict is not in the occasional large struggles, but in the petty frictions which occur every day in face-to-face groups—the family, the school, the church, the neighborhood. G. Humphrey says that persons who irritate us do so largely because their action violates our own ingrained habits (conditioned reflexes). Such irritating acts may be selfish or very unselfish. The careless and generous person who is continually making gifts may irritate the more prudent and close-fisted because the latter defines the situation as "waste," to which *he* has a conditioned anger response. The perfectly good man, said Plato, would be scourged and finally crucified.[14] A man who carefully locks his doors against thieves is irritated by people who fail to take such precautions. In a reported family case, one of the members is much irritated by the sight of dishes and bric-a-brac left near the edges of tables and shelves, where they might easily be knocked off. The other members seem never to have become conditioned to this irritation. The result is constant friction. The best recipe for a happy family is not merely happy individuals, but individuals who get unhappy over the same things. Their several irritations need to jibe with each other and thus remove the cause, instead of conflicting with each other.

Subtle differences of attitude may account for personal friction.

One person had the habit of making comparisons, while his traveling companion was irritated by this pattern of conversa-

[14] HUMPHREY, G., "The Conditional Reflex and the Elementary Social Reaction," *Jour. Abn. Psych. and Soc. Psych.*, vol. xvii, p. 113 (1922).

tion. "Why will you keep saying this route is more interesting than that, this view is more beautiful than that? Can't you enjoy anything without comparing it with something else? You spoil everything." "Yes," replied the other, "but comparison makes me enjoy much more, even the experience which suffers from the comparison. My pleasure comes not so much through isolated experiences, but through groups of remembered experiences which I run over in my mind whenever I meet a new one." More and more these companions "got on each other's nerves."

Personal Discord in the Family.—Some 30 students reported as follows on the causes of family friction coming within their personal observation:

CONFLICTS DUE TO MECHANICAL DISORGANIZATION OR NON-COÖPERATION

	No. of reports
Misplaced equipment and untidiness	27
Borrowing equipment	13
Expenditures and allowances	19
Use of car	19
Use of other equipment	6
Time conflicts, irregularity, lateness	23
Duties shirked or ill distributed	27
Failure to notify	12
Distraction and interference, due to differences in tastes, pets, hobbies, etc.	13

PSYCHOLOGICAL CONFLICTS, NOT MECHANICALLY NECESSARY

	No. of reports
Effort of old to control young's recreation	33
Irritation by others' tastes and activities	24
Domination in general	9
Partiality, jealousy, privileges	15
Relatives	4
Discipline of children	9
Nagging, criticism, etc.	16
Disapproval of friends	19
Meddlesomeness, infringement upon personal affairs	14

Mowrer describes the case of a family conflict which grew out of the difference in cultural background between husband and wife.[15]

The wife was a cultured woman, the daughter of a minister. The husband was brought up on a farm and was a dentist by profession. As long as they were together in college and with groups, the differences in their mores and folkways did not stand out, for the crowd usually acted together. But when they were engaged and spent much time alone together, the differences provoked friction. The girl was annoyed at the man's mistakes in table manners and in grammar. They loved each other devotedly, but she began to be ashamed to take him out among her friends, and she did not enjoy his friends. After they were married, she gave up trying to reform him, and suppressed her own feelings. He was unconscious of what was wrong, but realized that she was often cold toward him, when at first she had been very demonstrative. One day when there was company he came to the table without his coat. She was very much chagrined, and after they were alone she said, "You'll just have to get another wife, even if I do love you!" He made her tell him what was wrong, both became self-conscious and avoided going out together. They determined to forget it and be happy, but this proved impossible. Even after the birth of their child, which helped matters temporarily, the tension continued. She now avoids all his embraces, and a real estrangement, physical as well as spiritual, has taken place.

Conflict Produced by Something which Is Limited in Quantity.—Time as well as money may cause conflict. A wife's interest in cards causes her husband to spend in that activity leisure time which he would prefer to spend talking, or listening to the radio, or driving the car. Not the fact that she is interested in cards, but the conflict between his wish for response through pleasing her and his wish for adventure through following his own hobbies, is the source of the trouble. In general, conflict occurs when some factor of *limited quantity*, like time or money, is involved.

We *rationalize* many of our needless jealousies by a false belief that something is limited in quantity when it really is

[15] MOWRER, E. R., *Family Disorganization*, University of Chicago Press, 1927, pp. 209-210.

not. The time available for satisfying interests is limited, but the intensity and number of interests is not. The time which can be spent in friendly conversation is limited, but the number and intensity of friendships one may have is not limited in any such definite way. Some intense and valuable friendships consume little time and yet provoke much jealousy. Others, less valuable, which consume much time, provoke none.

RIVALRY-CONFLICT

The following episode illustrates the type of conflict known as rivalry.[16]

On our hikes we always did something besides walk along the road. Usually each member would take along a pole, with which we would vault the streams and fences. When the gang would get to a very high fence, its members had the option of crawling through or vaulting it. Someone usually wished to stump the rest, however, and if he made it, the rest of us invariably found it incumbent upon us at least to try, although it was not compulsory to do so.

A gang of about eight fellows with a cabin under a big rock in the Appalachian woods originated from the boys' driving the cattle back and forth every morning and evening. Each family had a big pasture about a mile from town.

This particular day we went frog-hunting with a gun. Later we arrived at the cattle pen and the boys got the cows about halfway up the hill, when they happened to start shooting with the gun.

"I dare you to shoot one of those cows off the hill," someone ventured.

The other took the dare and started shooting at the cattle. There was some hesitancy at first, but before long five of the eleven boys were participating. Each boy would shoot at the other fellow's cow if possible. One cow was shot in the neck. Another one was killed. The boy whose cow dropped told his folks that she was sick and they had better come up and see about her. Four of the gang had to pay for her; it cost them $20.00 apiece.

What Is Rivalry?—According to Park and Burgess, "Rivalry is a sublimated form of conflict where the struggle of individuals is subordinated to the welfare of the group. In the

[16] THRASHER, F. M., *op. cit.*, pp. 303-304. Reprinted by permission of The University of Chicago Press.

rivalry of groups, likewise, conflict or competition is subordinated to the interests of an inclusive group. Rivalry may then be defined as conflict controlled by the group in its interest."[17]

This definition is not adequate. A legal battle before a court is conflict subordinated to the welfare of the group. The group welfare in this case demands order and justice. It achieves those ends by compelling the litigants to struggle with words and arguments, instead of physical force. The group, acting through the judge, even regulates the kinds of arguments which may be used. Yet this regulated conflict is not rivalry. For the litigants are not struggling for prestige or excellence which are abstract and relative, but for power or material wealth. On the other hand, there may be rivalry where there is no social regulation. The struggle of middle-class families to outdo one another in the expensiveness of their clothes or the "ritziness" of their cars is certainly not regulated in the interests of group welfare, but it is rivalry rather than ordinary conflict.

The group commonly regulates rivalry with respect to the weapons (reactions) used. It decrees that football players shall not wantonly punch and kick each other, that the hard-pressed lover shall merely woo the girl more vigorously but not assemble a gang with blackjacks to lie in wait for his rival at the girl's doorstep. The mores more or less permit a salesman to speak derogatory remarks about his competitor's goods, but they do not permit him to cause the destruction of his goods, to interfere with his telephone calls, or to slander his personal character. But these social restraints do not transform ordinary conflict into rivalry. The difference lies in the wish goals involved. In rivalry the goal is some *comparative* superiority, expressed and recognized through *symbols. In rivalry the superiority wish is isolated from the other wishes involved in the interaction, and it is satisfied through symbolic comparison rather than through physical interference.* Ordinary conflict might be called interference-conflict. In Chapter IV we saw that superiority satisfactions may be classified as

[17] *Op. cit.*, p. 577.

power, rebellion (freedom), excellence, and prestige. Excellence and prestige are relative goals. They consist in outdoing others. Rivalry is a struggle to outdo or exceed others in some respect, rather than to gain absolute values in terms of material culture, power (or social control), or freedom from power.

In rivalry, as in other forms of conflict, the individuals (or group) react to one another's behavior, not merely to the environmental results of behavior, as in competition. They always recognize each other personally as rivals. Rivalry, therefore, is behavioristic interaction.

A footrace is typical of rivalry. The contestants are stimulated visually by each other's overt behavior (seeing an opponent running just ahead, for example), but they do not interfere.

Often rivalry is mixed with ordinary or interference-conflict. In a football game the interference-conflict element is the struggle to carry the ball toward the goal against the impeding efforts of the opposing team. The rivalry element is the comparison of the scores after the game is over, and the effect upon the comparative excellence or prestige of the two teams. The goal of the wishes in rivalry is abstract and symbolic rather than concrete and tangible. Rivals work longer and harder, but in much the same way, as before the rivalry started. If two boys desiring the same girl ignore each other, each guiding his actions by the reactions of the girl herself and not watching the other fellow, we have competition. If the two are spurred on to additional but not greatly different effort by watching each other, seeking now the additional satisfaction of superiority over the rival in addition to that of response from the girl, we have rivalry. If they change the character of their activities, spending now a part of their time wooing the girl and another part fighting each other, and seeking satisfaction from other kinds of victory over one another apart from courtship successes, then we have a case of interference-conflict.

Rivalry a Cause of Waste.—Once, with two other men, the writer took lessons in a foreign language which he had been studying for a time alone. His efforts, previously guided

purely by the desire to learn as much as possible in a given time, now were redirected somewhat by the rivalry of the situation. What appeared to the group was how well he could translate a particular passage. What did not appear to them was the amount of study time he had used to produce this result, and his facility at translating at first sight without a dictionary. So he labored to put up a good appearance in the only thing which had an appearance. As a result, he found himself looking up in the dictionary many words whose meanings he would have guessed at when he studied alone. He had discovered that the meaning of many such words becomes clear by their frequent repetition in different contexts, and that the time needed to look them up is spared. Thus one gets on faster toward ultimate mastery of a language, though for a long time his superiority may not show itself through facile translations. The writer became distinctly aware that the rivalry situation was causing him to waste time in reaching his ultimate goal.

A girl finds two "dates" a week sufficient for her emotional needs, and helpful toward her work and her general attitude toward life. These two are just what is needed for a balanced life. But, because other girls, and perhaps one of the men she especially likes, are having four dates a week, she is impelled by the rivalry situation to do likewise. Thus, through rivalry, her life becomes unbalanced, and her other aims neglected.

Rivalry resembles conflict rather than competition in the wasted effort it causes. The wastes of pure competition are due to our inability to predict, and our consequent *indirect* routes toward the niches we finally occupy in the competitive system of things. The wastes of conflict are due to effort spent in fighting which might have been spent in pursuit of our original aims. The wastes of rivalry are not due to substituting fighting for productive effort, but to the *additional* productive effort made necessary by the fact that the rivals are watching each other. Typical rivalry occurs in dressing, sports, and international armament competition. International trade involves mostly pure competition: we try to sell goods in South America because that is one way to expand particular businesses. Although this may lead to an imaginary or sentimental rivalry, which may give the Department of Commerce a good

talking point, yet the business men expend only such efforts as pay in dollars and cents. Nor is there any great interference-conflict. Only rarely does one firm, or government, actually expend any effort in trying to interfere with the activities of another.

But in the case of armaments, each nation is profoundly influenced by what other nations do. It builds much more than it would if it were not watching the other. It is spurred by rivalry to excessive effort, not, however, to fighting. One nation does not try to interfere with the building program of another, to call strikes among the workmen, to steal plans, to destroy shipyards. That would be interference-conflict.

Rivalry in Economic Consumption.—"Competitive consumption"[18] is rivalry, rather than competition or conflict. On $200 per year a young woman dresses well enough to adjust satisfactorily to the small community in which she lives. She moves to a large city, wishes to join an exclusive social circle, and finds that she must spend $600. The difference arises purely because of the fact that other women are dressing more expensively.

On the occasion of a college dance, local florists sold corsage bouquets at $10 each. Gallant escorts, inquiring about flowers for their girls, were immediately shown these little bouquets with the information that these were what everybody was getting. Brave indeed the lad who would question the price. Once on such an occasion a boy tried to get a bouquet. On being told the price, he simply laughed. Then he said: "See how nice a bouquet you can make for $3.00." The florist did, and it was difficult to see how the product was inferior. A little "Scotch blood" worked wonders.

The Regulation of Rivalry.—Rivalry, whether in armaments or in consumption, defeats the primary aims of both parties by creating an artificial situation with artificial aims. It is a tyranny of the more successful over the less successful. The less successful, and sometimes all, of the rivals would abolish it if they could. When rivalry becomes excessive, draining too much energy, the desire to abolish it mounts

[18] VEBLEN, THORSTEIN, *The Theory of the Leisure Class,* Macmillan, 1908.

apace. Sooner or later some agreement is likely to be reached. Nations strive to make agreements limiting armaments. At Northwestern University, it is reported, coeds agreed to limit their dates to certain nights of the week. College fraternities make rushing rules by which prospects may not be entertained except at certain times. Some day social circles may agree to limit their expenses in entertaining; society women the cost of their dressing; young men, their outlay in entertaining girl friends.

There is another important difference between competition and rivalry. Competition may be theoretically eliminated by increasing the quantity of the object or decreasing the number of the competitors. Mere competition for membership in a club could be abolished by enlarging the membership limits to include all candidates. It could be eliminated by reducing the number of candidates through some counter-attraction. But rivalry cannot be eliminated by any such method. Rivalry is struggle for *relative* and not merely absolute values; it is the interaction of pure, unadulterated wishes for superiority, which in most persons can never be fully satisfied. Triple the income of the families engaged in social rivalry, provide them with so much money that they can afford to give parties on a scale hitherto undreamed of, and what good would it do them? Or what good would it do to remove half the families in the group, confiscate their property and give it to those who remained? There would still be the never-ending rivalry to outshine somebody else in the splendor of luxury. The only way to check a burdensome rivalry is through rules of the game. These rules are best set up by agreement between the rivals themselves, but they might also be imposed upon them by a higher power.

The sumptuary laws of the Middle Ages interfered with the personal liberty of the lower classes. They were not allowed to buy certain luxuries even when they could afford them. Perhaps we are unable to sense the culture of those days deeply enough to be sure of just what the main psychological functions of those laws were. They undoubtedly protected the upper classes in their arrogant superiority, but

perhaps they also saved the lower classes from the sufferings of rivalry.

Rivalry and Liberty.—We must distinguish sharply between restraints upon personal liberty which check rivalry and those which have nothing to do with rivalry. From a practical point of view this distinction is important. If man learns to control his social life in the interest of happiness, then restraints which check costly rivalry are likely to increase; other kinds of restraint upon personal liberty are likely to diminish.

Censorship needs to be considered from the standpoint of rivalry and competition. It is not simply an issue between freedom and repression. Unlimited freedom to exploit the sex interest in art or amusement might lead to an overdevelopment of sex appeal at the expense of other interests. (Here is the Puritan's best argument, yet he almost entirely neglects it.) The danger lies not in any inherent harmfulness of sex but in its greater motivating power and, hence, profit-making possibilities. A more advanced society than ours might handle the sex motive in amusement not by repressing it but, as Canada handles alcohol, by divorcing it from the opportunity for commercial profit. It might find that the evil lies not in alcohol and sex in themselves, but in the competitive economic system by which these motives are exploited.

The compulsory uniform in military groups is partly a restraint upon personal liberty but it is imposed for the sake of preventing rivalry. Unregulated costume usually leads to the spending of time and money on dress quite beyond the amount necessary to obtain comfort and simple beauty. Regulation saves this time and money for the more necessitous purposes of military life.

The chief social value of monogamy is commonly overlooked by those who hold it most sacred. The arguments that this restraint of personal freedom leads to a higher, more worth-while love, that it elevates the status of woman, may hold good within the limits of our present cultural attitudes. But, as anthropology shows, these arguments are not universally valid; however there is a certain universal validity in the

argument that monogamy limits sexual rivalry, saving for other purposes much time and effort which would otherwise be used in courtship. Whether there is any better way to spend this time and effort is a question of ultimate values, which we cannot discuss here. The evil lies not in the courtship or sex activities themselves, but in the frustrations which might be suffered by less attractive persons if rivalry were unrestrained.

The so-called dangers of freedom are largely dangers of rivalry, which, in fact, restricts freedom. Freedom is dangerous only when and because it cannot remain freedom! The danger of allowing adolescents complete freedom in the use of their evenings is not that the individual desire for a good time is so strong as to crowd out all study, but that this desire for a good time is artificially exaggerated by hearing about others' good times. In controlling the behavior of the young, we are guided too much by conventional prejudices regarding the intrinsic moral values of their different activities. We need to judge recreational activities rather according to their tendency to become exaggerated by rivalry.

In *Middletown,* the Lynds asked high school students to designate the chief sources of friction with their parents. They found that in the upper three years of high school the chief source is the number of times they go out on school nights and the hour they get in at night. "My daughter of fourteen thinks I am cruel if I don't let her stay at a dance till after eleven," said one mother. "We're a good deal worried about her," said another mother; "she's beginning to feel different from the others because she is more restricted and not allowed to go out as much as they do." "Among the high school set, ownership of a car by one's family has become an important criterion of social fitness, a boy almost never takes a girl to a dance except in a car; there are persistent rumors of the buying of a car by local families to help the children's social standing in high school."

"No girl can wear cotton stockings to high school." "My daughter would consider herself terribly abused if she had to wear the same dress to school two successive days." " 'I never thought I would dress my daughter this way, but it is a concession I had to make for her happiness,' is a remark heard

over and over again; in many cases happiness is frankly accepted as meaning popularity." "I dread summer particularly because so many youngsters spend all their time worrying about the proper way to dress."

"A fifteen-year-old son, wise in the ways of the world, protested to his mother because his sister of fourteen in the eighth grade wore lisle stockings to school: 'Well, if you don't let her wear silk ones next term when she goes to high school, none of the boys will like her or have anything to do with her.' "

"The old round of informal Christmas pleasantries has been largely crowded out by a rigid ritual of fourteen annual formal dances." "Such new customs as the replacement of boys and girls walking to and from dances in a crowd by the almost universal custom of going by couples in an automobile, . . . the pairing off of boys and girls being emphasized by the full press reports of those who attend by couples, tend to emphasize the rigidity of the social ritual of the dance."[19]

Economic and hygienic, rather than traditional "moral" considerations, offer hope of bringing about a new and reasonable regulation of the activities of the younger generation and of their elders as well. For "the wages of sin is death," we may substitute, "the wages of social rivalry are frustration and futility."

Accommodation

Self-Eliminating Tendency of Conflict.—While many forms of competition and rivalry are tending continually to develop into conflict, at the same time conflicts tend gradually to eliminate themselves. All the great processes of interaction are going on all the while, but each is in a state of flux. Conflict, like a partially controlled conflagration, is ever breaking out in new quarters and at the same time being quenched elsewhere. In general, the various non-conflicting behavior interactions which replace conflict are called *accommodation.* It is not accurate to say that conflict gives way to *coöperation.* The parties to a past struggle may never actually learn to coöperate toward any common purpose; they may learn merely to

[19] Lynd, R. S., and H. M., *op. cit.,* pp. 134-137, 162-163, 282-283.

live together without mutual interference. They may accommodate, but not coöperate.

Wallace Craig has for many years observed animals with a scientific eye. He tells us that no bird or mammal follows the policy of non-resistance, but that they do not enjoy fighting for its own sake, rarely fighting after their primary purpose is accomplished. They do not, as readily as men, shift their objective to victory itself. One cat does not kill another. A dog does not chase another indefinitely; pigeons do not keep pecking at a defeated enemy. Animals fight only to rid themselves of interference, not to kill. If they wish to kill, why do they warn, threaten, ceremonialize? Why not attack without warning? The only explanation of warning and threatening behavior is that it must have proved useful in preventing fights.[20] Ceremonial conquest is substituted as a wish goal for physical conquest.

In the human world, although there is more love of victory for its own sake than there is with animals, yet conflict in general tends to be self-eliminating. Railway competition becomes "cut-throat" competition (conflict); then come pools, trusts, mergers, holding companies, gentlemen's agreements. The excessive and rival boasting found in certain rough and ready groups is gradually replaced by the urbane convention that boasting is ungentlemanly. Excessive competition and conflict between contractors tend to lead to collusive bidding. The competitors get into "cahoots" with one another. Higgling and bargaining over prices leads to the custom of the fixed price. Price-cutting retailers drive other retailers to organize for self-protection. Fraternity rushing leads to regulating rules. Excessive brutality in prize fighting leads to limiting the number of rounds. Society develops the convention that it is wrong to strike a man when he is "down." Conflict for women by strong and attractive sheiks leads to the regulation of the number of wives, as in old Turkey, and finally to monogamy. The costs of advertising lead to suggestions toward agreement between competitors to limit advertising. Doctors

[20] Craig, W., "Why Do Animals Fight?" *Int. Jour. Ethics,* vol. xxxi, p. 264 (1921).

and lawyers tacitly agree, as part of their professional ethics, not to advertise at all. Armament rivalry leads to limitation conferences. Even the resentment of students against the "grind" who studies too hard is an unconscious tendency to limit the intellectual rivalry into which the lazy might be forced by the pace-setters who burn the midnight oil. It is based on the same principle as the working rules of labor unions, which aim to prevent the more industrious from setting a pace which, according to their belief, will reduce the piece rate and compel the whole group to work harder with no greater return. Lawlessness in the mining camp, says Ross, brings about the formation of vigilance committees to enforce law and order, and leads to organized government and police protection.

To fight is human; to make peace is equally human. Both are "natural" processes—not instinctive or *biologically* natural, but natural phenomena of the realm of *interaction.*

How Conflict Is Eliminated.—Conflict tends to eliminate itself in two ways. First, by enlarging the size of the conflicting groups, it resolves minor group struggles into one large struggle between two parties. Small interests bury the hatchet with one another in order to unite against a common enemy. Yet there is a limit to this integrating tendency, depending upon geographic and other conditions. An alliance may become too large and its members may draw apart and start fighting one another, even before the common enemy has been defeated.

Early in our national history, there were disputes and threatening acts between the several states. Now it would be unthinkable for Connecticut to threaten war upon Massachusetts. Germany possibly saved herself from inner disunion by declaring war on France.

The second way in which conflict is eliminated is that the character of the conflicting behavior itself is changed. Conflicting behavior may become *compromise, toleration, or differentiation of behavior.* These processes make it possible for both parties to realize their wishes in some degree.

Compromise.—Compromise occurs when each party to the conflict gives up or modifies some of its purposes so as to eliminate the interfering factors. Two persons claiming the same piece of land may agree to divide it equitably between them. In China disputes are settled by compromise more frequently than in Western countries. So stable and unchanging is Chinese life that the exact strength of every group is well known. The social leaders are able to estimate in advance the probable result of any conflict, and they save the contestants time and the risk of serious want by bringing about a speedy agreement. The Chinese citizen is not ashamed of compromise: it does not, as in the West, leave both parties with a feeling of inferiority. To the Oriental, superiority, or "face" as he calls it, is preserved if one avoids complete defeat. It is not necessary, as in Western countries, that past defeats be made good by overwhelming victory.

When compromise is frequent, it comes to be anticipated and results in the very interesting interaction pattern known as *bargaining*. This is a kind of pseudo-conflict-compromise. Each party demands more than he expects to get and sometimes even more than he wants, for he knows that according to the rules of the game he will always get less than he asks for. The price or privilege he finally obtains after prolonged struggle may be just what the other party would gladly have given on first request in a more direct and sincere type of interaction.

Toleration.—In mutual toleration the sacrifice made by each opponent is of a more immaterial sort than in the case of compromise. The parties are not compelled to modify their own behavior, but only to suffer the hardship of seeing behavior they do not like or perhaps only knowing it to exist. The Catholic and Protestant Churches may be said to tolerate one another rather than to compromise. They avoid serious conflict without either's giving up anything, except perhaps the hope of absorbing the other.

Differentiation of behavior.—Just as competition commonly leads to specialization or division of labor, so conflict is often resolved by differentiation, or specialization of behavior. Arnold Lahee has shown that the British textile industry, hard

pressed by competition, is tending to specialize more and more on luxury goods, leaving the large-scale production of cheaper textiles to the United States and other countries.[21] This economic specialization was a reaction to the market conditions which resulted from the behavior of textile producers in other countries. It was not purposely adopted by the British because they observed what other countries were doing. It was a case of environmentally-mediated, economic interaction.

Thrasher describes a case in which a boy, made inferior through conflict and rivalry, achieved superiority through specializing his behavior.[22]

> "Al" is an interesting example of how status in the gang is determined by a physical defect. He was naturally looked upon as inferior by most of the fellows because he was affected with an impediment of speech. In almost every instance when anything required nerve, however, or where he had an opportunity to show that he was all right, Al was there and fighting for a chance to prove his worth. When two or three fellows were robbing a golf shop, and no one was willing to break the window and crawl in, Al voluntarily took off his straw hat, placed it against the pane of glass, and smashed his fist through the window. Because Al was looked down upon he took up pool very seriously. He got so that he was an exceptionally good straight pool player and for a long time he made his money for eats in this way.

Al's specialization was a direct reaction to the behavior of his fellows. From the standpoint of individual psychology, it was a case of *compensation.* From the standpoint of interaction, it was a specialization (accommodation) or differentiation of behavior. His attempted rivalry with others decreased, his success in his own peculiar lines increased.

Specialization is sometimes simply the result of some personal interest; sometimes it is unwittingly forced upon the individual by the primary group in which he lives.

The Rôle Makes the Player.—For example, a young man through his college days had played a rôle of social submissiveness. He was regarded as having certain highly but nar-

[21] *Our Competitors and Markets,* Holt, 1924, chap. ii.

[22] *Op. cit.,* pp. 335-336. Reprinted by permission of The University of Chicago Press.

rowly specialized abilities, but as weak and negative in general personality. His opinion was seldom consulted, he was laughed at rather than with, and treated somewhat as a precocious child. Within a year after graduation all this was rather suddenly changed. He acquired prestige, leadership, social confidence. The change was due to his sudden departure from home and his own college circle to a distant town where he was a perfect stranger. His position as college instructor, in which capacity he entered the new situation, carried just enough prestige to give him a start toward self-confidence. Later he became again a student for three years, but his new habits carried over and he never again suffered from social backwardness. At his own college reunions he sometimes feels again the impulse toward the old submissiveness and hesitation of manner.

There is reason to believe that personality lies largely in circumstances rather than in men. Every primary social group —family, neighborhood play group, and so on—is a stage upon which certain prearranged rôles are ready to be played. These rôles are determined by the *culture* of the group. If there is nobody well adapted to a given rôle, then the least ill-adapted person may fall into it and by practice become adapted to it. His personality is developed by his rôle.

Thrasher finds in gangs a number of special rôles or functions. There is the leader; the imaginative boy or "brains" of the gang; the "funny boy" or jester, who is tolerated despite behavior which might otherwise be insulting; the "sissy"; the "show-off" or "loud-mouth"; the "goat" or "goofy guy" who usually gets caught if anybody does.[23] Some rôles may perhaps be omitted if there is no suitable personality to fill them; it is not certain, for example, that every gang *must* have a "sissy." But other rôles are more or less inevitable. Certainly every gang must have a leader; and it is possible that every gang sooner or later develops its "funny boy" and its "goat." No matter how intelligent the group, there must be someone who is more "dumb" or clumsy than the rest, and he becomes the "goat."

From the standpoint of personality, this process of special-

[23] *Op. cit.*, p. 338.

ization of behavior, together with the process of assimilation to be discussed later, is sometimes called *characterization.* The part he plays on life's stage forms the man's character, *characterizes* him.

Personality Differentiation.—A study by Goodenough and Leahy reveals that the position of a child among brothers and sisters influences his personality. The "youngest children" on the average were found to be more aggressive than the "oldest children" by a significant amount (more than four times the probable error of the difference); 30 per cent of the oldest, 50 per cent of the youngest, 59 per cent of the *only* children, were rated above the average in aggressiveness. Only children were found to be much lower in gregariousness than others, older children much more inclined toward the introverted type of attention.[24] Delinquent groups show a disproportionate number of older children. Heron found among the first-born more insanity than chance expectation, and Breckinridge and Abbott found an unduly high proportion of delinquents among oldest as distinguished from youngest children.[25]

The modern nursery schools have provided opportunity for a new type of behavior study which is throwing light upon the development of personality. The more important of these studies are ably summarized by W. I. and D. S. Thomas in their *The Child in America,*[26] under the heading "The Sociological Approach." The method is neither testing, rating of traits, nor noting the reactions to particular stimuli, but rather consists in observing the spontaneous behavior of a child over a definite period of time in more or less natural situations. The results thus far suggest that the specializing of behavior into individual differences of habit and attitude begins in very tender years and is largely the result of group situations. Charlotte Bühler finds that at the end of the first year the most positive personality trends are established. She guishes three main types, the dominant, the amiable or litarian, the exhibitionist or producer. These "types" pecial significance because they were arrived at through

e Effect of Family Relationships upon the Development of Person-
Ped. Sem., vol. xxxiv, p. 45 (1927).
marized by GOODENOUGH and LEAHY, *op. cit.*
p. xii.

actual observation of very young children without preconceived classification of traits.[27]

Marjorie Walker created numerous situations, each consisting of two children and a toy. No adult was present. Types of reaction, such as pleading and commanding, were noted. One child used pleading 200 times. He always pleaded with whatever child he was paired. Another pleaded only 10 times, but commanded 200 times.[28] Mildred Parten observed each child for one minute each day during the play hour, rotating the time so that no one child would always get the first minute of the observation, and so on. She classified the activities she observed as follows: Unoccupied, independent or isolated play, parallel activity, onlooker, supplementary activity, coöperative play. The correlation between the even- and odd-numbered observations on the same child was on the average about +.90, showing that the type of activity shown by a child at any one minute of any one play hour is very likely to be continued through all the play hours. One child talked 90 per cent of the time, another not at all. One child was a leader in 95 per cent of the situations, another in only 5 per cent. The former was getting 19 times as much practice in leadership as the latter.[29] This result suggests that personality differences may be due to very small accidental differences of behavior which become greater and greater through practice. Ethel Verry noted five types of attitude among her pre-school children at play: treating playmates as objects, assuming an adult attitude, seeking attention, doing as others do, and coöperating with the group.[30] Blatz, Chant, and Bott observed five behavior types toward other children: talking, 406 cases; interference, 201; watching, 111; imitation, 70; coöperation, 47; and five types of relation to adults: child asserts, 613; adult stimulates, 471; adult restrains, 229; child negates or asks help, 103; child resists, 16.[31] Among the techniques used in this observational study of children are recording the time spent on each activity by following a given child through a certain period of time, recording physical contacts of each child with others, noting the time when each child enters or

[27] THOMAS, W. I., and D. S., *op. cit.*, p. 518.

[28] *Ibid.*, pp. 519-520.

[29] *Ibid.*, pp. 523-524. See also ANDERSON, J. E., "The Genesis of Social Reactions in the Young Child," in *The Unconscious, a Symposium*, Knopf, 1927, p. 81.

[30] THOMAS, W. I., and D. S., *op. cit.*, pp. 528-530.

[31] *Ibid.*, pp. 525-528.

leaves a group, recording conversational contacts and subjects of conversation of each child, reporting every case of laughter, who laughed, and at what. As a result of such observations, activities have been classified according to their objects of attention: to self, to other persons, to material things, to abstractions; physical contacts have been classified into hits, pushes, pulls, accidents, caresses. Many of the observations lead to definite measuring sticks by which useful comparisons may be made between individuals, such as the ratio of laughter responses to number of times exposed, which varied from 20 per cent to 100 per cent with different children. Another is the ratio of contacts initiated to those received; another, the ratio in conversation of the number of "I's," "my's" and "me's" to the number of third personal pronouns.[32]

F. Baumgarten asked many children, "What would you do if someone called you stupid?" She classified the reactions as "boomerang" type ("you are just as stupid"), the physical attack, the intellectual (demands proof), the passive (says nothing), and the ignoring reaction.[33]

These researches, of course, do not prove conclusively that the personality differences observed are the results of interaction. They leave it still possible for the heredity theorist to claim that certain differences were already there by inborn constitution. What we need is research which follows particular children over a period of time and observes actual *changes* in their personalities under the influence of different social situations. The significance of most of the foregoing studies is that they are developing *measuring devices* by which we may later be able to tackle the fundamental problem.

At the Enoch Pratt Hospital in Baltimore, H. S. Sullivan and his associates are experimenting with a group of persons now or recently mentally disordered. They find that these persons tend to make successful adjustments (*i.e.*, overcome their disorders) in groupwise association among themselves. Inferior children are often distinctly relieved and show im-

[32] For a full account of studies of this kind, see THOMAS, D. S., *New Techniques for the Study of Social Behavior,* Teachers College Bureau of Publications, New York, 1930.

[33] "Die Reaktionstypen in Sozialen Verhalten," *Proceedings, 8th Congress for Experimental Psychology in Leipzig,* 1924.

provement when removed from rivalry with superior children and placed in a group of their own kind.[34]

Living Together Sometimes Makes People More Unlike. —In some ways, living together makes persons more alike. In others it tends to make them more unlike. We have noted how conflict within the family tends to make the struggling persons more extreme in their attitudes. The same result may occur without definite conflict. Specialization is not always the aftermath of a conflict, it may arise directly out of living together. In a sense, however, it is a substitute for or preventive of conflict, for if specialization does not occur, conflict may ensue.

At the outset of married life a husband was a little more careless of details than his wife. The wife assumed as part of her duties the responsibility of checking up on small matters, such as the payment of bills, the noting and remembering of engagements. Little by little the husband, finding these tasks so well taken care of, forgot them more and more, until he became quite dependent upon his wife to jog his memory even upon important matters. It was not a conscious, deliberate dividing up of duties. It was an unconscious, gradual transfer of responsibility which changed the underlying habits and attitudes of both. The wife became more executive, more responsible; the husband increased his efficiency in turning out large blocks of mental work, but became more negligent and dilatory about isolated details.

Another wife developed a nervous disorder which made her incompetent in handling the ordinary duties of a home and children. More and more these duties fell upon the husband. Had he too been neurotic, he might have broken under the strain; but being of sound constitution and cheerful temperament, he developed strength under his increasing burden. In later years he came to be noted for his great versatility of interest and ability. An artisan by occupation, he learned to cook, sew, tend babies, and amuse children and adults, became an accomplished musician and an able controversialist on many intellectual questions. He was the "life of every party" and was much sought as a consoler in grief by all his friends. While a certain original temperament was necessary for this,

[34] THOMAS, W. I., and D. S., *op. cit.*, pp. 516-517; see also "Proceedings, First Colloquium on Personality Investigation," reported in *Amer. Jour. Psychiatry*, vol. viii, p. 1089 (1929).

the man's personality developed enormously as the result of his difficult social environment. He is one of those cases in which hardship really makes strength. In this case, the two partners, facing the difficulties of life, did not become more alike. But neither did they conflict. Instead, the one grew weaker, the other stronger.

Cases of character built through adversity are paraded as "good examples" before the young. "Success" stories about boys who climbed over obstacles are typical of the popular moral idealism. There is a lot of good social psychology in this everyday moral wisdom. But it is misleading social psychology, because it usually consists of half-truths. In the case just cited, for example, in our admiration for the husband who became strong, we overlook the anti-social wife who became weak. If the aim of social life is the Calvinistic goal of developing and saving the "elect" and ignoring the rest as irretrievably lost, then the family mentioned above represents the ideal. But our social mental hygiene program (see Chapter XIII) aims at the betterment of life itself; it considers character perfection only as a means to happiness. From such a point of view it is regrettable that any man should be forced to develop such strength of character. Instead of extreme strength and a philosophic happiness for him, and weakness for his wife, why not moderate strength and attain complete happiness for both?

Personal Discord Changes Personality.—Unlike attitudes normally tend to become more alike after pleasant face-to-face association, but if the attitudes provoke conflict, they tend to become still more unlike. Normally one tends to catch the interests and enthusiasms of his fellow associates. The wife acquires an interest in her husband's work; the good mixer who talks politics gets his companions interested in politics. How can we predict when unlike attitudes will provoke conflict and lead to still further unlikeness? Such a prediction ought to be of utmost importance in the guidance of those contemplating marriage.

We cannot predict with any certainty. In general, however, conflict occurs when the unlike attitudes lead to acts which

thwart the desires of the other. If my attitude toward books of ancient vintage is one of great interest and my wife's one of boredom, there will probably be no conflict as long as I have time and money to pursue my interest without thwarting any of hers. But if my enthusiasm leads me to any large expenditure of money on these antiques, and if she begins to feel any limitation of her own desires by financial pressure, then there are seeds of trouble. She may begin to resent the fact that much money which might be spent on activities interesting to us both is spent on a hobby of interest to me alone. Her attitude toward old books becomes more than mere indifference, it may become active irritation. This irritation then provokes in me a conflict between the wish to please my wife and the wish to buy more books. I may cease buying books, but this is not likely to kill my interest in them. I please my wife, but my book wish is thwarted, and the thwarting produces an irritation which comes out in various ways. I may talk about the books I could not buy, and this may in time come to produce as much resentment in my wife as if I actually had bought them. Similarly, I may criticize some expensive hobby of my wife's. Not only our attitudes toward books, but our attitudes toward other things, become more unlike than they were.

Polarization of Behavior.—When the differentiation of behavior is toward two opposite poles rather than toward several varied patterns, we speak of *polarization* of behavior. The case mentioned above in which the husband became more careless of details and the wife more careful, is an example. The most important type of polarization is domination-submission.

Domination-submission.—Humans and many other animals have contrasting behavior patterns known as (1) domination, mastery, self-assertion, ascendance, aggressiveness; (2) submission, subordination, self-abasement. The domination pattern includes vigorous movements, throwing forward of the chest, general muscular tonus. The submission pattern involves relaxed muscles, drooping head (and tail), and postures which make for inconspicuousness and which sometimes feign death. These patterns were once thought to be instincts. Now

we believe they are learned combinations of movements, selected by trial and error because of their usefulness. How are they useful? As social signals. Mastering behavior is the postures and movements of a victor; submissive behavior, those of one vanquished.

The beaten dog slinks off with his tail between his legs; the defeated boy cries "nuff"; the Southern Negro doffs his hat to the white man; the buck private salutes his officer and talks in "sir's"; the defeated army gives up its arms. Man embellishes his dominating and submitting attitudes with various ceremonial or symbolic acts: salutes, bows, drawing of sabers, tones of command and tones of respect. The important thing is that this behavior saves the effort and time of conflict. It allows both victor and vanquished, superior and inferior, to get along together without the necessity of repeated struggle. Even in the inferior, most wishes, except that for superiority, may be well satisfied by the situation, and he may even find substitute satisfactions for superiority.

By trial and error a strong animal, one which usually wins, learns that by showing masterly behavior at the very beginning of a social contact he can often frighten the other and save himself the pain and energy of a fight. The weaker, less often victorious animal, has conditioned his fear to the sight of the masterly postures of the stronger opponent. He learns that submissive postures save him the pain of a fight. His submissive posture becomes a conditioned stimulus to masterly posture on the part of the other animal, and *vice versa*. Thus develops a *polarity* of social contact.[35]

When two individuals meet, one of them because of previous experience is more likely to adopt the masterly attitude than is the other. The more he adopts it, the more the other adopts a submissive attitude, and *vice versa*. Only in those rare cases where the two individuals are about equal in strength, or are ignorant of each other's powers, does a real combat take place. In most meetings combat is avoided by the polarization process. These principles apply, of course, only to situations which are combat-provoking. Other meetings may arouse

[35] ALLPORT, *Social Psychology*, p. 160.

playful behavior, sex behavior, and so on. In general, the relative strength of the two individuals, as demonstrated by past experience, determines which shall adopt the masterly and which the submissive attitude. But sometimes the physically weaker may, by virtue of much victorious experience in some other group, succeed in dominating the really stronger, who has experienced more defeat because of having lived among those more powerful than himself.

Submission not Necessarily Painful, but Unstable.—Submission is not necessarily painful. By and large, slaves have probably been happy in their slavery. Human nature does not automatically rebel against a status of submission. The trouble with this form of human relationship is that it is not likely to "stay put." It is essentially unstable. Ideas of possible escape are sure to creep into the minds of the submerged class sooner or later, and to arouse once more the wish for a freer and more masterly life. If slaves could be kept forever in ignorance of the joys of freedom, if inferiors could be mentally insulated against any vicarious experiences of social superiority such as they might get from reading, moving pictures or conversation, then domination might continue indefinitely, without causing suffering to the depressed class. But, especially in modern society, such insulation is impossible as long as the inferiors are of the same species and have the same human nature as the dominators. Contented Negroes in a Southern community, for example, are sure sooner or later to receive visits and letters from Negroes who have lived more or less like "gentlemen" in Washington or Harlem. They read novels and see moving pictures which suggest the possibility of a life in which they will not need to humble themselves before the white man or limit themselves to menial occupations. It is of no use to tar and feather the agitator who "puts ideas in their heads." If *he* did not stir them, somebody or something else would, sooner or later.

We have shown that the development of a wish depends partly upon the possibility of its satisfaction. Normal human nature cannot long continue wishing what it believes to be

impossible, and by the same token it cannot help developing wishes for what it believes possible.

A dog cannot suffer from domination or oppression. He suffers only from physical ill-treatment by his master. A "robot" could live indefinitely in slavery without suffering. But a human slave has the power to make comparisons between his own life and those of more fortunate persons. Out of this symbolic comparison arises the idea of justice, and when he learns that justice has been won by other slaves, his contentment is at an end. It is perhaps unfortunate for mankind that there is not some sub-human species sufficiently intelligent to be trusted with complicated manual work, and yet not sufficiently intelligent to desire the rights and privileges which it sees nearby creatures enjoying.

Domination in the Family.—Kimball Young points out the frequent existence of domination in the relation of parents to children. Useful for the control of the young child, the mastering attitude of the parent is often carried over so long that it thwarts the child's natural development. Parents project their own unsatisfied wishes into their children and try to mold their lives, instead of letting the children develop according to their own ambitions. The child becomes merely an instrument for the carrying out of a family purpose, not a personality in his own right.[36]

Personality Differentiation Between Groups.—Between groups, perhaps, accommodation less often takes the form of differentiation, and more often the form of compromise or toleration. However, the conquest or subordination of one group by another may lead to differentiation. Ross says:

> Great differences in social status give rise to *contrasts in character* which serve to accentuate and justify those differences. Normally, the personal ideal that grows up within a hereditary upper class is to be proud, free-handed, and high-spirited. Born to wealth and power, its members not infrequently manifest an independence of character, a frankness of speech, a simplicity of manner, and a dignity of bearing which are interpreted as natural traits of the

[36] YOUNG, K., "The Parent-Child Relationship: Projection of Ambition," *Family*, vol. viii, p. 67 (1927).

aristoi or best. Hence, the myth that the nobility had its origin in the deliberate promotion of the best.

On the other hand, the masses are warped out of their true line of character growth. . . . Their enforced economies and frugality of expenditure are taken as proofs of a want of natural dignity. So far as they lack adequate legal protection they find themselves under the necessity of combating force with deceit. In case the masses are mostly disinherited, they lose the property sense and are despised for their petty thievery. Thus, when concentration of wealth and power in the upper class is marked, the resulting want of manliness and truthfulness in the common people is held to reveal a natural defect, and inferiority of social status is justified as being the inevitable recompense for inherited weakness of character.[37]

Assimilation

Personality Change also Involved in Assimilation.—We have seen that differentiation of behavior, translated into terms of individual psychology, involves personality adjustment or change. It implies the creation or augmentation of differences between individuals. Assimilation also involves personality adjustment, but toward greater similarity between individuals. Both differentiation and assimilation are sometimes known as *characterization.*

Park and Burgess say that the process of Americanization of immigrants is typical of assimilation.[38] The foreigners, coming to us with attitudes different from our own, sometimes go through a period of conflict, and in any case a period of accommodation, in which they learn to get along with us, and we with them, but without our both living the same kind of life. Then follows a period of assimilation, during which they not merely tolerate, but acquire, our American attitudes and habits. Finally, in the second or third generation, they become "like-minded" with us, as Giddings would say.

Colleges and families "set their stamp" upon their members, fraternities try to "mold" the personalities of their brothers. Great importance attaches to uniformity of behavior,

[37] Ross, E. A., *Outline of Sociology*, Century, pp. 245-246. Used by permission.
[38] *Op. cit.*, pp. 762-768.

which is apt to be looked upon as "coöperation," although often it is not.

Characterization versus Selection.—Both differentiation and assimilation are, in another sense, the opposite of selection. In selection, personal characteristics determine the part to be played or the group to be joined. In characterization the rôle or the group determines personality. Usually both processes have been at work, and it is difficult to tell in any social environment which persons fill their places in life by virtue of selection, and which by virtue of characterization. For instance, it is well known that an undue proportion of the country's notables, as indicated by *Who's Who in America,* are located in New England. The usual question is whether this is due to heredity or to environment. But really there are three explanations: (1) hereditary superiority of New England stock, regardless of environment; (2) selective attraction exerted by New England cultural environment upon able men, drawing them from all parts of the country; and (3) characterization by the intellectual traits of the New England cultural environment. Explanation (2) plays a questionable rôle because the large proportion of eminent men not only live in New England, but were born there. In fact, Maine, New Hampshire, and Vermont give birth to more eminent men than their own environment can use, and send them to other parts of the country to live and work. Hence, if selection is the explanation, it must have been a selection working upon the ancestors of these eminent men, which ancestors then transmitted their unusual ability.

So the main dilemma is between explanations (1) and (3). Both probably play a part, but modern social science lays increasing emphasis on (3). Life in a New England village is more calculated to stimulate ambitions which get one in *Who's Who,* than is life in an equivalent community in the South, West, or Middle states. Massachusetts gave birth, in proportion to her native white population of 1880, to four times as many eminent persons as Georgia, Tennessee, or Colorado, and to twice as many as New Jersey. Vermont produced twice as many as Pennsylvania.

Is the "glad hand" of the Y.M.C.A. man or Chamber of Commerce secretary, a product of characterization by his profession, or a preëxisting trait which helped him select his profession? And, considering differentiation again, is it just the laws of chance which seem to succeed in putting into every sizable group some talkers, some strong and silent men, some humorists, some who cannot see a joke, some oversensitive persons, some "roughnecks," some "highbrows," some parasites, some "better element"? Or is it in the nature of groups themselves to develop these "elements" no matter what kind of material they start with? Certainly here is one central problem of social psychology before which many existing lines of research pale into insignificance.

Assimilation as Socialization.—Socialization, says Ross, "is the development of the we-feeling in associates and their growth in capacity and will to act together." He means much the same thing the Chicago school means by assimilation. As agencies of socialization, he mentions the common meal, the festival, common hardships and other experiences, a common enemy, boys' clubs, common group possessions, sport, common interests. As obstacles he mentions the perception of differences in habits and beliefs, arbitrary discrimination, imputations of inferiority, and memories of ancient wrongs.[39]

The agencies of assimilation work by conditioning the emotions (or fixating wishes) of many individuals to a common stimulus. In the army the daily salute to the colors amid impressive surroundings, while the band plays the Star Spangled Banner, produces a powerful conditioned emotion. This common sentiment serves as a bond of we-feeling between all those who have been in the military service.

Socialization and Individuation.—Socialization or assimilation is contrasted with individuation. Differentiation of behavior through interaction of personalities in a group is, of course, one cause of individuation, but not the only cause. Individuation is produced also by the sheer variety of the situations in our natural and cultural environments, regardless of interaction. Modern industrial society tends especially to

[39] *Outlines of Sociology*, chap. x.

individuation because of its great variety of situations which may condition the emotions. In some respects a college socializes its students; they acquire common attitudes, ideals of scholarship and sport. In other respects it individuates them; one becomes devoted more especially to athletics, another to journalism, another to religious activities. High individuation makes necessary a greater degree of personal liberty than is required for happiness in a simple culture where men follow rather uniform activities. Frustration and maladjustment are caused, not simply by too much or too little liberty, but by a lack of balance between the opportunities to acquire tastes and interests, and the opportunities to give them full satisfaction.

Participation as an Index of Assimilation.—J. L. Hypes measured *social participation* in a New England town. He ascertained the hours of attendance of each individual at various social gatherings. He constructed an index of family participation by finding out what organizations were joined and what social activities were engaged in by each family. The correlations between family participation in one activity and family participation in some other activity ranged from .50 to .93.[40] In other words, families which participate to a large extent in one line of activity are more likely to be more active than the average in other lines.

Hypes found that distance from the village, form of land tenure or mortgage, were of minor importance, while differences in quality of land, in season, in nationality, age, and sex, were important in determining the amount of participation. However, some groups excelling in church activity were low in civic club membership, neighborhood visiting, athletic and recreational activity, thus showing something of the traditional aloofness from the "world."

H. B. Hawthorne, studying rural communities, reports on how farmers use their average annual 1300 hours of leisure time. Such an analysis of individual time schedules may serve as a useful measuring stick of assimilation.[41]

Chapin has measured assimilation in a group of middle-class families in an urban community. To each family he applied four measurements: (a) an index of the total amount

[40] *Teachers College Contributions to Education,* no. 258 (1927).

[41] *The Sociology of Rural Life,* Century, 1926.

of the family's *cultural possessions,* including books, musical instruments, etc.; (b) effective *income,* the number of dollars income per ammain;[42] (c) a *participation,* or "group-setting" index, computed from the number of memberships, organizations attended, officerships, amount of contributions, etc., of the father, plus the same data for the mother; and (d) an index of the adequacy of the family's material household equipment. He found the following correlations:

1. Cultural possessions and income.....55
2. Cultural possessions and participation.....68
3. Cultural possessions and equipment.....61
4. Income and participation.....64
5. Income and equipment.....62
6. Participation and equipment.....63

By the method of partial correlations Chapin found that the second and fifth correlations were not much reduced by holding constant the other two variables not involved in the particular correlation. The first and sixth correlations were greatly reduced by this procedure.[43] Chapin concluded that there are two more or less separate basic variables—economic status and sociality. The economic status reflects itself somewhat more in income and equipment; the sociality factor, in cultural possessions and participation. These two basic variables are independent of each other to a greater degree than any one reflection is independent of the other reflection of the same basic variable. High economic status probably does en-

[42] An ammain is a theoretical person equivalent in maintenance requirements to one adult male. A woman or a child counts as somewhat less than one ammain, depending, in the case of a child, upon its age. A family of five men would be five ammains, but the usual family of five persons counts as somewhere between three and four ammains. See SYDENSTRICKER and KING, "The Measurement of the Relative Economic Status of Families," *Jour. Amer. Statistical Assn.,* vol. xvii, p. 842 (1921).

[43] The method of partial correlations is the computation by a mathematical formula of what the correlation between two variables *would be* if certain other variables related to one or both of these two variables were held constant. For example, the correlation of .55 between cultural possessions and income is partly due to the fact that each of these two variables is correlated with participation. High participation may cause a family to buy more than the average of cultural possessions, and it may also be partly the result of a super-average income, or of some trait, such as intelligence, which may be reflected in higher income. But if we confined our study to families of the same degree of participation, then the correlation between cultural possessions and income would be less. This reduced (partial) correlation, obtained by "partialing out" the participation, is a more accurate index of the true relation between cultural possessions and income.

courage group participation and "cultural" life, because people of that status have more money, and they either have, or can buy more time. But families differ in another variable which is not entirely dependent upon their economic status—namely, some have much more than others of the *attitudes* which lead to their participating in group activities and to their interesting themselves in the things of "culture." In other words, they have been, in comparison with others, more completely influenced by the interaction processes of assimilation, more thoroughly *socialized*.[44]

Chapin's study of the extra-curricular activities of Smith College seniors revealed a strong correlation between the amount of participation in the senior year and the amount of participation by the same student in previous years of her college course. Chapin concludes that sociality is either an inborn trait, or an acquired trait which has become more or less fixed before college age, so that it does not change significantly with further group experience.[45]

A study made by students at Sweet Briar College, using the 80 members of the senior class as subjects, revealed no significant correlation between college leadership and extroversion-introversion as measured by the Neymann-Kohlstedt test. In fact, the correlation was slightly negative, and four out of the six subjects having the highest leadership scores were introverts. The leadership score is roughly an index of participation.

Experiments Upon Group Effects

Results of Interaction upon Individual Performance.—In general, experiments by Triplett, Mayer, Schmidt, Meumann, F. H. Allport, and others have shown: (1) that the presence of fellow workers tends to increase speed and accuracy of mental work; (2) that the increase is more pronounced in work involving overt physical movements than in purely intellectual tasks; (3) that in adults there is no improvement in constancy of attention or in quality of work performed; (4) that logical reasoning is poorer in the group situation, but that this reasoning is expressed in a larger number of words

[44] "A Quantitative Scale for Rating the Home and Social Environment of Middle-class Families in an Urban Community," *Jour. Educ. Psych.*, vol. xix, p. 99 (1928).

[45] "The Measurement of Sociality and Socio-Economic Status," *Sociology and Social Research*, vol. xii, pp. 208-218 (1928).

than when carried out in solitude; and (5) that such improvements as are produced by the presence of a group are greatest for the least able workers, and least for the most able.[46]

In these experiments the accelerating effect of the presence of one's fellow men upon one's activity is attributed by Allport to two processes, *social facilitation* and *rivalry*. Social facilitation, says Allport, is the hastening or increasing of our responses by the sight or sound of the movements made by others in performing the same task. In other words, these movements of other persons are *contributory social stimuli* which have become so conditioned as to augment the responses we would make in any case to the main task stimulus. Rivalry is something more; it brings in emotional responses as an intermediate factor. The group situation has become a conditioned stimulus to emotion (mild excitement, fear, or anger); the emotion then reinforces the task responses. It improves their speed and quantity but usually not their quality. Rivalry tends to speed up the slower individuals, to slacken the faster, and thus to bring the various rivals toward a common level of performance.

But E. C. Williamson has pointed out that individuals working alone may also be under the influence of rivalry. Allport is inclined too much to regard social interaction as dependent upon the physical presence of one's fellows. As Williamson points out, the sight of a gift or of a broken window may have as great a socially facilitating effect, may play as great a part in any social interaction, as the sight of the person who caused these stimuli. The physical presence of our fellows, as we have seen, is only one medium of interaction.[47]

P. R. Farnsworth, pairing students of equal ability and giving them the Thorndike and Otis intelligence tests, found no consistent group effect (social facilitation). In fact, there was a slight tendency to fail on fewer difficult items when working alone.[48]

[46] Reported in ALLPORT, *Social Psychology*, chap. xi.

[47] "Allport's Experiments in Social Facilitation," *Psych. Mon.*, vol. xxxv, no. 2, p. 138 (1926).

[48] "Concerning So-called Group Effects," *Jour. Genetic. Psych.*, vol. xxxv, p. 587 (1928).

C. A. Anderson found that, in general, group work facilitated the performance of his subjects, but did so to a greater extent in a group averaging 100 I.Q. than in a brighter group.[49]

E. Hudelson, reviewing several studies of the influence of class size upon college work, found that 30 of the studies showed large classes to be better, 6 favored small classes, and 10 showed no significant difference.[50]

In social facilitation we must distinguish the audience from the coacting group. Both tend to have an accelerating effect in some respects, but the natures of the two situations are quite different. In general, research has shown that the audience situation stimulates a performer to do more rapid work.

Lee Travis found that a small audience raises slightly the average score in eye-hand coördination, measured by the subject's ability to hold a flexible pointer on a revolving target.[51]

G. S. Gates found that the presence of an audience improves slow mental workers, but helps the originally good workers very little, sometimes hindering them.[52]

Not the mere presence of one's fellows, but what they are doing, is important. D. A. Laird tested the effect of "razzing" upon motor control in tapping, in a "three-hole coördination test," in steadiness of sitting, and in steadiness of standing. He found that about half his subjects were improved by razzing in the tapping and three-hole tests, but says that this might have been due purely to practice. All the subjects lost in steadiness.[53]

In the case of rivalry, it has been found by I. C. Whittemore that all the subjects doing a task in printing accomplished more work per minute when "competing" than when working without rivalry, and at the same time that all of them did *poorer* work. The slower subjects gained the most in speed from the rivalry.[54]

E. B. Hurlock found that a group of children doing certain mental tasks under the influence of rivalry made a higher group score every day than a control group which did not use rivalry. The younger children were influenced more than the

[49] "An Experiment in Social Facilitation as Affected by Intelligence," *Amer. Jour. Sociology,* vol. xxxiv, p. 874 (1929).

[50] *Class Size at the College Level,* University of Minnesota Press, 1928.

[51] *Jour. Abn. Psych. and Soc. Psych.,* vol. xx, p. 142 (1925).

[52] *Ibid.,* vol. xviii, p. 334 (1923-4).

[53] *Jour. Experimental Psych.,* vol. vi, p. 236 (1923).

[54] "The Influence of Competition upon Performance," *Jour. Abn. Psych. and Soc. Psych.,* vol. xix, p. 236 (1924).

older, and inferior children more than superior. The rivalry group showed a slight increase in *accuracy*, the control group a slight decrease. The increased score shown by the control group was regarded as the effect of practice alone. The rivalry group showed a gain of 41 per cent over and above this practice effect.[55]

But certainly from these simple experiments no deduction can be drawn as to the value of rivalry in large complex situations. We hear constantly in America that private enterprise, because of its rivalry, stimulates to greater effort, while government enterprise leads to sloth and inefficiency. This argument was one of those which prevented the continuation of government operation of the railroads after the war. Yet in Europe we find high efficiency in many government railways and in other enterprises. It is possible to get rivalry without private enterprise, to get efficiency without rivalry, and to have private enterprise and rivalry without efficiency. The battery of human motives can be made to function efficiently in more different types of social organization than are dreamed of in the simple minds of many economic theorists, both conservative and radical.

Limited Value of These Experiments.—Much research has been devoted to the measurement of the effect of social situations upon mental work. Its value, however, is not relatively as great as its quantity. To know that certain social situations improve somewhat the *average* score in certain kinds of laboratory performances is not as important as to know why one individual improves and another is affected adversely. What we need is to be able to determine the best conditions of work for a given *individual*, and also to discover how we may train him to work better under such conditions as may be necessary to his task. We need to discover how we may select from a group those who are most likely to produce their best work when alone, and those most likely to be successful when surrounded by others. We need a technique to recondition the office worker who is retarded by the noise and distraction about him, and the student who, though he has the

[55] "The Use of Group Rivalry as an Incentive," *ibid.*, vol. xxii, p. 278

ability to do his best thinking in solitude, yet lacks the *drive* to do it in that situation.

Travis found that stutterers working alone can speak more words in a free association test than when they are in a group. Stuttering is only one conspicuous example of many kinds of responses which have been so conditioned in many persons as to make behavior more successful in solitude than in a group.[56]

We are often led by social situations to make great errors in observation. Such errors may be far more important than any increase or decrease in quantity of reactions.

At the Congress of Psychology in Göttingen, by prearrangement a clown rushed into the meeting hall, pursued by a Negro. They fought in the middle of the room, the clown fell, the Negro leaped upon him, fired a revolver, and left the room. These events transpired within 20 seconds. The scene was photographed. The members of the audience were asked to write reports of what had happened. Of the 40 reports written, one-fourth were substantially false, and only one had less than 20 per cent of mistakes. Thirteen had over 50 per cent of mistakes.[57]

Under the influence of social stimuli we make many incorrect judgments. Our traditional court procedure is based upon a lack of social psychology. We ask a witness to identify a prisoner. "Is this the man?" It would be much more scientific to confront him with several candidates, and ask him to pick "the man." This should be done where other witnesses cannot see the result. Theoretically the jury system attains sound judgment by requiring unanimous agreement. Actually, the jurors are greatly influenced by one another, and may be swung toward either extreme by the prejudiced appeals of the counsel and by forceful personalities within their own membership.

Summary.—This chapter has illustrated and described many characteristics and results of the four main patterns of behavioristic interaction, all of which may be regarded fundamentally as interactions of individual wishes. "Crowd psychology" may be regarded as a form of mutual gratification.

[56] *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 45 (1928).

[57] VAN LANGENHOVE, F., *The Growth of a Legend*, Putnam, 1916.

Conflict is especially common in the human as distinguished from the animal world, for it is promoted and extended by symbols and the symbolically conditioned goals of the wish for superiority. In ordinary, or interference, conflict, each opponent seeks to gain some material advantage or absolute value at the expense of the other. In rivalry conflict, the superiority wish predominates, and seeks its satisfaction through some purely relative achievement.

Conflict, including rivalry, is wasteful and tends to regulate itself. Many restraints upon personal liberty are imposed to reduce the burdens of rivalry. Conflict tends to give way to accommodation, which means adjustment between personalities but not necessarily coöperation or similar behavior. Accommodation takes the forms of compromise, toleration, and differentiation of behavior. Personalities are changed by accommodation. They tend to become different, or specialized, as a result of the interaction. One of the most common results is that some become more dominant, others more submissive. Groups as well as individuals tend to become more unlike in some ways through interaction.

But accommodation may be accompanied or followed by assimilation, which makes personalities more alike. Assimilation may be measured by the degree of participation in group activities.

In general, mental work is improved in speed by the presence of a group. The more complicated mental processes, however, suffer in some respects. Many experiments have been made to measure social facilitation and the influence of rivalry upon performance, but the results are applicable in only limited spheres. More important is a technique for determining for each individual the conditions under which he can do his best work.

CHAPTER IX

ORGANIZED INTERACTION—SELECTION, SOCIAL CONTROL, AND SOCIAL DECISION

In studying the organization of individual behavior, we noted processes of spontaneous development, such as conditioning, facilitation, the formation of wishes, and the acquisition of new goals by the wishes. But there were other processes which acted as checks or controls upon these more spontaneous mechanisms: processes of inhibition, unconditioning, frustration and readjustment of wishes, the management of tension, the substitution of goals.

Somewhat analogously, the processes of social interaction, as we have so far studied them, may be regarded as spontaneous, uncontrolled and unchecked. We now come to the higher, controlling organization of social interaction. First we shall study selection, which is the result of environmentally-mediated interaction processes and which reacts in a controlling fashion upon those processes. We shall then see how selection is closely related to social control, which is the controlling or checking organization of behavioristic interaction processes. We shall study social control and the still higher governing process of social super-control or social decision.

Selection

Selection as an Adjustment to Competition.—Competition leads to one of two results. Either the competition continues indefinitely in a state of *equilibrium*, or *selection* takes place. Consider again the two suitors. Their efforts to win the girl may be so nicely balanced that the three persons continue for some time in the same relationship, each man enjoying his share of the girl's companionship and emotions, but neither attaining the ultimate goal of marriage and thus excluding the other. Such states of equilibrium, however, are usually transient. Selection ensues: one attains the coveted position,

the other is *eliminated*, or forced into some other, to him less desirable, position.

Competition between business firms often continues for a long time in a state of equilibrium. But commonly one gains on the other and attains either a complete or a substantially greater control of the desired market.

Selection adjusts competition, as arbitration adjusts conflict. Both selection and arbitration may be regarded as social control processes. They are (selection only in part) organized processes of a higher order, so to speak, which regulate and adjust the more spontaneous, "natural" processes of competition, conflict, and so on.

Kinds of Selection.—Selection has been classified as natural and social. Natural selection is the process, so thoroughly expounded by Darwin, which eliminates the biologically unfit and accounts for the biological evolution of one species from another. Social selection is the elimination by society of the socially unfit. Chapin has distinguished *societal* from social selection. Social selection, he says, kills or prevents the reproduction of unfit individuals; societal selection *restrains* the unfit behavior of individuals, by punishment, exile from the group, etc., but does not kill. Societal selection also acts upon culture traits as well as upon individuals. The rejection of a proposed bill by Congress, or of long skirts by the masses of American women, is societal selection.[1] A. G. Keller says further that selection may be automatic or rational.[2]

A New Classification of Selective Processes.—These terms, however, are confusing. A clear analysis of selection must consider: (1) what is selected, (2) what does the selecting (selective agency), (3) the criteria of selection, and (4) what happens to the selected and the rejected (disposition).

(1) What is selected?—Selection may act upon (a) individuals and the biological stock which they represent, (b) forms of behavior which are socially but not biologically heritable, and (c) culture traits. Roughly we may call (a) *biological* selection; (b) and (c), *cultural selection.*

[1] CHAPIN, F. S., *Cultural Change*, Century, 1928, pp. 396-401.
[2] *Societal Evolution*, Macmillan, 1920.

When tuberculosis eliminates the family stocks which lack natural immunity to the disease, when religious persecution kills off persons of superior intelligence, or the unusual hardships of primitive migrations (as Ellsworth Huntington believes) kill off persons of inferior intelligence, or religious celibacy and asceticism (as in the early Christian era) prevent the mentally superior from raising families, we have biological selection. This biological selection is *natural* if the agency be the physical environment (tuberculosis, for example), and *social* if the agency be society or culture. Culture may exert *biological* selection (war killing off the physically fit), and biology may exert *cultural* selection (*white* men adopting eyeglasses and protective hats and clothing under tropical sun where black men would not feel the need).

Cultural selection takes many *diverse forms.* When parents punish and thus eliminate bad table manners in their children, when strong government and public opinion eliminate feuds and lynchings without killing the guilty individuals, when an arctic climate discourages and modifies the bathing and clothes-changing habits of Euro-Americans who go to live in such a climate, when the new culture pattern of sex equality eliminates the culture traits of chaperonage and of the female athletic tabu, we have *cultural* selection. In general, changes in attitudes and habits represent cultural selection only. The child born in Iceland, of a long line of ancestors of democratic attitude, is no better prepared at birth to be a good democrat than is the son of a Japanese emperor. A Colorado child, born of generations accustomed to the saddle is at birth no better prepared to be a good horseman than is a child born in China or Greenland. But these children are born in a cultural environment that will select and encourage the democratic, or the equestrian, behavior *S—R*'s as they develop by training.

On the other hand, changes in the average *ability* and probably (in some respects at least) *temperament* of a people may represent biological selection. Such traits may be transmitted through the germ plasm.

Limited rôle of biological selection in human society.—The theory that war can be reduced by letting the warlike individuals kill each other off, or that a people can change from nomadic to sedentary life through the gradual elimination of nomadic individuals by the dangers to which they expose themselves, is today regarded with great skepticism. For warlike and nomadic tendencies are most probably due to training (conditioning) rather than heredity. It is extremely doubtful even that the capital punishment or sterilization of all criminals would reduce crime. As long as the social situations which generate crime remain unchanged, we probably would have about the same proportion of criminals among us, even if they were permitted to be born only of non-criminal parents.

(2) What does the selecting?—The agencies of selection have been classified as (a) the natural environment, and (b) society. Selection by society, whether it be biological (Chapin's "social") or cultural (Chapin's "societal"), needs to be more carefully analyzed.

First, let us note the sort of thing which happens when a chain grocery store enters a community, and finally drives out of business the independent retailer. Here we have competition, leading to selection. The selective agency consists in the thousands of small independent decisions made by individual consumers. The consumers do not necessarily interact behavioristically with each other or with the retailers (except in minor details of the process, such as the conversation between buyer and seller in ordering goods). The main interaction is through the medium of the impersonal price system. It is an economic interaction.

Now suppose, as often happens, that the independent retailer manages to hold a part of the business through greater personal friendship with the customers or more pleasing personality. Here there is a behavioristic interaction between competitor and selector which actually affects the result. Yet the relations of consumer to consumer and of competitor to competitor may have remained environmental as far as the store business was concerned.

Furthermore, suppose that the consumers talk with each other about the relative value of the stores. Suppose a group of consumers forms with the express purpose of helping the independent retailer even at some financial sacrifice; that a

group attitude exists against outside capital, against letting money go out of the community. The selective process is no longer a summation of independent individual choices, but depends in part upon a *group decision.* But the relation between the storekeepers may still remain uncomplicated by behavioristic interaction.

Finally, let us suppose that the independent retailer cuts his prices on particular articles to meet particular price cuts by the chain store, that he uses suggestion and gossip to create prejudice against the chain store. Now the competitive process itself has become in part a behavioristic interaction process of conflict.

These four possibilities may be symbolized as follows:

(1) Pure competition—selection by independent individual choices; no effective behavioristic interaction.
(2) Effective behavioristic interaction only between competitor and selector.
(3) Behavioristic interaction also between selectors, but not between competitors, thus making the process a group rather than a purely individual selection.
(4) Behavioristic interaction between competitors and between selectors, and between competitor and selector.

The social agencies of selection may be classified as: (1) unorganized independent choices, (2) organized group decisions (political decisions), (3) impersonal conditions which differentially stimulate the competitors themselves. (1) and (2) have been illustrated above; (2) will be discussed further under "social super-control." Let us briefly consider (3).

Sometimes the selective agent is not individuals or groups apart from the competitors, but impersonal conditions which stimulate the competitors themselves in a differential manner —that is, stimulate some differently from others. Thus the migration from country to city is selective. The selective agency is the material results which the competitors achieve in farming, plus the symbols of possible results obtainable in city vocations. Those who leave the farms may be either those stupid or unfortunate persons who are relatively unsuccessful in farming, or those who fail to inherit farm prop-

erty, or those possibly superior or adventurous persons who are most stimulated by symbols of city life.

The theory is that in America the more able persons leave the country, go to the city where they have smaller families than they would have had on the farm, and that thus the race suffers in quality. C. C. Zimmerman has shown, however, that in Minnesota this drift from farm to city is composed rather of inferior stock. In that region farming is more profitable than in most others parts of the United States, and land commands a high price.[3] The theory that the cityward drift in general drains the better stock stands today in considerable doubt.

Interaction processes and economic theory.—Social psychology throws light upon economic theory. The individualistic, *laissez-faire* philosophy of Adam Smith and the "classical school" is falling more and more into disrepute. The classical school falsely assumed that economic life can continue indefinitely to be a sphere of pure competition, uncomplicated by behavioristic interaction processes. It neglected the three tendencies we have illustrated. (1) There is the tendency for the selectors (consumers) to enter into behavioristic as distinguished from purely economic contacts with the competitors (sellers). This tendency takes two forms: (a) the interaction of the mutual gratification or the conflict type between particular sellers and particular buyers, (b) the suggestion and other social control processes, through which the seller, instead of merely giving the buyer what he wants, uses advertising and salesmanship to make the buyer want what he has to sell. This is an accommodation process.

(2) The classical theory overlooks the tendency of independent consumer choices to become complicated by social attitudes and group decisions. Consumers simply will not choose independently.

(3) The classical theory overlooks the tendency of pure competition between sellers to become conflict. Our railways,

[3] "Migration to Towns and Cities," *Amer. Jour. Sociology*, vol. xxxiii, p. 105 (1927). See also ZIMMERMAN, C. C., and CORSON, J. J. 3d., "The Migration to Towns and Cities," *Soc. Forces*, vol. viii, pp. 402-408 (1930), which casts doubt upon the general theory that the rural-urban migration is anti-eugenic.

for example, used to cut rates below cost in the effort to get business away from one another. This was not competition, but conflict. Conflict tends always to lead to accommodation, that is, to eliminate itself because of its great wastefulness. Competition, therefore, inevitably leads to combination. For a time our government tried to enforce competition by law, as by the Sherman Anti-Trust Act. Now economists are giving up that hope and pinning their faith rather to regulated combination.

The classical economic theory was part of a larger thought tendency. This was the tendency to believe that in the new industrial society, with its host of new impersonal, environmentally-mediated interactions, competition and independent individual selection could largely be substituted for true social control (organized behavioristic interaction processes). But with the further development of industrial society, it would seem, competition has become conflict and accommodation, and independent individual selection has been replaced by political and administrative decisions.

The social functions of competition.—Competition has two distinct functions: (1) *quantitative adjustment*, and (2) *selection*. Quantitative adjustment means getting the right number of persons into any given situation, such as a community, an occupation, an activity, and so on. The *price system*, meaning the whole fabric of *relative* wages, salaries, and prices, performs this function. If, for example, there are too many college students in electrical engineering, the resulting surplus of men trying to get into this occupation will reduce the average salary, and thus discourage further study along that line until an equilibrium between the demand and the supply is once more reached. But the same results can be accomplished, without competition, by intelligent planning. An army, for example, does not leave it to competition to determine how many and what men shall enter the medical department. It symbolizes its needs beforehand, picks the needed number of men by some kind of test or rougher criterion, and sends them directly to their places. There is no wasted effort of trying first one thing and then another

until a man finds where he is needed. There could be such administrative control throughout society if we had the knowledge and the skill to operate it without violating the sense of personal liberty.

Selection is putting the supposedly right man in the right place. Boys whose native intelligence or interests fit them to become engineers, in the long run demonstrate their superiority to the other boys who have less of such ability. The most able will get the best positions; the less able will be obliged to take inferior positions, or may be diverted into some other occupation where they can make more money than they could in engineering.

In general, *administrative control* can perform the function of quantitative adjustment better than can competition. It would be simple, for example, to put all the engineering schools under one management, and to limit the number of entrants each year according to a carefully computed index number of the demand for engineers. This would save a lot of wasted effort. The difficulty lies in getting a satisfactory performance of the function of selection. How can we tell which 100 out of 200 candidates will make the best engineers? In other words, what *criteria of selection shall be used*?

(3) The criteria of selection—measurement.—The criteria of selection are those characteristics of competing individuals, behavior traits, or culture traits, which lead some to be selected and others rejected by the selective agency.

Wayne Dennis[4] was scientifically curious to learn what kind of people go to carnivals. The carnival is the selective agency; what are the criteria of selection? Dennis recorded the license numbers of cars parked near a carnival in Michigan. He then ascertained the names of the owners, looked them up in the city directory, and compared them with a random group of names taken from the directory. He found no significant difference as regards the characteristics recorded in the directory: occupation, marriage, possession of telephone, rooming or living at home, registered or not for voting. Evidently the

[4] "Some Traits of Certain Persons Associated with Carnival Attendance," *Jour. Social Psych.*, vol. i, pp. 315-317 (1930).

selective criterion had no correlation with economic or social status; it was perhaps merely the carnival-going attitude.

In selecting persons for the more serious, permanent and organized groups in society, mental and vocational tests are being used more and more as substitutes for the rough and ready criteria of the past. We can pick men in an hour's time by testing them, instead of putting them on the job for several weeks. We do not know whether we shall ever be able to devise artificial tests which will entirely take the place of actual experience. The correlation between test-success and job-success is far from perfect.

The greatest weakness in existing tests is that, while they may reveal ability, they fail to reveal attitudes which in the long run have a great deal to do with success or failure. To make a good engineer one must not only have certain abilities but also a liking for the work in all its important phases. Douglas Fryer and others have shown that there is little correlation between occupational interests and their corresponding abilities. One cannot be judged from the other. We must test for both.[5]

But there is a still more serious difficulty. Interests change. They may become stronger, or they may change into antagonistic attitudes. What we need is not merely a test of "interest in engineering now," but of "interest as it is likely to be ten years from now."

A young man thought that he was most interested in civil engineering. His work in college demonstrated ability much above the average. After a few months' experience, however, he virtually scrapped two years of special training and went into an entirely different profession. What was wrong? Among other things, this young man found his co-workers and immediate superior spending several days in the office drafting the plan for the construction of a wooden loading platform. He had never learned anything about such a problem in his engineering courses in college and had not the slightest notion of how to tackle it. He had the brains for it, but he was not interested. It belonged to that class of things which in his

[5] "The Significance of Interest for Vocational Prognosis," *Mental Hygiene*, vol. viii, p. 466 (1924).

mind were associated with the words "dull," "prosaic," "just practical carpenter's work and no real engineering problem." After showing a feeble interest in the plans, he asked if he were needed any longer, and on being told no, excused himself for the afternoon. Not long after, he was told that if he did not show more interest in the actual work he was doing he would not get any promotion. The whole situation then aroused feelings of boredom and inferiority, and when he found an escape through entering a different occupation he jumped eagerly through the open door.

This man failed in competition entirely because of a faulty attitude. This attitude was not lack of interest in the profession in general, not lack of effort nor desire to avoid responsibility. It developed because he had not correctly visualized beforehand all the situations of the occupation. To those situations which he had foreseen he had reacted with intense interest. But other situations, closely related to these in actuality though not in his mental picture, were peculiarly tiresome and irritating to him.

It took several months of experience to reveal hidden unfavorable attitudes which were destined to neutralize this man's positive interests and superior abilities in the direction of engineering. Could some psychological test, or some more practical mode of engineering education, have spared this waste? One of the leading tasks before psychology is to discover in advance of the situation hidden attitudes which may lead to maladjustment and then either to change those attitudes or change the situation.

Selection is becoming less individual, more organized and scientific. Measurement is the substitute which modern science offers for the slow and uncertain selective methods of the past. It short-cuts the competitive process. Instead of making the individual prove his worth through long and arduous trial, it would find in advance his probability of success and place him accordingly.

Measurement, however, because of its imperfections may substitute a new injustice for an old. In the past we knew many able persons who were kept down by bad luck, by unfortunate combinations of circumstances. In the future we

may know many able men who will be kept down by faulty testing.

The wastes of competition.—The reason why competition and unorganized individual selection tend to be replaced by organized, scientific selection, is that the first process is wasteful, *i.e.,* in the long run unduly frustrates human wishes.

Waste is always a relative matter. Certainly, as compared with a perfect system of assigning places in society, worked out by a master mind and accepted without rebellion by all, the competitive system is wasteful. For it requires us to try our efforts in several directions before we finally find our "niche in life." How much better it would be if we could know in advance the place and job in which we were to succeed, and were to go directly to that! Instead we start off in some other direction, only to be redirected by economic collisions with other persons and with the environment, until we finally reach that predestined place. How much less energy would be used in parking cars in a crowded downtown area if each driver knew enough to proceed directly, without the usual trial-and-error search, to the place he would eventually occupy! Perhaps much waste is inevitable, although part of it will doubtless be eliminated by science.

At one time the advice "Young man, go West" did play this very part of short-circuiting the competitive process. There were leaders wise enough to see that the ratio of opportunities to men was greater in the West, and that this inequality of conditions would eventually lead to a drift westward of ambitious young men. Probably many who heeded the advice thereby put themselves directly and deliberately where they would later have been forced anyway by competitive pressures. But if such advice be heeded, it ultimately ceases to be good advice. For it only hastens the readjustment of the ratio between opportunities and men, and brings about an equilibrium in which the West offers no more advantages than the East. In fact, the signboards pointing to opportunity often provoke an overreaction, so that the crowd is forced later to swing back again like a pendulum. We have seen surging crowds making a sudden rush toward the vacant car of a

train, only to drift back again to the previously filled cars, when they found that there had been an overreaction to the new opportunity.

Irrelevant selection.—One of the knottiest problems of organized selection is to prevent unfair "discrimination." This occurs whenever a choice is based wholly or partly on grounds irrelevant to the function to be performed. To consider religion, for example, in electing the President of the United States, is irrelevant.

But how can such unfair discrimination be prevented? We can compel men's acts, but we cannot compel their thinking. We cannot force them to ignore, in making their decisions, any part of their knowledge, even if it has no bearing on the question to be decided. We cannot force the employer to pick his workers purely for their ability and ignore the fact that some were leaders in a strike. Organized labor sometimes forces an employer to hire a really inefficient man because he is a labor leader. If the employer refuses to hire him, the workers say the man is rejected not because of his inefficiency but because of his labor activities. They threaten a strike, and if strong enough they check the employer's discrimination by forcing him to discriminate in the reverse direction.

Here is a problem requiring real social invention. We already have a suggestion from the jury system. There unfair discrimination is supposedly prevented by the method of choosing the deciding body itself. It is conceivable that we could have persons picked for controversial positions by impartial juries who could be informed as to the relevant qualifications of the applicants but as to no other facts about them.

Veiled criteria of selection.—Sometimes the real criteria of selection are veiled. Thus, in South Germany and elsewhere in Central Europe, the city populations tend to be taller, more blonde, longer headed, more Nordic on the average than surrounding country populations. One attempted explanation is superior ability on the part of the Nordics. More probably the reason is their kinship and, hence, lingering social connections with the Teutonic aggressors who after the sixth century

pushed back the Alpine Slavs who had predominated in that region.[6] The members of a conquering group secure the more interesting, directive positions in society, which of course are located in cities, and pass these positions on to their children; the conquered or displaced group retreats into the hills.

Thousands of persons gather before faith healers and sacred shrines, like that of St. Anne de Beaupré, believed to have curative powers. In the believer's mind, the persons who go seeking these cures are a sample selected by their high religious faith, and hence are only a small proportion of those who *might* be cured if we all had the same faith. To the psychologist, however, even if he assumes all the reported cures to be true, this group of healed persons is selected by the fact of their having hysterical (functional) rather than organic ailments. Persons whose diseases are of this sort are dimly aware of the possibility of faith cure and hence flock in large numbers to the healing agencies. Others, who have incurable organic diseases, do not go in large numbers, and would not be cured if they did go. Faith is the supposed criterion, hysteria, the veiled criterion by which the shrine selects its ailing visitants from among all sick people.

Attitudes as determiners of the criteria of selection.—The attitudes of the selective agency (if personal) determine the criteria of selection. Thus, a common attitude in college fraternities is an attitude of scorn toward boys who are queer, poorly dressed, overstudious, over-loud, etc. Consequently, the fraternity selects men who conform to the personality type favored by the *attitudes* of the selectors. This does not mean necessarily the type to which the selectors themselves actually belong. A fraternity, for example, may try to get new members who are *more* athletic, possessed of more wealth, more qualified for leadership in college activities, than the average of the men already in the fraternity. They do not try to get men exactly *like* themselves, although this is usually what they finally succeed in doing, because of the competition of other fraternities.

[6] RIPLEY, W. Z., *The Races of Europe, Appleton,* 1899, pp. 224-239.

Assortive selection—Like Attracts Like.—W. Z. Ripley has tried to show that selection through marriage may account for the existence of the Jewish so-called racial type.[7] Certain facial features are believed by both Jews and Gentiles to be characteristic of the Jews. Most people think this belief is the result of the facts, but the belief may be in large degree the *cause* of the facts. For, given a tradition against intermarriage, the person with supposed Jewish features will, other things being equal, have a better chance of being selected in marriage by one of the Jewish group. Again, the Jew without Jewish features will have a better chance of marrying outside the Jewish group. These features are, of course, like other physical characteristics, hereditary. When two persons having Jewish features marry, the offspring will tend to have Jewish features in even more pronounced degree. So after many generations of such selection, all the strains having Jewish features tend to be drawn inside the group, and those lacking such features tend to drift toward the Gentiles. The Jewish nose at the outset may have been just a chance characteristic of some small kin-group. Once being recognized and becoming an object of in-group preference and out-group repulsion, it would have become more and more definitely characteristic of all Jews. Ripley attempts to explain in the same way the triangular face of the Basques of Southern France. It is not a basic race characteristic, he thinks, but the result of social selection.[8]

F. A. C. Perrin asked a number of students to name 25 boys and 25 girls who were most noted for physical attractiveness, and likewise 50 noted for the opposite quality. He then asked the students to write the characteristics which aroused their favorable reactions. These characteristics were then classified, and the persons rated for physical attractiveness were rated also on these other characteristics. The correlations, by Yule's association formula, were:

Physical attractiveness and taste in dress	+.83
" " " general social ability	+.71
" " " intelligence	0

[7] *Op. cit.*, pp. 397-400.
[8] *Op. cit.*, pp. 201-204.

Liking for opposite sex and idealism ..... —.31
" " " " " appeal to opposite sex ..... +.58

He also asked these students to name the ten men and the ten women for whom they had the greatest personal affection. He found this affection to correlate most highly with extent of acquaintance, then, in order, with pleasing expressive behavior, affectionate disposition, individuality, sincerity, physical attractiveness, consistent nature, sense of humor, social accomplishments, pleasing personal habits, physical appeal, ethical deeds, intelligence. Of somewhat lower order were voice, vivacity, beauty, optimism, refinement, dress.[9]

P. H. Furfey has studied 62 pairs of boy chums. He found that boys tend to choose chums of about the same age, size, intelligence, and maturity. The correlations between chum and chum in these traits averaged about +.31. The results suggested that the tendency of like to choose like in friendship is much higher than this .31 in respect to certain non-intellectual traits which he did not definitely measure.[10]

Warner found that common mental level with a background of similar experience is more important than chronological age in determining which boys shall get together in a gang.[11]

M. J. Ream asked a number of salesmen, whom he had tested with his group-will-temperament test, to state with whom they would most like to work. He found that men of the motile (rapid-fire) type, as determined by the test, were considered more popular as next-desk-workers than men of the deliberate type, the difference between the popularity of the two groups being significant (three times its probable error). Motile men preferred motile co-workers to a significant degree (four times the probable error), while the deliberate men chose motiles and deliberates about equally.[12]

Vivian Plumb studied the social cliques which formed in a senior class at Sweet Briar College. Since sororities do not exist there, these congeniality groups, which in a way take the place of sororities, are based upon the spontaneous processes of mutual selection which occur gradually as people get to know each other. Each clique had a more or less definite localization of residence in the dormitories, but this was more

[9] "Physical Attractiveness and Repulsiveness . . . ," *Jour. Experimental Psych.*, vol. iv, p. 203 (1921).

[10] "Some Factors Influencing the Selection of Boy's Chums," *Jour. Appl. Psych.*, vol. xi, p. 47 (1927).

[11] *Jour. Appl. Psych.*, vol. vii, p. 224 (1923).

[12] "Temperament in Harmonious Human Relationships," *Jour. Abn. Psych. and Soc. Psych.*, vol. xvii, p. 58 (1922).

the result than the cause of their friendship, as after the first year students choose their rooms.

Miss Plumb identified three main groups:

Group	*A*	*B*	*C*
No. of girls	13	6	14
Geographic origin	all Southern	4 Northern 2 Southern	11 Northern 3 Southern
No. of social positions in college life	19	7	1
No. of executive positions	5	5	2
No. of athletic positions	2	8	5
No. doing paid work	5	0	3
Scholarship	C to B	B	C to B
Honor roll positions	2	4	4

Group A was distinctly Southern, "social," non-athletic, medium in scholarship. Group C was distinctly Northern, non-"social," more athletic, a little more scholarly. They were judged as spending relatively more on trips to town and the tea house, relatively less on social affairs and clothes, than group A. Group B was a small group of class leaders, high in scholarship, athletics, and executive responsibilities.[13]

E. Chevaleva-Janovskaja observed 888 spontaneous groupings of children in an infant school in Odessa, Russia. She discovered that in 40 per cent of the groups there was no more than a year's difference of age anywhere within the group. Thirty-three per cent of the groups were of two children, 25 per cent were of 3, the rest were larger. Only 2 per cent were of 8. Most of the groupings lasted from ten to thirty minutes, only 3 per cent over two hours. Fifty-two per cent of the groups had leaders.[14]

Many studies have proved that in marriage the general tendency is for like to select like, rather than the reverse. A review of the principal research on this problem by H. E. Jones[15] concludes that the resemblance of mates in physical

[13] Unpublished manuscript.

[14] "Spontaneous Groupings of Children in Pre-School Age," *Archives de Psychologie,* vol. xx, p. 219 (1927).

[15] "Homogamy in Intellectual Abilities," *Amer. Jour. Sociology,* vol. xxxv, pp. 369-382 (1929).

traits is about .25 (correlation coefficient), and in intelligence about .50.

D. M. Marvin, studying the marriage records of Philadelphia, found that persons choose their mates from their own occupational group in far greater proportion than would be the case in mere random selection from the population at large.[16] Intermarriages between rich and poor, Catholic and Protestant, Jew and Gentile, immigrant and native, are numerous, but their conspicuousness only masks the much greater tendency to marry within one's own social, economic and religious group. And this marriage within one's occupational class probably accounts for the fact that one tends to marry a person of more or less similar intelligence.

(4) What happens to the selected and the rejected.—Finally, selection may be considered from the standpoint of how it disposes of the selected and the rejected. Biological selection kills or prevents the reproduction of the rejected, and allows the selected to produce offspring. Cultural selection increases the use of the selected culture traits or the performance of the selected types of behavior, and causes the rejected traits or behavior patterns to fall into disuse. Or it places the selected individuals in desirable positions in society and exiles the rejected from the group or assigns them to less desirable positions.

Selection merged with social control.—The processes of selection, therefore, merge with the processes of social control. To let honest men live in peace within the group, and to kill or exile crooks, is selection in the pure sense of the word. But this selection has an indirect effect upon a large number of persons who might become either crooks or honest men. It encourages them to be honest. Thus this selective process, rejecting only a few individuals, becomes the key to a control process which affects the behavior of many.

When a crowd struggles to board a street car, the selective and controlling result of the competition may be of sufficient value to outweigh the waste of effort. For, after all, the people who get in may be those who most want to get in, those who are in the greatest hurry, presumably those who would suffer

[16] "Occupational Propinquity as a Factor in Marriage Selection," *Publication of Amer. Statistical Assn.*, vol. xvi, p. 131 (1918).

the greatest inconvenience from having to wait for the next car. It is these very people who will struggle hardest to get in, while those who have nothing to lose by waiting are more likely to wait peaceably. All the effort wasted in the struggle might not be as great as the total losses which would occur if the conductor were to select his passengers alphabetically (*i.e.*, irrelevantly) from the crowd.

We have all seen little boys crawling under a circus tent, men surreptitiously getting ahead of their places in line, and so on. Our first impulse is to condemn such behavior as cheating and gross unfairness. But perhaps not all these persons are habitual cheaters; some may be under the pressure of needs of which we have no conception. In fact, social control is not a water-tight system, but one which will hold the mass in line while quietly permitting just enough irregular behavior to suit extreme and unusual needs. There will always be competition not only for lawful opportunities, but also for unusual and irregular privileges. And we can be satisfied if the avenues leading to such questionable privileges are surrounded by conditions which select the most deserving candidates. Even the punishment of crime may be considered a device for limiting the privilege of crime to those who wish so much to commit crime that they are willing to take the punishment. Such a theory, in fact, has been used to justify the persecution of heretics and radicals. The ethics of these various questions can be left to the reader to discuss. We are here interested merely in their social psychology.

What Is Social Control?

Spontaneous versus Purposive Interaction (Social Control).—Competition, mutual gratification, conflict, accommodation, and assimilation may be regarded as *spontaneous* interaction processes. They result from the wishes of individuals; they increase the wish satisfaction of some or all of the individuals who participate in them. But from the standpoint of the *group* they have no purpose. This does not mean assuming that group purposes are superior to individual purposes. Group purposes are, or will be when human beings become thor-

oughly rational, merely *instruments* to millions of individual purposes. But the point is that these spontaneous processes of interaction serve individual purposes through blind, trial-and-error adjustments, while there are other interaction processes which first integrate or organize individual wishes into a social purpose, and then regulate human behavior toward the achievement of that purpose.[17] Such processes may be called *social control* or, from a more positive point of view, *socially purposive* interaction or *coöperation,* or, in a still more general sense, *organization.*

Now by organization we mean organization from the standpoint of the larger group, which includes all the groups or individuals which are interacting. A war is organized, of course, *within* each of the fighting nations, but there is no overhead, international organization, directing and controlling the war in the interests of an international purpose. On the other hand, a football game is a conflict which is regulated and directed by a higher intercollegiate organization. It is controlled conflict. Many human activities, like the football game, consist in spontaneous interaction processes checked or regulated at some point by a higher control process. The interaction process may be environmental or behavioristic; the control process may be either selection or social control proper. We have shown how these processes merge into one another.

Conflict may check itself spontaneously, transforming itself into accommodation. Or it may be purposively regulated by the control process of *arbitration* or adjudication. The first possibility is illustrated by the voluntary compromise of two litigants, each taking half of the disputed property; the second, by the decision of the judge or arbitrator.

Social control is related to spontaneous interaction in somewhat the same way as the wishes of an individual are related to his attitudes. The wish is the *controlling* organization in the individual's behavior.

The ultimate purpose of all social control should be the welfare of all the members of society. Actually there may

[17] Or, in some cases, regulate the behavior of one group of persons toward the achievement of the purposes of another group.

be many social purposes which do not lead toward this general welfare. To build the Pyramids was a great social purpose in Egypt in 2800 B.C., but we seriously doubt whether this led to the welfare and happiness of the masses of the people. Social control exists wherever the behavior of individuals is actually controlled by some purpose outside their own individual lives, whether that purpose be the welfare of their fellow men, or the perverted whim of a Pharaoh or a Nero.

A more complete analysis of this subject is given in Ross' classic work, *Social Control*,[18] and Lumley's more recent and very worth-while survey, *The Means of Social Control*.[19] Even a cursory examination of these books will be suggestive.

Social Control a Source of Wish-conflict in the Individual. —In Chapter IV we noted that wish-conflict in the individual is usually the result of some antagonism between the individual and his social environment. In other words, when two wishes conflict within the same individual, one of these wishes is usually primary, and the other is derived from the wishes of other persons or the demands of society in general. For example, the student wishes to cut classes for several days and "bum" his way to a football game. This primary wish is opposed by his counter-wish to receive good grades and perhaps to avoid expulsion from college. The counter-wish is the result of society's pressure upon him: it is not on the same level, so to speak, as the primary wish. Roughly, we speak of the primary wish as personal or selfish, the counter-wish as social. In terms of individual psychology both are equally wishes, they are the same general kind of nervous process. And, in the last analysis, both wishes are products of conditioning by the social environment. Social situations have conditioned the student's emotions to the football game as well as to academic success. But there is a difference between the two wishes in the rôles played by social environment in producing them. The football game is in itself pleasant; academic success is pleasant only by symbolic or intellectual connection with "being a college graduate," "pleasing my parents," "being pre-

[18] Macmillan, 1904.
[19] Century, 1925.

pared to make bigger money," etc. In the first case, the social environment conditions directly; in the second case indirectly, through symbols of "means to ends."

Socially Derived, or Instrumental Wishes.—A man wishes to play golf but his wife wishes him to accompany her to church. But the husband also wishes to please his wife. He does not originally wish to go to church, yet in order to satisfy his wish to please his wife, he must use this church attendance as a means. The necessity of this means to its end is represented in his nervous systems by internal symbols (thought). The social conflict between the husband's golf wish and the wife's church wish is then translated into an internal conflict within the husband between his golf wish and his wife-pleasing wish. The man's approaching reaction to golf is directly conditioned, without symbolization of "necessary means to end." Golf has been conditioned by other adventure and recreational stimuli in the past until it is felt as an end in itself. No intermediate symbolization of "necessary means to end" took place. But "church-going" is connected to this man's emotions in no such intimate, direct way. It gets an approaching reaction from him only if and when it is part of the larger situation "pleasing my wife." He does not desire it for itself but only as a means. A means, or instrumental wish-goal, is a situation which alone might provoke avoiding behavior, but which is bound, by external necessity, to another situation which is a genuine wish-goal. The bond between the two situations is represented by symbols.

In this strict sense, only humans can employ means to ends, or develop instrumental wishes and attitudes, because only they can symbolize.

By constant repetition the instrumental situation may become conditioned to the pleasant emotions provoked by the goal situation. The man might after a time come to get a certain direct enjoyment out of going to church, which might lead him to do so without going through the symbolic behavior "it will please my wife," even after it was no longer necessary to pleasing his wife. It is in this manner that animals learn to perform acts originally disagreeable to them,

such as sitting long and patiently on the hind legs. The act has become conditioned directly by the pleasant responses to the food reward, and not merely connected through symbols. In this broader sense animals employ means to ends.

We have seen that the wishes which play this secondary, socialized rôle can be classified largely under the heads of economy and respectability. These are integrations of many specific wishes, but the ultimate components of security and superiority play an especially important rôle.

Social Interaction and Individual Wish-organization.—Considering once more the processes of social interaction, mutual gratification *satisfies wishes* unchanged, conflict involves wish *frustration*, accommodation and assimilation represent *adjustment* to frustration. Finally, social control and coöperation represent adjustments of individual wishes on a higher level, the level of *social integration* or *social purpose*.

Agencies and Instruments of Social Control.—Most writers who discuss the "means" of social control fail to make the important distinction between "agencies" and "instruments" of control. An agency of social control is an institution, or something equivalent. It is a part of the network of social bonds which we saw with our second pair of magic glasses in Chapter I. The church, for example, is an agency of control. It helps to keep human activities in line toward certain social purposes. But, as we saw in that chapter, the bonds of social organization must be explained by those deeper lying realities, the attitudes within individuals. A control agency, such as either the church or state, would be powerless to prevent blasphemy and dishonesty unless it had "teeth." The church's teeth are its power to create fear of damnation or hope of divine approval; the state's teeth are its power to fine, imprison, hang or electrocute. These teeth, which we may call the instruments of control, are simply interaction processes used to arouse certain attitudes—approaching attitudes toward socially desired conduct, avoiding and fearing attitudes toward forbidden behavior.

THE AGENCIES OF SOCIAL CONTROL

- Individuals
  - every individual—sometimes
  - leaders—frequently
- Organized or institutional controls
  - government
    - law
      - common
      - statute
    - administration
    - equity
  - religion
  - the family
  - the school
  - industry, controlling its
    - employees
    - customers
- Unorganized sources of social pressure
  - mores or moral standards, "unwritten laws"
  - folkways, customs, conventions, codes of etiquette
  - fashions, fads, crazes
  - public opinion

All agencies exert control by appealing to wishes in individuals, chiefly security and superiority wishes. They reach individuals through processes of:

Person-to-person communication
Announcement
Education
Advertising
Salesmanship
Propaganda
Lobbying

These processes are not mutually exclusive; some include others.

THE INSTRUMENTS OR PROCESSES OF SOCIAL CONTROL

- Suggestion
  - commands
  - hints
  - examples, personal models, ideals
  - slogans, shibboleths, catchwords
  - suggestion through art
  - ceremony
- Argument
  - illusion or false reasoning
  - correct reasoning, enlightenment

Inducement—rewards (approaching attitudes)	economic gain
	superiority { praise, flattery, prestige }
	other satisfactions
Deterrence—punishments or coercion (avoiding attitudes created by (a) actual infliction, (b) threats)	death
	permanent physical injury
	physical pain
	imprisonment
	banishment
	compulsory labor
	fines
	boycotts
	withholding of promotion
	ostracism
	humiliation { ridicule and satire, calling names, censure, gossip }
	petty annoyances
	conscience { personal virtue, social responsibility }
	threats of hell

The instruments of control would be seen through our attitude-revealing pair of glasses.

In the broadest sense, social control includes all cases of interaction where one individual controls another. When I say to you, "Please close the door," and you do as requested, I am engaged in an act of social control.

Controlling versus Self-adapting Social Behavior. Most social behavior is perhaps controlling. But not all of it is. Allport distinguishes *self-adapting* from *controlling* or *controlled* social behavior.[20] When I make an angry face because of something which irritates me, you, observing my face, decide not to make some small request which had been at your tongue's end. Your reaction is merely *self-adapting*. I do not

[20] *Social Psychology*, p. 153.

control you, for the reason that my angry face was not made because of any desire to influence you or any past experience of its effect upon you. It was produced by a situation which had nothing to do with you. But now suppose I vaguely anticipate requests with which I am in no mood to comply, and I have learned through past experience that frowning causes

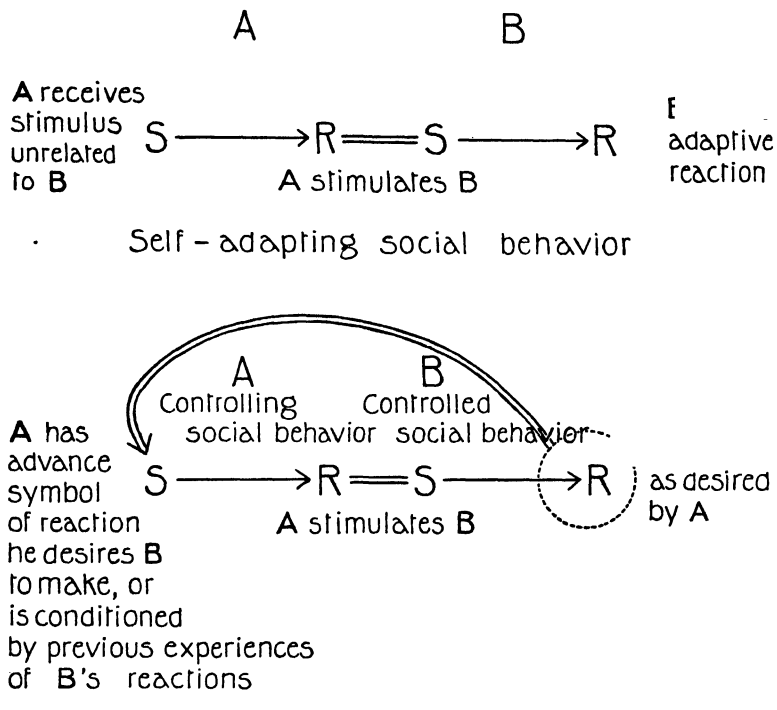


FIG. 31.—SELF-ADAPTING AND CONTROLLING SOCIAL BEHAVIOR

people to avoid such impertinences. I have perhaps never formulated this in words, and am barely conscious of the method, but I am aware that I am doing something which gets a desired result. I am checking your impulse to make the request; I am controlling you; your reaction is *controlled* rather than self-adapting *social behavior*. The principle of this distinction is the same as that of the distinction between a sign and a symbol (see Chapter III).

Animals practice controlling behavior, but not as much as men, for their learning powers are limited. When animals respond to the cries of their fellows, they are probably in large part only self-adapting. That is, the cries have more sig-

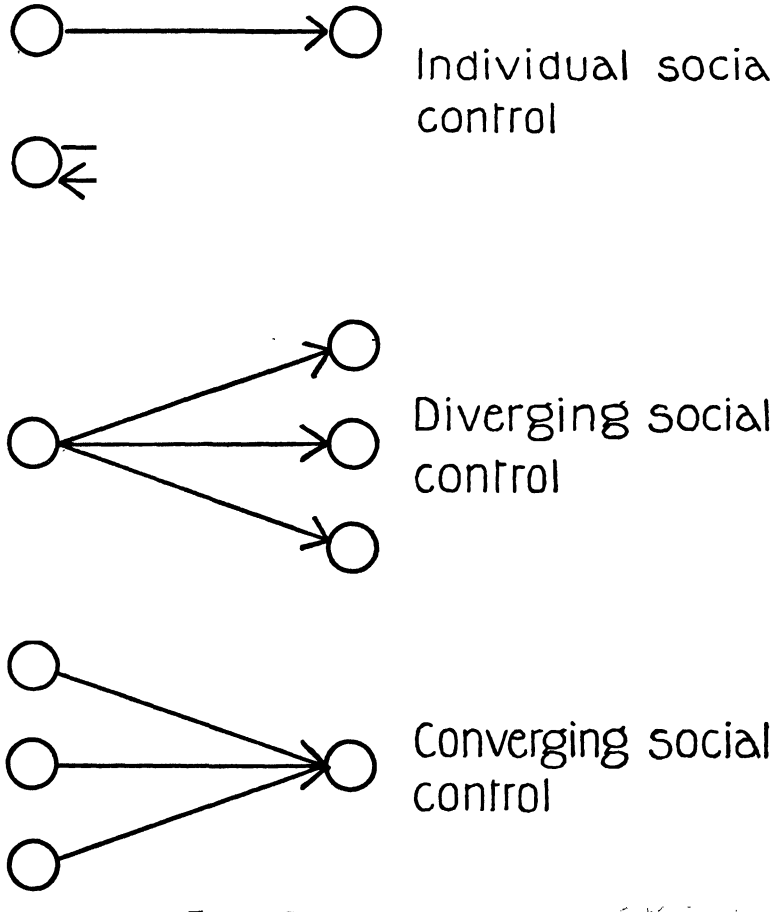


FIG. 32.—DIRECTIONS OF SOCIAL CONTROL

nificance to those who hear them than to those who make them. For example, a cry of fear by one animal may be quite spontaneous; the fear may spread to hearers simply because that kind of cry has become a conditioned stimulus, having often been associated with certain emergencies. Yet in other cases the animal who makes the cry learns its value in pro-

ducing desired results and may form the habit of using it on other than spontaneous occasions. He learns to control others. Allport suggests that a monkey may learn by experience to get food by showing his teeth or making some other gesture which causes another monkey to drop his food. The process is essentially the same as that of learning to get food by going to the lighter of two boxes.[21]

The Directions of Social Control.—But when we survey this network of controls between individual and individual, we find that some persons control much oftener than others. The threads of control converge from individuals to minor control centers, and from these to the major centers. More important than mutual control by individuals is the control of higher groups over lower groups, groups over individuals, individuals over groups.

The Processes of Social Control

Suggestion.—The process of suggestion has been described in Chapter VII. We have seen that it is a process by which one individual stimulates another's behavior directly and immediately, without intervening thought process on the part of the reacting person. Suggestion may occur without purpose. But it is commonly used as a means toward furthering the purposes of the stimulating individual, or a broader social purpose of which he is the instrument. In such a case it is a process of social control.

The Suggestive Power of Words.—We may divide names into three classes: (1) arbitrary, such as "John Smith," (2) scientific or characterizing, such as "moron," "*Homo sapiens*," and (3) valuational names, which express our attitude toward the object rather than describe or definitely indicate it. Valuational names may be "honorific," such as "hero," "thinker," "crackerjack," "wizard"; or "humilific," such as "heretic," "traitor," "Bolshevik," "dirty bum." "Calling names" of this third or valuational sort is a potent form or social suggestion.[22]

To label anything "Bolshevik" creates in many persons an

[21] *Ibid.*, p. 162.

[22] F. E., *op. cit.*, pp. 289-292.

unfavorable attitude toward it, even though no evidence whatsoever be produced to show that it actually merits that name, or that it is undesirable if it does merit the name. The mere name is enough. For in common experience names are usually applied correctly, especially when asserted in vigorous tones of assurance. Hence, we habitually assume this correctness without question, even when there is good reason to suspect that the speaker has a special axe to grind. "You wouldn't want ——" is a phrase pattern potent with suggestive power. Let us fill in the blank with "to be considered rude," "to be a tightwad," "your own daughter to ——," "your name connected with ——," or other appropriate expression, and we short-circuit the more critical parts of a person's reasoning process and thus get him under control. The average man is more or less afflicted with logophobia, the fear of words.

Again, words may be used as slogans, mottoes, watchwords, shibboleths. Slogans and the like are words used not as names for objects, but as more general symbols. They represent general purposes or attitudes. They are used (1) to control the behavior of the hearer, and (2) to identify the speaker as a member of the we-group, to assure the hearers that he shares their attitude or purpose. "Nature," "progress," "democracy," "a square deal," are slogans.

Shibboleth is a Hebrew word which, we are told, was used as a password by which the Gileadites could distinguish their own men from the fleeing Ephraimites. The latter, because of their different language training, were unable to pronounce the "sh" sound and thereby gave themselves away. One who could pronounce the password was recognized as a friend, a member of the we-group. Today, likewise, wherever there is strong group feeling, he who can shout the proper phrase without hesitation or stuttering is accepted as a friend; others are regarded with suspicion, if not hostility.[28]

A young man made a money-raising speech for the Y.M.C.A., by which organization he was temporarily employed. One of the old-time workers in reply warmly praised his address, but commented that he had failed to mention

[28] r, F. E., *op. cit.*, p. 160.

the highest purpose of the organization, namely, to "lead men to Christ." The speaker thought he had sufficiently implied this purpose through the use of other words, but his failure to use the very phrase itself had revealed him as an outsider.

The technique of suggestion in public speaking, according to W. D. Scott, includes these devices: the denial of self-interest, assuming an air of authority, repetition, figures of speech (like Bryan's famous "cross of gold").[24]

Argument.—While suggestion short-circuits reason, argument controls by making full use of reason. To control by argument is to get a person to symbolize in advance the consequences of some proposed action, thus causing him to act or not to act according as those mental symbols register as pleasant or unpleasant. To be sure, the controller may emphasize certain arguments and soft-pedal others which favor the opposite side. And he may use arguments based on false information. But he always urges his hearer to think. We often say that argument is dispassionate and intellectual, while other methods of control are appeals to the emotions. This is another of those inaccurate distinctions made by popular psychology. In fact, argument does use the emotions; it may arouse them more than does suggestion. The difference lies in the place where emotion comes into the process. In argument the emotions are stimulated by the internal symbols in a thought process, while in suggestion the emotions, if any, are aroused directly by the words, gestures, and other behavior of the speaker.

The health educators persuade people to avoid filth by giving them a true and perfectly reasonable account of bacteria. The real teeth of this control are in the *fear* which is aroused. It may be as genuine and powerful a fear as if it were provoked by suggestion, but it is aroused only through a process of reasoning. In time, however, the reasoning process is abbreviated, making it necessary only to speak of filth or germs to provoke the desired cleansing behavior. The process has

[24] *Psychology of Public Speaking,* Noble and Noble, 1906, copyright by W. D. Scott.

gradually become one of suggestion. Many a mother, for example, is more terrified by seeing her child eating common earth than by seeing him handle a public door knob or another child's handkerchief. The suggestive idea of "filth-dirt-germs," has carried over to all kinds of comparatively innocent and harmless dirt. Suggestion, as we have seen, is a relative term. It is difficult to say just where argument becomes suggestion. It is a question of how much and what kind of thinking the subject does before he acts, *as compared with what he might do.*

Argument, in the social control sense we are using here, appeals only to the *natural* consequences of actions. By natural we mean those which would occur regardless of rewards or punishments. To be sure, when the controller talks about punishment he may be said to be arguing, but in our more discriminating moments we say, "he has ceased to argue, now he *threatens,*" or "he can no longer appeal to reason, so he must appeal to force," "if he cannot argue him into doing it, he will compel him."

Inducement—Deterrence.—Inducement and its negative phase, deterrence, are social controls through anticipated reward or punishment. Like argument, inducement-deterrence works by foresight, that is, symbolization in advance of consequences. But it is necessary to distinguish three kinds of consequences of any human act. They may be called (1) natural-mechanical, (2) natural-social, and (3) artificial-social consequences. If I light a match to a powder barrel, the possibly deplorable consequences are natural-mechanical. If I slap my neighbor's face and he knocks me down, the consequences are natural-social. They are the result of spontaneous process of social interaction which would work in almost any human society and *also among other animals.* If, however, my neighbor calls the police and has me put in jail, the consequences are artificial-social. These last are part of the customary ways by which our society deals with certain situations; they are cultural rather than spontaneous; they would not occur among animals nor in all human societies.

Between the second and third cases lie numerous gradations, from the more spontaneous and universal to the more artificial and cultural.

A reward or a punishment belongs to the third class, which is not a mechanical nor a spontaneous, universal consequence of an act, but something additional and artificial. It may be customary, like an honor medal or a jail sentence, or it may be unique to the individual case, such as giving a child a special trip to his grandfather's, or depriving him of his favorite toy. But in any case it is deliberately given by another person or by society for the purpose of its controlling influence. To say that we are punished by the "natural consequence of our misdeeds," or that "sin brings its own punishment" is, once more, to indulge in the confusions of popular rhetoric. The only reason that punishment exists is that natural consequences are not sufficient to stop undesirable behavior. Accidents are the natural consequences of reckless driving, but they do not follow it with sufficient regularity and certainty to prevent it. Society needs to introduce an additional, artificial consequence, in the shape of arrest, summons, and fine.

Psychologists use the terms reward and punishment in a much broader sense. The conditionings which take place in the learning process are often called rewards and punishments. The cat is "rewarded" for pressing the button by getting out of the cage. But in the sociological sense, rewards and punishments are purposively, artificially imposed consequences, additional to the natural, spontaneous, or universal consequences. They work through anticipation.

Coercion.—Under certain circumstances control through punishment is called coercion. Many of our legal and ethical disputes hinge upon this term. Much confusion is due to thinking of coercion as the antithesis of "voluntary" action, or "free will." As a matter of fact, every coerced act is psychologically a voluntary act. The only way to make John Doe act involuntarily is to touch off his knee jerk, or eye wink, or some other reflex, or else by physical force to put his body

through the motions of the desired act. And they would indeed be crude and useless motions. Cases of this sort are never meant when we speak of coercion.

Whenever John Doe must choose between two alternative acts, A and B, there are several motives at work in his nervous system. Some of these motives are aligned on the side of A, others on the side of B. The strongest side wins. Suppose the A motives add up to a heavier total than the B, then act A is performed. Now Richard Roe could cause a reversal of John Doe's decision if he could threaten a penalty for doing act A, a penalty just sufficiently severe and sufficiently certain to overbalance the advantage of the A motives and to throw the balance in favor of B. Psychologically this reversed decision is the same sort of process as the former decision. It is simply a weighing of many motives, of which the fear of punishment is one. But sociologically, there is an important difference in results. John Doe is keenly aware that Richard Roe's threat was the motive which turned his decision. He knows that he has been coerced. His struggle reflexes are aroused, he plans retaliation. A conflict, with a host of troublesome consequences, may follow. If the decision had been reversed by Doe's sudden discovery of another advantage in alternative B, or by a reward offered by Roe instead of a penalty, or by a tactful "suggestion" at the "psychological moment," there would have been no coercion, no infringement upon liberty, no social conflict, yet the result of the decision would have been the same.

[*Coercion is the successful inducing in another person, by threat of punishment, of behavior which would not have been performed in the absence of such threat.* The lightness or severity of punishment makes no difference. If a child refuses to eat his bread and we finally induce him to eat it by threatening to withhold his expected ice cream, this is coercion. Any punishment, however mild, is coercive if it is strong enough to shift the balance of motives from one alternative decision to another, and it is not coercive, however severe, if it does not change the existing balance of motives.]

There are three possible cases: (1) actual coercion, in which the anticipated penalty causes a *change* of decision; (2) attempted but resisted coercion, in which the anticipated penalty is not great enough to cause a change, and (3) latent coercion, in which the anticipated penalty is present, but does not function because it falls on the side of motives which would have won the conflict anyway, even in its absence. These three cases might be illustrated by the following diagram, in which the shaded area represents the psychological influence of an anticipated penalty, and the unshaded areas represent the other motives. For simplicity the penalty influence is represented as a positive motive on the side of the unpenalized act rather than a negative value on the side of the penalized act.

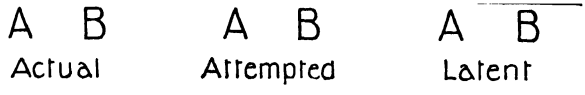


FIG. 33.—COERCION

The Questionable Value of Coercion.—Coercion is a dangerous, though sometimes necessary, social policy. The conservative is often accused of loving coercion, at least the coercion of somebody else. But many kinds of radicals, too, favor coercion, as witness the Bolsheviki. It is rather the "liberal" who hesitates to coerce, and the extremist of non-coercion is the anarchist. We must distinguish between radicals whose purpose is to change the social structure in some definite way, and those whose aim is rather liberty-in-itself. It can safely be said that practically every proponent of social reorganization would use coercion in *some way*, in order to achieve liberty in some other ways.[25]

[25] FOLSOM, J. K., *Culture and Social Progress*, Longmans, Green, 1928, chap. xvi, analyzes the problem of liberty and its relation to progress.

The error of the military-minded person is that he complacently takes coercion for granted, and even "gets a kick" out of seeing it used, instead of watching eagerly for opportunities to dispense with it.

Beccaria and his "classical school" of criminology held that the punishment for each crime should be scientifically adjusted so that its deterrent effect would be great enough to overcome the temptation to that crime. Modern criminologists, on the other hand, believe that punishment is of very limited value, and urge in its place a more scientific treatment of the potential criminal and of the social conditions surrounding him. There are two entirely separate reasons for questioning the value of punishment. The first is in the uncertainty of the deterrent effect itself; the second is in the secondary consequences, the resentment and the warped, paranoid personalities which commonly result from punishment and which frequently lead to further crime. Thus E. R. Groves warns us of the danger of developing the "anti-social grudge."[26]

These considerations as to the value of coercion do not, however, invalidate our psychological analysis of that process. The mistake of the classical school was not in its basic principle of the weighing of motives, but in its naïve underestimation of the tremendous and unpredictable *variation* in the strength of any given motive as between different personalities and different circumstances.

Encouragement and Discouragement.—These stand on the border line between inducement-deterrence on one hand and argument or suggestion on the other. Encouragement may consist in definite acts or gestures of approval, which may be either definitely anticipated or linked to the desired behavior without any intervening thought process. When anticipated, this approving behavior of our fellow men functions like any other reward. It has been shown by various experiments upon school work and other test performances that encouragement does have a facilitating influence which can be measured. (See Chapter VIII.)

[26] *Social Problems and Education,* Longmans, Green, 1925, p. 8.

R. E. Leaming studied a small group of Irish-American children. As a result of this study the investigator was able to give a very shrewd and definite description of what we vaguely conceive as the "Irish Personality" and to explain how this personality is developed by encouragement. These children were, in general, of low average mentality, were not mentally alert as measured by tests, but nevertheless gave the impression of being very clever and witty. They were socially well oriented; inferiority complexes were rare. Their outstanding ability was in conversation and repartee. This, on careful observation, appeared to consist in more or less stereotyped phrases, learned from older persons, and encouraged by their approval. In the Irish group a tradition of social approval attaches to clever remarks just as there is in the Jewish group an approval of financial shrewdness. In fact, Leaming wondered whether the lingo used by these children was really considered humorous by the group or merely customary. The cleverness may have appeared as such only to the outside observer. In any case, the cleverness lay in those few who invented the various phrases, and not in the mass of the people who used them.

Another interesting characteristic of the Irish group was their great incorrigibility as against law and community, coupled with a singular lack of rebellious attitude against their family responsibilities.[27]

E. B. Hurlock tried by praise and reproof to raise the scores of children on the National Group Intelligence Tests and the Otis Tests. She divided each grade-group of children into three test-groups, which were equal in average I.Q., in average chronological age, and in percentage of Negroes. Group 1 was used as a control group, *i.e.*, no special treatment was given it, so that it might represent normal conditions. Group 2 was praised regarding its first performance in a speech preceding the second trial of the tests, and Group 3 was similarly reproved. The average gain in the control groups was 1.20 I.Q., in the praised groups, 6.19, and in the reproved groups, 6.33. Praise was slightly more effective with the older children, reproof with the younger. Praise had its greatest effect upon average or inferior children, reproof upon superior. Boys were motivated more than girls by both methods. The results seem to indicate that praise and reproof are of about equal value. Incidentally they cast suspicion upon the accuracy of intelligence tests as measures of purely native ability.[28]

[27] *Psych. Clinic*, vol. xv, p. 36 (1923).

[28] *Arch. Psych.*, vol. xi, no. 71 (1924).

Sarcasm hinders efficiency, as shown by T. H. Briggs[29] and Donald Laird. The net result of three studies showed that more pupils do worse than better work after the teacher comments sarcastically upon their achievement. Sarcasm in the presence of others is especially bad; in private it has the least discouraging effect.

Hypocrisy and Disharmony in Social Control.—In our childhood our attention is called repeatedly to the socially controlling influence of "setting an example." We are exhorted to do and not to do things which might not be of great ethical moment in our own cases, but which might "influence others" in a right or wrong direction.

This indirect type of control tends to make the social system rigid and unresponsive to changing conditions and to social decisions. The citizen or church member is urged to behave, not as he really thinks best for him, but in the way he thinks others "ought" to behave. An artificial "ought" is thus created or perpetuated, a duality between the mores to which we give lip service and the mores which we actually practise. Hypocrisy is a frequent characteristic of the mores and the control instruments (personal models, ostracism, censure) which they largely employ. Malinowski has shown that this divergence between verbal and actual morality exists among primitive peoples as well as with us.[30] The savage is no longer regarded by anthropologists as quite the "slave of custom" he was once thought to be. He too makes exceptions to meet circumstances.

There is frequently a large gap between the mores and the law, the most conspicuous example of which is our prohibition situation. What actually happens is that one part of society succeeds in getting its mores enacted into law, and thus attempts to force them on other classes. American society is commonly accused of being more prone than European society to this disharmony between its social control agencies.

Leadership.—An important phase of social control is leadership. Leadership may be nominal or dynamic. Nominal leadership is merely headmanship. It refers to the manner of

[29] *School Review*, vol. xxxvi, pp. 685-695.
[30] *Crime and Custom in Savage Society*, Harcourt, Brace, 1926.

selection of, and the behavior of, those persons who occupy established positions in the social structure, who hold more or less the reins of social control. In general, these persons seem to be more intelligent than the average man. With respect to other traits they differ from the average in various ways according to the culture of the group. Among the Plains Indians brave warriors are more likely to be made headmen, among Central Australians and Chinese the old men, among Northwest Indians the wealthy, among Polynesians the nobly born, among Greeks the generals, among Russians the good talkers with communistic attitudes. A study of headmanship involves a study of social organization.

But the term "leaders" is used more specifically to indicate the persons who are really effective upon society, regardless of their official positions; in other words, those who lead in social change, in the dynamic rather than the equilibrating interaction processes. This subject will be treated therefore in Chapter XII.

Coöperation.—Coöperation may be accommodation, or even competition, conflict, or rivalry, organized toward a common purpose. A prize fight is conflict, but from the standpoint of the purpose of amusing spectators and raising money, the pugilists are coöperating. Coöperation is by no means necessarily conformity or assimilation. Economic coöperation implies division of labor, which means that the coöperators are doing *different* things. Coöperation in the use of a library may require conformity in certain rules of procedure, but certainly not conformity in the sense that everybody wants the same books and uses the building at the same time. Coöperation toward the enrichment of community leisure life certainly does not mean conformity in recreational tastes. Queer dress, queer household furnishing, queer recreations may brand a person as a non-conformist or an eccentric, but certainly they do not make him a non-coöperator or a social parasite. Yet to judge from such observations as those of the Lynds on "Middletown," society seems to hate and fear eccentricity more than it does parasitism. We judge the "Americanism" of our immigrant peoples by their conformity rather than their

coöperation. Humanity might be better off if it cultivated more eccentricity.

Research has attempted to measure the effect of coöperation upon mental work. G. B. Watson put several subjects to work building words out of various assortments of letters. When working alone the poorest individual in the group constructed on the average 17.8 words, the average individual 32.3, the best 48.6. When the group worked together, freely exchanging suggestions, 74.9 different words were constructed. The *total* number of different words constructed by all members of the group working *alone* was 86.8. Coöperation thus achieved results much greater than those of the best individual working alone, but not as great as the aggregate achievement of all when working alone.[31]

E. B. South had experimental committees of various ages judge English compositions, photographs of emotions, and do multiple choice problems and bridge problems. The committees of three did better work on the two judgment problems; larger committees did the better work on the other problems. A committee of one sex was in general more efficient. The women were slower and more accurate with the photographs, the men slower and more accurate with the multiple choice. In English composition judgments the women were both faster and more accurate than the men. Both sexes were quicker, and sometimes more accurate in all tests, when a time limit was imposed, but the men's efficiency was more improved by the time limit than the women's.[32]

Morale.—In business, government, and military organizations the leaders often make special efforts to develop "morale." Morale is the attitude, or a group of attitudes, which favors coöperation. During the War a special technique was developed for the promotion of morale in the American army camps. Overseas, the enemy usually was sufficient stimulus to discipline and coöperation, the details of military etiquette and daily behavior assuming less importance. But in the camps in this country the drudgery and the boredom of life made for a discontented, non-coöperative "spirit." So in many camps morale officers were placed, who promoted singing and

[31] "Do Groups Think More Efficiently than Individuals?," *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 328 (1928).

[32] "Some Psychological Aspects of Committee Work," *Jour. Appl. Psych.*, vol. xi, p. 348 (1927).

organized recreation, and listened for grievances. One of the most important factors in building morale is to detect and adjust grievances. In free community life these find their own redress through the will organization i.e., the organized channels of social decision. See the following section of this chapter. Off goes the political head of the officer or leader who does not seek to please. But in business and the army there is no organization of will. Orders go only from above downward; the return cargo consists only of "reports" and humble "yes, sir's." Beneath the respectful silence there may be seething rebellion.[33]

"Welfare work" and "company unions" in industry aim to develop morale, to provide a safe (from the employer's standpoint) outlet for discontent which might otherwise lead to *bona fide* labor union organization. They work well as long as the employees do not become educated to prefer real power to immediate welfare.

Pitirim Sorokin, with M. Tanquist, M. Parten, and Mrs. C. C. Zimmerman,[34] made some interesting studies to determine what kinds of motivation are most effective in stimulating work. They paid children to carry marbles from one corner to another, to pick balls or pegs of a certain color from a box of various objects, to fill cups with sand and carry and empty them at a certain place, to carry pails of water, to fill and carry pails of sand, and to perform arithmetic problems. Records were made of the amount of work done by each subject under various conditions, within time limits. It was found that about 14 per cent more work was done when the children were rewarded according to their individual achievements than according to the achievement of their group. Roughly 15 to 20 per cent better results were obtained through unequal than through equal remuneration, the total amount of money distributed being the same. But the unequal remuneration provoked discontent and "strikes." Pure "competition" (*i.e.*, rivalry, in our sense) without any pecuniary reward proved better than equal remuneration.

Again, Sorokin asked his classes to contribute money (1)

[33] See an interesting discussion of morale in HALL, G. STANLEY, *Morale*, Appleton, 1920.

[34] "An Experimental Study of Work under Various Specified Conditions," *Amer. Jour. Sociology*, vol. xxxv, p. 765 (1930).

for needed class equipment, (2) for impoverished students of the college, (3) for Chinese and Russian students. The indices of money contributed for these three purposes were respectively 100; 68.4, 46.5; of the number of persons contributing in proportion to the possible contributors, 100, 74.6, 53.5.

These results seem to favor the competitive system of industry as against collectivism and communism. As we shall see in Chapter X, however, generalizations concerning social interaction which may be valid in one culture do not always hold good in another. The children in the first experiment had been already conditioned to certain attitudes regarding competition, rivalry, rewards, and so on. While such studies as Sorokin's may help us to solve problems in our own social system, they are not likely to tell us what social system is best. The experiment in soliciting contributions gave some indication of how social distance affects our philanthropic attitudes.

Social Super-Control or Social Decision

Social Decision.—We have considered social control as control over individuals by social agencies and by other individuals. And we have found that social control is simply various social interaction processes organized around purposes. A further question then arises. Are the agencies of control themselves controlled by something further, or how are these social purposes formed? To be brief, there is another, higher stage in the control process, which we might call *social supercontrol.* It is the process by which the social purposes are formed and the agencies of social control, so to speak, get their orders from higher up.

What is this power "higher up"? Once it was thought to be truly outside society. It was the will of God, the divine right of kings, the categorical imperative, the absolute moral law. Even some modern philosophers conceive of purposes formed by civilization itself apart from the purposes of the individuals who compose it. Society, in their view, is superior to the individual in the same sense that the human body is

superior to its separate organs: the whole may have purposes, in the carrying out of which the parts are mere instruments.

Modern sociologists are not disposed to accept this view. They agree rather with Bertrand and Dora Russell when they speak harsh words about those who "think of the state as something having a good of its own, quite distinct from the good of its citizens."[35] They are inclined to support the Russells' charge of unconscious hypocrisy against most of these thinkers when they assert that "what they call the good of

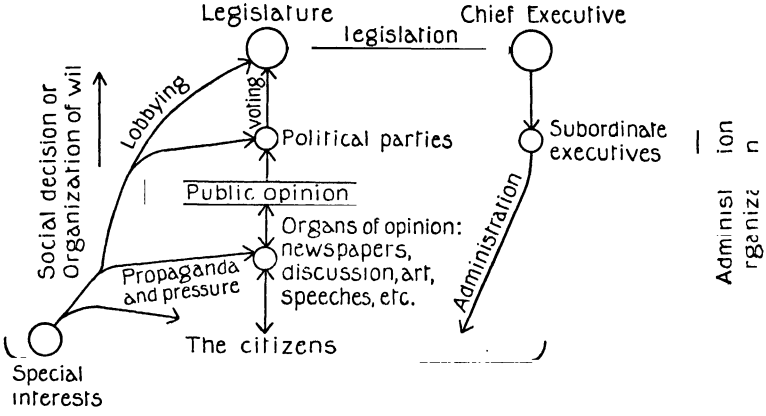


FIG. 34.—THE ORGANIZATION OF SOCIAL CONTROL

the state is usually unconsciously to themselves, what gives them a certain esthetic or moral satisfaction." Individuals do not exist for society, but society is merely a convenience for its members.

In the last analysis, social purposes emanate from individuals. They may, indeed, be the same individuals who are controlled by those purposes. The whole process of control and super-control forms a circle, as illustrated in Fig. 34. The individual is both the beginning and the end. The whole process is seen to consist in two parts, an upgoing process in which the lines in the network converge, and a downgoing process in which the lines diverge. The downgoing process has been called, in some of its aspects, the *organization of effort*, while the upgoing process has been called the *organiza-*

[35] *Prospects of Industrial Civilization*, Century, 1923, pp. 147-149.

tion of will.[36] More scientific terms for these are *administration* and *group* or *social decision.* If we would picture administration, let us think of the plans of an army general staff, converted into more and more detailed orders, and passed on down the line from general to corporal.

A typical case of *social decision* occurred at the convention of the Committee of Forty-Eight, a liberal political organization, in 1919. The members of this organization included political independents of every shade of color: socialists, single taxers, labor union men, farmer radicals, progressive Republicans and Democrats, communists, religious theorists, pacifists. Their purposes were exceedingly different; they were united simply in the common desire to form a third political group which could check the reactionary tendencies of the Republicans and the Democrats. By a long process of discussion, argument, committee meetings, and oratorical explosions of emotion, these people finally succeeded in formulating a simple platform upon which the majority could agree.

Social decision is a process of integration. It takes place wherever many individual wishes or purposes organize themselves into a common social purpose. It is seen most clearly in politics, but it occurs also in religious, business, and other organizations. Every deliberative assembly illustrates social decision.

In government social decision is called political decision and takes place through party organization, campaigns, elections, and legislation. It culminates in the legislative branch of the government. The executive branch carries out the administration, the downgoing, diverging part of the control process. According to the theory of democracy, *sovereignty*—that is, the *source* of power—lies in the identical people who are the *subjects* of this power. Perfect democracy, however, exists nowhere. Even "universal" suffrage limits the voting power to citizens over twenty-one. And while each vote may have equal weight in the ballot box, there are many other channels of will organization other than the ballot box, and in these channels some citizens speak with much louder voices than do others.

[36] WALLAS, GRAHAM, *The Great Society,* Macmillan, 1914.

On the other hand, perfect autocracy exists nowhere and probably never did. The dictator may have dissolved Parliament, abolished elections, and silenced the opposition press. Yet he must and does heed the will of at least the influential portion of the people. By means of advisors, intelligence officers, and spies, he keeps his ear to the ground and guides himself accordingly. While he may seem to rule with a Divine Mandate, actually his rule represents the organization of will from a limited portion of the people. The organization takes place in secret meetings and in whispers instead of in parliamentary debate.

Government Processes Not the Only Processes of Social Decision.—Voting is not the only way in which the individual takes part in social decision. Not only at the ballot box, but in his joining or declining to join organizations, giving or withholding donations, purchasing or not purchasing, expressing his opinions in conversation, by letter, or in print, the individual is making his "voice" heard and is to some degree influencing the group purpose. And in the making of minor personal decisions, such as his choice of cars or the way in which he spends the Sabbath, he may be "setting an example" which influences public opinion.

There is a difference between social decision and the mere aggregation of individual decisions. The choice of economic goods is supposed to be not a matter of social decision but a purely individual matter, determined by personal taste plus such control as the producers of the goods can exert through their advertising and salesmanship. It is independent individual selection. But in practice the economic choices of influential people come to be regarded as having political importance, they may create a public opinion for or against some business concern, they may function not only in pure economic competition but in social decision.

Politics, in the broadest sense, is the science of social decision. The student of political science is too apt to identify the processes he is studying with that particular social institution which we call government. But, as we all know, there are similar processes in school life, in church life, and wherever

several persons find it necessary to agree upon a common purpose. As Stuart Rice aptly remarks, the group choice between oranges and grapefruit at a coöperative boarding house, or of the winner of a beauty contest, is essentially the same process as voting for President of the United States.

Even in the very informal organization of the family, the question of how much voice the children shall have in deciding upon the summer vacation trip is in this broad sense a political question, and the methods these children use to influence their parents' decision are a political process. Politics is the process of forming group purposes. The process of carrying out the social purposes on the other hand is administration, which involves coöperation, and belongs to the descending part of the control process. Once the family vacation is decided upon, this administrative process begins. Now the parents use instruments of social control to make the children coöperate with the already formulated purpose. They offer rewards and praise for rapid packing and dressing, threaten punishment for whining and neglect of duties, use suggestion and argument to make the children leave needless toys at home.

Public Opinion.—The first step in group decision is the formation of group opinion. When the group involved is a public or secondary group, rather than a primary, face-to-face group, we have *public opinion.* Many social psychologists object to the term public opinion because, they say, it implies much more intellectuality, more reasoning, than actually exists. Opinions, they hold, are mostly rationalizations to justify our attitudes, and not the real reasons on which our attitudes are based. We are moved more by prejudice and suggestion than by reason. They prefer to use the term "group attitudes" or "group will" rather than "opinion." Furthermore, public opinion is not so much what the public intellectually thinks *about* some proposition, but rather what *decision* it thinks *toward.* The answer which public opinion gives to a question is not "true" or "false," but rather "yes" or "no." Public opinion is merely a step on the way toward social decision, a sort of gathering point of the social will in its organization toward action.

Whatever name we give it, however, public opinion must be sharply distinguished from the mores. Public opinion is conscious, verbal, rapidly changing. The mores are taken for granted, seldom discussed and very slow in changing. Between 1914 and 1917 there was a great change in American public opinion about war with Germany. But there was no change in the mores regarding war. We continued to believe it wrong to engage in violence without the consent of our government and wrong to refuse when it commands us to fight. It continued to be part of our mores to spare non-combatants, especially women and children, to give quarter to a surrendered enemy, and also to shoot a proved spy without giving him the barest chance for his life. Mores may change into public opinion, or *vice versa*. Sabbath observance, once a part of the mores, is now a matter on which there may be "public opinion" for or against. Roughly speaking, the mores include the matters on which nearly everyone agrees, while public opinion includes the matters on which there is disagreement. We shall see in Chapter X that the mores are a part of culture, while public opinion is part of the more variable processes of social interaction.

W. J. Shepard points out that public opinion is often falsely identified with (1) the sum total of opinions on any subject, (2) the opinion of the educated classes, (3) the press, which is merely one of the organs of public opinion, (4) the social conscience, and (5) sentiment.[37] Quite contrary to Shepard's first point, Allport holds that "public opinion is merely the collection of individual opinions. It has no existence except in individual minds; these minds can only conjecture what the general consensus is."[38]

Here again is the old and needless controversy which pervades so many departments of social psychology. Of course public opinion cannot exist except through individual minds, but it is also true that the individual opinions would not be what they are if they had been kept in isolation. Individual opinions themselves are partly the result of group discussion,

[37] "Public Opinion," *Amer. Jour. Sociology*, vol. xv, p. 32 (1909).
[38] *Social Psychology*, p. 396.

a social interaction process. Perhaps the best way to understand this is to examine a concrete case.

H. T. Moore gave to 95 students a set of paired comparisons on which they were asked to express their judgments. (1) They were to say which of these phrases is the more offensive, "everybody loves their mother," or "she sort of avoided him," and to judge in similar fashion several other pairs of ungrammatical phrases. (2) Other comparisons called for moral judgments; for example, "which is the more offensive, disloyalty to friends or cheating on examinations?" (3) Still others called for musical judgments; the students were asked to express their preference for one of two chords played on a reed organ. After two days, without any intervening suggestion, the identical test was given again to the same students. On this test 13 per cent of the linguistic judgments were reversed, 10 per cent of the moral judgments, 25 per cent of the musical judgments. These reversals were considered as due to chance. Then, after two and a half months, the same test was given a third time and then, after a two-day interval, a fourth time. Between the third and fourth trials, the students were told, between tests, what the majority judgment had been on each pair of comparisons. The fourth trial, compared with the third, caused a reversal of judgment of 62 per cent for the linguistic decisions, 50 per cent for the moral, 48 per cent for the musical. Of course these reversals of judgment caused by hearing the opinion of the majority were much greater than the mere chance reversals which occurred between the first and second trials. Two days after the fourth trial a fifth trial was given, at which time each judgment was preceded by a statement of the opinion of an expert in each field. Comparing now the third and fifth trials, the percentage of reversals of the third, an original judgment, caused by hearing the expert opinions, were 48 per cent for the linguistic questions, 47 per cent for the moral questions, 46 per cent for the musical questions.[39]

D. Wheeler and H. Jordan, in a somewhat similar experiment, found that after students had heard the majority opinion, their yes and no judgments changed to the extent of three times the chance changes. These results are substantially similar to Moore's.[40]

[39] MOORE, H. T., "On the Comparative Influence of Majority and Expert Opinion," *Amer. Jour. Psych.*, vol. xxxii, p. 16 (1921).

[40] "Changes of Individual Opinion to Accord with Group Opinion," *Jour. Abnormal and Social Psych.*, vol. xxiv, p. 203 (1929).

It would appear that on a question about which we have little knowledge and little prejudice, there is about a fifty-fifty chance of reversing our original opinion after hearing the opinion of the majority or the expert. With the linguistic judgment, majority opinion exerted more influence than did expert opinion. In the other judgments there was not much difference. In everyday life these students would have become aware of one another's opinions through informal discussion rather than through formal announcement by a research worker.

Is the majority usually wrong or right? Obviously the answer lies in history. Since minorities, if they are right, commonly become majorities, the question seems foolish. The only general law which we might tentatively accept would be something like this: that a dwindling minority is apt to be wrong, a growing minority right.

Stereotypes and Public Opinion.—Walter Lippmann originated a now famous doctrine that public opinion is largely based upon *stereotypes* or "pictures in our heads."[41] Few individuals see things as they really are. They get false pictures. When a question is discussed by a group, the effect is not to correct these false pictures but to replace them by one *standardized* false picture which thenceforth is shared by the whole group. This standard is known as a stereotype. Stuart Rice demonstrated this theory experimentally.[1]

He gave to a number of students the pictures of nine men appearing frequently in the daily news, but without their names. He gave also nine descriptions which fitted the nine men, such as "a U. S. Senator," "a bootlegger," and so on, and asked the students to fit the descriptions to the pictures. If all the students had correctly identified all the pictures, there would have been 1224 correct identifications. If they had merely shuffled the pictures and identifications and put them together by mere chance, there would have been, according to the laws of probability, 168 correct identifications. As a matter of fact, there were 337. So

$$\frac{337-168}{1224-168}=16 \text{ per cent}$$

[1] *Public Opinion,* Harcourt, Brace, 1922.

measures the actual *knowledge* the students had of these faces. But the important thing in the experiment was the manner in which the incorrect identifications grouped themselves. Herriot, then Premier of France, was identified as many times as a Bolshevik as he was as a premier. James Duncan, labor leader, was identified 30 times as a manufacturer, 29 times as a premier, and only 25 times as a labor leader. Leonid Krassin, Soviet ambassador to France, was identified only 9 out of 141 times as the Bolshevik that he was, whereas by mere chance he should have drawn that description about 15 times. Instead, he was identified most frequently as a Senator, second as a premier, third as a manufacturer. Senator Pepper was most often called a manufacturer, and second, a labor leader. For each face Rice worked out an index of departure from expectation, that is, the sum total of the difference between the extent to which its identifications concentrated themselves instead of being distributed evenly as by chance. A high index of departure meant a tendency of the students to *agree,* whether in a true or false identification. Herriot's face showed the highest index of departure but stood very low in correctness. Krassin, with his wing collar, Van Dyke beard, and moustache, presented a distinguished appearance which fitted him into the students' stereotype of "Senator" and not at all into the stereotype of "Bolshevik," which better corresponded to the appearance of Premier Herriot.[42]

The funny paper and the vaudeville stage doubtless have much to do with the formation of popular stereotypes. It would be interesting to make a picture of the typical Jew by the method of composite photographs and compare this with the stage "Jew." We might do the same for the "Irishman," the "absent-minded professor," the "tired business man," the "butter-and-egg man," the "flapper," the "farmer," the "criminal," the "old maid" and so on. In a moving picture in Central Europe, the part of the arch villain was played by a smooth-shaven, blonde, monocled Englishman (named Murphy!), just the type which is chosen for hero parts in American films, while the good people of the drama were more or less brunet and bewhiskered.

Stereotypes include not only mental pictures of personal appearance but also behavior.

[42] RICE, STUART, "Stereotypes: A Source of Error in Judging Human Character," *Jour. Personnel Res.,* vol. v, p. 268 (1926).

One investigator found a correlation of .94 between quality of voice and moral stamina in a group of school teachers. Both traits of course were estimated by acquaintances rather than tested. It appears that "person of moral stamina" must have been a stereotype which included a certain pleasing and firm tone of voice.

The Manipulation of Social Decision

Special Interests and Their Instruments of Manipulation. —Ideally, every individual shares, according to his ability and knowledge, in the formation of public opinion. Actually this is not true. Certain groups and individuals exercise undue influence. Public opinion is not formed altogether through spontaneous discussion and integration of individual opinions. It is partly controlled by "special interests." Those who have much to gain or lose through the adoption by society of some particular policy, do everything they can to interfere with the spontaneous process and to mold opinion "their way." Herein lies still another, and the most dismal, chapter in our description of social control.

We really have here a third phase of the control process. These phases are, thinking backwards, (1) the control of individuals by social agencies and leaders in the interest of social purposes, (2) the formation of those social purposes or of social decision through the integration of individual attitudes and opinions into a "public opinion," and (3) the manipulation and partial control of that public opinion and social decision by special interest groups, whose purposes do not harmonize completely with the general welfare.

The "interests" which seek to control public opinion include business, religious, and other organizations. No kind of social group is wholly innocent; each makes itself believe that its special purposes are just what society as a whole really needs for its welfare. The instruments used in controlling public opinion are similar to those used in the direct social control over the individual. These are suggestion, argument, and inducement-deterrence, each in its positive and negative phases.

The government itself, although supposed to be utterly at the service of public opinion, frequently plays the rôle of a "special interest" and attempts to manipulate public opinion. Sometimes this government-interest is the integrated interests of the government officials as distinguished from those of other persons. Especially does their desire to remain in office play a part in this manipulation. Again, the officials may, for the unselfish, workmanlike purpose of succeeding in a policy once undertaken, attempt to prevent public opinion from shifting to some other policy.

Propaganda.—Organized suggestion or argument, *used to control public opinion rather than to control individuals directly*, is called propaganda. In 1917 our government had to wait for public opinion to become pro-war before it dared declare war on Germany. But after having taken that step, the government continued to use propaganda to make public opinion even more favorable to the war and to break down the resistant attitudes still held by various minorities. In a sense the campaign literature and speeches of political parties are propaganda, but these are part of the regular machinery of social decision. Usually we cry "propaganda" only when some organization steps aside from its regular functions to influence public opinion.

Propaganda often comes from business organizations in the form of advertising. It must be sharply distinguished from ordinary advertising. Thus, when a public utility company urges the public to install electric fixtures, it is engaging in ordinary commercial advertising. It is trying to control individual consumers directly, trying to make them spend more money for electricity and less for something else. But when this same utility company helps to issue pamphlets, pay speakers, and censor textbooks, to check the spread of the government-ownership idea, it is engaging in propaganda. It is now trying to control, not individual purchasing behavior, but the formation of a social policy with regard to public utilities. It is manipulating the social control process in advance, at its social decision stage. It may also be called propa-

ganda when one industry, through advertising, uses subtle detraction against another.

The Technique of Propaganda.—The technique of propaganda is enormously complicated by the fact that the public is more or less aware of it. We all know that people are trying to fool us; we "get wise" to certain devices. Good technique consists in using ever new forms of camouflage.

During the World War one of the strong points of the propaganda of the Allies was its very humble attitude toward itself. It tried to make the people believe that the Germans were clever devils at propaganda and censorship, while the Allies themselves relied upon the spontaneous communication of unvarnished truth. H. D. Lasswell, studying the methods dispassionately after the war was over, finds that the Germans had a minimum of coördinated propaganda. Each government department went its own way, the only formal coöperation being a press conference. On the other hand, the United States coördinated its efforts under George Creel's "Committee on Public Information." Lloyd George made vigorous and clever use of the press. Before we entered the war, an American in Berlin said to a German official: "Why don't you do something to counteract British propaganda in the United States?" "What, for instance?" "Raise the devil about those German nurses the French shot." "What, protest! They had a right to shoot them." The Germans were too honest. They could not look at the situation with a naïve indignation which they knew to be unjustified by the rules of war. On the other hand, the Allies made Edith Cavell into a heroine. The mere mention of her name anywhere in America or England was enough to arouse the full fury of anti-German passion.

The Allies, again, played a trump card by identifying their war aims with peace, freedom, and democracy, while the Germans stupidly talked about the superiority of their own Kultur. The Germans tried to get sympathy in America by protesting against Belgian sniping. Instead of giving sympathy to the Germans, the Americans admired the Belgian snipers because Belgium was a small country attacked by large strong Germany. They did not visualize it as a mere

appendage to France. The fact that Belgium was politically though not practically separate from France had a psychological value which may have won the war for the Allies.[43]

One phase of propaganda technique is the diversion of public attention, at the right moment, from some fact which might produce unfavorable reactions. When Roosevelt's policy toward Colombia and Panama was under fire, he suddenly ordered all the desk soldiers in Washington out to exercise. The resulting spectacle diverted public attention from the unpleasant situation. How similar to the *distraction* mechanism in individual mental adjustment!

E. C. Bernays describes the technique of the Public Relations Counsel, a new type of expert employed by large business concerns to control public opinion in their favor. In one case a hotel was losing business on account of a false rumor that it was about to close. Its counsel advised the management to rehire the *maître d'hotel* for five years and to publish this fact, together with the amount of his salary. The advice was followed and the unfavorable rumor was checked.[44]

If the hotel had merely denied the rumor, that might not have worked. The public doesn't believe a simple denial, even when it is true. It has been used falsely too often. But the unusual ruse worked. It appeared genuine. In this case it was genuine, but it would have worked equally well if false. It worked by suggestion, it short-circuited reason. Yet to those few who, perhaps, did not accept the suggestion but kept their critical thought processes at work, the public announcement of the reëngagement of the *maître d'hotel* was no better proof that the rumor was false than a mere statement. Indeed, it may have aroused even more doubt.

The reason that so-called practical men seem to succeed better in controlling public opinion than do theoretically instructed students of social psychology is not that the theory is useless, but rather that the practical man knows better the social situations and the rules of the game in which he plans to work. To carry on successful propaganda, for example, one

[43] LASSWELL, H. D., *Propaganda Technique in the World War*, Knopf, 1927.
[44] BERNAYS, E. C., *Crystallizing Public Opinion*, Boni, 1923.

must know intimately the customs and rules of the newspaper game as few theoretical students know it. We are already beginning to develop a type of expert who combines this knowledge with that of theoretical social psychology.

The Technique of the Disarming of Propaganda.—Social psychology has a nobler function to perform than to train propagandists. This function is, *so to train the public that propaganda will become useless.* Then, perhaps, the propagandist will devise new techniques, and the social psychologist, again, will make the public "wise" to them. And so on perhaps *ad infinitum.* But in any case, the great need of the present day is not bigger and better propaganda, but the debunking of propaganda.

To this end Walter Lippmann makes a valuable suggestion. So enormous is the body of technical knowledge upon which modern civilization is built, that it is impossible for any citizen to command it all. The democratic ideal of training every citizen to make public decisions is a false hope. More and more decisions must be left to experts. The rôle of the public is to neutralize the arbitrary forces, the special interests, which obstruct the expert in making a wise decision. In Lippmann's words, the main value of public discussion is not that it reveals truth, but that it *identifies the partisans.*[45] Public discussion cannot enable the public to understand the reasons why certain railway rates should be raised or lowered; it can reveal which party is a special pleader and which party, if either, has studied the problem scientifically and socially.

The schools would better fulfill their task of educating public opinion if they would devote less time to studying the merits of complex questions which their students cannot possibly master, and more time to studying the political line-up on those questions and showing why each group supports the side it does.

A. D. Weeks suggests that propaganda could be made innocuous, not by limiting it in any way, but by the simple device of a compulsory revelation of its source. Thus all printed articles should be signed, showing the name, position

[45] *The Phantom Public,* Harcourt, Brace, 1925.

and business connections of the author. Then it would be safe to have him say anything he pleased.[46]

"Pressure."—Special interests use another and more dangerous instrument for controlling public opinion. It is inducement-deterrence. When used in this manipulating part of the control process, it is commonly known as "pressure." The "interests" apply rewards and punishments to those whose regular function is to guide public opinion.

The department store controls the newspaper through its power to give or withhold advertising. A prominent New York jewelry concern withdrew its advertising from the *Globe* because the *Globe* printed Frank Crane's statement, "Back of every display of diamonds and pearls is sheer vulgarity."[47] The Philadelphia papers were silent in 1920 about the alleged profiteering of a large Philadelphia department store, although this charge was considered good news and was published by the New York *Tribune* and *World*. A large department store owner threatened that any paper which opposed Billy Sunday would lose its advertising, and made good its threat. During the Lawrence strike, a Boston editor put a false story, unduly favorable to the employers, over the name of his Lawrence reporter, who resigned in protest. The editor was influenced by business.

If any one advertising concern does not care to use its influence over the press in the case of some big issue affecting business in general, it may be forced to do so by a still higher power, the bank, which may threaten to curtail credit.

Ernest Gruening, editor of the independent Portland *Evening News*, publicly charged that an advertising boycott had been launched against him because he had attacked the rates of the electric power companies. He charged also that a merchant who continued to advertise in his paper had had his notes called by a leading bank, whose vice-president was said to have started the boycott and was an important holder of power stock.[48]

A newspaper reporter working at a seaside resort was pre-

[46] WEEKS, A. D., *Control of the Social Mind*, Appleton, 1923.

[47] See *The Nation*, Dec. 22, 1920, p. 721.

[48] BENT, SILAS, "The Battle of Portland," *New Republic*, vol. lviii, pp. 115-118, March 20, 1929.

vented by the local Chamber of Commerce from publishing many stories which from the newspaper viewpoint would make excellent news. One was about a scandal, another concerned the discovery of rats. But the public must not know that scandal or rats existed at this beach. It would injure business.

A settlement house director of long standing and high reputation nearly lost his job because he dared permit an open forum in his house to discuss *both sides* of a serious strike then taking place in the city.

A merchant in a college town was afraid to display a placard announcing a big railway excursion, because an important football game occurred on the same day and the boys "might not like it." In his case fear of punishment by withdrawal of trade controlled him, even though no definite threat had been made. It controlled him not as an individual, not as the ultimate subject of social control, but in his capacity to convey information and make public opinion through the use of his store window.

Some acts which would seem to be purely personal, with little or no social importance, are often regarded by special interests as being influential through "example." Hence they try to control them. A worker in a large tobacco factory was discharged because he was caught smoking a rival brand of cigarettes. A student writes:

> A rapid transit bus system was started in A—, running to W— in competition with the trolley line which was controlled by friends of my family and some of our neighbors. This bus ran right by my front door and the trolley stopped four blocks from my front door; however, I was never permitted to take the bus because once I took it and our neighbors saw me getting off and wouldn't speak to us for a long time because I didn't patronize their trolley line.

The Channels of Social Decision

The formation of social purposes depends upon (1) the naïve, tentative opinions, if any, formed by individuals before discussion, (2) the discussion process, and (3) the distorting influence wielded by special interests. A fourth factor is the nature of the *channels* through which public opinion is formed and the channels through which it leads to formal decision. Between the crystallizing of public opinion on child

labor, and action by Congress, there is a long way to go. The action of Congress cannot be directly contrary to a strong public opinion, but may be more or less out of harmony with it, depending on the channels which exist between public opinion and Congress. These channels are parts of culture (see Chapter X).

Organs of Public Opinion—The Newspaper.—Besides spontaneous, informal discussion, there are certain fixed "organs" or channels through which the integration of opinion takes place. These include the press, the platform, the radio, the school, the church, the theater, the movies, literature and art.

The question is often raised: does the newspaper form public opinion, or only reflect it? Of course it does both. As Shepard says, it has three functions: narrator, weathercock and advocate.

G. A. Lundberg studied the relation between the editorial opinions of newspapers and the opinions of their readers in Seattle. He found absolutely no correlation between the papers' attitude and the average attitude of their readers, as learned through a questionnaire, on the issues of the city manager plan and the Skagit municipal hydroelectric project. The labor paper, however, proved an exception. Its readers took the same attitude as the paper. Lundberg adds further that in small towns, where the paper commands a somewhat greater share of the reader's political attention, its influence may be greater. When asked whether newspapers report reliably the news of the world, Lundberg's questionnees replied "yes" 44 per cent, "no" 44 per cent. The median time spent per day in newspaper reading was 30 minutes.[49]

It must not be concluded from this limited study that the press does not influence its readers' attitudes. The editorial page, which is read by but few, is not the only way in which the paper exerts an influence. The relative emphasis given to various kinds of news may be more influential. In 1919 the Pittsburgh newspapers gave many front-page columns to the speech of Mayor Ole Hanson of Seattle, telling how he broke

[49] "The Newspaper and Public Opinion," *Soc. Forces*, vol. iv, p. 709 (1926).

the general strike, but only a few inches on inside pages to Raymond Robbins who, about the same time, spoke in the city about his equally important experiences in dealing with the Russian Bolshevik leaders. Hanson's talk was encouraging to conservative attitudes, Robbins' was productive of doubt. In the same year, "Pittsburgh's Prostituted Press," as the *Nation* called it, gave its space liberally to news which would tend to discourage the steel strikers, and omitted many equally important news items which would have encouraged them.

Again, readers may look to their papers for guidance on some kinds of questions and ignore them on other questions which are discussed more vigorously through other channels.

The newspaper follows as well as leads. It is stated that many rural editors who believed in the Federal Child Labor Amendment dared not publish their views because of the hostile attitudes of their farmer readers.

In 1929 the Portland (Maine) *Evening News* found great difficulty in getting any advertising, partly because its intellectual and liberal editor, Ernest Gruening, opposed the export of water-power from the state. Nearly all the advertising went to the other more powerful Portland newspapers, which approved power export, wanted by the large interstate business interests. Gruening "stuck it out," however, and in the September election his non-export policy won the referendum. In this case public opinion certainly was not controlled by the newspapers.[50]

The Politician.—F. R. Kent gives some practical rules used by political bosses: "Don't fight the machine," "seem to say something without doing it," "give them a good show," "don't buck business," "when they stop writing about you, you're dead," "don't worry about the women," "when in doubt do right," "it's a humbug world," "give 'em hokum," "the floaters hold the real power," "play the game with the gang," "never handle a hot poker on the front porch" (don't meet a really damaging attack directly, but ignore it or retire to consider your strategy), "when water reaches the upper deck follow

[50] See BENT, *op. cit.*

the rats," (change your convictions when the tide of unpopularity rises against them).[51]

"Politics" is an art something like riding an unbroken horse: the game is to keep one's seat. The public controls the politician as much as the politician controls the public. Despite methods frequently used to fool the public, despite the frequent selling out of the public to special interests, the main function of the politician is to act as an agent in the organization of social decision. He is an intermediary between the people and the choice of their official representatives. There is nothing unworthy about this function, and, to be sure, the word "politician" has not the odious sound in Europe which it has here. The rôle of politician is as necessary a part of the social fabric as the rôle of statesman or reformer, and somebody must play it. Lloyd George deserves honor as a politician, as Woodrow Wilson deserved honor as a statesman. As long as one frankly admits that he intends to stand not for any fixed principle, but for *whatever* the people seem to want at the time, he commits no hypocrisy. The hypocrisy comes in when, in order to strengthen his position, he tries to make his temporary political policy appear as a sincere personal conviction or an eternal moral principle; when he drops the humble "I advocate" for the presumptuous "I believe" or "America stands for."

Europeans think more clearly and less hypocritically in politics than we; they frankly "demand" or "advocate" measures in the interest of their party or class, without presuming to represent impartial justice. They know the difference between "we will" and "we believe." They have two separate heads of government, a long-term, impartial president or king, and a frankly "political" ministry of "government" which represents the group temporarily in power. They do not attempt to unite both functions in one man, to let one person be judge and advocate at the same time.

The Problem of Political Representation.—Theoretically, public opinion reaches the legislative body through the medium of political parties. It is the function of political parties

[51] *The Great Game of Politics,* Doubleday, 1923.

and campaigns to choose a legislature which truly represents the people. But what do we mean by "represents"?

The majority of the American Congress are or have been lawyers. Only a fraction of one per cent of the population have studied law. Can a Congress of lawyers truly represent a population of non-lawyers?

It is to be hoped that the members of Congress are more intelligent than the average population. Can an intelligent, and also fairly well educated group of men, truly represent an adult population whose average Binet score is 13.6 years mental age and the majority of whom never entered high school?

Here then is the paradox of representation. In order to "represent" a group of voters, one must have intelligence and training which the voters themselves lack, and this makes one "unrepresentative."

Social psychology helps solve this paradox. The representative, of course, should be superior to his constituents in ability, general education, leadership, and social intelligence. It would, in fact, be quite unfair to the average farmer or working man to force him to be represented by a man of his own ability and education, while the business class is represented by men of greater ability and education.

But the representative needs to *resemble his constituents in attitudes*, that is, in attitudes toward the questions which are decided by legislation. For example, it is quite possible for a very intelligent and a rather dumb person to hold the same attitude toward the tariff or toward government ownership.

The basis of complaint against a Congress overweighted with lawyers is not the superior intelligence or the legal training of these gentlemen, but the fact that lawyers usually hold the attitudes of the business class of society. Can persons born and reared in the business class, with its cultural traditions of property accumulation, money making, "respectable" dress and living habits, truly represent the farmer and the working classes which make up some 80 per cent of the population? Men with sufficient brains to make laws in a legislature have, as a rule, never worked in factories or dug ditches.

Can they then really understand and feel the needs of the people they represent?

Functional Representation.—Functional representation is one suggested solution. For the purpose of choosing representatives citizens would be grouped not into geographic districts but into occupational groups. Such a method is practised to some extent in Russia and Italy. All groups might continue to elect lawyers as representatives, but there would be a big difference between the lawyers chosen under present business class leadership, and the lawyers chosen by labor unions.

If functional representation were adopted, the social policies (purposes) adopted would no doubt be quite different from those now favored. Congress would probably spend less time on inter-regional issues, such as the tariff, waterpower, and so on, and more time on inter-class issues, such as farm relief, social insurance, and labor legislation. As a result, there might be more "class legislation" than at present. The point of interest to us here is not the merits of this change, but the probability that the same original public opinion itself would lead to different decisions when expressed through channels of functional representation instead of through channels of geographic representation.

The citizen's expressed will depends largely on the channel through which he is expressing it. As a father of boys one is interested in free apprenticeship, but as a member of a labor union he is against it. Which way he will vote may depend upon whether his main activity is in the labor union or among a community group of fathers. As a producer of clothing one is interested in a protective tariff, as a consumer he wants low tariff.

Each person has several wishes, several interests, which need satisfaction. He will try to satisfy through political channels only those wishes which politics offer some hope of satisfying. As a professional man with a wife who wants both a career and children, Mr. A is much more interested in getting a good nursery school established in his community than in getting a little more money spent on the roads in his county. But

there is nothing he can do through present political channels to get the nursery school. The persons interested in such a project are scattered and their pet wish is drowned by other issues.

Suppose, now, we had functional representation. All persons in the state belonging to A's profession would unite to elect one or more representatives. The professional workers would be represented *as such* in the legislature. One of their chief needs might be nursery schools. To be sure, they constitute a minority, but any minority with a special representative can get its needs presented upon the floor and discussed, and perhaps satisfied, in return for a reciprocal support given to some other minority. This is the same mechanism by which the representatives of *communities* bargain with each other. "You help me get my postoffice and I'll help you get your harbor improvement."

Since, under a functional system, there would be a much better chance than now of getting nursery schools through politics and legislation, this question, at present an unborn political issue, might become a live question and a public opinion might be formed with regard to it. *Social purposes are partly determined by the machinery through which they are organized and expressed.* Those progressives are short-sighted who think that American political life can be revived and made important by merely centering the popular enthusiasm about more "vital" issues, using the present machinery as it is. Rather, the reason for our growing indifference to politics[52] may be that we have found means of adjusting the more important problems of life through other than governmental channels.

Functional Representation Already Existent—the Lobby. —Of course, many people oppose this idea of functional representation because it seems new, radical, Bolshevik, and all that. To be technically accurate, the idea is a part of syndicalist rather than pure socialist philosophy, although this will not make it any more popular. But, in the face of this

[52] In *Middletown* the Lynds found that the percentage of qualified voters who vote fell from 88 in 1888 to 46 in 1920. *Op. cit.*, p. 417.

opposition, the amusing fact is that we already have functional representation and that it is in many respects the power behind the throne. The only drawback is that it is unofficial and more or less hidden, instead of being part of the formal machinery of government. What does this mean?

We refer to the fact that our American society is heavily organized into *associations* representing functional rather than territorial purposes: manufacturers' associations, labor unions, farmers' organizations, chambers of commerce (partly territorial, of course, in their interest), business and professional women's clubs and other women's clubs, and also numerous associations for more special purposes, such as the American Public Health Association, the National Child Labor Committee, the American Association for Labor Legislation, and so on. These associations influence legislation through (1) lobbyists who interview representatives at the state capitals and Washington, (2) propaganda, (3) campaign contributions, and (4) threats of non-support of candidates for election.

The average citizen has a better chance of making his voice heard through the functional association (labor union, employers' association, etc.) to which he belongs than through the normal channels of the primary, his political party, the ballot box, and his district representative in the legislature.

And yet a kind of taint of immorality clings to lobbying. But why should it? The people who really stand to gain or lose by a new bill are the ones whose will is really important as regards that particular bill. There is growing a new conception of legislation, of the whole process of social decision. That is, instead of the theoretical "equal voice for everybody on every issue," the ideal of "every question decided by weighing the desires of those who are really interested, economically or altruistically, in that particular question." This conception is what guides actual practice in legislation. It expresses itself in lobbies, committee hearings, telegrams to "your representative." The trouble with it is that it gives undue power to interests which happen to be strongly organized. The solution is not to check this process of organization, but to encourage *all* interests to organize.

Summary.—Previous chapters have described the more spontaneous or primary forms of social interaction. This chapter has shown how social interaction is controlled, checked, adjusted, and organized around social purposes.

Selection is the adjustment process which results from competition. It may be classified, according to what is selected, into biological and cultural selection. The agencies which do the selecting are (a) the natural environment, and (b) society. The social agencies of selection may be classified as unorganized independent choices of individuals, group decisions, and impersonal conditions. The breakdown of the classical economic theory is due to the fact that group decisions and behavioristic interaction are taking the place of independent individual choices and competition. Tests and measurements are being increasingly used in selective processes. Competition is wasteful and tends to bring about its own limitation by quicker selective processes.

Studies of married pairs and of various voluntary social groups reveal certain principles of selective attraction which determine what kinds of persons shall come together.

Selection merges with social control. Social control is to behavioristic interaction as selection is to competition. Social control eliminates particular acts rather than whole persons. In so doing it creates wish conflicts within individuals, and forces them to accept substitute goals.

Social control may be analyzed according to its agencies and according to its instruments or processes. The main classes of instruments are suggestion, argument, and inducement-deterrence. Inducement-deterrence differs from argument in appealing to rewards and punishments, which are artificial consequences of the subject's behavior, added by society to the natural consequences. Coercion is control through punishment, and has such injurious by-products that it is desirable to substitute some other instrument of control wherever possible. Social control not only checks undesirable behavior, but promotes useful behavior through leadership, coöperation, and morale.

Above social control stands the higher organization we call

social super-control or social decision. In the last analysis the social purposes which social control tries to further are derived from the wishes of individuals. Social decision is the integration of these wishes into social purposes and policies. Social decision takes place not only through governmental machinery but through and within all social organizations. Public opinion is a stage in the process of social decision. It is what people want or approve rather than what they think. Public opinion is misled by stereotypes.

Certain powerfully organized "special interests" in society manipulate public opinion, hoping thereby to control social decision in their favor. They do this through propaganda (suggestion and argument) and pressure (inducement-deterrence). The remedy for excessive propaganda is mentally to inoculate the public against it by means of critical education and compulsory revelation of the sources of propaganda.

Social decision is profoundly affected by the channels or institutions through which it operates. Important among these institutions are the newspaper, the politician, the system of representation, and the legislature. Functional representation already exists in the form of the lobby, and if it were to be adopted as a principle of official representation, it would probably shift the emphasis of politics toward the more fundamental issues. Geographic representation obscures important class differences of economic interest, and exaggerates the importance of regional differences. Our declining interest in voting and politics probably means that we solve more of the fundamental problems through non-governmental machinery. But in the long run government is gaining power at the expense of other institutions.

CHAPTER X

THE PSYCHOLOGY OF CULTURE

Can Interaction Be Reduced to Laws?

In Chapters VII, VIII, and IX we have *described* social interaction. But the ultimate aim of science is not to describe but to formulate *laws* or *generalizations*. If our social psychology is to grow out of its present state of infancy and become a mature science, it must, as physics and chemistry have done in their fields, formulate laws by which we can predict what social interaction will do under different circumstances; laws by which we may perhaps control the course of human events.

Popular Formulations of the Laws of Interaction.—Our popular "wisdom" is replete with supposed laws of social interaction. We are, all of us, in a practical but blundering way, social psychologists. We learn in the "school of experience" far more social psychology than physics, biology, or geology. Our academic study of social psychology has a different rôle to play than do courses in chemistry or astronomy. That rôle is to clarify, correct, and organize a body of knowledge which we already possess in some degree, rather than to introduce us to an unfamiliar field. When the chemistry teacher steps for the first time before his class of beginners, he starts from the zero point of unprejudiced ignorance. When the social psychologist steps before his class, he starts with a mass of popular wisdom, preconception and prejudice, some of which must be torn down or "debunked" before he can begin building.

For example, whenever we quote the proverb, "Familiarity breeds contempt," we are stating a supposed law of social interaction. Try making a list of all these proverbial "laws" you can think of, such as the following:

Repression leads to revolution.
Wrongs lead to retaliation.
Misery seeks company.

Revenge breeds revenge.
We imitate those whom we admire.
A strong character makes firm friends and bitter enemies.
Forbidding an act increases the pleasure of doing it.
Requests usually are more effective than demands.
Attempting to reconcile two enemies endangers our own friendship with both.
Courtesy oils the wheels of human relations (interactions).

Some Attempted Scientific Formulations.—Among the leading sociologists E. A. Ross is unique in his tendency to formulate many broad general laws of interaction. These are not claimed to be based upon research, for as yet there has not been time for sufficient research to prove the sort of generalizations he offers. But they are based upon a much broader and more thoughtful observation than the superficial and misleading "experience" of untrained observers. We paraphrase some of Ross' laws:[1]

Religious interest wanes as man gains control over nature and over his own society.

Domination of one group by another produces deceitfulness in the under group.

"Exploitation is more open, ruthless, and stubborn between the unlike than between the like."

"An element is ready and whole-hearted in exploitation in the degree that it constitutes a self-conscious group."

Equalization reduces the power to exploit.

The class struggle is aggravated by lack of opportunities to rise to a higher class.

Fighting groups centralize decision.

"The principle of anticipation. Any established or known policy, whether of government, of a corporate body, or of an individual, which affects people favorably or unfavorably according to their present conduct, will come to be anticipated and will result in modifying behavior. Favorable action will call forth more of the conduct, condition, or type of character favored, while adverse action will tend to repress it."

Florian Znaniecki has formulated thirteen fundamental laws of social psychology. His first reads in full: "If in the course of an unstabilized activity the new experiences which this

[1] *Outlines of Sociology*, pp. 48, 103, 116, 117, 120, 156, 210, 246, 263, 425.

activity produces appear to form a negative axiological scale in such a way that every subsequent experience assumes the character of a relatively negative value as compared with the preceding experiences, there develops a desire for stability in the given line of behavior." For simplicity these laws are quoted in their shorter "approximate" forms, or paraphrased.[2]

(1) Law of stabilization. An individual begins to wish for stability (security) if his search for new experiences seems to bring more and more undesirable consequences.

(2) Law of mobilization. If an individual (or group) sees a possibility of getting more and more desirable results by breaking away from some stable line of conduct into a new line, he develops a desire for new experience.

(3) Law of negative change. A seemingly hostile response to a friendly tendency which expected a friendly response produces a hostile tendency.

(4) Law of positive change. A friendly response to a hostile tendency which expected a hostile response produces a friendly tendency.

(5) Law of social repression. Social repression produces psychological (individual) revolt.

(6) Law of social sublimation. Social sublimation produces psychological (individual) conformism.

(7) Law of idealization. Inaccessibility of the object of social action renders it more idealistic.

(8) Law of sensualization. Greater accessibility of the object renders it more sensualistic.

(9) Law of social generalization. If new social objects are substituted, the tendency (wish) becomes directed toward a general concept.

(10) Law of inhibition. When an individual realizes that his present action conflicts with a wish, the present volition becomes inhibited and changes into emotion.

(11) Law of rationalization. When an impulse reasserts itself after conflict with another impulse, it becomes rational will.

(12) Law of social subjectivation. When an individual begins to think of himself in connection with his action, he tends to subordinate this action to some purpose affecting his social personality.

[2] ZNANIECKI, F., *The Laws of Social Psychology*, University of Chicago Press, 1925.

(13) Law of social objectivation. If from a situation subservient to a self-seeking activity the reflected self is excluded, the tendency of this situation becomes a cultural interest.

Static and Dynamic Laws—Equilibrium.—The laws of interaction are of two sorts, static and dynamic. A static law is one which states the relations between forces at any one time. A dynamic law states a sequence of *changes.*

One important kind of static law is that which states some kind of an *equilibrium* between forces. Possibly all static laws can eventually be reduced to such a form. In mathematical terms, it is an equation.

In physics there are many well proven laws of equilibrium, such as $WD = W'D'$ (a lever or seesaw balances whenever the weights on the two sides are in inverse proportion to their distances from the fulcrum). Economics furnishes a good illustration of a *social* law of equilibrium, in the "equation of exchange," $MV = PT$. Here M stands for the total volume of money (including credit) in circulation, V the velocity of circulation (number of times the average dollar changes hands per unit of time), P the price level, and T the volume of trade (total goods and services exchanged). Each one of these terms must be still more exactly defined, but when this is properly done it is generally agreed by economists that the equation holds true. By this law we can predict that *if* the quantity of money should double, as by the increase of gold supply or increased use of bank credit, and the V and T remain the same, then the price level would inevitably double itself (each commodity would double in money price; or if some prices did not quite double, others would more than double to make up for this shortage).

But many people confuse this law with the "quantity theory of money," which asserts that changes in prices are caused by changes in the quantity of money. Many economists who accept the equation of exchange do not accept the quantity theory of money. The difference is this: the quantity theory is a *dynamic* law; it states the order in which changes usually take place. And many economists believe that it is changes in the volume of trade and efforts to raise prices which cause the quantity of money to be changed. The dispute hinges upon

the question as to whether the quantity of money in circulation is the passive factor, merely responding to other changes, or whether it is the active factor which initiates the other changes. But in either case the static law of the equation of exchange would hold true: whatever factor changed first, it would cause *some* other factors to change so that the same mathematical relation $MV = PT$ would remain.

Social psychology has not yet formulated with certainty any laws of equilibrium. But it would be helpful in our thinking and research to keep this goal in mind. It would also be helpful to be able to know when we are groping toward a law of equilibrium and when we are dealing with a relationship of an entirely different character. Thus in Freud's theory of libido and Znaniecki's laws of repression, sublimation, idealization, and sensualization, we perceive a groping toward some law of equilibrium of human wishes. The theory seems to be, although we may well doubt its validity, that the physical and ideal satisfactions of a wish must add up to a constant total: the more of one, the less there is of the other.

E. S. Bogardus has formulated a *dynamic* law of interaction in the field of race relationships.[3] From wide experience with race problems, he finds that they tend to follow this sequence: (1) a period of curiosity and sympathy of native-born toward the newcomers, (2) a period of economic welcome of these people, mainly into the lower ranks of industry, (3) industrial and social antagonism toward them as they become more numerous and competitive, (4) a period of legislative antagonism, (5) a reaction against this in the form of fair-play tendencies pushed by the more liberal native-born leaders, (6) quiescence, and (7) second-generation difficulties.

While this may be quite tentative, it is a good example of one important kind of generalizations which sociological research may be expected to develop.

Limited Validity of Many Interaction Laws.—One difficulty in formulating laws of interaction is that the experience of most of us is limited to our own cultural horizon. We naïvely assume that because "human nature" works in a certain way

[3] "A Race-Relations Cycle," *Amer. Jour. Sociology*, vol. xxxv, p. 612 (1930).

in America it must do so everywhere. The person really competent to generalize about human nature and human relations is not one who has merely traveled widely in the United States, or followed many occupations, or met many kinds of people. Rather he is the cultural anthropologist who has lived close to the natives in other countries, and among primitive tribes.

For example, we learn that the Igorots of the Philippine Islands indulge in inter-group combats in which the object is to decapitate one of the opponents. Judging from our own experience with conflict interaction, we would naturally suppose that as soon as a head is taken, the lust for revenge must mount apace, and the conflict grow fiercer. If we were to formulate our experience in the form of a general law, we would say: "Conflict grows more intense whenever, the two sides remaining more or less equal in strength, some combatant receives a deliberate and serious injury from the other side. The first blow which really hurts rouses the fight to a new plane of fury." But what commonly happens with the Igorots is that upon the first decapitation the game ceases, and the injured parties withdraw to await some future opportunity for retaliation. Our law does not work.[4]

Again, our experience tells us that whenever two physically vigorous and fairly equal individuals or groups run, swim, drive or row side by side, with plenty of space, rivalry tends to develop, and the speed increases until both are going their limit. We institutionalize this general tendency into the "race." But when village boat crews of the Nicobar Islands "race," and one crew gets ahead of the other, it waits so as not to put its rival to shame.[5]

Our "common sense" tells us that the love of a man for two women inevitably breeds jealousy; and indeed the older anthropologists held that monogamic exclusiveness developed because of the "universal instinct of jealousy." Yet in Nigeria a first wife encourages her husband to take a second, in order that her own domestic duties may be lightened.[6]

[4] JENKS, A. E., *The Bontoc Igorots*, Manila, Eth. Survey Pub., vol. i (1904).
[5] LANGDON-DAVIES, JOHN, "The Relativity of Human Nature," *Harper's*, vol. cliii, p. 640 (1926).
[6] *Ibid.*

Freud holds that the Œdipus complex (boy's jealousy of father) is to some degree a universal product of the interaction processes within the family. Yet Bronislav Malinowski has revealed to us a vivid picture of life in Melanesia, where the son feels only love and comradeship toward his father, but commonly feels jealousy and rebellion toward his maternal uncle. It happens that in Melanesia there is a matrilineal system in which the boy inherits his name, property, and rights from his mother's family, and is subject to the authority of his maternal uncle rather than that of his father.[7]

In America the criticism of an official's acts normally leads to "alibis" and self-justification. But in Japan a police chief apologetically resigned because someone in his jurisdiction attempted to assassinate the emperor; and a business manager employed by a wealthy woman offered to commit suicide when she questioned some of his acts.

Courtesy pleases and makes for friendship, we hold. Yet even within our own culture are certain groups where directness and even rudeness bring greater respect and friendship. A student writes: "Nowadays among the younger generation it is not 'the thing' for them to be polite to each other. In place of the old conventional politeness there is more of the 'give and take' between them."

In short, many generalizations which seem to hold good in our own social *milieu* break down when we turn our attention to different peoples or to a different stratum of our own society.

Culture and Its Functions

The Relation Between Social Interaction and Culture.—Culture is the much neglected key to our understanding of these departures from what we have thought to be "human nature." Only after a study of culture shall we be able to formulate the real laws, if any there be, of social interaction.

In the first chapter we viewed human society successively through four pairs of magic glasses. Let us now put on all those glasses at once. We see human beings, their activities,

[7] Malinowski, B., *Sex and Repression in Savage Society,* Harcourt, Brace, 1927.

their material culture, their social organization, their attitudes, their symbols, all together in one composite picture. Let us now analyze that picture in another way.

Some features of the picture change frequently from time to time and vary from place to place. Other features change very slowly, and are markedly uniform over a wide area. In other words, some things are relatively variable, others relatively constant. There is no clear dividing line, but, in general, those relatively constant features of human social life are called *culture*. Any one feature which can be conveniently singled out of the general mass of constant features is called a *culture trait*.

To illustrate, the street cars in one town are painted red, in the next town yellow. These color differences are seldom culture traits, but rather temporary variations in local executive decisions. But note that *all American towns*, above a certain size, have electric street cars, while similar towns in Eastern Europe have ox carts. These are culture traits.

Again, note that at one time a so-called political machine, presumably somewhat anti-Volstead, controls the government of a city, and that in the next year there is a conflict between certain "reform" organizations and the city government; there is a hot campaign, and speeches; the newspapers blazon forth a scandal about the reform candidate; there are personal arguments and even fisticuffs. The Jones family, once at peace with its next-door neighbors, is now in open hostility. The neighbors' children, if naughty, throw rocks at the Jones children and refuse to play with them. "Public opinion" becomes more anti-alcohol than before. One day there is an election and many people are massed at places called the polls. We learn that the reform party has won. Certain new faces appear behind desks in the city hall.

Now these *events* are not culture. They are steps in social interaction. Each might be described in terms of conflict, accommodation, and so on. Each situation in the course of this history was *unique*. Perhaps interaction processes never before produced exactly the same combination of events, just as the

process of shuffling a pack of cards has rarely before yielded exactly the same "hand."

The fact that Jones uses his influence at the bank to have a loan called on one of his political adversaries, and that this opponent retaliates by forbidding the Jones child to play any more in his own child's sandpile, is not culture. These are unique events. The fact that a certain church group, normally voting for the party in power, shifts its allegiance to the reform candidate because of his stand on Prohibition, also is not a part of culture.

Culture as the More Constant Features of Social Life.— But throughout and underlying this series of unique events one discerns certain features which are relatively uniform and unchanging. Namely, that:

The political struggle in America is usually organized through two large parties, instead of through coalitions between many small parties.

Election is by secret ballot.

The campaigning is done by speeches, pamphlets, radio, gossip, and not by bullets and threats of physical violence.

When people become angry with each other they use words and occasionally fists, rarely guns, and almost never knives, axes, swords, or poison.

Children tend to side with their parents and thus to become involved in a dispute between neighbors. Families exert pressure upon their children to make them avoid the children of persons they dislike; the juvenile part of society is freer than in Europe, but not completely self-determining in its attitudes toward neighborhood issues.

Children throw rocks and snowballs, use fists and epithets, more commonly than do their elders.

The newspapers cram their interesting headlines on the front page instead of following the more orderly and classified arrangement of the magazine or European newspaper.

There is a large class of people holding the attitude that alcohol is immoral, and there is a law against alcohol, which is the center of a large percentage of political conflicts and of criminal prosecutions.

Many offices of the government are filled by people who have helped win the election rather than by people specially competent to do the work.

These features are culture traits. They are relatively unchanging, and common to nearly all communities in America. Some traits can be designated by names, such as "prohibition," "spoils system," "two-party system," "Australian ballot," "fist-fighting," "radio," "electric street car"; others require longer descriptions.

Culture Traits and Complexes.—Most culture traits are limited to definite regions or groups of people. The cultivation of wheat is a culture trait, likewise the custom of shaking hands, the iron hoe, the game of baseball, the parliamentary form of government, the letter "A," the signs of the zodiac, the calendar, the attitude of Californians toward the Japanese, the belief in immortality. A *culture complex* is a group of related traits. The "maize complex," for example, is not the mere fact that maize is cultivated; it is this, plus the planting in hills instead of rows, the grinding in mortars, the making of hoe cake, and so on. The American colonists took over the whole complex from the Indians, but only the central trait was transferred to Europe. Thus Europe plants maize in rows like other cereals, and uses it for cattle only. There is a baseball complex, an American college complex, a moving picture complex. College education is a culture *trait* both in Europe and America. But in America the *complex* which goes with it includes intercollegiate athletics. In Europe it does not; athletic contests there are inter-city or inter-club rather than intercollegiate.

Scientific Utility of the Concept of "Culture."—"Culture" is a term loaned by anthropology to sociology. What the older sociologists called achievement, social heritage, tradition and so on, the anthropologist calls culture. Is there any reason for preferring this term? In the first place, it makes more clear cut the distinction between man himself and his products. Culture is not any part of man or his inborn equipment. It is the sum total of all that man has produced: tools, symbols, most organizations, common activities, attitudes, and beliefs. It includes both physical products and immaterial products. It is everything of a relatively permanent character that we call artificial, everything which is passed down from one

generation to the next rather than acquired by each generation for itself: it is, in short, civilization. But culture is more than "civilization" in the usual sense, for it includes all the "primitive" systems of life which preceded so-called civilization. All men have had culture, and animals may have something analogous, though simpler.

The anthropologist, who as an outsider studies many small societies *as wholes,* gets a broader view than the sociologist who studies separate features of the one large society in which he himself is immersed. The sociologist formed the habit of using many different terms to designate various phases of the social whirligig he saw all around him. The anthropologist, on the other hand, taking a bird's-eye view, readily discerned that there are just two main features of any human group: first, the human animals themselves, together with many spontaneous activities such as occur also in other animal societies; and second, the whole sum of *artificial* products and activities, which do not occur in other animal groups. He uses two broad terms: the first is biological, organic man, or human nature; the second is "superorganic" culture.

While the sociologist was talking, so to speak, about different kinds of trees, the anthropologist saw the forest. Through this larger view he was able to contribute to the sociologist a new method of observation and a new vocabulary.

Is culture then synonymous with society, or at least with human society? It is not, first, because culture includes the products of society as well as society itself. An automobile standing by the curb is a part of culture, but there would certainly be some dispute as to its being a part of society. In this way culture is bigger than society. Second, culture in another way is more limited. Society includes all forms of social contact and association, animal as well as human, spontaneous as well as artificial. Culture includes only the social bonds which can be transmitted from one generation to the next. A men's club is a part of culture, but a crowd assembled spontaneously on a street corner is not. When children play together in a group, anything which is utterly spontaneous and unique about them is not culture, but any-

thing they have learned from other children, such as games, slang expressions, and so on, is a part of culture. Thus the two terms are not synonymous.

Culture is transmitted from generation to generation. The process of handing it down is called *social heredity* or tradition. It has nothing to do with biological heredity. It can take place from teacher to pupil, from friend to friend, from writer via book to learner, as well as from parent to child. Culture is often called the *social heritage*.

The Geography of Culture.—Culture is not a mere abstraction. It becomes vividly real when we study it geographically. It is distributed about the earth like flora and fauna. We can plot areas of culture on a map as we plot areas of heavy rainfall, of mountainous country, of forest or desert. On an automobile trip we discover that red barns, consolidated farmhouses, "overshoot" barns, women's sunbonnets, brick sidewalks, village greens, and other peculiarities occur within definite geographic limits, as surely as do white pine trees, mocking birds, natural lakes, and mosquitoes. We find, for example, that the large red barn, located at considerable distance from the veranda-adorned farmhouse, is characteristic of an area extending westward from New York and New Jersey. In northern New England the barn is seldom red; it is very close to the porchless house, and some of the outbuildings are nearly always consolidated with the house itself. In the South a still different farm architecture prevails. We discover also that the region of the red barn and the veranda is approximately the region where people pronounce their "r's," and where the Presbyterian is the dominant church. In New England "ah" means "r," and the white frame church at the head of the village green is Congregational. In Virginia, "ah" means long "i," and the quiet-looking brick church, at a less conspicuous corner, is apt to be Episcopal.

Thus the immaterial as well as the material traits of culture can be mapped.

Surveying the whole world, and considering fundamental culture differences instead of such minor variations as those mentioned above, we may roughly discern at least four great

and definite culture areas: Euro-American, Mohammedan-desert, Chinese, and Polynesian. In addition, M. J. Herskovits has divided native Africa into 10 distinct culture areas,[8] and Clark Wissler has divided the American Indian culture (of the two continents) into 14 areas.[9] Cultural boundaries do not correspond to the boundaries of race, language, or government. They are, of course, much less definite; also their allocation depends upon what the map-maker considers the most significant culture differences. The Euro-American culture area might best be subdivided, perhaps, into British, West-continental, Mediterranean, Balkan, Russian, North American, Latin American. Germany and France, though often enemies, belong to much the same culture type (West-continental), when compared with the more widely differing cultures of England, Russia, Spain, or America.[10]

How the cultural viewpoint clears up certain problems is nicely illustrated by Stuart Rice's studies in voting behavior.[11]

In both North Dakota and Minnesota the western counties voted more radically on various State issues than did the eastern. On first thought one might be inclined to look for some "factor" which could affect both States in this way. But when by several comparisons, including a study of the La-Follette vote in the national election, the radical attitude was reduced to a common denominator for both states, it was found that there was really one continuous *gradient* from eastern Minnesota westward. The eastern Dakota counties were really more radical than the western Minnesota counties. Instead of separate states affected by some common factor, there was merely a culture area of radicalism which had its center, or greatest density, in western North Dakota, and became weaker as one went in any direction from this center. The correlation between the radicalism of counties and their distances from the most radical county was found to be —.55. In other words, the radical attitude was not distributed irregularly over each state, but showed signs of geographic diffusion;

[8] "A Preliminary Consideration of the Culture Areas of Africa," *Amer. Anthro.*, vol. xxvi, p. 50 (1924).

[9] *The American Indian*, Oxford University Press, 1922.

[10] Nations fight, not because their cultures are different, but because war forms part of their several cultures.

[11] *Quantitative Methods in Politics*, Knopf, 1928, pp. 125ff.

it was a culture trait. State boundaries acted somewhat as barriers to the diffusion, but they only retarded and did not stop it.

Kinds of Culture Traits.—A culture trait may consist of an activity, a tool, a form of social organization, an attitude, a symbol, or a combination of several of these things. Among the forms of social organization are associations and institutions. An association is any group of people who live or act together. They need not be together geographically; they may be united, through means of communication, by bonds centering in some common purpose. An *institution*, says F. H. Hankins, is any means or agency set up by an association and consciously approved thereby.[12]

Chapin analyzes an institution into four type-parts: (1) common reciprocating attitudes, (2) symbolic culture traits, (3) utilitarian culture traits, and (4) oral or written specifications. The institution of the family, for example, includes under (1) the reciprocating attitudes of love between the members; under (2) the marriage ring, family crest, heirloom, etc.; under (3) the furniture and home equipment; and under (4) the marriage license, family mores, etc.[13] In speaking of symbolic culture traits, Chapin is using the word "symbol" in a narrower and more specialized sense than it has been used in this book. He means a special type of symbol which not only *represents* its object (serves as a substitute stimulus), but also controls attitudes toward that object. For example, the spoken or printed words "United States of America," and an American flag are symbols representing the same object, that is, the real U. S. A. with its 4,000,000 odd square miles and its 120,000,000 souls. But the words are a symbol used in a context of other symbols; they relate their object to other objects; they are used to convey information; they call for no particular attitude. The flag, on the other hand, is only incidentally a representative or substitute for its object. Its main function is to arouse certain emotions. It is a cue stimulus to

[12] *An Introduction to the Science of Society,* Macmillan, 1928, pp. 446-450.
[13] *Cultural Change,* Century, 1928, pp. 48-50, 432.

which the emotions of nearly all Americans are similarly conditioned.

Again, the white flag with the red circle, displayed in public parks when a lake is open for ice skating, is an informational symbol. It performs exactly the same function as the printed or spoken words, "There is skating." An American flag displayed on the same flagpole would have an entirely different function. It would convey no information, but would serve simply as a "reminder" to reinforce and maintain a common conditioned emotion. Marriage rings, emblems, national anthems, crosses, altars, and so on belong to this latter class of emotional or attitudinal symbols.

These cultural-emotional symbols usually consist of objects, or surface-markings on objects, which are more substantial and expensive than informational symbols. The latter best serve their purpose when they can be produced as quickly and cheaply as possible. To the former, labor or expense is an advantage. Costliness in general increases the emotional effect of the symbol-object.

Informational symbols correspond to Chapin's "oral or written specifications."

A *folkway* is a standardized form of behavior or activity, plus an attitude toward that behavior which prevents its ready change—in other words, a custom. Folkways arise spontaneously. The *mores* are folkways which are consciously approved and thought to be essential to the group welfare. In other words, the difference between folkways and mores lies not in the nature of the act involved, but in the attitude toward it. When the attitude toward violation of the rule is merely amusement, surprise, or mild disgust, we are dealing with a custom or folkway. When the attitude toward violation is one of "moral" fear ("I'm shocked") or anger ("indignation"), we are dealing with one of the mores. Violation of folkways is called "unconventional," "eccentric," "bad taste"; of mores, "immoral." To eat with one's knife violates a folkway; to neglect one's children violates the mores.

When mores become specific as regards rules, prescribed

acts, and the apparatus to be employed, they shade into institutions. Marriage is a custom, monogamy one of the mores, the family is an institution.[14]

Public opinion is not mores, not a part of culture. It belongs to the variable features of our picture. It changes rapidly and involves disagreement. But in time public opinion on a given topic may crystallize into mores. Our attitude toward slavery was once a matter of public opinion; now it is settled, generally agreed upon, and has become part of our mores.

Another kind of culture trait is a *belief*. What is belief? Conviction, faith, thinking that something is true, you may say. But this is merely giving synonyms. Let us analyze. When a man states a belief, what is he doing? He is, of course, uttering words, or symbols. These symbols stand for something. They stand for something which cannot be tested then and there by the senses. That something may be an object (belief in the reality of ghosts, for example), or, more probably, a relationship (belief that bad weather is caused by sun-spots). But many times he uses symbols to represent what does not exist. He tells stories, for example. But when he believes, he considers the symbols he utters as representing truth. What do we mean, "considers"? We mean that he acts as if the symbols were true, or, better, he is *set* or prepared to act as if they were true. In other words, he has an attitude—of preparedness to act on those symbols—which is quite different from his attitude toward the symbols he utters in telling a yarn.

A belief is symbols, plus a certain attitude which we might call the *reality attitude*. This attitude is perhaps simply the absence of an attitude of doubt.

Culture Patterns.—The idea of pattern applied to the space arrangement of materials is familiar. We readily distinguish the quality or material of a costume from its pattern. Psychology and sociology have extended this idea to social organizations and human behavior. There are organization patterns as well as space patterns. Amy Lowell has caught this

[14] See CHAPIN, *op. cit.*, and HANKINS, *op. cit.*

larger idea and expressed it more clearly, not to say poignantly, than could most scientific writers in her poem, "Patterns."[15]

A cultural pattern must be distinguished from culture traits and complexes. While the distinction is not always easy to make, yet pattern refers to the form or arrangement of traits rather than their more concrete and specific content.

For example, dancing is a culture complex, composed of activities, plus certain material equipment (music, costumes, floor, etc.), symbols, attitudes, and so on. But by observing the dancing complexes of different cultures we can discern certain features, of a more abstract and relational character, which we call patterns. At every dance in Samoa the group is divided into visitors and hosts. Even though all the participants may come from the same village and enter the dance with the same motives, this conventional pattern is adhered to.[16] Again, the fact that Euro-American dancing is for the most part by *couples* is a pattern.

Herskovits has shown that among both Negroes and whites in New York, the higher the family income of a group the lower is the percentage of married women who work outside the home.[17] This arrangement of phenomena he calls a social pattern. Another pattern is that form of organization in which a full-time executive secretary or president directs the work, supervised by a board of directors which meets occasionally to make the ultimate decisions on policy. This pattern, characteristic of Euro-American business corporations, is found in government and in charitable organizations as well. It is not, however, universal.

Language is full of patterns. While the words of a language may be regarded as its content, the grammar is its patterns. It is easy to add new words to a language but impossible to change the form or grammar. For example, how badly psy-

[15] *Selected Poems of Amy Lowell,* edited by J. H. Lowes, Houghton Mifflin, 1928, pp. 127-128.

[16] MEAD, MARGARET, *Coming of Age in Samoa,* Morrow, 1928.

[17] "Social Pattern: A Methodological Study," *Soc. Forces,* vol. iv, p. 57 (1925).

chologists need a *universal tense* as distinguished from a *present* tense! When we say "this stimulus provokes mild fear," we want to specify whether we mean it continually and always produces fear, or merely does so at this particular moment. Yet our language patterns make it difficult to draw this distinction without much circumlocution. The Slavic language, on the other hand, has different verb forms for such purposes. In Czech, "jde" means "goes once or now," "chodí" means "is going or walking," "chodíva" means "goes or walks repeatedly."

The Kwakuitl Indians have many kinds of dances, but they all resemble one another in the number of turns the entering dancers must make about the fireplace, and in the use of certain types of head and neck rings, masks, and whistles. All important bundle ceremonies of the Blackfeet require a sweat lodge performance, songs in sevens, vegetables burned on an altar for each bundle. Each such ritual consists in telling the story of its origin, singing songs, opening the bundle, dancing, praying, and singing over its contents.[18]

A definite pattern runs through all Protestant church services, another through all American college administrations. Elements may be added or dropped, but the pattern changes but slowly. In liberal churches it becomes permissible to preach mainly about social problems and to quote the sayings of secular thinkers. But there must always be *some* text, *some* sermon, *some* reference to the Bible, *some* prayer. The real content of the service has changed entirely since the days of Jonathan Edwards, but the pattern is much the same.

Robert Lowie shows that two cultures may contain the same trait but embody it in two very different patterns. The Crow Indians and the Hidatsa each have a "Dog Society," the former having borrowed the idea from the latter. But among the Hidatsa, this is one of a graded series of military societies, to which entrance is obtained by purchase, while with the Crow, entrance depends on the existence of a vacancy which the members desire to fill, usually by some relative. With the

[18] BOAS, *et al.*, *Anthropology in North America*, Stechert, 1915; see there chapter by LOWIE, R. L., "Ceremonialism in North America," pp. 229-258.

latter there is no grading of the various societies, and no entrance fee.[19]

The Universal Pattern of Culture.—Underneath the differing patterns of the different world cultures there is an underlying framework common to all. It is the same for New Yorkers as for Australian black fellows.

Clark Wissler has studied in great detail the life of many primitive peoples. With such wide experience as a basis, he sketches this universal pattern of human culture. It includes all complexes which he thinks are universal.[20]

THE CULTURE SCHEME

1. Speech
   Languages, writing systems, etc.
2. Material traits
   a. Food habits
   b. Shelter
   c. Transportation and travel
   d. Dress
   e. Utensils, tools, etc.
   f. Weapons
   g. Occupations and industries
3. Art, carving, painting, drawing, music, etc.
4. Mythology and scientific knowledge
5. Religious practices
   a. Ritualistic forms
   b. Treatment of the sick
   c. Treatment of the dead
6. Family and social systems
   a. The forms of marriage
   b. Methods of reckoning relationship
   c. Inheritance
   d. Social control
   e. Sports and games
7. Property
   a. Real and personal
   b. Standards of value and exchange
   c. Trade

[19] *Ibid.*
[20] *Man and Culture,* Crowell, 1923, p. 74.

8. Government
   a. Political forms
   b. Judicial and legal procedures
9. War

As an illustration, American culture differs markedly from Chinese culture in its content. Americans give their women freedom, and ride in automobiles; Chinese seclude their women, and ride, if at all, in carrying chairs and rickshaws. But both are built upon the same skeleton or universal pattern; both have, among other things, a family complex, and both have transportation.

So we discern in this bewildering confusion of human activity three levels of phenomena. From the top down these are: (1) the ever-changing, variable events which we explain by "social interaction," (2) standardized patterns or channels through which social activity takes place, which we call the culture patterns of the given people, and (3) the unchanging basic pattern which is the same for all cultures. To the first level of phenomena belong most of the events one reads about in the daily newspaper; to the second level, those facts which one reads in books entitled: *The Andaman Islanders, Social Life in England, Manners and Customs of the* ———, *Middletown, a Study in Contemporary American Culture, Life and Labor in* ———, etc. To the third level belong the facts we shall discuss in this and the next chapter.

Let us examine the relation between the second and third levels above mentioned. How shall we explain the culture of a given people? Why, for example, do the Germans love music, military efficiency, sausages and beer? Why does America have large-scale production, baseball, and Fundamentalism? Why does China have ancestor worship, rigid etiquette, and pajamas?

History Explains the Differences Between Cultures.— To explain the differences between cultures is one thing; to explain their universal similarities is quite another problem. Let us first consider the differences. Sociologists have attempted to explain cultural differences by (a) physical en-

vironment, (b) inborn racial qualities, (c) population density, and (d) history. The first two explanations have been popular in the past. Buckle explained the superstition of India by the "overpowering aspects of nature" which the native of that country sees all about him. Many of us have naïvely explained the German leadership in music by attributing it to "temperament" (*i.e.*, inborn racial qualities of the people).[21]

Anthropologists today believe these first three explanations are of minor importance except in a negative sense. That is, they hold that physical environment, inborn intelligence, and population density set certain wide limits to the development of a culture, but have little to do with determining the positive directions in which it shall go. Climate explains why skating did *not* develop in Mexico, but does it explain why temples and priesthood, and later Catholicism, *haciendas,* sombrero hats, and revolutions *did* develop? Inborn qualities or low population density might have prevented the Australian natives from advancing faster than they did, but inborn qualities or low density do not explain why they developed the most elaborate system of kin relationships among primitive peoples, or why they accept mere age, rather than prowess, achievement, or noble birth, as the qualification for leadership. Neither can geography, racial temperament, or population conditions explain why Germany has led in music. Italy in painting, England in literature. The real explanation of culture differences lies in history. And history is largely a matter of unique events—that is, chance combinations of circumstances. The Germans' leadership in music can be explained only by the history of the particular events which led up to it, not by any *general* quality of German brains or of the German land or climate.

The evidence for this modern historical theory of culture development is too complicated to be presented here. It consists partly in facts learned from the study of many primitive and advanced cultures. In general, these facts show that similar environments and population densities do not commonly

[21] FOLSOM, J. K., *Culture and Social Progress,* summarizes the theories regarding variations between cultures.

lead to similar social institutions or similar material technique. Again, they show that many culture traits are borrowed directly from other cultures and do not grow out of the local conditions. Moreover, there are many instances of striking changes in culture following upon particular events or new inventions. These events and inventions cannot possibly be explained by single causes or general "conditions," but are the results of chance combinations of circumstances. Psychology also furnishes evidence for the historical view by breaking down the racial temperament explanations. Scientific analysis of such mental traits as musical ability, artistic ability, thrift, cleanliness, and so on, shows that these traits are very complex organizations of behavior, which have nothing to do with any underlying temperamental factor.

For example, New England culture is thought to be austere, democratic, self-reliant, hard working; Southern culture to be convivial, aristocratic, reliant upon servants, and "easy-going." The popular mind attributes these differences to two explanations, (1) climatic differences, and (2) inborn quality or temperamental differences between the Puritans and the Cavaliers.

The modern historical view of culture would analyze the situation somewhat as follows:

Theological, moral, economical, and other austere ideas have indeed emanated in large proportion from New England. But so have ideas in general. It seems probable that the original settlers of New England comprised a larger proportion of very intelligent persons than did those of the South. The army intelligence tests give some evidence for this. The Puritan group and its traditions probably attracted and selected an undue percentage of good brains. This much can be granted to the theory of inborn differences. But it is very little. It can explain only, and then only in part, the fact of New England's greater intellectual productivity *in general.* Intelligence alone does not lead to science, theology, or literature. Army tests showed engineers and lawyers to have substantially the same intelligence as chaplains, and there is no evidence that literary, scientific, and artistic producers are more intelligent than lawyers, engineers, and capable administrators who leave no symbolic "products" to posterity. New England has had the

tradition of "intellectual" activity, which was at first largely theological. This theology arose from certain historical events, certain class and religious conflicts in England. It was not the automatic result of superior brains.

New England has led in radical theologies: Unitarianism, Universalism, Christian Science, spiritualism, as well as in Puritan austerity. One might hazard a guess that today there is more interest in theology in the South and in certain middle states' churches like the Presbyterian, than there is in New England churches generally. Nor can we say that New England is peculiarly austere in behavior. Certainly today the ascetic, self-denying attitude toward Sunday recreation, toward recreation in general, toward divorce and toward birth control is much more general among the native whites of the South than among similar classes in New England. The South, to be sure, has a more tolerant attitude, among the upper classes, toward alcoholic conviviality. This we might ascribe to the environment, which produces so much corn that it cannot be marketed except in liquid form. But the corn culture is partly a result of the Indian traditions of the region. If the Indians had not happened to discover and domesticate the maize plant, alcoholic conviviality might have found, with the rye plant, a more northerly distribution.

To be sure, Southerners have aristocratic traditions and a dependence upon a servant class, which can be ascribed largely to slavery. The climate and soil *limited* slavery to the South, but they did not *produce* slavery. The Spanish and Portuguese navigators who explored the African coast were responsible for that. And slave-holding itself was a culture trait, not an inborn quality of temperament. Would New Englanders have been less likely to hold slaves if their country had made them profitable? Let us remember that the agitation against slavery met greater resistance in New England, because of the textile industry and its dependence upon cotton, than it did in the other and presumably less "Puritanical" northern states.

As to the easy-going, lazy habits ascribed to the South, they may be due in part to climate, for which Ellsworth Huntington[22] gives some evidence. But again, those habits are more or less characteristic of rural regions in general. New England has long been industrial, and in Southern industrial cities today there is some tendency to approach the business-like habits of the North. On the other hand, the South Chinese with their warm climate are said to be more energetic than the North Chinese. Migration and progressive movements

[22] *Principles of Human Geography*, Wiley, 1922, pp. 248-259.

started in the South in China. Huntington[23] ascribes this difference to the famines of North China, resulting from the greater uncertainty of rainfall at the critical season. Environmental causes do play a part, but they interweave themselves with historical events in such a way that it is impossible to say that some particular kind of environment tends to produce some particular kind of culture. They act in specific rather than general ways; culture is always a product of specific combinations of circumstances. That is what is meant by saying "history explains the differences between cultures."

Psychology Explains the Universal Similarities Among Cultures.—But what explains the similarities between cultures? Why are all cultures based upon the same universal pattern?

Perhaps our thinking will be helped by considering another kind of situation which follows the same principle. For example, there are many types of dwelling houses, yet there is a basic pattern common to all. This pattern includes some kind of foundation or anchorage to the ground, a roof, walls, as distinguished from a mere open framework, a fireplace or stove of some kind, a chimney, and windows. If this essential skeleton be complete, the details may vary *ad libitum*.

Why do all houses have these common features? Obviously because a house performs certain functions, and these features are necessary to its functions. If it does not perform these functions it is not a house.

And why do all cultures include dress, art, sports and games, property, judicial procedure, and treatment of the dead? Because these features are necessary to the rôles, or functions, which culture plays in the drama of the cosmos. And these functions consist in the satisfying of the *needs* of those intelligent, wishful animals we call humans. These needs are the result of the nature of the animals themselves, the fact of their living in groups, and the nature of the environment. They are not the product of human nature alone, nor of group life alone, nor of the environment alone. They are the result of the interaction of these three factors. (See Fig. 35.)

Clark Wissler, in *Man and Culture*, says: ". . . so we must

[23] *The Character of Races*, chaps. xi-xiii, Scribner's, 1924.

reckon with the possibility that the pattern for culture is just as deeply buried in the germ plasm of man as the bee pattern in the bee, and may assume, as a working hypothesis, that a human being comes into the world with a set, or bias, to socialization, according to a definite pattern, and that this bias is firmly rooted in the germ plasm . . . —man builds

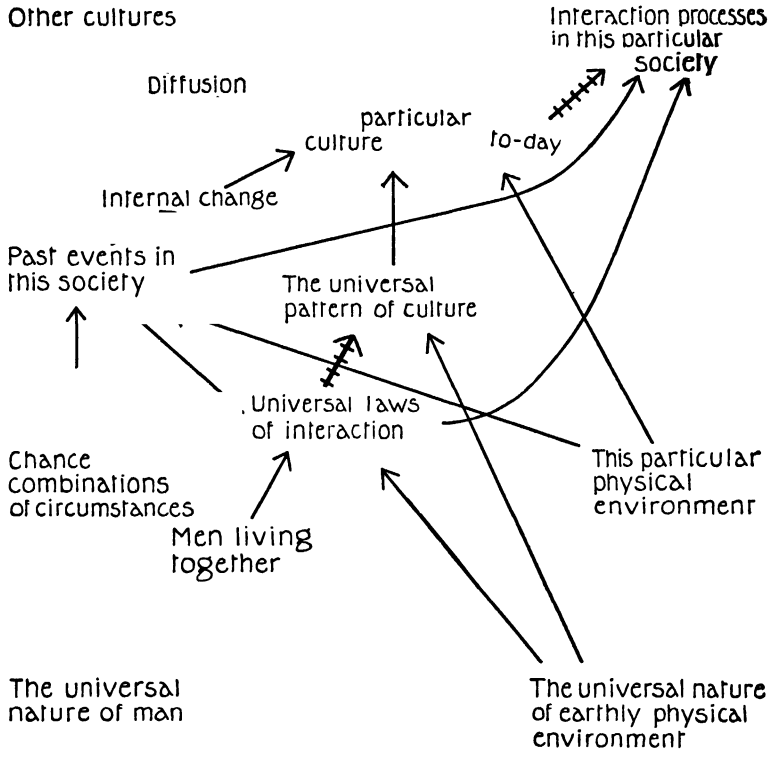


FIG. 35.—INTERACTION AND CULTURE

cultures because he cannot help it; there is a *drive* in his protoplasm that carries him forward even against his will."

Certainly this theory implies too much as regards the fixity and specificity of "human nature." Wissler might have said, with greater accuracy: there are certain universal conditions in man's physical environment, and universal conditions brought about by the fact that men, like dogs, are physically built in such a way as to make group life more advantageous than

solitary life. All these universal conditions, acting as stimuli upon a nervous system as highly organized as is man's, are sure to produce culture, *there is a drive in these conditions which carries man forward to culture building even against his will* (if "against his will" means anything).

A need is simply a force acting by trial and error till it gets what it wants—that is, brings about some situation which causes it to cease acting. A human need is merely the general tendency of the universe toward equilibrium or adjustment, working in a very complex pattern. In other words, a need tends to bring about its own satisfaction. Culture is the inevitable result of man as he is, living in groups, and in the environment as it is.

If human beings had brains like those of horses, and walked on all fours, or if they lived each on an isolated desert island; or if nature yielded food without effort, then whatever corresponded to culture would be simpler. But given intelligence of human degree, organized *wishes* inevitably develop. To satisfy wishes rather than simpler biological needs is the peculiar rôle of culture. It would seem, therefore, that certain features of culture are universal because certain wishes are universal. And these wishes are universal, not because they are instinctive (see Chapter III), or inborn, but because the inborn *S—R's* are bound to become conditioned in certain ways. These conditionings are bound to take place because human brains have a certain high degree of conditioning capacity, and because certain features of the physical and social environment are universally present to cause these conditionings.

For example, the wish to decorate the body and the custom of doing so are not "human nature." They are not born in human beings, they are not represented by any biological *S—R* pathways in human nervous systems. But this wish and custom universally develop because the conditions are universally set to produce such a result. What are these conditions? The presence of decorative materials in the environment; a hand and brain sufficiently specialized to manipulate those materials by plucking, tearing, weaving, tying, etc;

group life which causes beings of human brain complexity to notice, symbolize, and compare the appearance of one another's bodies, to compare one another's skill or achievement, and to condition various emotions to the configurational stimuli of one another's bodies; the sex drive plus sufficient conditioning capacity to connect it with various visual stimuli; and so on.

And the other universal features of culture can be similarly explained.

Fire is not an "instinct" or inherent quality of hay, but hay will universally burn if universally exposed to the conditions of a dry atmosphere and a lighted match. If exposed universally to pressure and dampness, hay will universally decay.

The Functions of Culture.—The universal pattern of culture is based upon the universal functions of culture. Let us now analyze these.

The total function or goal of culture may be subdivided into the same fundamental wish components into which, in Chapter IV, we analyzed the organization of the individual personality. Here at last is the meeting-point of psychology and sociology. The goal functions of culture are the wish satisfactions of the individual. (See Chart II, column 5.) We may call them also the ultimate values of human life.

According to our theory developed in Chapter IV, these values are non-substitutable for one another. Each must be satisfied in its own right. Of course this question of intersubstitutability is partly one of definition, and partly answerable only by extensive research. But for the sake of clear thinking and analysis it seems helpful to draw, even somewhat arbitrarily, these tentative boundary lines between the various goals, without awaiting the prolonged research which will be necessary to define them precisely. Each X in column 5 represents one single goal; where several X's appear the goal in question is subdivided into several specific and non-intersubstitutable goals which we have not the space to enumerate separately. Security from one kind of physical danger, for example, is not a substitute for security from some other kind of physical danger, but because of their similarity in many respects it is convenient to treat them on the chart as a single unit.

The chart divides culture into the major complexes or institutions which make up its universal pattern (Wissler's scheme somewhat elaborated), and classifies these complexes according to their functions. Some of them contribute directly to the goal functions (column 3). Others are more indirect and instrumental (column 1). These, for convenience, we group according to a convenient scheme of classification of the *instrumental functions* of culture (column 2). Art, for example, functions *directly* in the satisfaction of certain goals. Property, on the other hand, while it contributes *directly* to the goals of security, contributes mainly to our satisfaction in an indirect manner. That is, it serves the purpose of keeping material goods under control so that there may be a minimum of conflict and waste in using them. If goods were left uncontrolled to be used by the first comer, the satisfaction of many or all the goals would suffer. Hence we group property under the instrumental function of "controlling goods," which is a subdivision of the more general instrumental function of "economic production."

The psychological study of culture is a new and important field of science. It will doubtless clear up many problems of social psychology. It will be helpful to study Chart II carefully and to trace the various lines of connection between the culture complexes and the culture functions. These lines say briefly what would take many pages to say in words. The lines are merely suggestive of the more important connections; they do not tell the whole story. Many more might be added.

One reason for this complex interweaving of functional threads is the great conditioning power of the human cortex, which makes the flexibility of the human personality. Within certain limitations it seems as if almost any social activity or bond could be used to satisfy almost any wish. This is not true, of course, for the adult individual whose wishes are already fixated on definite things. But when he comes into the world the possibilities of fixation are practically infinite. His wishes will actually fixate on the objects and situations provided by the surrounding culture.

This functional analysis of culture tends to erase certain distinctions which were once regarded as very important. Take, for example, magic and religion. According to the usual defi-

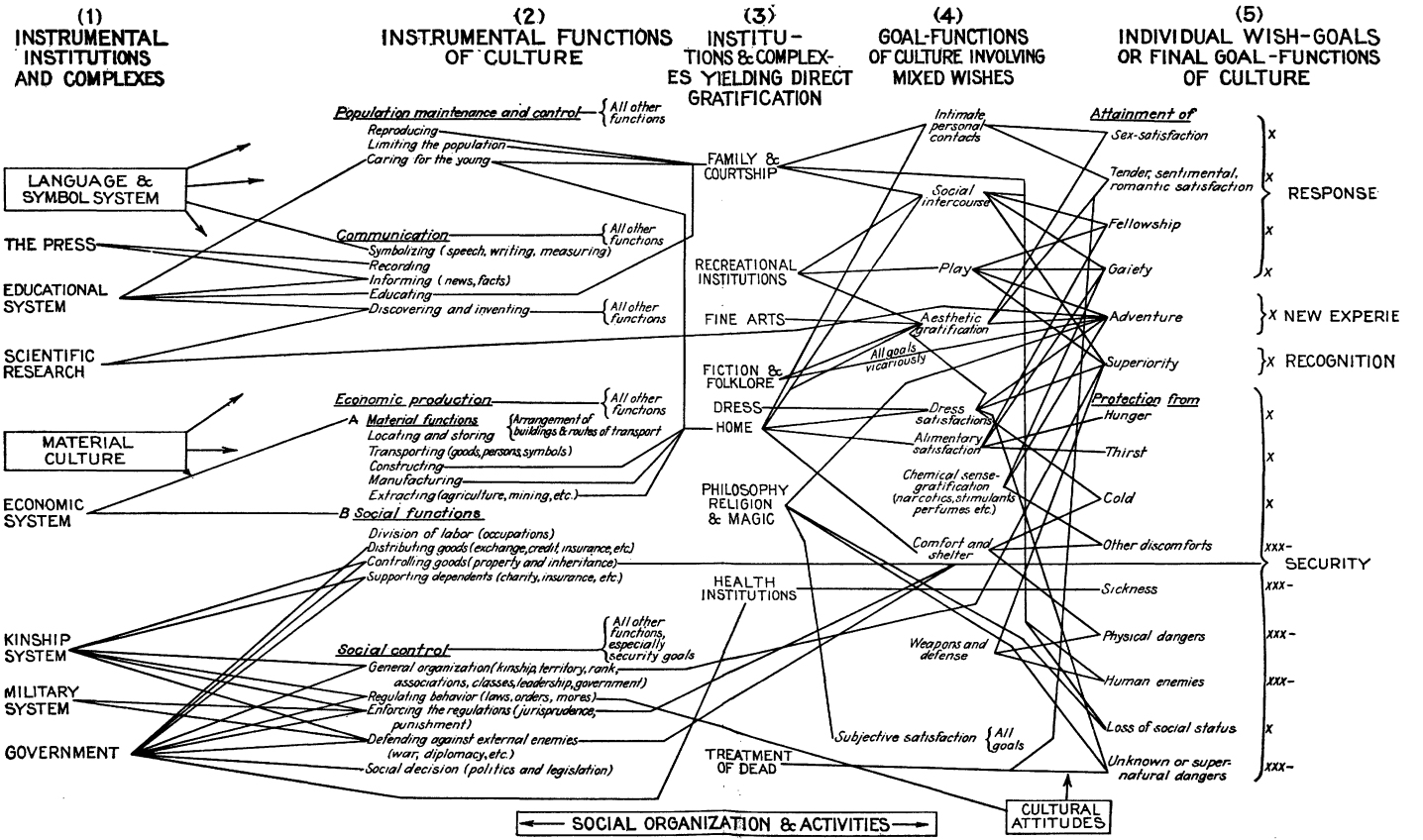


CHART II THE FUNCTIONS OF CULTURE

nitions, magic consists of beliefs and ritual based on ideas of impersonal occult powers, while religion is based upon ideas of supernatural personalities. But, as Marett points out, the two are really continuous. The totemic mysteries and magic of the Central Australians embody what is most sacred to them, and hence are psychologically equivalent to (have the same function as) our religion. Marett defines religion functionally: it does not necessarily involve the concept of superhuman personality, he says, but rather it is a way of life, an effort to realize spiritual values.[24]

We may define any human institution *descriptively* or *functionally*. What, for example, is religion? Descriptively, Tylor has defined it as "a belief in spiritual beings." Functionally, we might provisionally define it as "whatever gives security against the unknown, and consolation for inevitable misfortunes." When we think in these terms, how puerile seems the usual debate on the question, "Is religion doomed?" If we define religion descriptively, the answer may be yes or no, and there is room for a difference of opinion. But if we define religion functionally, the answer is certainly no. Institutions may change, but their goal functions are permanent. Yet many people who debate the negative of a question of this sort will shift their definition from the descriptive to the functional in order to win the argument. And the affirmative rarely sees the flaw in the logic.

Again, what is property? Descriptively, it is the exclusive right of a certain person or group to control or use a certain thing. Functionally, it might be defined as "whatever rules and tabus govern the use of a thing in order to conserve that thing and thus give its users security against its loss or waste." Perhaps the idea of reasonable distribution of utilities as well as of their physical conservation ought to be included. But these functions of material conservation and reasonable distribution could be accomplished by other means than exclusive individual ownership. According to the functional definition, a rule that whoever used a communistically owned automobile should fill it with gas and oil before returning it

[24] MARETT, R. R., *Psychology and Folklore,* Methuen, 1920.

to the communal garage would come under the head of "property." But of course it would not be property according to the descriptive definition. It would be a functional *substitute* for that "property" pattern, and we could call it anything we liked.

This continuity of function amid changing social structure will come to our attention again in Chapter XII, when we discuss *cultural transvaluations.*

How Social Interaction Produces Culture

Culture is produced not by the wishes of individuals living in solitude, but of individuals in social interaction with one another.

As we see from Fig. 35 (note the two cross-hatched arrows), the relation between social interaction and culture is twofold. First, the universal laws of social interaction in part determine the universal pattern of culture. Second, the particular patterns of the culture of any given society (caused, as we have seen, by the history of that society) determine the particular forms which interaction takes in that society.

The Rôle of Interaction in Producing the Universal Pattern of Culture.—It is the first relation in which we are interested for the present. We wish to see how social interaction is responsible for the universal pattern of culture. Incidentally, we shall need to consider the non-social factors (such as cold climates, food shortages, etc.), for they are integral parts of the picture. But our main attention will be directed to the social interaction factors.

Earlier in this chapter was asked what, if any, are the universal laws of social interaction. We noted several attempts to answer this question, but decided that it could be better handled after we had examined culture. Now we are ready to reconsider the matter. *If there are any universal laws of interaction which work in all human groups, they might reveal themselves through their effects upon the universal pattern of culture.* If some phase or feature of culture is universal, then the interaction processes, as well as the physical environment and the individual human behavior, which are responsible for

this feature of culture, must be universal. So let us proceed again, for illustration, to our psychological analysis of the dress complex.

The Dress Complex.—Every culture has a dress complex. Yet the psychological function or significance of dress in one culture is something entirely different from its significance in another part of the world. In cold climates dress serves primarily skin comfort, and may have originated in that need. In warm regions it interferes with rather than satisfies that need. But dress performs also the functions called decoration and concealment. But these are not the final terms of analysis. Decoration may have the purpose of arousing sex desire in the observer or in the wearer, or of stimulating submissive behavior in the observer and thereby catering to the wearer's feeling of superiority. It may serve merely to please the eye (adventure or response), and it sometimes caters to the desire for novelty or adventure in the wearer. H. C. Sanborn thinks dress may have originated in man's desire to distinguish himself from certain animals (superiority).[25]

Concealment may have the purpose of protection from evil spirits, or from the magic powers of enemies (security). With us it has become merely an avoidance of the fear and shame which our childhood training has conditioned to nudity. Again, any marked change in customary skin sensations is an unfamiliar experience which breeds fear. Let us remember our uneasiness as boys when first putting on long trousers. We felt cold, exposed, and self-conscious below the knees.

There are certain portions of the body whose exposure is always regarded as immodest, others whose uncovering is merely ridiculous or improper. The difference lies in the nature of the emotion aroused. Immodesty arouses shock or intense fear in the subject and, to some extent, in the observer. Other exposures arouse amusement or perhaps mild disgust in the observer, and mild shame in the subject.

There is no universal locus of immodesty. In the Philippines it is the navel, among Chinese women the feet, among Tuareg

[25] "The Function of Clothing and Bodily Adornment," *Amer. Jour. Psych.*, vol. xxxviii, p. 1 (1927).

men the mouth, among Arab women in Egypt the top and back of the head, which must be concealed before all things.

There is always some compulsory standard to which all must conform, and also permitted lines of variation within that standard. Women may vary endlessly in their evening dresses, so long as these remain evening dresses and not stage costumes, nightgowns, or bathing suits.

Knight Dunlap thinks that clothing has nothing intrinsic to do with modesty or immodesty, but is fundamentally a means of sexual and personal competition.[26] That is, we dress to satisfy superiority and response. The rivalry of nude bodies is not satisfactory to the majority, because by that one standard only a few could win superiority. But dress multiplies the standards of appearance: if one cannot be superior in physique, he or she can be superior in neatness, in color, in style, in artistic impressiveness. Thus a chance is given for almost everybody to win some kind of superiority within the realm of appearance, and this wider opportunity is gained at the expense of the minority who would profit by nudity. Clothing is thus a device to widen the opportunities for superiority. Again, dress permits a wider range of visual conditioned stimuli for the sex drive. Through dress there is a chance for nearly every woman to appeal to some man's unique personal fixations. Without dress, sex rivalry might become a more intense and polygamous scramble for mates of superior physique, leading to more widespread feelings of inferiority among the less well endowed.

When men don a uniform their rivalry in personal appearance is reduced from a multiple to a single standard, as in the case of nudity. In the army it is desirable that men should not waste time seeking superiority through tinkering with their appearance, but devote their time and emotion to other ends.

There are periods and regions in which dress is comparatively democratic, others in which it is more highly stratified. Neither condition is stable and lasting. Powerful elements at-

[26] "The Development and Function of Clothing," *Jour. General Psych.*, vol. i, p. 64 (1928).

tempt to regulate the planes of rivalry in their own interests. In modern times expensiveness becomes, to a certain degree, the leading standard. When it goes too far, other standards may be initiated by rebellious elements. Simplicity may again become a source of superiority, as among the Greeks. The clothing industry, having overplayed its hand at the competitive game, may be forced into decadence, as the jewelry industry is now said to be, while consumers rush to some other field of activity to satisfy the ever present wish for superiority.

Dress is less determined by climate than we have thought. The comfort function of dress can be taken over by shelter and by the adaptability of the skin itself. The Arabs enshroud themselves in woolen robes, while the Fuegians, in a cold climate, wear only small pieces of leather, which are shifted toward the side from which the wind blows. American men would feel very cold in their legs if they were dressed like women's. Americans accomplish by heated houses and automobiles what the English accomplish by heavy clothing. Shoes are physically necessary only as a protection against cold, not rough ground; for when they are omitted the sole readily thickens till it can endure almost as much as can the horse's hoof.

To the dress complex belong also the mutilation and deformation of the body, tattooing and painting, scarring and piercing, which have been practiced by civilized as well as primitive peoples.

In short, clothing or bodily adornment is universal and inevitable, *not because of any one motive* in human nature, but because the surface of the human body is a most convenient fixation point for any or all the emotions. We probably look at our fellow humans more often than at anything else; they are the center of the picture in the most dramatic and emotional situations of life, and some of our most vivid experiences of pleasure and pain come to us while we are looking or being looked at. And so the appearance of others and of ourselves becomes loaded with conditioned emotions of all sorts.

Some Tentative Hypotheses Suggested by the Psychological Analysis of Culture.—Does the foregoing type of analysis enable us to formulate any laws of social interaction which hold good for all mankind? It does not prove anything of course, but, when applied to other complexes as well as to dress, it suggests the following provisional hypotheses:

(1) Every culture complex of activities and material equipment, whatever its primary function, tends to be used in the satisfaction of other wishes also, in so far as material conditions and interfering culture patterns do not prevent. Hence every complex comes to have as many functions as possible.

(2) Every culture complex develops tabus or restrictions upon behavior, which are of several degrees of imperativeness, according to the kinds of punishment following their violation.

(3) Every culture complex tends to rank or grade individuals in such a way that those who occupy the more central positions in the scheme of social control enjoy also a greater quantity (measured in terms of labor = time or "expense") of the material culture. *I.e., wealth nearly always goes with power.*[27]

(4) The relative importance of the various complexes and the various instrumental functions is more variable than the relative importance of the various goal functions. For example, a given universal complex (such as dress) may occupy a much greater proportion of human time and energy in culture A than in culture B; but if so, it is because it satisfies a greater proportion of the total goal functions (for the average individual) in A than in B. Also, the complexes and instrumental functions of economic production seem to play a much larger rôle in civilized than in primitive society. It may be that they are not proportionally larger, but only more complex. If, however, they are larger (in time or energy used) it is because they satisfy a larger proportion of goal functions. We are groping toward some law of equilibrium of goal functions.

(5) All cultures classify individuals in one or more ways, and every culture complex tends to become related to the distinctions between classes. Classes ranking as inferior try to obliterate these distinctions. Sex and age seem to be the most natural and universal classifications.

(6) The material culture objects which most frequently

[27] In Soviet Russia, which represents an attempt to reshape culture patterns consciously and artificially, there is an effort to *separate* wealth from power. See STRONG, ANNA L., *The First Time in History*, Boni, 1924.

catch the eye in everyday life are especially prone to be used in making distinctions between individuals and classes, and to lead to rivalry.

(7) Man's thought-life (internal symbolization) always goes beyond his actual experience: he tends always to develop magical beliefs based on chance coincidence, external similarity, contiguity, and language coincidences, in addition to his matter-of-fact beliefs based upon critically analyzed experience.

(8) Any activity which becomes unduly burdensome in proportion to the felt satisfactions received from it tends to check itself.

(9) The positive satisfactions which result from an activity usually have a more direct and obvious relation to it than the sufferings and hardships which come from the activity. Hence many activities persist and develop to a stage where they are actually producing more suffering than pleasure.

(10) The positive development of a culture complex is largely the result of unorganized efforts of individuals, each striving to increase his wish satisfactions; but the regulation and checking of the complex is more commonly the result of group discussion, organized will and effort.

(11) Malinowski suggests the tentative law that economic obligations balance in the long run. In this system of economic give and take gifts must be included.[28]

(12) Lowie suggests the law that social and sexual restrictions go hand in hand, and that on the other hand licensed familiarity exists between potential mates. In other words, whatever interaction of forces produces a sex tabu also tends to cause a tabu upon other behavior which might lead toward sex relations. If this be true, then they are right who say that the social "color line" in America is essentially a preliminary barrier across the road leading toward intermarriage.[29]

The Rôle of Interaction in Various Culture Complexes.—We have sketched the psychology of the dress complex. A complete psychological analysis of the several culture complexes would make a book in itself. All we can do here is to point toward a few suggestive lines of thought.

Let us note throughout these suggestions the principle that culture complexes are commonly focusing points for the wishes of several individuals who play different rôles. They do not

[28] *Crime and Custom in Savage Society.*

[29] LOWIE, R. L., *Primitive Society*, Boni, 1925, pp. 102 ff.

independently satisfy the several individuals, but satisfy through the interaction processes they involve. For example, T. D. Eliot has shown how a typical church may serve a great variety of goal functions.[30] One singer enjoys superiority through exhibiting her voice; a lonely soul gets a sense of fellowship and response; another enjoys mainly the beauty of the music or the stained glass windows; this worried mother feels security from her anxieties; this young woman finds the church her chief means of meeting desirable young men; the preacher derives economic support and social prestige.

(1) D. W. Parker says that the function of art (including literature) is the vicarious satisfaction of various wishes. That is, we satisfy wishes not through interaction with the outside environment but through "experience conditioned within." Art provides two types of wish fulfillment. (a) In *ideal* art, the observer identifies himself with the ideal object which art substitutes for more real objects. (b) In realistic art he satisfies himself in two ways: emotions not sufficiently stimulated by social contacts are aroused and thus appeased, and curiosity about life is satisfied.[31] In other words, ideal art pleases us by representing goal situations of our wishes, which are seldom or never attained in real life. It is typified by romantic fiction and Venus de Milo. Realistic art, on the other hand, tends to make us more interested in goals which actually can be attained. It tends to substitute available for unavailable goals. Ideal art makes the imaginary world seem more real and hence more pleasant; realistic art makes the real world more pleasant. A man working daily in an office, who can see only dingy buildings and smokestacks from its window, is apt to derive little pleasure from that immediate situation. Indeed, much of his time there may be spent in a condition of strain or tension. But his life might be brightened, the strain relieved a little, by a painting of green fields and blue mountains hung upon his wall. Yet again he might be relaxed by a painting of buildings and smokestacks such as he actually sees. It might

[30] "A Psychoanalytic Interpretation of Group Formation and Behavior," *Amer. Jour. Sociology*, vol. xxvi, p. 333 (1920).

[31] "Wish Fulfillment and Inhibition in Art," *Proceedings, 6th International Congress of Philosophy, 1926,* Longmans, Green, 1927.

lead him to pause a moment, to contemplate the view through his window, to see it detached from the strain of his work. He might discover real beauty in it. Such is the function of realistic art.

Art provides response and adventure satisfactions to the appreciator, superiority and other kinds of adventure to the creator. The creator also sometimes gets a response satisfaction. The Freudians claim that art is a sublimation of sex. In any case, the universality of art is due to the fact that it represents wish-satisfying social interaction between the appreciator and the creator. It provides a meeting-ground for their very different attitudes.

(2) *Myths*, say the psychoanalysts, are the great social daydreams of the race. Malinowski holds that a myth is not a "rhapsodic rendering nor a primitive science," but that its function is "to strengthen tradition and endow it with greater value and prestige by tracing it back to a higher, better, more supernatural reality of initial events."[32]

Here again we see interaction. Myth is not merely a vicarious satisfaction to each individual, or to all individuals separately, but it helps the individuals mutually to support one another in maintaining attitudes of reverence and belief which console and interest them as individuals. Also, as Kellett shows, myths satisfy the story-telling impulse, which represents another kind of interaction.[33]

(3) Probably every society has some device for the transmission of news. This provides a superiority satisfaction for the persons who are the subjects of the news. Second, it gives an adventure or curiosity satisfaction to the people who hear the news. But, third, news transmission has an instrumental function in the general operation of society which cannot be assigned to any one particular goal. It is more or less necessary to all kinds of satisfaction. If there were no news transmission, the operation of many recreational, educational and fellowship functions would be hindered.

(4) The instrumental function of credit performs one kind

[32] *Myth in Primitive Psychology*, Norton, 1926.
[33] *The Story of Myths*, Harcourt, Brace, 1927.

of service to the borrower, and an opposite type of service to the lender. Yet we cannot separate these two kinds of services. In the very nature of things one depends upon the other, and hence we treat them in our analysis as linked together in a single unit.

(5) In the family complex one important universal feature is the tabu against incest. The function of this tabu is one of the most debated and most interesting problems of cultural psychology. It used to be held that the primary function was to save man from the biological deterioration resulting from inbreeding. But inbreeding does not produce its evil results with any certainty or obviousness. If there be no biological defects in the stock, there may be no bad results, at least not for several generations. Is it possible that primitive men, whose ideas of cause and effect were so erroneous, so dependent upon mere superficial similarities and upon chance coincidences, could have universally recognized the very remote relationship between acts of incest and a gradual accumulation of physical defects in later generations? Is it possible that they *tried* inbreeding and rejected it because of its consequences? Or that thousands of tribes actually perished from inbreeding, according to the theory of selection of culture traits by biological agencies, leaving to survive only those which happened to adopt the incest tabu? And why does the incest tabu sometimes extend to whole clans, applying to a very remote relative of the same clan name or totem, but not to a much nearer relative who belongs to a different clan?

Another theory is that the sex instinct requires novelty, while familiarity reduces sex desire. This theory explains too much; it would make not only the incest tabu, but also universal sex promiscuity, inevitable. For after a time there is no more novelty in one's chosen mate than there would be in a brother or sister if incest were permitted.

The Freudian theory views the incest tabu as the result of a conflict between the sex or love wishes of father and son. The son, in behavioristic terms, conditions his love wish to his mother first of all among women. This results from the years of close physical contact with his mother. When he grows older

and his love of skin contact develops into sex desire, the father becomes jealous of the possible encroachment upon his own privileges. The father's wish for response and superiority, and his instrumental wish for security of the means to those other satisfactions, are threatened with frustration. Hence the father restricts the boy's contacts with the mother, or encourages cultural attitudes which do so. The boy normally transfers his sex desire to other women, but, according to Freudian theory, there tends to linger in him an unconscious sex love toward his mother and an unconscious hatred of the restraining father, known as the Œdipus complex. Somewhat similar things happen in the relation between father and daughter.

While Freud emphasizes the sex desire as primary, George Vetter places the emphasis upon the superiority wishes. The sex attitude, which adolescent children would spontaneously assume toward members of the family if unrestrained by culture, would be incompatible with the authority attitudes necessary to the social control over the children and the feeling of superiority by the parent. The incest tabu, Vetter holds, is primarily due to the jealous efforts of adults to control children's behavior.[34]

Among one tribe of Australian aboriginals, the whole group is divided into two phratries which we shall call A and B. Phratry A is divided into two classes, Blacksnake and Emu, and B into Kangaroo and Black Duck. According to the requirements of that culture, a Blacksnake man must marry only a Kangaroo woman. Their son thereby becomes a Black Duck, and must marry an Emu woman. Their son becomes a Blacksnake, and so on. As S. D. Porteus views the functions of this system, they tend to keep the number of persons in the four classes fairly equal: to guarantee the older men, who tend to monopolize the women, against running out of wives; to limit sex competition; to distribute the blood of the tribe and promote tribal unity.[35]

We must distinguish between functions and advantages. To distribute the blood of the tribe may be an advantage, but unless this advantage reacts back upon wish satisfaction in

[34] VETTER, G., in *Jour. Abn. Psych. and Soc. Psych.*, vol. xxiii, p. 232 (1928).

[35] "The Social Psychology of the Australian Aboriginal," *Jour. Appl. Psych.*, vol. xiii, pp. 131-144 (1929).

some more or less direct manner, it is unlikely to play any part in bringing the culture trait into existence. To limit sex competition and to guarantee sufficient women to each old man, however, are functions; they satisfy wishes with enough directness to enable the people to react toward the condition which is producing the satisfaction or dissatisfaction. That is, humans do feel excessive competition, they do feel shortages, and they have sufficient intelligence to symbolize the situations which cause competition or shortage.

Perhaps the only universal function of the incest tabu is much less specific than we have supposed. Its great variety of forms in different cultures would seem to suggest this. Perhaps the best we can say is that it is inevitable that the sex wish, with its great drive and intensity, will lead to conflict *somewhere* in the processes of group interaction, and that this conflict will bring superiority and security wishes into play and thus divert a great deal of time and energy into burdensome rivalries. That "somewhere" may be several places, but it is bound to include that place in the social fabric where persons come together in daily and intimate association. The strain of these rivalries favors attitudes which tend to limit them; these attitudes then become part of the mores, of culture.

How Culture Channelizes Social Interaction

We now turn to the second relation between social interaction and culture, namely, that the forms which interaction takes in a given society are determined by the particular culture patterns of that society. We have said that it is difficult to discover any universal laws of social interaction because such laws, if they exist, are disturbed by culture. The processes of interaction are channelized, so to speak, by the culture of the people involved. Every culture has its own patterns or channels through which it encourages human activities to take place. It discourages other forms of activity which do not follow these channels. In other words, each human community lives and moves in the grooves of its culture. To "get out of

the rut" requires great personal daring or a change in the culture patterns themselves.

Let us consider a few examples.

Illustration 1. The Sex Division of Labor.—In the American business ("middle") class married women have far less work to do than they did a half century ago. Factory-prepared foods, the delicatessen, the laundry, the vacuum cleaner, cheaper ready-made clothing, and apartment house life have eliminated much of the labor of homemaking. The cost of these labor-saving devices is of course thrown upon the husband's income. At the same time that the homemaker has less real work to do she is stimulated by modern advertising to have greater wants. Her scale of living depends now more upon her husband's income and less upon her own homemaking efficiency. If she craves a higher standard, there is little she can do about it. In many such families, moreover, the husband works such long hours that he has little time to play and to consume with his family. He is mainly a producer; his family consumes. His wife misses his companionship and seeks other amusements. Now in this situation we have a system of social forces or pressures: the wife's wish for more companionship with her husband, the husband's repressed wish for more leisure, the wish of both for a higher standard of living, the wife's wish for something interesting to do. There is a maladjustment. According to the principles of interaction common to our everyday experience, such an economic maladjustment would be most readily corrected by adjusting hours and duties. Theoretically the wife would tend to take over all the minor duties of the husband, cleaning the car, tending the furnace, cutting the grass, buying the theater tickets, keeping the family accounts and personal correspondence. Or she would get a job outside the home for part of the time, reserving such time as was essential for her household duties. Either adjustment would equalize the burden and would give the husband either more leisure time, or the means to use his leisure time more intensively and in greater companionship with his family.

We should expect, furthermore, in theory, that employers, finding a large reserve of female labor which could be had at

rather low wages if it could be used for part of the day only, would be quick to see the advantage of establishing a system of part-time jobs. To establish such a system would not be a more difficult task than that performed by factory and railroad managers who arrange complicated shifts and schedules for their employees.[36]

But that is not what happens. Instead the wife uses her surplus leisure by developing a system of activities which, though quite unnecessary at the outset, soon take on all the appearances of work and duty. She gets into "social" life, she goes to teas, clubs, bridge parties, hobnobs with women friends, shops, or joins the church missionary society. Or perhaps she elaborates her homemaking by interior decoration, making her windows look artistic by means of special curtains, when that æsthetic function could have been and perhaps was performed already by the carpenter who built the window frames.

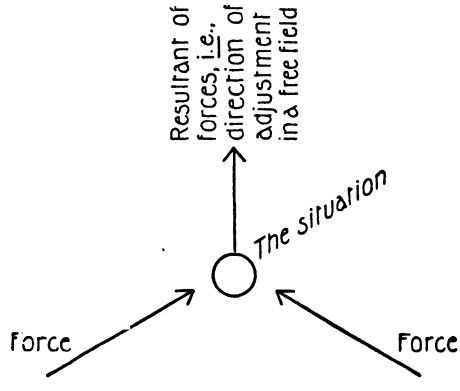
The husband's reaction is to work still harder, to accept his wife's *dilettante* activities as a symbol of his own power and wealth, and to cater to his jaded nerves by seeking expensive and artificial recreations. Meanwhile, the employer continues to use such workers as he can get for full periods of eight hours or more, and ignores the married women who would take part-time jobs.

In other words, the social forces and pressures (wishes) in this situation have led to adjustments quite different from the simple and direct adjustments (transfers of duties and changes of hours) which interaction theory would predict.

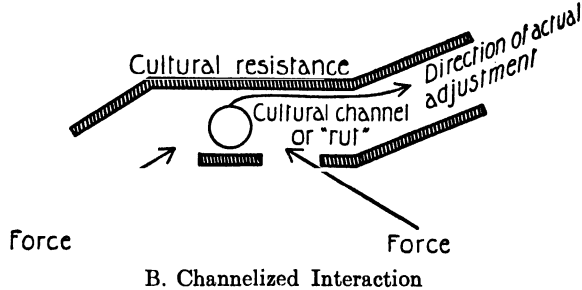
Why? Because adjustment in these theoretically simplest directions runs up against powerful resistances which are not met in other directions. It is culturally easy for the husband to work harder and for the wife to elaborate and increase her activities within "woman's sphere." But it is culturally difficult for employers to institute short shifts for married women, for successful men to let their wives work, for delicately reared women to assume masculine odd jobs such as greasing the

[36] See PRUETTE, *Women and Leisure*, Dutton, 1924.

family car. "It isn't done," and that's why it isn't done. People will strain themselves to the breaking point, doing a little more and then a little more of what they already are accustomed to do, but they are shy about doing something outside their traditional spheres even though this would require far less effort.



A. Free Social Interaction



B. Channelized Interaction

FIG. 36.—FREE AND CHANNELIZED SOCIAL INTERACTION

This principle is illustrated graphically in Fig. 36. Fig. 36A represents what would happen in a free field of social interaction, without culture, such as might exist among animals, children, or among a group of adults from many different lands thrown together in a pioneer community. Fig. 36B shows how the channels or ruts of culture deflect this natural adjustment and force the situation to change in another direction.

Free social interaction rare in human society.—The nearest we get to observing pure social interaction is when we watch groups of animals or young children. By so doing we may be able to formulate certain basic laws of interaction. If we could really isolate a group of young children from adult society, for some years, and watch them develop their own spontaneous society, we would indeed have a valuable scientific study. But this has never been done. The George Junior Republic has often been cited as an example of such an experiment but, as a matter of fact, these children already knew a great deal about adult society, and their own "republic" was partially an imitation. As a child, the writer imagined and constructed a play society of toy animals, dolls, "spool-people," paper figures cut from magazines, personified blocks and stones. A very weird society was this, but the interesting point is that it was built upon a number of culture traits selected from the real world which he had read or heard about. It included criminal trials, executions, wars, kingship and presidency, railroads, and so on. The combination was unique, but the elements were all imitated.[37]

So we must theorize. If such an isolated group of human beings were to exist, presumably there would be at first a great deal of spontaneous conflict and accommodation. The individuals would of course have no language and would react only to one another's overt behavior, like animals. Just how much language they would develop spontaneously we do not know. But, judging from our fragmentary observations of spontaneous group life, these people would probably develop some symbols of communication, some crude tools, and some definite rules or standards of behavior.

There would then be reproduction and a second generation. This second generation would never be able to go through the same experiences as its parents. For it would come into a social world in which certain symbols, tools, rules of behavior, and attitudes were already established. It would be conditioned to this rudimentary culture. It would have no chance to begin a

[37] FOLSOM, J. K., "The Scientific Play World of a Child," *Ped. Sem.*, vol. xxii, p. 161 (1915).

culture spontaneously, but could only elaborate upon what its parents had already built. Those fixed things which the children took over from their parents, in lieu of spontaneously developing them, would be the group culture.

Illustration 2. College Scholarship.—To return to our main principle of channelization, there is talk in a college of inadequate teaching and poor scholarship. Teachers meet to discuss methods of better teaching and methods of stimulating the students. Each instructor advertises his own methods and policies, and much time is devoted to discussing their various merits. But the fundamental obstacle which prevents this talk from getting anywhere is that nobody really knows what another's method is like in actual practice and what results it produces. The whole fog of uncertainty might be cleared up if instructors visited one another's classes freely and talked freely with students about their reactions to other teachers. But that "isn't done." It breaks a culture pattern; it means pulling out of the rut.

Illustration 3. Art for Art's Sake.—Victor Yarros criticizes modern writers, like H. G. Wells, who try to use the novel for purposes of social reform. Art is art, and when the artist steps aside to preach he spoils his art and offends the reader. But here we have a situation as follows: (a) need of social reform, (b) difficulty of getting a jaded public interested in it, (c) the novel's power to stimulate interest. A logical adjustment to the situation is to do as H. G. Wells did. But such an adjustment is not culturally easy. It encounters the resistance of a culture pattern which separates art from ethics. Whether this is a fundamental, psychological separation, or merely a feature of Euro-American culture, we are not prepared to say. There is reason to suspect it is the latter. If so, Wells is doing the good job of leading writers out of a cultural rut.[38]

Illustration 4. Nationalism.—Two nations having a boundary dispute might compromise the difficulty by allowing the disputed territory to be under the military and trade control of the one, and allowing the people to be governed in all their

[38] YARROS, V. S., "Ethics in Modern Fiction," *Int. Jour. Ethics*, vol. xxix, p. 39 (1929).

personal activities by the laws of the other country. But this is not according to the modern pattern of nationalism, which insists that every acre of land, and the people dwelling on it, belong to the same country for all purposes. Yet in earlier times such an arrangement would have seemed less incongruous, less unthinkable, than now.

Illustration 5. Political Parties.—Many have wondered why third parties never succeed in American politics. They have attributed it to the political psychology of America, or to that of Anglo-Saxon countries in general. Shepard outlines this "psychology":

Anglo-Saxon System	*Continental System*
Two large parties	Many small parties
Each party includes a variety of economic interests	Parties are class parties of definite economic interests
Compromise within parties	Compromise between parties
Each party flexible in principles	Each party rigid in principles
Opposition feels responsibility	Opposition unlimited
Politics regarded as a game	Politics taken very seriously—(violence more frequent)
Criticism *vs.* defense pattern of debate	Forum pattern of debate
Man counts for more than idea	Parties based on ideas rather than personalities

Shepard sees a connection between this and the fact that Anglo-Saxons are sportsmen, team-players, while Continental sport is mostly individualistic. He notes that the German students at Heidelberg failed to use the Neckar river for boat-racing, whereas the English preparatory schools there had crews.[39]

What we have here is two different culture patterns. Third parties have hard sledding in Anglo-Saxondom, not because of our "psychology" but because of our political culture pattern. The discontent which causes the third party is soon discharged through the channels that pattern provides; that is, when the third party interest becomes strong enough, it is

[39] SHEPARD, W. J., "Psychology of the Bi-Party System," *Soc. Forces*, vol. iv, p. 795 (1926).

absorbed by one or both of the two major parties, which compete for it through concessions. It has more chance of early recognition through this channel than through the slow, pattern-breaking process of developing itself as a strong independent party.

The fundamental laws of conflict and accommodation, if there be any, are no different in the Anglo-Saxon world than they are elsewhere. But the different pattern of culture obliges the conflicting forces to take other channels.

Illustration 6. Gifts.—A woman received a gift of money. She spent much time deciding what to buy with it; she couldn't decide whether she needed most a new hat, shoes, raincoat, dress, or rug for the floor. One of our culture patterns is that a gift is usually something tangible which can be displayed with conventional thanks to the donor. But suddenly this woman decided to spend the money to have her children cared for so that she could take a brief vacation. She then realized that she needed this far more than any of the material articles about which she had spent so much time thinking. Why hadn't she made a similar decision, she reflected, on many previous occasions? Culture channels had prevented her thoughts running in this direction. Usually she did the cultural thing; this time she did the natural, obvious thing. Her wheels for a time got out of the cultural rut.

Illustration 7. Craft Standards.—Perhaps we have all noticed that carpenters, shoemakers, and other artisans are bound by certain culture patterns belonging to their respective crafts. A man who is moving into a new office, for example, asks a carpenter to build a partition in a certain manner. The executive knows exactly what he wants and why he wants it, and the carpenter would receive good will plus his pay for following directions; but these are not according to "good carpentry," and the carpenter is persuaded only after much resistance.

Illustration 8. Confiscation.—After the war Russia confiscated the property of her large landowners. Czechoslovakia expropriated similar property and paid for it, after the manner of an American city which condemns property and takes

it for public use, with due compensation, by the right of eminent domain. Czechoslovakia legislated that the compensation for the land (not improvements) expropriated be its pre-war value. As a matter of fact, owing to currency depreciation, this pre-war value was about one tenth, or less, of the actual value at the time of taking it. By this delightful little fiction Czechoslovakia was able to keep herself in the column of capitalistic nations which uphold the right of private property, while Russia put herself in the class of Bolshevik nations which have no respect for property. Russia did the simple, natural thing—made a fundamental adjustment which simply broke through the culture patterns of property. Czechoslovakia made her adjustment through the usual channels of property law. But in the case of these lands she accomplished practically the same result. The difference between confiscation and purchase was merely the difference between 100 per cent confiscation and 90 per cent confiscation. But the "sacredness of property" was upheld by the 10 per cent payment.

Illustration 9. Emigration.—Society has several possible ways of escape from most situations of maladjustment. Which way shall be taken depends upon the culture channels of the group rather than upon the relative strength of the positive forces at work. Take, for example, the situation of overpopulation. The natural reaction which comes to our minds is to migrate. That is what Italians and Central Europeans do. But the Chinese conserve food and energy and try to weather the famine by sleeping much of the time. When the famine is over they do not perform the logical expedient of calling a halt on more children; they continue to breed, and perhaps try to cultivate their fields more intensively. Some primitive peoples, confronted by a similar situation, practise a little more infanticide than usual. Educated Europeans would practise more birth control.

Illustration 10. Economic Processes.—Economic theory is really a branch of social psychology. It is a whole science of laws which supposedly explain the production and prices of economic goods. In other words, we have here laws governing

a certain field of social interaction and material conditions. Recent thinkers tend to doubt the scientific value of the classical economic "laws." The reason for this is that these laws of demand and supply require so many qualifications and exceptions that the qualifications and exceptions are beginning to look more important than the laws themselves. In any case, economic theory needs to recognize more definitely the deflecting and channelizing influence of culture patterns. For example:

Malinowski has described the remarkable system of trade in Melanesia known as the "Kula." There are two classes of articles involved, the "soulava," or long necklaces of red shells, and the "mivali," or bracelets of white shells. The necklaces are passed on from trader to trader, over a fixed route, until they come back again to the original trader, and then they go around the same circle again and again. The bracelets travel the same route but always in the opposite direction. No trader keeps a Kula article: he derives great satisfaction from its temporary possession and display, but must pass it on to the next trader. Only certain persons are members of the Kula organization, and only they handle the articles. If A gives necklaces to B he must always give them to B. He must never give bracelets to B. Detailed rules govern the operation of this trade. Each member has definite partners with whom he may exchange; some have partners on overseas islands.[40]

The Kula is a system of trade which is partly commercial and partly ceremonial. It does not fit into any of the patterns of Euro-American economic life.

There are also many processes in our own economic life which do not follow the direct routes which would obtain in a free field of social interaction. For example, the production of educational service and of public roads, both certainly satisfying the wants of consumers, are not paid for directly by consumers. Hence this production depends not so much on these wants themselves as upon the channels (of taxation, etc.) through which it is paid. These channels are part of our culture, and they constrain the operation of those dancing

[40] MALINOWSKI, B., *Argonauts of the Western Pacific*, Routledge, Dutton, 1922.

forces of demand and supply as surely as a coat of mail would cramp the style of an æsthetic dancer.

Primitive Culture Not Psychologically Different

Language and Thought.—Among the most central and controlling patterns of culture are language patterns. Languages, it was once said, differ in their grammar because peoples think differently. Modern psychology says that peoples think differently because their language patterns differ.

The languages of primitive men reveal many strange patterns of thought. The Papuan language of Kiwai Island has at least ten different verbal suffixes: *rudo* means the past action of two on many, *rumo* means the past action of many on many, *amadurodo* the present action of two on two, *ibidurudo* the present action of many on three, etc. In the Klamath language, instead of referring to an object as either "this" (near) or "that" (far), one uses eight different pronouns to distinguish whether an object is near, remote, absent, departed, beyond sight, etc. Many primitive languages have singular, dual, and plural "number." Indo-European languages have sex gender; they reflect a primitive tendency to classify all objects, living or non-living, according to sex. But other languages have gender based upon superiority-inferiority, and in English we restrict sex gender solely to animals and humans.[41] The Yama language has a single word meaning "to cause a group to move across a stream in an easterly direction."[42]

Levy-Bruhl shows that primitive men think according to entirely different patterns from those of civilized men. He speaks of them as having a "pre-logical mentality." The general law of this thinking is that of "participation." Persons, objects and phenomena are thought of as being parts of certain "collective representations" or general concepts. Thus the Bororo people claim to be red parakeets. This does not mean they will be parakeets after death, or will be transformed into parakeets, or that they have a mystic relation to parakeets.

[41] Levy-Bruhl, *How Natives Think*, Knopf, 1925.

[42] B, in *The Unconscious, A Symposium*, Knopf, 1927.

They *are* red parakeets at present. With them anything can be itself and something else at the same time. The law of contradiction which asserts that one is "either this or that" is not part of their pattern of thinking. Pre-logical thinking, says Levy-Bruhl, is indifferent to contradictions. Totemic peoples do not hold the totem as a symbol, or patron saint, of the clan. The members of the clan are identified with the totem animal or object.[43]

The individual is not simply "one of," but a part of the group. Marriage is an affair of the group, brothers can often be readily substituted for one another, land commonly belongs to the group, the group is responsible for an offense by one of its members. On Malekula Island, in 1916, the Kanakas killed a number of half-caste children in revenge for the kidnapping by white men of certain natives who never returned. The natives considered this strict justice. The children were not thought of as individuals living in their own right, but as representatives of the white men's group. In New Zealand, too, the law of "muru" places guilt upon a group.[44] And in China the same concept of collective responsibility explains why a tutor or father is sometimes punished for the misdeeds of a youth, and whole villages are burned by the authorities in punishment for the crime of a single member. Among the Dieri in Australia, when an avenging party goes to a neighboring village to take toll for a murder, it commonly kills the murderer's elder brother.

While Levy-Bruhl's facts are of great value in throwing light upon social psychology, his interpretation of them has been vigorously criticised. Primitive man does not have a different mentality. He has different patterns of thought which are, in part at least, the result of his patterns of language. It is also true that great differences in language and thought patterns exist between various civilized peoples, such as Chinese and Europeans.

Totemism.—Totemism is a feature of many primitive cultures which has much engaged the attention of anthropolo-

[43] LEVY-BRUHL, *op. cit.*

[44] MUNTZ, E. E., *Race Contact,* Century, 1927.

gists. It is "the tendency of definite social units (groups) to become associated with objects or symbols of emotional value." The totem is commonly some animal. The earlier anthropologists thought that totemism was the result of some universal law of social psychology, that it was something which would inevitably come about at a certain stage in the mental development of every people. It has been shown that totemism usually goes with a relatively advanced stage of primitive social life, that it exists near the foci of primitive culture, and is largely absent among backward and marginal peoples. Not always, but usually, totemism goes with *exogamy* (incest tabu against all members of the totemic group or clan), and it usually involves *tabus* upon eating the totem animal. Goldenweiser has compared the totemic social organization of Central Australia with that of the Indians of British Columbia.

In Australia the exogamic groups (groups of which each member must marry outside the group) are large "phratries" and "classes" which are not geographically localized. In British Columbia the exogamic groups are smaller, more localized. There is no large overhead classification of the whole people into kinship "classes," as in Australia. In Australia all "clans" have totemic names; in British Columbia this is true only of the large exogamous groups of the Tlingit and Haida. In Australia the totemic name suggests an intimate, religious relationship of members of the group to living animals of the totem species; in British Columbia the religious attitude is directed rather toward mythical animals of ancestral times. In Australia there are many tabus against eating the totem animal of the group, but also many tabus which have nothing to do with the totemic system. In British Columbia there are no totemic tabus. Australian clans believe they are descended from their totem, British Columbians do not. In Australia the dominant note is given to totemism by the "intichiuma" magic ceremonies which are supposed to insure the return of game. In British Columbia the magic ceremonies are connected mainly with hunting, fishing, and berry-gathering, and have no relation to the totemic system. In Australia there is a belief in transmigration of souls connected with the totemic system; in British Columbia this connection does not exist. There the belief in guardian spirits (each individual having

a unique personal relation to some totemic spirit) prevails instead. It is the basis of secret societies and gives the keynote to initiation ceremonies; it affects rank, art and myths. Australian guardian spirits have no relation to the totemic system. In Australia art consists mostly of rock paintings and various decorations; it is passive and seldom suggests concrete objects. In British Columbia art is active and suggests concrete objects; it is the most conspicuous feature in the ceremonial life.[45]

In general, the "totemic complex" may include exogamy, naming from the totem, tabu, belief in descent, magic ceremonies, reincarnation, guardian spirits, art and rank. But every totemic people lacks some of these elements, and in each people the elements are connected in a different pattern.

Roheim tried to explain totemism in terms of Freudian psychology. He says the totem is originally the ghost of the murdered father (Œdipus complex) appearing in animal form.[46] But the varying facts of totemism cannot be fitted into any one such specific explanation. Totemism undoubtedly results from certain universal laws of social interaction, but these laws are more general than Freud's Œdipus theory, and are yet to be formulated. In any case, these laws are not essentially different from the laws which operate among civilized men. Only the patterns and combinations are different. In civilized societies we have clubs and fraternal orders bearing totemic names (the Elks, for example), incest tabus, tabus against cannibalism, religious tabus against eating pork and beef, rituals such as prayer which are believed to be actually effective, patron saints, beliefs in immortality and reincarnation, caste and rank, and art associated closely with what is considered important or sacred.

Law and Its Violation.—Rousseau thought that "the happy savage" was free from the onerous burdens of customs which constrain civilized man. But after anthropologists had studied primitive life in detail, they concluded that the savage is

[45] GOLDENWEISER, A., "Totemism: an Analytical Study," *Jour. Amer. Folklore*, vol. xxiii, p. 179 (1910).

[46] ROHEIM, G., *Social Anthropology*, Boni, 1926.

more bound by custom than we. It was said that primitives obey their unwritten laws more willingly than we obey our written codes. They were regarded as the "slaves of custom," the benighted victims of superstition. It was brought to our notice that Eskimos might eat seal only at certain seasons, that while the Yakuts ate whale, their neighboring tribes needlessly denied themselves this delicacy, that some African peoples would permit no ordinary citizen to see the person of the king on pain of death, that Australian women were killed if they sneaked in to see certain ceremonies performed by the men, that in many clan-organized tribes the young man was barred by kinship regulations from marriage with fully half the girls in the tribe, that with other tribes a man *must* marry his deceased brother's wife, that with many peoples widows could never remarry, and so on.

Malinowski, however, sees primitive life in a still newer light. He shows that it is, in respect to social regulation, psychologically the same as our own. Primitive men, like ourselves, have several different attitudes toward their rules of life; their social control has several degrees of imperativeness. They have (1) rules which are obeyed because of their practical utility; (2) rules which are obeyed because their violation appears ridiculous, clumsy, socially uncouth; (3) rules like those of a game, which are obeyed because they are necessary to the enjoyment of all the players; (4) rules growing out of the attitude "do not tamper with the sacred," (5) rules of conduct toward friends and relatives, and (6) law. As with us, law is only one kind of custom, and as with us it includes civil and criminal law.

Again Malinowski shows that the attitude toward, and treatment of, an offender varies with circumstances, as in modern society. He reports upon a case of incest, in which the offense was known and disapproved, but nothing was done until the girl's discarded lover insulted the offender, who then committed suicide. The clan of the deceased then fought the rival clan, and repeated the quarrel during the funeral. Violations of exogamy, if decorous and *sub rosa*, are treated hypo-

critically, but if they become a scandal, they may lead to suicide by the offender.

In Melanesia the law obliges the boy at puberty to leave his parents, go to the village of his mother's clan and submit himself to the tutelage of his maternal uncle. But *chieftains* often keep their sons in violation of this rule. In ceremony and fights, the boy sides with his uncle; in affection he clings to his father.[47]

Anthropologists now look upon primitive man as bound by customs as we are, but at the same time making various exceptions to his rules to fit individual cases, and permitting himself, as we do ourselves, various unadvertised liberties which compensate in a degree for the more formal and outward restrictions. It is now impossible to say whether primitive men enjoy on the average more or less personal freedom than do civilized men. Careful studies of particular primitive cultures seem to show that they vary enormously in the latitude given the individual.

How Culture Limits and Frustrates Wishes

How Culture "Cramps Man's Style."—In channelizing the interaction among human beings, culture seriously limits their wish goals. Culture is an instrument of human gratification; it also places serious restraints upon gratification. It helps to satisfy wishes, it also frustrates wishes. Some of these frustrations are necessary to prevent still greater frustrations, others are quite needless.

When some other culture besides our own imposes needless restrictions upon the people who practise it, we easily perceive the restrictions and we pity the poor benighted people who are thus burdened and deprived of the fullness of life. The well-informed Christian pities the Mohammedan when he learns that the latter must eschew all realistic art and must be content with geometric and conventional decorations in his mosques. He regards himself as more reasonable and enlightened than the orthodox Jew who may not eat pork, and the Hindu who may not eat beef. Some Americans and most

[47] Malinowski, *Crime and Custom in Savage Society.*

Europeans are amused by the failure of the American teetotaler to appreciate the convivial values of intelligently used alcohol, and distressed by the latter's efforts to force his code upon them. The cosmopolitan person reflects how much is missed in life by the narrow-cultured groups who regard dancing, theatre-going, and card playing as sinful. The modern girl looks with pity and amusement upon the pictures of girls of the recent past who were burdened with heavy clothing and "false modesty." The poor Orientals, we note, do not even allow themselves the innocent luxury of kissing, but must be content to get what satisfaction they can out of rubbing noses. The unfortunate Moslem women must really confine themselves to the home, and until recently, and then only in advanced Mohammedan countries, might not even show their faces.

So free and untrammeled is life in America today that we seem to need the restraints of other cultures in order to provide adequate suspense for our movie plots and short stories. The conflict between normal human wishes and the monastic vow, the love-match versus parental authority, are well nigh obsolete in real life; they play a rôle in fiction far greater than warranted by the present realities of life.

Langdon-Davies makes an interesting interpretation of the life of the "Spanish Woman of Today."[48] Like the English woman of many generations ago, her "place" is very much in the home, and she reacts to her restricted situation by psychologically binding "her sons to her in an Œdipus relation." The broader implication seems to be that when culture restricts the freedom of married women, it often limits their response wish-goals to a narrow companionship with their husbands. It denies them (a) the wider companionship with their husbands in the work of the outside world and in varied social contacts, and (b) social contacts with other men which help satisfy the response wish. In other words, it gives them no opportunity to form that interweaving of adventure and love goals which so enriches life among freer peoples. Women

[48] *Harpers*, vol. clix, p. 711 (1929).

commonly adjust themselves to these limitations by seeking unusually intense love satisfactions through their sons. Again, the love life of the average man in such woman-segregating countries would seem to find less completeness through his wife, and would seem to have greater need of the mother-relationship and also perhaps the prostitute-relationship. When culture "emancipates" women, it tends somewhat to reduce the number of sexually monogamous women and to erase the sharp cultural distinction between "good" and "bad" women; but at the same time it makes possible a more complete and mutual love relation between a man and some one woman. In any case, the gratification of the more intimate forms of the response wish is less confined to cultural channels, more free to be attained according to the peculiar needs of individuals.

While it is easy to see the needlessness of many restraints imposed by the cultures of other peoples or of our own past, we tend to be blind to equally needless tabus in the culture in which we live. As regards our present American business class culture, however, there are two points of view. One is that it is really more liberal and reasonable than any other culture in human experience, that it comes close to limit of possible freedom. The other point of view is that its liberality is merely an illusion, that while we are free from many restraints endured by other peoples, yet those peoples would see as much needless restraint in our society as we see in theirs.

A clear picture of the situation is impossible without some scientific method of measuring, evaluating, and comparing liberties. There is good reason to believe that our own culture is perhaps more liberal than the world has yet known. At the same time there is reason to believe that it is not nearly so liberal as it might be. We are still far from complete emancipation from culture. We regard culture as an end in itself apart from the individual wishes it is designed to satisfy.

The writer asked some forty college girls to write down the social tabus and restrictions of which they were conscious in their social class, and which they believed could and should be abolished. He got the following results.

Restrictions upon or relating to:	No. of mentions
DRESS AND APPEARANCE.	
Conforming to style	13
Hats in church	10
Use of bathing suits	8
Special clothes for special occasions	7
"Modern" style of dress	6
Wearing clothes of opposite sex	4
SOCIAL RELATIONS.	
Chaperonage	23
Coeducation	6
Girls entering fraternity houses	3
TABLE MANNERS.	
Many small items	3
SEX LIMITATIONS.	
Women smoking in public	21
Men performing domestic service	18
Sex-limited sports	11
Women combining marriage and career	5
Girls traveling alone	5
Women doing mechanical work	4
RACE, RELIGION, AND SOCIAL CLASS.	
Catholic-Protestant marriages and friendships	10
Living or going in certain neighborhoods	3
Social mixing of Jew and Gentile	2
RECREATION.	
Sunday recreations	5
"Modern" literature	4
"Modern" dances	2
Seasonal restrictions on games	2
ECONOMIC CONSUMPTION.	
Necessity of tipping	3
Necessity of riding in cars when one could walk	3

Goals as the sphere of true liberty.—Our debates about liberty are concerned largely with business and political rights. The right of the small business man to run his own business as he sees fit, to be free from the dictation of Wall Street,

from the meddlesome interference of organized labor, and from bureaucratic regulation by government, is the picture which comes to minds of many when they speak of liberty. That Church is separated from State, that every citizen may vote irrespective of property, that there are no titles of nobility, to many people illustrate what they mean when they call America the "Land of the Free." In other words, to many of us liberty means merely democracy. But "democracy" refers to the distribution of power, to the channels of social decision. It may be a means of gaining freedom, but it is not in itself freedom. Liberty is not the right to exert power over others, nor to wield an influence in social decision. It is the right to manage one's own private personal life as one sees fit. All true liberty is personal liberty, and there is some reason to believe that this true liberty is less characteristic of America than it is of Continental Europe. At least it seems to be less *valued* by our American mores, whatever be its actual extent in practice.

Elsewhere the writer[49] has pointed out that the economic system is not the place to look for increasing liberty. In the very nature of the case, the economic system tends to develop towards greater integration, centralized management, more complete and scientific regulation. The development of chain stores and banks, the domination of small firms by large corporations, the domination of the individual workman by his labor union with its mass action, the increasing regulation of business by government, all point in this direction. But Life does not consist entirely in the activities of getting a living. The point is that by submitting to stricter regulation and scientific management in getting our living, we are able to earn it with less and less effort. The place to seek liberty is in the living itself. Man learns to give up the anarchies of his working life that he may enjoy greater freedom in his leisure life.

The economic and political systems belong mainly to the *instrumental* institutions of our culture (see Chart II). They are means to ends. The right to establish an independent store,

[49] *Culture and Social Progress*, chap. xvi, Longmans, 1928.

bank, or workshop in a community already sufficiently provided with such enterprises, the right to run a business on the open-shop plan and thus elude the burdens of labor unionism, may be desirable safety valves in our present economic system, but they are not, in the last human analysis, important. They belong in much the same class as the right to walk to the left on the sidewalk or the right to use one's own private and peculiar phrases instead of the standard language idioms to convey a certain meaning. These acts are merely means to ends. In a large general sense, only a neurotic will fight for freedom in the choice of means, when he realizes that he can have freedom in the choice of goals.

The kind of liberty which is really worth fighting for is the freedom to seek one's own final wish goals without unnecessary frustration and arbitrarily enforced substitutions. It is in the goal functions of culture and in the institutions of direct gratification that liberty has its only valid meaning and importance. Culture indeed "cramps our style" more or less in all departments of life. But it is in family and personal relationships, in play, art, dress and various sensory gratifications, that this cramping is often needless and seriously limiting upon the fullness of life.

The seemingly upward trend of liberty.—In this variety and freedom of final goals, in this right of the individual to develop his own life-patterns of pleasant experience in accordance with his personal attitudes rather than standardized, tabu-fixing cultural attitudes, we are probably gaining. Whether we have advanced in that respect to a higher degree than was enjoyed by classic civilization, or by our pre-Victorian ancestors, is hard to tell. Personal liberty may be increasing with an upward secular trend throughout all history, or it may simply rise and fall in cycles. In any case we are now on an upward swing. Such movements as prohibition, censorship, and the new "humanism" do not represent the real trend of the times. They are perhaps deathbed reactions of certain culturally determined values *against* the onward march of individualism, which permits each individual to determine his own values.

Such, at least, is the interpretation which optimistic liberals would place upon our current social changes. But there is another aspect of these changes which makes the picture appear more confusing. The naive liberal imagines that personal liberty is increasing because he sees so many erstwhile tabus relaxing and crumbling. At the same time other controls upon the modes of personal gratification may be building. The *law* or the *moral tabu* prohibiting some specific kind of behavior is only one of the devices by which culture cramps man's style in his pursuit of happiness. If the whole thought-pattern of "legal and illegal," "right and wrong," "moral and immoral," were to pass away, as the fear of hell-fire has already largely passed away, we still might have no more personal freedom than before. We may find ourselves increasingly restrained by two other kinds of culture patterns.

Æsthetic standards as sources of frustration.—First, there are the standards of "respectability," "dignity," "beauty," and "good taste." A recent study showed that college students are regulating their behavior more by aesthetic standards, less by standards of absolute right and wrong.[50] It is not dignified for a respectable business man to play tag with his children, even though his deeper impulses at the time may prompt it. It is not good taste to be conspicuously working in your garden in your old clothes on a Sunday morning even though there be no longer any stern "moral" disapproval of such conduct. You forego an opportunity for a most enjoyable and stimulating companionship, saying to yourself, "no, I don't think there's anything really *wrong* in it, but it doesn't look well." Its not looking well may be on account of your age, or sex, or marital status, or occupation, or your "position" in the community, or of the status or reputation of the other person. So you deny yourself an important wish satisfaction, and instead you use the time in some very customary activity or relationship which probably adds little to your personality and enrichment of life.

Among the acts disapproved in the name of dignity or good

[50] ANDERSON and DVORAK. See p. 551.

taste in a women's college community were: appearing at dinner in athletic costume when shortage of time required it, overloading an open car with jauntily dressed, happy girls who thus made a conspicuous scene on the public highway, eating at a restaurant where the food was excellent but the "kind of people who went there" were not "suitable," walking bare-legged in a nearby town before that custom had spread from the college girls to the more general female populace.

It would not seem that these restraints could be very seriously cramping to the personality of a modern American girl with all the variety of opportunities which culture provides for her pleasure. However, they are merely illustrative of a host of minor restraints which various local community cultures place upon the individual. In one social environment it is five or ten petty restrictions, in another environment these may be absent but there will be ten or twenty others. Each in itself is not important, but in every group the total volume of restraints of questionable necessity is large and serious.

The point overlooked by the champions of restraint is that the very questionability of certain restraints makes them dangerous. As we have seen in Chapter V, most persons adjust easily to a frustration which they intellectually regard as necessary or inevitable. They recondition their wish to a substitute goal, or diffuse the emotion into a variety of other channels. But a frustration, however petty, which intellectually appears as "needless," "unjustified," generates defensive emotional reactions far out of proportion to the original importance of the activity in question. Such a frustration is less likely to find readjustment through rational substitution, more likely to lead to abnormal and even anti-social reactions.

Æsthetic vs. moral standards.—There is a certain danger in substituting æsthetic for moral standards. It is not the danger that æsthetic standards will be too lenient, too permissive of individual variation according to circumstances. In fact the real danger may be the opposite. There is no guarantee of greater personal freedom under a code which asks "how does this look?" than under a code which asks "is this right or wrong?" The danger is that æsthetic standards may be less

amenable to reason than are moral standards. They may be more flexible, more changeable, but their changeability represents the capriciousness of culture rather than the freedom of the individual. The variability and changeability of a culture trait is no index of its *liberality*. By liberality is meant freedom to vary according to the specific needs and wishes of each individual affected. Dress, for example, is exceedingly variable. It varies, in rural Europe, according to the village, and everywhere according to sex, age, social class, season, and type of social occasion. And in advanced countries it changes from year to year in a series of changes known as "fashion." But all this variability does not make liberty. Liberty exists only when the specific individual, at a specific time, place, and social occasion, has a large freedom of choice, allowing for any mood, condition of pocketbook, or set of circumstances in which he might be placed. The respectable business man, with his "suitable" dress for every occasion, has little more freedom of costume than the soldier with his uniform.

Therefore it is doubtful that anything would be gained by bringing other modes of personal behavior under æsthetic standardization. Some form of recreation, some type of personal relationship, might be beautiful today and quite disgusting tomorrow. Æsthetic standards tend to make us more concerned with æsthetic wish-goals at the expense of comfort goals and relational goals. (See Chapter IV.) They lead us to look at life in two dimensions, as it were, instead of three. We become more concerned with the appearance of life, less with its substance.

Standards of right and wrong, on the other hand, are more subject to control by science. The moral thought-pattern, with all the absoluteness it once had, has always been more or less tied up with the idea of harmfulness, that is, of real, substantial injury to individual life. To be sure, every people regards as immoral many acts which are really harmless, and as moral many acts which are really harmful, but the growth of scientific knowledge tends to set them right. Once let science clearly demonstrate that a supposedly immoral act is really harmless in terms of individual welfare, or vice versa, and

there is a fair chance that the mores on the subject will change accordingly. And when we are freed from a needless legal or moral tabu by science, we have some hope of being free from it forever. But we never know when a burdensome æsthetic standard, carried upon the waves of fashion, may return to plague us.

The frustrating influence of economic patterns.—The second way in which culture limits individual gratifications, without legal or moral tabus, is by binding the individual to a pattern of daily life which makes it inconvenient or difficult to vary his experiences. Our environment offers many satisfactions, quite within the range of conventional approval, which most of us cannot *afford* to seek. We cannot afford them, not because of their absolute cost, but because the struggle for success and respectability according to the standardized patterns of life leaves us no time or money for these more unusual and life-enriching experiences. As the per capita income grows, the expenditure necessary to keep our social respectability grows apace. Let us say that a family earning $3000 per year spends $1500 for absolute physical necessities, $1000 to maintain the standards of dress, household appearance, and participation in community life which are generally felt to be essential to its social status, and the remaining $500 to gratify the peculiar, unstandardized wants of its individual members. Suppose now that this family rises to an income of $10,000. Theoretically its absolute necessities should not increase, and by remaining in the same social status it would have $7500 instead of $500 to spend on individual gratifications. Actually the family will acquire a higher "standard" of living, which will perhaps cost $6000 instead of $1000 to maintain, making a total *required* expenditure of $1500 + $6000 = $7500. This will leave only $2500 for peculiar individual gratifications. In some cases even less than that will be left.

We postpone for years the purchase of the summer cabin in the woods, because our town house "is beginning to look shabby" and needs the extra money spent on it. We forego the much-needed long vacation with its new and varied ex-

periences, because we must pay for the new car, which adds little to our lives that the old car did not give, but "it looks much better." The successful but tired father puts aside the idea of taking a year off from his regular business for some more restful or more stimulating activity, and sticks to the same old grind in order that he may send his daughter to a fashionable school, or enable her to make a "successful" debut. And he will never know whether the sacrifice he made has really repaid itself in terms of increased happiness on the part of his daughter.

The daily rhythm of making a living constrains us to narrow grooves of leisure life. The average business-class man, on a rough estimate works 2000 hours per year. If he were free to arrange those hours according to his own idiosyncrasies he could work just as much, and at the same time enjoy a far greater variety of leisure time gratification. But, under the standard schedule, he seldom undertakes any leisure pursuit which would require longer than a Saturday afternoon and a Sunday. And most of his Sundays may be constrained into a rigid mold of late sleeping, leisurely overeating, newspaper reading, porch-sitting, short "pleasure" drives, visiting of the same friends and relatives. Not that these particular activities are unworthy. But in too many cases they lack variety, they represent the ruts of habit, and not thoughtfully chosen modes of self gratification. Even church-going is governed largely by habit rather than by purposeful choice. It adds nothing to say that this stagnation of leisure life is due to the mental laziness of the individual; the point is that the patterns of our economic culture encourage this kind of laziness, and that cultural changes are possible which might induce a much larger percent of individuals to scheme for variety and adventure in their leisure time. Such changes include the five-day week, with all holidays on Mondays, as recently suggested by Mr. Raskob, a standard minimum of six weeks' annual vacation distributed through the year according to the wishes of the individual, the training of every individual for a suitable minor occupation which he might follow as a rest

from his major occupation, legal guarantees against dismissal save for incompetence, part time jobs for married women, old men, students, as suggested by Lorine Pruette,[51] an elaborate structure of employment exchanges and organized information concerning personal opportunities of all kinds.

Such changes would compel industry to reorganize itself somewhat. The decisions and policies of its executives would be controlled more by the personal needs of its employees, less by considerations of *immediate* efficiency. To the far-seeing business man, productive efficiency in the long run probably will appear greater under our suggested humanized system. But these few far-seeing leaders will find it difficult to humanize *their* industries unless there is either some collective agreement, or legal compulsion, to force the more short-sighted business men to give up their more immediate efficiency and profits.

Summary.—The goal of science is to formulate laws or generalizations which can be used to predict. The study of social interaction processes has not yet advanced sufficiently to permit our formulating laws of assured validity. Laws are of two kinds, static laws which state the relations of forces in equilibrium, and dynamic laws which state how, and in what sequence, changes take place. Many apparently sound generalizations about social interaction hold good only within our own culture. Every culture constrains the processes of interaction within certain channels. Hence it is often more practical to know in detail the channels or patterns of a given culture than to be able to make broad generalizations. The practical sociologist is he who has a detailed descriptive knowledge of the culture in which he is to do his work. He need not have a profound knowledge of the theories of universal human interaction.

Culture consists of the more constant features of social life, the things which are passed down from generation to generation by "social heredity." It may be analyzed into culture traits, complexes, and patterns. It includes material tools and

[51] *Women and Leisure*, Dutton, 1924.

equipment, activities, social organization or structure, symbols, and cultural attitudes. These kinds of elements are combined in various ways to form institutions, cultural-emotional symbols, folkways, mores, and beliefs.

All cultures are built upon a certain universal pattern. The differences between cultures are explained by history, that is, by particular combinations of events and circumstances, rather than by general differences in physical environment or in the biological qualities of races. Environment and race are merely limiting or checking factors in the development of a culture. The similarities of all cultures—in other words, the universal pattern—are explained by human psychology. All cultures must satisfy certain universal human wishes, which we have already discussed in Chapter IV. The relations between the various means and ends in culture are presented in Chart II. The ultimate goal functions, or ends, of culture, are the same as the final wish goals of individuals. Culture continually changes in its form and content, but its goal functions remain "eternally the same."

Culture is produced by human wishes acting not through isolated individuals, but through the interaction processes between individuals. Hence social interaction determines the universal pattern of culture. The process by which this happens is illustrated by a study of the psychology of dress, art, and other culture complexes.

Culture then reacts back upon the social interaction processes which produced it. Each culture has its own peculiar patterns, built upon the universal pattern, and these patterns limit or "channelize" the interaction of human beings within that culture. This principle is illustrated by the sex division of labor and several other social phenomena.

Because the functions of culture are always the same, primitive cultures differ from civilization only in form and content, but not in "psychology." Psychologically, primitive man is like ourselves, the only differences between him and us are cultural.

In channelizing the interaction between human beings, each

culture also limits the wish-goals of these individuals. While culture is produced by wishes, it also causes many frustrations of conflicting wishes. Some of these frustrations are mechanically necessary, others could be avoided were man to gain an understanding of his culture and a control over it.

CHAPTER XI

SOCIAL AND CULTURAL ATTITUDES

Attitudes Which Are Group Traits Rather Than Individual Traits.—The processes of social interaction in which we participate, together with many non-social situations to which we are exposed, establish our attitudes. The immediate process in the individual nervous system which establishes an attitude is the old familiar process of conditioning. But it is the *situations*, social and non-social, which determine *what* stimuli shall be conditioned to *what* attitudinal reactions. Many attitudes function chiefly in the independent life activities of the individual; they determine his enjoyments and his frustrations. Other attitudes serve largely the agencies of social control. They are established through purposive organized interaction. The only way in which a control agency can really "get under the skin" of an individual and affect his behavior is through changing his attitudes or using an attitude already established.

In Chapter I we sketched in preliminary fashion the rôle which attitudes play in society. In Chapters II to VI we studied attitudes as phenomena of individual psychology. Let us now return again to a consideration of attitudes, this time from the standpoint of social interaction, social control, and culture.

Individual personalities, as was seen in Chapter VI, differ in physical traits, intelligence, temperaments, and attitudes. While we are not always certain whether a given trait is chiefly temperamental or chiefly attitudinal, we may assume the distinction in theory as a basis for further analysis. Of these four kinds of individual differences, physical traits, intelligence and temperament are biological and wholly within the individual. We may, of course, speak of group differences in a trait of physique, ability or temperament, but in so speaking we mean merely a difference between the *average*, or

variability (see Chapter VI), of the trait in one group and the average, or variability, of that trait in another group. The average, and the measure of variability, are merely shorthand symbols for generalizing the specific measurements of many individuals.

An attitudinal trait, such as patriotism, conservatism, interest in religion, approval of Sunday recreation, etc., at first glance seems also to belong to individuals in this same sense. For it may be reduced to a quantitative scale, measured, and have its distribution among individuals statistically charted. There are, however, two important differences in the situation.

(1) Attitude traits are acquired mostly through conditioning by the social environment. They do not inhere in the mechanical or chemical constitutions of individuals. To be sure, certain physical or temperamental traits may predispose toward the formation of certain attitudes. Good health and hyperkinesis, for example, probably favor the development of the attitude "strong interest in out-of-door sports." But still the attitude itself must be distinguished clearly from the biological traits which lead to it. In some cases, in fact, we may find such an attitude developed through compensation as a result of the opposite biological traits—poor health and hypokinesis.

Since attitudes are largely the result of the social environment, at least some of them may be regarded, from one point of view, as traits *belonging to a social group*, or social environment, and merely *reflected* or *expressed* through individuals. We cannot say the same of physical or temperamental traits, or of abilities. Allport, consistent with his general view of social psychology as merely a "sector of individual psychology," does not, of course, share this group point of view, but regards attitudes, like other traits, as belonging purely to individuals. His theory is limited and inadequate.

(2) Some attitudes may change very rapidly under the influence of "public opinion," as illustrated by the data which we shall give later in this chapter. Such rapid changes do not often occur in temperamental traits and in those underlying attitude traits which are characteristic of the individual per-

sonality. One may quickly change his attitude toward the League of Nations, but not his attitude of preference for outdoor over indoor life. The latter attitude seems to belong more definitely to him as an individual, the former seems rather a reflection of the public opinion of the group. The approaching attitude toward "outdoor life" is a directly conditioned response; it can be unconditioned only by direct emotional experiences, such as a series of disagreeable episodes connected with out-of-doors life, but it is not easily unconditioned by reasoning. But the attitude toward the League of Nations can be changed quickly by new information, for its original conditioning was mediated by reasoning (symbols). Also, a favorable attitude toward short skirts may change quickly, when the *fashion* changes, into an unfavorable, avoiding attitude. If this attitude were as deeply a part of the individual personality as was the outdoor-loving attitude, it could not be changed so quickly. The attitude toward short skirts is a conditioned response symbolically mediated through the more general social situation, "what others are wearing."

Perhaps, then, we should distinguish between (1) directly conditioned, more or less permanent attitudes of the individual personality, and (2) changeable attitudes which are mediated through social pressure and through symbols. The former might be called personal, and the latter, social, or group, attitudes.

Allport holds that public opinion (or group attitude) is merely the aggregate of individual opinions (or attitudes). Yet we often seem to recognize readily what the group attitude is without knowing definitely individual attitudes. We know that in 1917 the American people declared war on Germany, and in 1920 adopted Prohibition, and that public opinion or the "general attitude" vigorously supported these measures. Yet we never had a country-wide referendum on these questions, and there is some doubt in the minds of many as to how the issues would have been decided had the decision been made by referendum rather than by Congress. Rather, the group attitude or social will was integrated through the

channels of social decision described in the last chapter. The final result, expressed through the action of Congress, undoubtedly was influenced much more by the attitudes of some individuals than by those of others. A referendum would give the same weight to the vote of a poor and illiterate man as to that of a wealthy and educated man. The normal channels of social decision give greater influence to the wealthy and educated. A wealthy and educated minority could, by controlling the press and the organs of public opinion, create an "impression of universality" (so well recognized by Allport himself) which would change the attitudes and votes of so many members of the uninfluential majority that the original minority might easily become a majority. Certainly the group attitude or will is not the mere aggregate of individual attitudes or wishes; it is the result of these individual attitudes interacting with one another and expressed through certain channels of social decision. The final result may be quite different from the result which would have been obtained by a referendum; and even a referendum after discussion (a form of interaction) might show a result quite different from that of a referendum taken immediately, without opportunity for discussion, upon the appearance of the question.

A social attitude may be regarded as a group trait. We may compare groups with respect to attitudes as we compare individuals with respect to temperament, attitudes and other traits.

The Measurement of Attitudes.—We have defined an attitude as a key (preparatory) *S—R*, usually of a postural (motor set) or incipient emotional character, which controls many other reactions of a more specific and overt character. These latter reactions in general we called symbolic and kinetic habits. Many sociologists and psychologists have attempted to measure attitudes. Since the attitude itself is not open to direct observation, it must be measured through its overt expressions. In general, two kinds of such overt expressions may be observed: (1) verbal reactions, and (2) the actual overt reactions to which the attitude supposedly leads and which the verbal reactions supposedly symbolize. These overt reac-

tions may be observed as they are at present, or as they have been in the past. Past reactions are observed through the medium of case histories, autobiographies, etc.

For example, we may wish to observe and measure, as Helen Witmer did, the attitudes of mothers toward the sex instruction of their children. She employed the above-mentioned two methods of observation as follows: (1) She obtained their verbal reactions (a) by means of an attitude questionnaire, and (b) by means of trained advisors, who interviewed the mothers and estimated, or rated, their attitudes toward sex instruction through the information obtained by this interview; (2) she observed their past behavior in the sex instruction of their children, (a) through the informal method of having the advisors ask them about it, and (b) through a printed behavior questionnaire. The attitude test (1a) correlated with the opinion rating by the advisors (1b) + .84. Miss Witmer concluded from other evidence that the test and the rating were about equally valid as measures of attitude. She also concluded, from the examination of various evidence, that the informal and the questionnaire method of determining past behavior were about equally reliable. While she was unable to apply all four methods of measurement, (1a), (1b), (2a) and (2b), to any one group, she got results which indicated that the correlation between verbal attitude (1), whether measured by the (a) or (b) method, and actual past behavior (2), measured by either the (a) or (b) method, was about + .60. Furthermore, the mothers' own statements as to how their opinions were affected by a course of study in sex instruction correlated highly with the changes in their scores in the attitudes test, which used many concrete examples and did not ask directly for their general attitude. Hence it seemed safe to take their own statements of change of opinion at their face value.[1]

It must be noted, however, that Miss Witmer's observations of the actual past behavior of these mothers were not direct, but were made through the medium of their verbal reports to

[1] WITMER, H. L., *The Attitudes of Mothers Toward Sex Education,* University of Minnesota Press, 1929.

advisors or their written verbal reactions to the behavior questionnaire. Every measurement she made was, in the first instance, based upon *words*. But there is an important difference between one's verbal report of the way he feels or thinks, and his verbal report of definite acts he has performed. Either may be false, but in the majority of cases, when the investigation is scientific, both are approximations to the truth.

It might seem that to measure attitudes it is necessary to have a standardized list of questions for the subjects to answer. But there is another way, S. A. Stouffer[2] has shown, to get trustworthy results. If we have case history records of several individuals, we can judge very accurately the attitudes about which the records give information, even though they do not give this information in the standardized form of check marks against answers (a), (b), (c), and so on. Stouffer had several judges read case records without discussing them with one another, and their ratings of the subjects' attitudes correlated on the average .96! Hence we know we are safe in going ahead with a method of which we have been rather dubious. We can translate case data into statistical data with smaller risk of error than we believed, and thus new avenues of research are opened.

Attitudes, Opinions, and Beliefs.—The usual method of measuring attitudes is that which observes their verbal expressions. The verbal expression of an attitude sometimes is known as an *opinion*. "Opinion," however, is not a sufficiently broad term to cover the verbal expressions of all attitudes. My verbal expression of my attitude toward Prohibition may be called an opinion, but my verbal expression of my attitude toward mountain exploring is not an "opinion." It is a statement of liking or interest. An opinion is a verbal reaction coming at the end of a thinking process; but there are also verbal reactions to emotional reactions, and these we do not call opinions but, rather, expressions of taste, sentiment, interest, preference, and so on.

Many sociologists distrust these verbal reactions, especially

[2] "Experimental Comparison of Statistical and Case History Methods in Attitude Research," Doctor's Dissertation, University of Chicago, 1930.

opinions, as indicators of attitudes. For example, Park says, "Opinions arise in discussion in our attempt to define and justify attitudes. . . . They are our effort to rationalize attitudes and wishes."[3] Bogardus says, "An opinion may be merely a defense reaction that through overemphasis usually falsifies, consciously or unconsciously, a man's real attitude."[4]

On the other hand, Miss Witmer's findings show that expressed opinions on sex education do correlate to the extent of about .60 with the actual behavior which is supposedly the valid test of attitude. G. A. Lundberg points out that "actions are frequently designed to distort or conceal the 'true' attitude quite as fully as verbal behavior . . . *all* behavior is subject to modification in the process of execution from considerations of courtesy, expediency, or other social pressures."[5] In other words, though words may be deceptive, acts also are sometimes deceptive, and in the long run words may be as valid a cue as is any other behavior we can observe.

F. H. Lund asked college students to rate 30 propositions as to (1) their belief in them, (2) their degree of certainty in their belief (knowledge), (3) desirability, and (4) the extent to which evidence and opinion "contribute to your attitude." The subjects were asked to rate the propositions a second and a third time, after reading arguments for and against them. Four-fifths of the subjects adhered to their first position after reading the argument for the opposite. These correlations were found:

Belief and desirability	+.88
Belief and knowledge	+.64
Belief and evidence	+.42
Knowledge and desirability	+.13
Evidence and desirability	—.03

He concluded that opinion, not belief, is in contrast with knowledge, and that belief is an emotional rather than an intellectual attitude. For belief correlates only .42 with the evidence and .88 with desirability.[6]

[3] "A Race Relations Survey," *Jour. Appl. Soc.*, vol. viii, p. 202 (1924).

[4] "Personal Experiences and Social Research," *Jour. Appl. Soc.*, vol. viii, p. 229 (1924).

[5] *Social Research*, Longmans, Green, 1929, p. 202.

[6] LUND, F. H., "The Psychology of Belief," *Jour. Abn. Psych. and Soc. Psych.*, vol. xx, pp. 63, 174 (1925).

C. Mc F. Campbell holds that belief is a biological phenomenon, a mechanism of adjustment (see Chapter V) to bereavement, unsatisfied love, longing for children, and the desire for power.[7] We believe what we wish to believe.

Techniques for the Measurement of Attitudes.—For the measurement of attitudes through their verbal (symbolic) expressions, Lundberg enumerates eight types of technique now commonly used by investigators. These are:

(1) The "cross out" test, in which the subject is asked to cross out each word which suggests something pleasant or unpleasant, humorous, irritating, etc.

(2) The "yes" or "no" question.

(3) The "degree of truth" test, in which the subject is asked to indicate whether he considers a proposition absolutely true (T or +2); probably or partly true (PT or +1); in doubt, divided, or open question (D or 0); probably or partly false (PF or —1); or absolutely false (F or —2).

(4) The inference test, in which the subject is asked to indicate which of several statements can be inferred from a given statement.

(5) The moral judgment test, in which the subject is asked to indicate which of several stated ethical attitudes he takes toward a given question.

(6) The arguments test, in which the subject is asked to indicate which arguments, on both sides of a question, are strong and which weak.

(7) The generalization test, in which the subject is asked to indicate, for example, whether he believes "All, most, many, few, or no Sunday School teachers are doing more harm than good."

(8) The attitude scale. In this complicated method, free written statements of attitude toward a given question are collected from many persons. These statements are then classified and arranged upon a linear scale, with the extreme attitudes at the ends of the scale and the more moderate ones in the middle, all arranged in such order that any specific attitude statement can be assigned to some point upon the scale. The scale is commonly divided into some ten or fifteen degrees.[8]

The Statistical Distribution of Attitudes.—Some interesting questions are raised by the statistical study of public

[7] *Delusion and Belief*, Harvard University Press, 1926.

[8] LUNDBERG, *Social Research*, pp. 209-230.

opinion which Stuart Rice has ably summarized in his *Quantitative Methods in Politics*. Rice holds as a general theory that the opinion or attitude on any question tends to have, at bottom, a normal distribution. That is, few persons hold extreme views either way, the great bulk are middle-of-the-road, with the greatest concentration at the very middle, so that the resulting curve (see Fig. 37) is like the curve of distribution for stature, intelligence and most other human traits.

The apparent fickleness of public opinion may be due to two causes: (1) the comparative indifference of the central portion, which by shifting slightly to right or left may cause

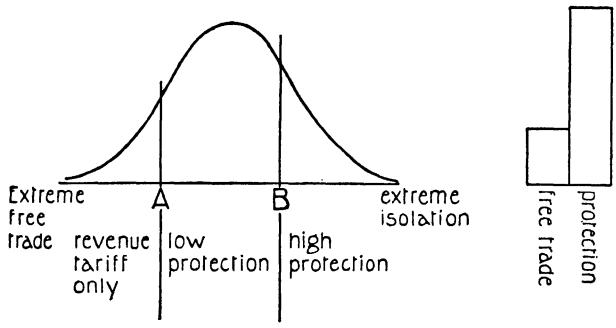


FIG. 37.—DISTRIBUTION OF OPINION

a large upsetting of the balance, and (2) to changing the point at which the issue is drawn. This latter cause deserves further attention. Most attitudes at the ballot box are expressed as a choice between two alternatives. The outcome depends on just where the line is drawn between these alternatives. For example, the fundamental opinion on the question of protective tariff is probably distributed normally, as in Fig. 37. If the issue is drawn as free trade versus protection, the great majority—all those to the right of line *A*—will vote for protection. But if the issue be low protection versus high protection, the great majority—all those to the left of line *B*—will vote for low protection.[9] The latter vote seems to produce a

[9] RICE, *op. cit.*, pp. 71-82.

result much more pleasing to the free trade advocate, but the underlying opinion remains the same.

Allport and Hartman, measuring opinion on the League of Nations, divided the scale into some ten or more steps from complete adherence to complete rejection. They found a non-normal distribution, with two high peaks at the two points "non-adherence with friendly coöperation" and "adherence with subsequent adjustment of defects." In the middle range

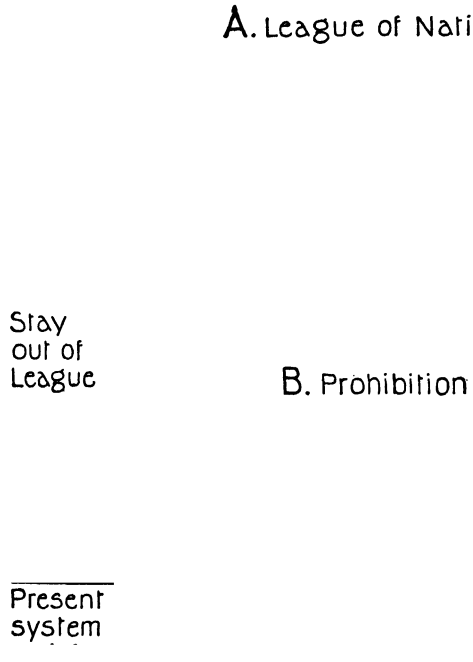


FIG. 38.—DISTRIBUTION OF OPINIONS

between these two points there was a valley, where in a normal distribution there should have been the single high peak. The general form of this League of Nations distribution is shown in Fig. 38A. Opinion on the question of prohibition distributed itself in the general form shown in Fig. 38B.[10]

Rice explains these abnormal distributions as the result of distorting factors working upon a fundamentally normal

[10] ALLPORT, F. H., and HARTMAN, D. A., "The Measurement and Motivation of Atypical Opinion in a Certain Group," *Amer. Pol. Sci. Rev.*, vol. xix, p. 735 (1925). Figures reproduced by permission.

distribution. But Allport doubts that there is any fundamentally normal distribution. He holds that there is no real opinion at all until the issue has been raised and the distorting pressures and propaganda have done their work. The opinion is non-normally distributed as soon as it actually begins to be opinion.

Thurstone has worked out an elaborate mathematical technique for the measurement of attitudes. He writes on separate cards a large number of statements, representing every possible shade of attitude or opinion on a given question. Then he asks a large number of judges to make various judgments about these statements. The final result is a scale of selected statements, which, according to the statistical results, are supposed to represent equal intervals of attitude difference from the one extreme to the other. By examining the statistical distribution of any given statement, he is able to give it its proper place on the scale and to tell whether it is ambiguous or clear, relevant or irrelevant to the main question. He also believes this method can be used as a substitute for the correlation method in solving many problems regarding the resemblances of two or more attitudes.[11]

No General Law of Distribution of Attitude-Variables.—In the writer's view it is useless to seek any general law of distribution of social attitudes. First, the distribution will depend upon the nature of the question voted upon and the scale of steps used as a measuring stick. These steps are dependent upon the language used to describe them; they are arbitrary, determined largely by culture, and do not correspond to definite quantities of anything. Second, it is a fallacy to suppose that one's attitude toward the League of Nations, for example, is determined by his having a little more or a little less of something which can be measured, like intelligence or stature. For his attitude is determined by social interaction processes rather than by the laws of probability which determine the distribution of a trait independently among individuals. The stature, the intelligence, or the temperamental

[11] See THURSTONE, L. L., and CHAVE, E. J., *The Measurement of Attitudes*, University of Chicago Press, 1929; and THURSTONE, "The Theory of Attitude Measurement," *Psych. Rev.*, vol. xxxvi, p. 222 (1929).

extroversion factor in any given individual is determined *independently* of any other case, like the number of heads resulting from any given tossing of 100 coins. Such a trait therefore becomes a variable tending toward a normal distribution. But the attitude of any one individual toward anything is not independent of the attitudes of other individuals. It may tend to change toward greater likeness with the attitudes of others (assimilation) or toward greater difference (polarization, a phase of accommodation). In the trait of "ascendance-submission," for example, there is no *a priori* reason to expect a normal distribution, because the degree of ascendancy of each individual is not independently determined by "laws of chance," but is determined partly by the ascendancy or submissiveness of other individuals who have interacted with him.

Huldah Williams at Sweet Briar College asked about 80 college girls to indicate their attitudes toward 71 different situations. The situations were chosen as being related to the wishes for security, adventure, and superiority. Five possible answers to each question were provided, "emphatically or nearly always yes" (+ +), "usually yes" (+), "undecided" (0), "usually no" (−), and "emphatically or almost always no" (— —). The total number of answers to the 71 questions was distributed as follows:

		Per Cent
++	823	14
+	1834	33
0	331	6
−	1904	34
−−	743	13
	5635	100

This would appear to be a bimodal distribution. However, the zero class (undecided) probably does not cover so great a range on the scale as do the other four classes of answers. A slight tendency toward a yes answer, if it is enough to be perceptible to the subject, is expressed as a "yes" (+); a

slight but perceptible tendency toward no is expressed as a "no" (–). The attitudes which are so nearly neutral as to be uncertain are confined to a very narrow range around the mid-point. Allowing for this attenuation of the zero class, the distribution would seem to be fundamentally normal, inasmuch as the frequencies in the extreme classes are much less than those in the moderate classes, and the total number of answers on one side of the neutral line is about equal to the number on the other side.

The interesting point is that the distributions of answers to particular questions vary greatly in the degree to which they approach this general distribution. If we assume the general distribution to be normal, then the distribution of any answer which shows a marked deviation from this normal 14, 33, 6, 34, and 13 per cent may be regarded as non-normal. The following questions, for example, yielded results in which the extreme answers are decidedly more numerous than they should be in a normal distribution (the distributions are given in percentages in this order, + +, +, 0, –, —):

Do you feel anxious when you drive a car fast? 32, 39, 0, 21, 8.

Do you feel ill at ease when starting on a trip with just enough money to make ends meet? 31, 29, 5, 25, 10.

Do unsettling or disillusioning religious talks disturb you? 4, 21, 4, 34, 37.

Would you get a kick out of getting drunk? 17, 19, 15, 25, 24.

These distributions suggest *polarization.* In other words, it would seem that attitudes toward the situations in question tend to become extremely approaching or extremely avoiding, and not to remain intermediate as the bulk of cases should do in a normal distribution. The polarization process might be due to social interaction or to some non-social characteristic of the situation. In the case of fast driving, for example, a person either has had an accident or affrighting experience which has conditioned his fear responses, or has not had such an experience. The tendency of the distribution is toward "all"

or "none," rather than toward "average" or "intermediate." Furthermore, the ability to drive fast without nervousness is in these "jazzy" days one source of superiority gratification. At the same time, if one has had an accident and tells it to his fellows, he thereby escapes a sense of inferiority which he otherwise might suffer from having his companions observe his nervousness in an automobile. The wish for superiority, functioning in social (behavioristic) interaction, thus may tend to intensify the nonchalance of the already fast driver, and to justify the nervousness of the one who has acquired his fear through an accident. Social interaction may thus tend to produce a bimodal distribution, heavily loaded with cases at the extremes, rather than a normal distribution.

This, of course, is a theoretical analysis. But it helps to show how absurd it is to expect even theoretically a normal distribution of any particular attitude.

Some Significant Attitude-Studies.—By statistical methods Rice measures the homogeneity of a political attitude. Homogeneous means "all of one kind, with normal variations from this one type." Heterogeneous means "several different kinds mixed." A barrel of winesap apples picked at random might contain very large and very small apples, but it would be homogeneous. A barrel of mixed fruits might have the same range of variations in size, but would be heterogeneous. Suppose all the fruit in both barrels were wrapped in paper so that we could not tell the color or exact shape, but only the size of each piece. Then we should have difficulty, if we were not allowed to pinch or smell, in telling which barrel contained which fruit. But we could tell by statistical methods: that is, by weighing each piece of fruit, and getting weight distribution curves for the two barrels. The barrel which showed the more normal curve would contain the apples. The mixed fruit would show an irregular curve with perhaps a high peak or "mode" for the apples, another for the plums, and so on.

This is the method Rice used. The LaFollette vote in 566 midwestern counties averaged 37.9 per cent, with a coefficient

of variation of about 19.1 (the Wisconsin figure). This indicated a homogeneous "progressivism"—a little more here, a little less there, but always *tending* to involve about 38 per cent of the population.

On the other hand, the LaFollette vote density in Maine, though much smaller, showed a coefficient of variation of 40.8, and in North Carolina, 117.6. In those states "LaFollettism," in other words, was heterogeneous. It was not a typical attitude, a little more here, a little less there. It was the sum of several widely different types of progressive groups: here a small area of discontented farmers, here a factory town under the influence of labor leaders, here a group of liberal intellectuals, separated by wide areas of conservatism.

Taking Philadelphia wards as units, the number of Democratic votes per ward was not normally distributed, but showed a bimodal curve. This heterogeneity, thinks Rice, was due to the fact that the wards in general were either machine controlled or independent, and rarely "half-and-half."

E. S. Jones, questioning a number of college students, found that what he defined as "radicalism" characterized 32 per cent of the freshmen, 40 per cent of the men seniors, and 45 per cent of the women seniors. His questions dealt with economic attitudes, discipline, conventions, religion, and general optimism-pessimism.[12]

A vote taken before William Jennings Bryan's speech at Dartmouth College in 1923 showed complete acceptance of the doctrine of evolution by 13 per cent of the freshmen and 52 per cent of the three upper classes. After the speech, this complete acceptance attitude was reduced to 10 per cent for the freshmen and 43 per cent for the upper classes.[13] During the 1924 presidential campaign, Rice measured the general drift of student opinion away from LaFollette toward Coolidge under the heavy fire of the Republican campaign propaganda.[14] Bogardus, generalizing from many observations, says that changes from favorable to unfavorable opinion are more rapid than the reverse. Another interesting observation: On the Pacific Coast anti-Japanese opinion is concentrated in certain high-pressure areas and vigorously advertised, while the contrary "fair play" opinion is scattered and unorganized.[15]

One thousand "thinking Americans" crossed out every word

[12] "Opinions of College Students," *Jour. Appl. Psych.*, vol. x, p. 427 (1926).
[13] Rice, *op. cit.*, pp. 254 ff.
[14] *Ibid.*, pp. 272 ff.
[15] Bogardus, *Immigration and Race Attitudes*, pp. 118 ff., 237 ff.

in a list which was annoying or distasteful. Ninety per cent crossed out "Bolshevik," 90 per cent "Turk," 50 per cent "Mexican," and 30 per cent "immigrant."[16]

N. C. Meier made a questionnaire study of the motives for voting in the 1924 campaign, using 1088 individuals in the Mid-west. Motives were classified as self-interest, sympathy, fear, safety. The Republican campaign aroused the smallest proportion of rational motives and the largest proportion of specific emotional and habit responses—fear, safety, and self-interest. The losing parties showed more of the rational, mixed, and undetermined motives. This seems to support Le Bon's principles of suggestion: To control successfully one should affirm simple ideas repeatedly, in the same terms, without rational proof.[17]

A. P. Brogan asked several hundred students at the University of Texas, in 1919-1921, to name the chief "bad practices," or "sins," without suggestion from the teacher. They were then asked to rank the 16 most commonly mentioned practices in the order of their heinousness. The collective ranking was as follows (worst sin = No. 1, and so on):

	Rank given by men	*Rank given by women*
Sex irregularity	1	1
Stealing	2	2
Cheating	3	3
Lying	4	4
Drinking	6	5
Gambling	5	6
Vulgar talk	7	7
Sabbath breaking	9	8
Swearing	8	9
Gossip	13	10
Selfishness	10	11
Idleness	11	12
Snobbishness	12	13
Extravagance	14	14
Smoking	15	15
Dancing	16	16

The same test was given at several Northern colleges. The

[16] DUFFUS, R. L., "Where We Get Our Prejudices," *Harper's*, vol. cliii, p. 503 (1926).

[17] *Amer. Jour. Sociology*, vol. xxxi, p. 199 (1925).

only substantial difference was that Sabbath breaking was ranked 14 or 15 instead of 8 or 9 as at Texas. With this item omitted, the correlation betwen the rankings by Chicago and Texas was + .99.[18] Bertrand Russell comments that evidently American students think sex irregularity worse than murder. We are not told, however, what they thought of murder. Evidently the students concentrated their minds on the more common practices. And one wonders what results would be obtained from a comparable questionnaire in 1930.

Brogan and Slavens found that high school students rank these "sins" in nearly the same order as college students.[19]

L. L. Thurstone asked people to judge the heinousness of 19 legal crimes. The resulting rank order was rape, homicide, seduction, abortion, kidnapping, adultery, arson, perjury, embezzlement, counterfeiting, forgery, burglary, assault and battery, larceny, libel, smuggling, bootlegging, receiving stolen goods, vagrancy.[20]

Alice Anderson and Beatrice Dvorak investigated the *standards* by which several groups of people make their moral judgments, rather than the judgments themselves. The results reveal a decided drift among the younger generation away from the absolute notion of right and wrong. In its place they put in some degree prudence and public opinion and, girls especially, the *æsthetic* criterion. Among the 15 questions asked, for example, was: "If tempted to steal, what reason would most likely dissuade you, censure by public opinion, surety of suffering the legal consequences if caught, the idea that stealing is incongruous with the dignity and order of life, or the idea that it is absolutely wrong?" The results are shown in the table on the following page.[21]

Evelyn Claybrook and Alice Babbitt tested 100 Sweet Briar students on their attitudes toward several questions which were phrased in a rather general way. The question about Sunday recreation asked the student to tell her parents' attitude rather than her own. The students were classified according to whether they came from the North, South, or West.

[18] BROGAN, A. P., "What Is a Sin in College?" *Nation,* vol. cxx, p. 570 (May 20, 1925).

[19] "Moral Judgments of High School Students," *Int. Jour. Ethics,* vol. xxxvii, p. 57 (1927).

[20] THURSTONE, L. L., "The Method of Paired Comparisons for Social Values," *Jour. Abn. Psych. and Soc. Psych.,* vol. xxi, p. 384 (1926-1927).

[21] "Differences between College Students and Their Elders in Standards of Conduct," *Jour. Abn. Psych. and Soc. Psych.,* vol. xxiii, p. 286 (1928).

DISTRIBUTION OF ANSWERS ACCORDING TO CRITERIA OF RIGHT AND WRONG

GROUP ANSWERING	*Absolute*	*Æsthetic*	*Prudence*	*Public Opinion*
Students' grandparents...	7.2	2.4	3.3	1.8
Students' parents.....	6.0	2.8	4.2	1.8
Men students.....	3.0	3.1	5.9	2.9
Women students.....	3.3	4.6	4.6	2.3
University professors....	4.6	4.4	3.7	1.5
Social workers.....	4.6	3.6	6.8	1.1

The most significant findings are tabulated on the following page, the italicized figures indicating the liberal side of the question. On the other questions there were no significant sectional differences.

Read Bain secured some interesting data on the "Religious Attitudes of College Students" in 1924. Fifteen per cent held that God was a person, 67 per cent, an impersonal force, and only 40 per cent believed in post-mortem reward and punishment. Yet 67 per cent believed in the Virgin Birth of Jesus. Leuba, ten years previously, had found the belief in a personal God to be about four times as great as this figure, but his data were all from one institution. Forty-three per cent of Bain's subjects said they would not have answered as they did had they been obliged to sign their names![22]

On the other hand, G. J. Dudycha, in his "Religious Beliefs of College Freshmen" in *School and Society,* found 60 per cent of the orthodox religious opinions stated on his questionnaire to be whole-heartedly accepted by the freshmen in a small mid-western college, and that only 53 per cent of these students doubted the existence of a personal devil.

Horace B. English suggests two unusual methods of discovering attitudes: (1) audience voting, and (2) getting subjects to reveal attitudes indirectly by writing how they would alter certain imaginary but specific situations. For example,

[22] "The Religious Attitudes of College Students," *Amer. Jour. Sociology,* vol. xxxii, p. 762 (1927).

	For	Against	Significant Sectional Differences	For	Against
Sunday recreation (parents' attitude)	*60*	40	North and West.	38	16
			South	22	24
Prohibition	73	27	North	29	6
			South and West.	44	21
Companionate marriage (divorce by mutual consent if no children)	*30*	70			
Divorce for incompatibility, if no children.	*42*	58	North and West.	27	27
			South	15	31
Higher education for Negroes	*64*	36	North and West.	41	13
			South	23	23
Coeducational colleges.	*64*	36			
A woman loses social status by doing her own housework	13	*87*			
Becomingness rather than style in clothes.	*75*	25			
Double standard of morals rather than single	33	*67*			
Women drinking moderately	*63*	37	North	25	10
			West	17	2
			South	21	25
Women smoking	*90*	10	7 of the 10 objectors are Southern		

a number of children were asked how they would furnish a playground if a little fairy should enable them to have it just the way they wanted. To his surprise, the most common ideal was a playground suitable for rest, quiet, and daydreaming.[23] One begs to remark, however, that this result may have been due to the noise and bustle of their actual playground, plus the dreamland suggestive effect of the word "fairy."

Stuart Rice investigated "Undergraduate Attitudes toward Marriage and Children"[24] at the University of Pennsylvania. Sixty-one out of the 83 men wanted children, and these wanted on the average of 2.4 children. Ninety-nine out of the 130 women wanted children, and an average of 2.7. These results are very significant, and from a eugenic point of view disheartening, for over three-fourths of these young people, representing the superior intelligence of the country, who wanted children at all, wanted less than the number which, allowing for normal deaths, would be necessary to replace their parents in the next generation. In the attitudes toward marriage Rice found little evidence of the "modernistic" view. These students were not "radical," but merely race suicidal, like the business classes of America generally.

G. B. Watson has devised a most useful "test of public opinion" which attempts to measure the degree of a person's "fair-mindedness" as opposed to "prejudice." A group of persons selected by their friends as most fair-minded scored on the average 5 per cent prejudice; another group selected by their friends as most prejudiced scored on the average 55 per cent. College students score on the average roughly 20 per cent. The great utility of this test is that the scores may be analyzed to indicate the degree of prejudice in twelve specific directions, such as "economic radicalism," "economic capitalism," "social gospel," "personal gospel," etc. Using the test on a group of 80 Sweet Briar students, the writer worked out a scoring system of his own to measure the actual tendency of opinion, regardless of whether it was prejudiced or fair-minded. Thus he made the test into a simple test of radicalism-conservatism along three different lines, economic-

[23] *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 170 (1927).
[24] *Mental Hygiene*, vol. xiii, p. 787 (1929).

political, religious, and moral. These three variables of radicalism-conservatism were found to correlate with one another about .40, and the total radicalism score obtained by combining the three variables did not correlate with the Watson prejudice score. In the words, the test appears to define "prejudice" on the assumption that radicals and conservatives, on the average, are equally prejudiced. With this assumption, of course, neither the radical nor the conservative will agree. In the very nature of the case it would seem that the opinions which any society dubs "radical" are in general less prejudiced than the conservative opinions; for, whether right or wrong, they represent more independent thinking, a breaking away from the group culture, though of course some of them do represent blind adherence to dogmatic "isms."[25]

The observation and measurement of attitudes enable us to compare groups as well as individuals. It also gives us various cross-sections of "public opinion," and thus helps to trace social decision. Finally, it provides a method of measuring the results of interaction processes and the success of social control.

Cultural Attitudes and Personality Differences.—When a social attitude is relatively permanent, changing but slowly, and is relatively uniform throughout a given culture area or a given class of persons within a culture area, we may call it a *cultural attitude.* Such, for example, is the Mohammedan or Jewish attitude of repugnance toward the eating of pork. An attitude of this kind is a part of culture, rather than an ephemeral changing product of social interaction. Its permanence is of a different sort than the relative permanence of personal attitudes earlier mentioned. A personal attitude is more or less unchanging in one individual; a cultural attitude is more or less unchanging and *uniform* for all or most individuals in a given regional or class culture. A non-cultural social attitude is more or less uniform, but liable to change. Personality is built largely out of cultural attitudes.

When we made our study of individual differences of person-

[25] *The Measurement of Fair-Mindedness,* Teachers College Bureau of Publications, New York. Tests and scoring directions obtainable from the same source.

ality in Chapter VI, we considered mainly (1) the temperamental differences, and (2) those general, underlying attitude differences which could be ascribed to the kind of differences in personal history that could be found in any society. Thus, probably ascendance-submission and outdoor-indoor preference are attitudinal traits, acquired mainly through *personal* experiences. Such differences occur between individuals in almost any social group. On the other hand, there are (3) certain attitudinal traits which are more or less uniform within a given social group, but very different as between groups. Tolerance toward Sunday recreation, for example, is a culturally, more than a personally, acquired trait. Finally there are the (4) non-cultural social attitudes or "opinions" such as these discussed above, which change readily with "public opinion."

The writer knew a young man who took an almost fanatically intolerant attitude toward birth control. He was prepared to classify him as very reactionary. To his great surprise a few days later, however, he heard this same young man ardently advocating a liberal Sunday, a treatment rather than a punishment attitude toward the criminal, and the repeal of Prohibition. He seemed to be all for liberty and for sympathy toward individual needs. Surely the writer's classification had gone wrong. He soon suspected and verified the reason. The young man was a devoted Roman Catholic.

Max Freyd worked out a test of attitudes and interests which has been thought by some to measure extroversion-introversion. He applied his test to life insurance salesmen, industries students, and mechanical engineering students. In general the engineers were more like the industries students than like the salesmen. Salesmen showed, among other things, a greater preference for fat men, conventions, interviews, *Life*, Roosevelt rather than Wilson; they were more excitable, self-confident, open hearted, quick at making friends. The industries students had greater liking for very polite people and the *New Republic*, were more influenced by their mothers than were the salesmen, were much less active salesmen of their religion.[26]

These personality differences are regarded by many psychologists as the result of some temperamental factor of extroversion-introversion. The men *selected* their occupations

[26] *Psych. Monographs*, vol. xxxiii, no. 4 (1924).

according to their temperament, so the theory runs. In this there may be some truth. But let us note that the salesmen were 83 per cent Protestant, the industries students only 53 per cent. The insurance business is well known to be a "Yankee" business. It employs few Jews, Catholics, or foreigners, and it emanates largely from New England. The tendency of recent research is to minimize the temperamental explanation of personality differences of this kind. To a large extent, these insurance salesmen are persons reared in a certain group culture, with its characteristic pattern of attitudes. The leaders in the insurance business also come largely from that culture.

Again, consider Young's study of Negroes, mentioned in Chapter VI. He found the mulattoes more intelligent than the blacks but just as suggestible. Suggestibility, at least of the sort which Young was able to measure by his tests, may be a cultural rather than personal trait. No matter how light-skinned the mulattoes are, they are necessarily reared in the group culture of the Negro and not of the white. While this culture is fundamentally the same as the white, it differs strikingly in certain attitudes, such as those toward religion, darkness, superstitions, patent medicines, and so on.

Attitudes, says W. I. Thomas, are the subjective side of culture. Few if any of us acquire our whole pattern of attitudes from our own individual thinking, or from direct personal experiences with all the situations concerning which we have attitudes. Many, if not most, of our most significant personality traits are really traits of group cultures in which we have been reared, rather than traits of our peculiar individualities.

There are attitudes belonging to whole national or regional cultures, as well as those belonging to group cultures. Examples are the French objectivity in conversation and fondness for precise, logical organization; the Chinese "face," an attitude which requires a person to come out of every conflict with at least some small victory behind which he can mask his real defeat; the Russian tearful sympathy toward the naked

emotionality of any human being; the Italian readiness to sing and to cheer a hero; English concealment of sex; Southern courtesy and dislike of abrupt, hurried speech, and so on.

Cultural Personality Types.—The Chicago sociologists have developed a most fascinating line of research in the local geography of personality traits. Harvey Zorbaugh[27] has described the characteristic attitude pattern of the Chicago "four hundred," among whom one may stand on his head or "roughhouse" his feminine partner in a drawing room under the right circumstances, but is ostracised if he rides in a yellow taxicab or if his servant removes more than one plate at a time from the dinner table. He has described also the patterns of Towertown, or Chicago's Bohemia, and of the slum.

Anderson and Lindeman[28] and Wirth[29] have described several urban types of personality: the philanthropist, the booster, the feminist, the club woman, the Jewish "allrightnick," the Bohemian, and so on. These types are partly the result of imitation of the behavior of others, and partly the result of the individual's personal fortunes in the interaction process. An immigrant Jew, for example, may develop into any one of several personality types, according to his inherent personal traits and his fortunes in interaction with his fellows. If he happens to be more successful than the average, he tends to become an "allrightnick." That is, he not only develops attitudes (ascendance, etc.) which success would normally lead to in any free field of interaction, but he also tends to imitate the mannerisms and attitudes of other successful Jews. He becomes not merely a "successful man" plus his own individual variations, but he becomes that special, more or less stereotyped pattern of Jewish successful man which his friends dub "allrightnick." Certainly the type is very different from the equally successful native American personality. It speaks differently, dresses differently, has a

[27] *The Gold Coast and the Slum,* University of Chicago Press, 1929.
[28] *Urban Sociology,* Knopf, 1928.
[29] "Some Jewish Types of Personality," *Publications Amer. Sociological Society,* vol. xx, p. 90 (1926).

scale of values which permits cheaper living quarters and other petty sacrifices to financial gain.[30]

Personality and Geographic Location.—Among the most interesting discoveries made by the Chicago sociologists is that of the tremendous differences between the several regions of the city in juvenile delinquency, desertion, and divorce. In one of the Chicago areas, the delinquency rate for one year of boys 10 to 16 was 37 court cases for every 100 resident boys of that age-interval. The delinquency rate for each mile-square area was plotted on a map. Along each radial line from the Loop outward, the rates started high and progressively diminished, until at the suburbs they were nearly zero. These geographic lines of diminishing or increasing rates, whether of delinquency, divorce, or any other condition, are called *social gradients.*[31]

C. J. Ettinger[32] has discovered similar delinquency gradients for Pittsburgh.

Not only the amount, but the character of delinquency varies strikingly with the region. The general effect of these studies is to lend much weight to the environmental explanations of personality. Certainly it would be impossible to predict the probability of a boy's becoming delinquent from any combination of intelligence and character tests, as accurately as we can predict it from merely knowing where he lives. If overt delinquency varies so greatly with the social situation, it is reasonable to suppose that many attitudes depend much more upon the social situation than upon temperament, intelligence, or other underlying personal traits.

At least one social factor which characterizes the regions of high delinquency can be identified. It is broken homes. S. B.

[30] Studies of this kind well summarized by BURGESS, E. W., ed., *Personality and the Social Group,* University of Chicago Press, 1929; see also his "Cultural Approach to the Study of Personality," *Mental Hygiene,* vol. xiv, pp. 307-325 (1930).

[31] BURGESS, E. W., "The Determination of Gradients in the Growth of the City," *Publications Amer. Sociological Society,* vol. xxi, p. 178 (1927).

The delinquency studies were made largely by C. R. Shaw; see his "Does the Community Determine Character?, II. Delinquency and the Social Situation," *Religious Education,* vol. xxiv, p. 409 (1929). See also SHAW, *Jour. General Psych.,* vol. ii, p. 59.

[32] *University of Pittsburgh Bulletin,* No. 26, 1929.

Crosby found that broken homes were twice as frequent among a group of delinquent children (45 per cent) as among a comparable group of non delinquents (26 per cent).[83] Several other studies have yielded similar results. But this is only one of many factors which operate in the delinquency areas. The differences between delinquents and normals with respect to region of residence in Chicago is far greater than this difference represented by 45 per cent versus 26 per cent of broken homes.

Summary.—In Chapter VI we could not gain a complete understanding of the differences between personalities because we had not yet studied interaction and culture. Personality is largely the product of social interaction and of culture. Although attitudes are individual behavior, yet they are often group traits rather than individual traits.

It is, as a rule, fairly reliable to judge and measure attitudes through their verbal expressions. Most opinions are merely rationalizations of attitudes.

Many research techniques have been devised to measure attitudes, and some of these assume that an attitude tends to have a normal distribution among individuals, as does stature or intelligence. This assumption is of doubtful validity, for an attitude is not a biological quantity. To express related attitudes as degrees or steps upon a quantitative scale may represent a real underlying tendency, or it may be purely arbitrary, but in any case it is useful in research. Several types of attitude studies are illustrated.

The more permanent social attitudes, which are characteristic of regions or of permanent groups having different modes of life, are cultural attitudes. Personality is made up in part of cultural attitudes. Most personality types, in the strict sense of that word, are reflections of cultural attitude patterns. Even many of the personality differences ascribed to extroversion-introversion and other temperamental traits may be really differences in culture. There are attitudes character-

[83] "A Study of Alameda County Boys, with Special Emphasis upon the Group Coming from Broken Homes," *Jour. Juvenile Research,* vol. xiii, pp. 220-230 (1929).

istic of nations, of regions within the United States, of social classes, of religions, occupations, and regions within cities.

Research in Chicago and elsewhere shows delinquency to depend much more upon geographic location than upon intelligence, temperament, or any other underlying personal trait which has been measured. The importance of the geographic location, however, is not a matter of latitude and longitude, but of the social environment existing in that location.

CHAPTER XII

THE PSYCHOLOGY OF CULTURAL CHANGE

Social Activity versus Cultural Change.—If we were to observe carefully our imaginary community of Chapter I over a long period of years, we would see two kinds of changes taking place. First we would see people and goods constantly in motion, but after a day, or perhaps a year, of this ceaseless activity, things would come back again into the arrangement with which they started. There would be change as regards particular persons and objects, but no change in the general structure. A certain number of persons would have died or left the community, but others would have been born or have entered, and the population and its age distribution would be the same as before. A carload of wheat might have entered the town, been ground into flour, baked into bread and eaten. There would have been change in that particular wheat. But after a time there would be another carload coming in, and the total quantities of wheat in flour mill, bakery, and homes would be much the same as ever. The high-school baseball team might have had a glorious season and put this community "on the map" in athletics, but after a few years we would see new players, a new season opening, a new effort to stimulate enthusiasm, and everything not essentially different from before.

To use a previous illustration, we would be like spectators watching the ceaseless play of a waterfall, ever changing, yet always the same. We would be watching the equilibrium-yielding processes of human interaction, the history of daily events. Now and then would come an extra big splash and then—a return to normalcy.

But if we watched this community longer and more carefully, we would see another kind of change going on. We would see a steady growth of population, an increase in the automobile traffic, business creeping into the former resi-

dential districts, the city government changing its organization, a decrease in the proportion of bread and flour kept in the homes, an earlier hour of quitting work in the afternoon, and so on. Now we would be like spectators watching the waterfall freeze in the winter, or slowly eat away its banks. We would be observing the dynamic processes of social interaction or, what is roughly equivalent, the course of cultural change.

Social "deterioration," stratification, equalization, conquest, liberation, commercialization, professionalization, ossification, decadence, centralization and decentralization, for example, are dynamic processes.

A culture may change through two kinds of causes: (1) the influence of another culture, or (2) its own inner processes.

Change from Without

Diffusion and Parallelism.—The process by which one culture influences another is called diffusion or borrowing. It has been proved that every people which writes with an alphabet, that is, a set of symbols which stand for *sounds*, rather than for objects or ideas as do the Chinese characters, has acquired that alphabetic system originally from an ancient Semitic people, most probably the Phœnicians. The principle of the alphabet is so simple and so much more convenient than the Chinese system that it would seem that every people would have thought it out and introduced it at some suitable stage of their development. Yet, although it required 1800 years for the alphabet to travel from Asia Minor to the Philippines, and 2500 years to Mexico, this Semitic invention managed to "get the jump" on any other alphabetic system which might have been independently in the making. On the other hand, the principle of the calendar has been invented twice in the history of mankind, once in Egypt about 4200 B.C., and later, independently, by the Mayas of Mexico. Whenever two inventions, having the same principle or purpose, are made independently in two different regions, we speak of parallelism. The principle of "position numerals" (*i.e.*, a numeral system like our own which uses ciphers to represent different

orders of magnitude, 1, 10, 100, etc.) was a case of parallelism; it was independently invented by the Hindus and the Mayas. In parallel inventions the details are always different; the Mayas, for example, based their system upon 20 instead of 10, and their zero symbol looks quite different.[1]

Research has demonstrated that the fundamental traits of cultures, that is, the really novel inventions or discovered principles, are obtained much oftener through diffusion or borrowing than through independent, parallel discovery. This fact quite upsets the popular belief. True invention is rare and difficult; diffusion or imitation is easy. To demonstrate, make a list of the innovations which have been made in your college as far back as you can get the information. You will find that practically every such innovation has been borrowed from some other college. It may have been changed a little to suit local needs, but the basic principle or idea was not invented at home. If you can discover any really new principle discovered at your college, the writer of this book will be glad to know about it.

When Are Inventions Duplicated?—William F. Ogburn has made a list of 148 inventions which have been made by two or more persons independently.[2] But in practically every case these persons were working in the same cultural area of the world at about the same time, and under the influence of the same need. In the broad vision of history, such nearby simultaneous duplications really constitute a single invention. The very fact that the separate findings were almost simultaneous simply indicates that the first inventor lacked time to perfect and publish his discovery before the second inventor arrived at it independently. Long, Robinson, Lister, Morton and Jackson, working independently, discovered the use of ether as an anæsthetic during the years 1842-1846. If Long had made his discovery in 1800, the other four men, living in 1846, would have learned about it, hence would have had no reason to work on that problem, and hence would not have

[1] See KROEBER, A. L., *Anthropology*, Harcourt, Brace, 1923.
[2] OGBURN, W. F., *Social Change*, Huebsch, 1922, pp. 90 ff.

made any invention. These duplications are not true parallelism.

True parallelism exists only when the two sources of the invention are utterly out of contact with each other, over a long period of time; and such a condition existed only in the days before modern communication. Parallelism would be indicated by two discoveries occurring many years apart, for that would show that the second inventor had no knowledge of the first (otherwise he would not have worked at the problem), and hence was out of contact with the culture in which the first invention was made.

How the Geography of a Culture Trait Helps Reveal Its History.—Cultural anthropology has become largely a fascinating effort to trace diffusion geographically, rather than to discover historically universal laws of cultural growth. The old theory that cultures grow like children, passing in due order through certain stages of "savagery" and "barbarism" to "civilization," has been utterly discarded. Now we say that each culture grows by unpredictable jumps, each jump coming whenever it happens to learn from some other culture some discovery which it is ready to use. A culture may stagnate for centuries and then suddenly jump over a couple of "stages" and bring itself abreast the world's most advanced culture, as Japan has been doing.

R. B. Dixon gives us an illustration of how anthropologists are studying diffusion. The peoples of the Malay-Polynesian realm of islands use two kinds of "outrigger canoes," a single and a double type. The outrigger is the frame which is built out from the side of the boat and which helps to keep it from overturning. The dispute is, whether the single or the double form is more ancient. To study the question, the anthropologists draw a map showing the areas in which each type is now used. The double form is used in the central part of that long island realm extending from Madagascar to Hawaii. The single form is used at the eastern and western ends of the area. Therefore, says Clark Wissler, the single form is the older, because it is more widely diffused. He applies the general principle that new culture traits are usually invented at the cultural center of a culture area, that is, the point of highest development, which point is also usually more or

less central geographically. The single outrigger has been replaced in the central region by the newer invention, but it remains in the "marginal" regions, to which the double form has not yet had time to diffuse.

Then along comes Dixon and argues that the double form is the older, that it was invented at the center, and has already diffused throughout the realm. The single form, he claims, was invented independently at later times, in two places, one at the eastern and one at the western end. It has replaced the double form at those ends, but has not yet had time to diffuse from either end to the center, where the older double form therefore still prevails. Dixon comes to this conclusion by a study of geographic details, and details of the outrigger itself, which need not trouble us here.[3]

The point here is that there are no historical records; the history may be reasoned out entirely from the present geography of the trait. But in other cases it is often possible to get some historical evidence, and that helps.

How Social Psychology Helps Unravel Culture History.—Now what does psychology contribute to these interesting speculations? Lowie shows us that many disputes about the origin of a culture trait are due to considering only the outward form of the trait and failing to investigate the attitudes involved—in other words, the psychological function. For example, both the Crow Indians and the Todas practise clan exogamy. With the Crow, exogamy seems to be founded upon an incestuous feeling which from the beginning was connected with the clan itself, regardless of blood relationship. With the Todas the incestuous feeling seems to be fundamentally connected with close blood relationship, and to have extended secondarily to the clans.

In other words, the existence of clan exogamy among the Crow and of the same trait among the Todas represents neither diffusion from a single origin, nor parallelism. It represents rather what some anthropologists call convergence, that is, two different traits of different origins and functions coming to resemble each other because of similar conditions. Lowie points out that most of these cases of seeming con-

[3] DIXON, R. B., *The Building of Cultures*, Scribner's, 1928.

vergence present no real problem at all; they are merely superficial resemblances.

Again, the Crow have just two military societies, the Foxes and the Lumpwoods. This duality might seem due to the same principle of conflict interaction mentioned in Chapter VIII, which is responsible for the duality of our political parties. But we learn that these societies once numbered eight, and that elimination has taken place. The Gros Ventre Indians also have a duality, the War Dancers and the Star Dancers. Is this due to conflict interaction, or elimination? To neither. The Star Dance was an old ceremony, and formerly existed alone. Then the War Dance was borrowed from the Sioux.[4]

The Contact of Cultures.—What happens when an advanced and a backward culture meet, either in the home of the advanced culture, as illustrated by the Americanization of our immigrants, or in the home of the backward culture, as illustrated by the Euro-Americanization of China?

Carpenter and Katz, studying the Polish people of Buffalo, found that they become Americanized first in material culture. Out of 26 families, 12 owned cars; 26 had electric light; 16, vacuum cleaners; 21, ice boxes; 25, electric irons; 15, washing machines; 26, some life insurance. But 23 out of 44 children were brought by midwives, and none in the hospital. In one-third of the cases the mother worked up to confinement. They have less anti-Negro feeling than Americans. They give up Polish custom observance before they give up Polish traditions. Foreign-born Poles scored 87 out of 100 points in a test of knowledge of Polish traditions and legends, and 72 out of 100 on a similar test of American traditions. The American-born children of Poles scored respectively 72 and 99.[5]

In the Orient also it is the material traits of Europe and America which are most readily adopted. The Japanese adopt our railways and machinery but retain their own family mores and religion. In Turkey we have an example of a culture which has proceeded even further toward Europeanization. It is adopting European monogamy and republican government.

[4] Lowie, R. L., "On the Principle of Convergence in Ethnology," *Jour. Amer. Folklore*, vol. xxv, p. 24 (1912).

[5] Carpenter, N., and Katz, D., "The Cultural Adjustment of the Polish Group in Buffalo," *Soc. Forces*, vol. vi, p. 76 (1927).

Znaniecki holds that it is easier to make the transition from one national culture to another than from one cultural level to another. Polish peasants can become assimilated to the American working class more readily than the workers in any society can become "bourgeoisie."

J. Castagné, studying the emancipation of Mohammedan women, shows that the influence of Western culture first affects women's dress and marriage relations, and later their economic and political status.[6] In Persia and Afghanistan, he says, men sometimes kill their women for removing the veil, but if this happens within Russian territory, the men thus provoked to murder are then executed by the soviet. In Russian Central Asia the cultural conflict centers about polygamy, wife purchase, and child marriage, which traits the Russians are trying to abolish. In Turkey, where western influence has been operating longer, monogamy and European dress have been accepted, and the struggle now centers about women's occupational and political rights.

Advanced cultures influence one another. Not only has Europe caused large changes in the Orient, but the American branch of our Euro-American culture is influencing the European branch. From America England is gradually acquiring the traits of mass production, mass consumption of luxuries, scientific management, business research, elastic credit, protectionism, and prohibition attitudes.[7]

Change from Within

Granted that diffusion or imitation plays a much larger rôle in cultural evolution than is popularly believed, it yet leaves many important questions unanswered. First, each trait had to begin somewhere before it could be imitated. How shall we explain this beginning or invention of culture traits? Second, a culture does not imitate everything it might imitate from other cultures. It selects and rejects. What are the principles of this trait selection? Third, when, as at present, there is one

[6] "Le Mouvement d'Emancipation de la Femme Musulmane en Oriente," *Revue d'Etudes Islamiques*, vol. ii, p. 161 (1929).

[7] Edie, L. D., "Peaceful Penetration, the Impact of American Business on English Culture," *Century*, vol. cxvii, p. 559 (1929).

large advanced culture dominating a large part of the world ("Euro-American culture" or "Western civilization") such a culture has comparatively little to learn from the petty backward cultures surrounding it. The changes in these little cultures are then all the more explainable by diffusion (from the leading culture), but the changes in the leading culture must be explained mostly by its own inner processes. What is the mechanism of these inner processes of change? Fourth, not all cultural changes are "new traits" or inventions. Most changes are adaptations, recombinations, changes in the quantity or proportion of something. Can such non-inventive changes be reduced to laws?

These four questions cannot well be answered separately and specifically. All the answers depend upon certain principles which we shall now consider.

Secular versus Cyclical Change.—Cultural change may take place by a continuous change always in one direction (secular trend), or it may take place in cycles. Material culture seems to have developed continuously. There have been periods of invention and periods of relative stagnation; but the movement has always been toward greater accumulation of material traits. Actual loss of material arts once acquired is very rare.

But in many other respects the history of culture seems to have been a series of ups and downs, or cycles. We may distinguish the broad general cycles of development of whole civilizations from the smaller cycles shown by specific culture traits within shorter periods of time.

It requires no more knowledge of history than the high school boy supposedly possesses, to see that the development of Western civilization has experienced three great climaxes separated by two "valleys" of comparative depression. The high spots are the pre-ancient civilizations of Egypt, Sumer and Crete about 3000 B.C., the ancient civilization of Greece and Rome about 0 B.C., and modern civilization.

Spengler's Theory.—Oswald Spengler in his much discussed *Decline of the West* further develops the cycle theory of his-

tory. He finds that ten times has a civilization capable of high achievement arisen, that each (except those which are not yet finished) has lasted about 1400 years, then passed into comparative unimportance or been absorbed by another:

1.	Summerian-Akkadian	3200– 1700 B.C.
2.	Egyptian	2800?–1100? B.C.
3.	Hittite Assyrian	1800– 333 B.C.
4.	Ancient Chinese	1500?– 0 B.C.
5.	Ancient Hindu	1500– 0 B.C.
6.	Classical	1200 B.C.–200 A.D.
7.	Arabian	0– 1400 A.D.
8.	Mayan	200– 1500 A.D.
9.	West European	900– 2300? A.D.
10.	Russian	1800 A.D.—

Each civilization tends to pass, he thinks, through these stages:

Years since beginning:

0:	Precivilized, amorphous tribes
0– 200:	Feudalism—myth
200– 400:	Feudalism, increased power of nobles, faith
400– 600:	Last stage of feudalism, natural and scientific thought (Reformation era)
600– 800:	Tyranny, real states formed, individual thinkers and systematic philosophy
800– 900:	Relaxation of form, rise of large states, rationalism, return to nature
900–1100:	Rise of the proletariat, warring states, materialism, skepticism, socialism, humanitarianism, pessimism, theosophy
1100–1200:	Cæsarism
1200–1400:	Empire system, systematization, compilation, stagnation
1400–1600:	Stagnation and close

And so, according to this, Western civilization, being now about 1000 years old, is headed for empire and then stagnation, after the fashion of Rome.[8]

[8] SPENGLER, O., *The Decline of the West,* Knopf, 1926; summarized by GODDARD, E. H., and GIBBONS, P. A., *Civilization or Civilizations, a Critique of Spengler,* Boni, 1926.

Such a universal law of development is doubtful for many reasons.

(1) It is easy to interpret history to fit a scheme, but when we look beneath superficial analogies and analyze culture traits in detail the scheme does not fit so well.

(2) There is a tendency to confuse the content of a civilization itself (*i.e.*, culture traits) with the organization and boundaries of the particular state which formed the center of that civilization. States rise and fall more than do civilizations.

(3) The whole trend of anthropological research is away from theories of uniform development, and toward the theory that each culture develops by its own unique series of changes, always greatly disturbed by unpredictable diffusions from other cultures.

(4) Spengler's scheme overlooks the great differences in cultural base (especially material) between the different civilizations. While superficially Western civilization may seem to be now in a stage analogous to that of Greece and Rome at 200–0 B.C., yet we have, unlike them, railroads, machine industry, complete domination of the globe, universal education, science, and a recognition and consciousness of culture itself. Also we are not, like earlier civilizations, a mere oasis in a world of greedy barbarians. Only the Asiatics would seem to offer a population threat, and they are fast acquiring European culture in their home towns, while Europeans control all these regions of the globe where it is possible for population to expand.

The significance of Spengler's theory is that it implies that there are inexorable laws of development in social organization and in thought systems which hold good, whatever the material culture, the geographic condition, and the state of science.

Cyclical and Cumulative Culture Elements.—In this there lies a certain demonstrated truth; namely, that social structure, including government and economic organization, and also systems of philosophy and religion, have gone through cyclical ups and downs, while material culture and scientific knowledge have been steadily growing in the upward direction. Sumner has pointed out, further, that amusements, art, dress and the mores do not progress, but "return to the start-

ing point again and again."[9] It would seem that these cyclically changing parts of culture are governed by the principle of "limited possibilities," that they never can yield anything more than recombinations of a few essential elements. But in science and the material arts the possibilities of new discovery are indefinite in number; hence these branches of culture develop by steady accumulation.

However, because certain changes are cyclical, it cannot be concluded that the cycles will always be of the same nature and duration, regardless of the underlying non-cyclical changes (secular trends). It is a favorite theme of classical scholars to point out that every modern tendency is really

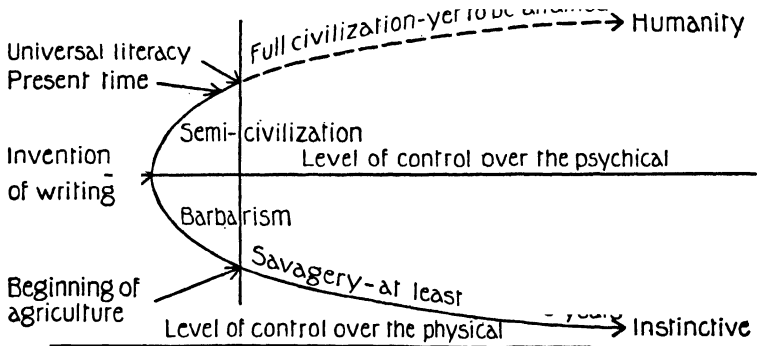


FIG. 39.—ELLWOOD'S CURVE OF CULTURE EVOLUTION
(From Ellwood's *Cultural Evolution*, published by the Century Co.)

nothing new, but is a return to a similar tendency exhibited in ancient civilization. We talk about modern scientific thought and then point to Aristotle. But which is more humanly significant: this formal resemblance between Aristotle's thinking and modern scientific thinking, or the tremendous difference in the subject matter which Aristotle thought about and the subject matter we think about? The author would suggest that the latter is immensely more important.

Ellwood's Theory of Cultural Evolution.—Ellwood disagrees with the cycle theory. He fits into a uniform pattern of continuous evolution (secular trend) the separate culture complexes of tools, food processes, agriculture, war, clothing, housing, fine arts, the family, law and government, morality,

[9] *Folkways*, p. 604.

religion, education and science. Each of these complexes he pictures as developing in a parabolic curve, as shown in Fig. 39.[10]

Ogburn and Chapin have pointed out, to the contrary, that the accumulation of culture during the most recent period has been more rapid than during the period of barbarism or semi-civilization, or ever before. Ellwood may be right in believing that with the coming of "full civilization," there will be a period of relative adjustment and the rate of cultural growth will again be slower; but certainly that time is not yet.[11]

A better corroborated point in Ellwood's theory is that the subjugation of the individual to culture, his submission to unreasonable or unnatural oppressions and cruelties imposed by culture as distinct from nature, is greater during the middle periods (barbarism and semi-civilization) than in either lower savagery or full civilization. Thus the first term in each of the following series represents the supposedly most primitive condition; the middle term, the condition during the period of most rapid evolution when culture dominated man; and the third term, the condition which is now coming to be:

Primitive communism—property for power—socialization of property
Primitive monogamy—polygyny—ethical monogamy
Primitive democracy—aristocracy—social democracy
Custom morality—morals for individual power and pleasure—humanitarian morality
Primitive peace—war—peace through control
No mutilation—bodily mutilation—no mutilation

Of course many of these sequences are in grave doubt. At best they are true in only a very general sense. But there is some truth in them, some evidence that man passes through a sequence which might be generalized as: Animal common sense—cultural insanity—cultural rationality; or natural hardships and spontaneous cruelty—organized, artificial cruelty—humanitarianism.

[10] ELLWOOD, C. H., *Cultural Evolution,* Century, 1927. Figure from p. 42, reproduced by permission.

[11] OGBURN, W. F., review of ELLWOOD'S *Cultural Evolution,* in *Amer. Jour. Sociology,* vol. xxxiv, p. 544 (1928); see CHAPIN, F. S., *Cultural Change,* Fig. 12 on p. 51.

Ellwood has perhaps overgeneralized a principle which has been demonstrated to hold good within specific traits of culture and limited periods of time. This is the principle that a period of adjustment and slow change is followed by a period of maladjustment and rapid change, and then by another period of adjustment. Chapin points out that when Ellwood says cultural evolution is continuous rather than cyclical, he is thinking of the main stream of culture. His parabolic principle, when applied to particular culture traits, really gives us a cycle theory. Chapin in his research studies of *Cultural Change,* shows how this works.[12]

Chapin's Theory of Societal Reaction Pattern.—Chapin advances the theory of a "societal reaction pattern." He pictures society, like an individual, reacting to a stimulus. This does not imply that there is a "group mind," but simply that the *total interaction processes* of a whole society behave according to a certain dynamic law. This law, or societal reaction pattern, consists of a sequence of three processes: (1) enforcement of the existing mores, (2) experiment, special legislation, and some chaos, and (3) the integration of the various trial-and-error responses into a stable plan which is embodied in general legislation. Chapin shows how this reaction pattern fits the facts in several cases which he studied in detail: (1) the changing arts curriculum at the University of Iowa from 1863 to 1877, (2) poor relief in England from the sixteenth century to date, (3) the Massachusetts poor laws, (4) the Minnesota poor laws, (5) railway regulation in Illinois from 1860 to 1873.

Taking the first illustration, the University catalogues show that there was first a period of fully prescribed courses like those of the Eastern colleges. Choice of studies proceeded by a stable plan year after year. Second, there was a period of several years in which subjects were dropped and then returned to the curriculum, regrouped, changed within the year they were offered, partly optional and partly required. A chaotic condition existed. Then, third, from 1872 to 1877, a new plan of electives with major requirements was operated steadily, without change, year after year.

[12] CHAPIN, F. S., *Cultural Change,* pp. 212 ff.

Taking the second illustration, English poor relief in the sixteenth century was based upon private benevolence, church alms and care by the artisans' guilds. For a long time it had functioned thus without change. Then there was an increase in willful dependency, and the existing mores of charity broke down. They were unable to meet the situation. Persons who had given charity out of a stable sense of moral duty began to rebel at the sight of so many "sturdy beggars." The government had to interfere; it tried various experiments at local regulation, some of which succeeded and others failed. Finally, in 1601 the famous Elizabethan Poor Law, embodying the experience derived from this trial-and-error regulation, was established and continued to operate without great change for 235 years afterward. This law embodied the principles of (a) responsibility of kin, (b) apprenticeship for dependent children, (c) a choice between work or punishment for the able-bodied (workhouse test), and (d) relief for the unable.

The natural response to a social problem is to redouble emphasis upon the traditional corrective. If bootlegging increases we double the penalty. If students do poor work we enact stiffer grade requirements or reduce the number of permitted absences. But history tells us that these increased efforts are but temporary. Sooner or later it becomes necessary to change the direction of effort, to redesign the whole pattern of control.

Cultural Change as an Interaction of Culture Traits.—Now in Chapin's cases, what was the stimulus which set off the "societal reaction pattern?" In the University case it seems to have been the influence of progressive educational ideas coming from the centers of educational theory (*i.e.*, cultural diffusion, although from a different region of American culture rather than from another culture). In the poor law case it seemed to be a combination of several factors. The Reformation changed peoples' attitude toward almsgiving, making it less essential to the welfare of the soul. An economic depression probably increased the amount of poverty. The Enclosure Acts separated peasants from the land. In other words, the stimulus which led to the change in poor relief was not a cultural diffusion from another center, but was a change of (a) attitude, (b) economic organization within the same

culture, (c) amount of material wealth. This represents a case of *inner change*; that is, one culture trait was put under pressure by changes in other traits, and forced to adapt itself to them.

Cultural change may then be viewed as an interaction of culture traits, usually with one another, but sometimes with non-cultural factors, such as physical environment or population conditions. A change in one department of culture always leads to changes in other departments. It can be shown that the invention of the steam engine led to woman suffrage. The sequence was roughly: steam engine—factory system—employment of women—independent women—sense of injustice regarding legal rights of women—woman suffrage. Every cultural change is the result of a previous change. The question of "original" causes seems like the question as to whether the hen or the egg came first.

Starting Points in Cultural Change.—Though cultural change is an everlasting hen-and-egg process without beginning or end, yet there seem to be now and then certain starting points. Cultural evolution is like a clock wound up at some indefinite beginning and running ever since by its own inner forces. But occasionally the clock acts as if it were rewound or reset by some outside influence. What are these seemingly outside factors?

Changes in the physical environment and in biological population conditions are in a sense outside influences. Many such factors, however, are results of culture. For example, lumbering, which is of course a cultural activity, sometimes brings deforestation to a point where climate and streams change, and society is driven by wood shortage or floods to change its policies. The adoption of a government reforestation program is thus a cultural change resulting not directly from another cultural change, but from a change in material environment resulting from a cultural activity. Again, the Italian encouragement of emigration is not so much the result of a previous cultural change as of overpopulation resulting partly from culture.

But the most important of these apparent starting points

are inventions. An invention is not a real starting point, because it is the result of previous cultural causes. But its relation to its cultural causes is something quite different from the usual relation of any cultural egg to its cultural hen. It is an irregular, unpredictable, chance relationship. Invention is like mutation in biological evolution. It is a unique result of a chance combination of circumstances.

Moreover, in a sense we may regard the stream of scientific knowledge, though it is a part of culture, as a distinct chain of cause and effect outside the main body of culture. For scientific knowledge grows by laws of its own; it depends largely upon the channels through which nature reveals her secrets, and not so much upon the needs and problems of men. New scientific discoveries have appeared in more rapid succession since 1500 than ever before in history. This is not because men's needs for science are more urgent than at any previous time. It is because by mere accidental combinations of circumstances, cultural and otherwise, thinking men happened about 1500 to enter certain channels of thought and investigation where they caught certain glimpses into nature's secrets. Having now learned where and how to investigate, their investigations are increasingly fruitful in new discoveries.

So in a sense an invention is an outside influence; it is an action of this special stream of scientific knowledge upon the main body of culture. From the standpoint of the main body of culture, invention may be regarded practically as a starting point.

Invention.—Invention requires three factors: (1) a felt need, (2) the proper cultural base, and (3) a man of requisite ability. Popular theories of invention have stressed the need and the man. They say that necessity is the mother of invention, and look upon the inventor as a rare genius. Sociology stresses the essential importance of the second factor. No invention can be made till the culture is ripe for it. The airplane could not have been invented until the gas engine had been invented. Every invention requires certain previous inventions. The invention of the automobile in 1895 was made

possible by these previous inventions: the gas engine (1888), the compression engine (1876), the electric gap and spark (1860), the water jacket (1833), the differential gear (1840), the clutch and gear (1887), the friction clutch and drive (1891), pneumatic rubber tires (1845 and 1883).[13]

The "necessity" is a relative matter. There is no absolute necessity for invention. The Roman Empire needed railways as much as did nineteenth century America. But people had to do without them until the accumulation of discoveries had paved the way for them. Nothing is more necessary than to prevent death. We absolutely need, therefore, the discovery of a real "fountain of youth," more than we need any new invention in the field of aeronautics. But no amount of needing will bring it. The kind of necessity which does produce invention is not some such universal, constant need, but some specific cultural maladjustment growing out of the existing state of the art in question. Thus we now need a substitute for gasoline because petroleum is being used up and we already have the automobile. The need is relative to our present cultural condition. We could be living quite happily without the automobile if it never had been invented; but since it was invented, our wishes have become fixated upon it as a means of pleasure and we are greatly disturbed at the thought of having to give it up.

The inventor is usually a man of superior intelligence, but he rarely possesses anything which many of his compatriots would not also have possessed had they been put into his situation. Given a certain interaction of social forces leading toward an invention, the rôle of the inventive personality can be readily filled by any one of a large number of individuals. In large measure, the social rôle makes the man.

Hart, analyzing the lives of 171 inventors, judged that the leading motive among them was joy in manipulation. Feeling of the need or problem came second, and financial reward was of minor importance. Sixty per cent of these inventors were specialists in the field of their invention; 20 per cent were pro-

[13] , *Cultural Change*, pp. 334-337.

fessional inventors, and only 20 per cent were amateurs or outsiders.[14]

Adaptive Changes—Cultural Lag.—Ogburn and others have pointed out that the real innovations in a culture, whether invented at home or imitated from without, are mostly in the realm of material traits. Changes in social structure, in the folkways, mores and cultural attitudes, are in part *adaptations* to these material changes, and in part explainable by other causes. For convenience he divides culture into three divisions: material, adaptive non-material, and non-adaptive non-material traits.

Obviously we invent or borrow a new material invention before we make the changes in social organization which are necessary to adapt to it. Thus we had the factory system before we adopted child labor laws; we adopted dangerous machinery long before workmen's compensation laws; we used the automobile long before we established traffic regulations. The period of time elapsing between the adoption of a material trait and the adoption of its social adjustment is called by Ogburn *cultural lag*. He estimates that the factory accident conditions which produced the need for workmen's compensation laws developed at least as far back as 1850-1870. But the laws did not come until 1915.[15]

In periods of accelerating cultural change, the material culture seems to change earlier and faster than the non-material. Some of the non-material traits do not need to change, but others, by their failure to adapt quickly, lead to serious cultural lags. Cultural lags are serious because they produce strain and maladjustment in the lives of individuals. If a lag does not produce maladjustment, then of course the lagging trait does not need to change, does not belong to the adaptive division of culture, and hence it is not really lagging. Wish-frustration, therefore, is implied in the definition of cultural lag.

Periods of rapid change are periods of strain and maladjust-

[14] "Preliminary Conclusions from a Study of Inventors," *Publications Amer. Sociological Society*, vol. xxi, p. 191 (1927).

[15] OGBURN, *Social Change*, pp. 200 ff.

ment; they may produce more intense satisfaction, but they also, it would appear, produce more unhappiness than do periods of stability. The Lynds from their detailed study of Middletown conclude that from 1890 to 1924, "getting a living seemingly exhibits the most pervasive change, particularly in its technological and mechanical aspects; leisure time, again most markedly in material development such as the automobile and motion picture, is almost as mobile; training the young in schools, community activities, and making a home would come third, fourth, and fifth in varying order, depending upon which traits are scrutinized, while, finally, on the whole exhibiting least change, come the formal religious activities."[16]

Many changes in culture consist in changes in the *quantitative proportion* of something, without the introduction of any new trait. This something may be a material trait or a human activity. Such changes, for example, include changes in the number of automobiles *per capita,* in the *rate* of robberies, in the *percentage* of home ownership. Such a change in proportion may constitute an actual change in social structure, as does the present decreased proportion of women engaged in domestic service as compared with 1910, or it may not. Such changes play a large part both as causes and effects of other changes.

Culture Traits Interact Through a Psychological Medium. —The *medium* through which one culture trait stimulates another to change is a psychological medium.[17] The trait "automobile traffic," for example, cannot act directly upon the trait "traffic laws," as one billiard ball strikes another, causing it to make an adaptive movement. The strains and stresses which produce readjustment in the culture system are not simple physical forces. They are psychological forces acting as stimuli through the nervous systems of individual human beings. The automobile brings about traffic regulations

[16] LYND, *op. cit.,* p. 497.

[17] This statement does not mean, however, that the interaction of culture traits is behavioristic interaction (Chapter VII). Behavioristic interaction is interaction between individuals; it may be a part, but not the whole, of the process of interaction of culture traits.

through the medium of (a) the wish frustrations and anger of those held up in needless jams, and (b) anxiety about accidents. These emotional forces find their way eventually to the law-making body. Wishes and attitudes are the medium through which culture makes adaptive changes, just as they are the medium through which the existing culture is maintained.

Culture Inertia and Rhythmical Change.—These human motives are not, however, a rapidly conducting medium. They have a great deal of inertia. This inertia may be due to the process of communication rather than to the slowness of individual response. It may be years before the emotions generated by repeated traffic jams and increasing accidents find their way to the legislature. Because of this inertia there is a law of rhythm in cultural change. To consider a mechanical analogy, the thermostat control of heaters does not check the rising temperature till it is well above the point where the indicator was set. Then, as the furnace cools down, the room temperature falls below that point until the rewarming action takes effect.[18] This pendulum type of response occurs also in some cultural changes. There have been periods in which the enforcement of sanitary regulations, after long neglect, became more strict than conditions required, and there have been swings in the opposite direction. There are periods of community over-organization followed by under-organization, over-centralization of government followed by over-decentralization. The business cycle is a pendulum process. Anticipation of its swings, through business barometers, tends to reduce the magnitude of the swings.

Resistance to Change.—There are certain directions in which cultural change occurs with more difficulty than in others. In other words, there are certain resistances. Chapin has divided these into seven classes: (1) individual habits, (2) fears of the new conventionalized by interaction, (3) language symbols, (4) utility of old forms, (5) symbolic values attaching to culture traits, (6) numerical superiority, (7) revaluation (metataxis) of an old trait.[19]

[18] CHAPIN, *Cultural Change*, p. 221. [19] *Ibid.*, p. 385-387.

Why, for example, is it so much more difficult to make a convenient and simple time-saving change in the English language, such as adopting a new pronoun "hiser" to mean "his or her," than it is to launch a gigantic road-building project? If we analyze this problem we shall see several factors which make for cultural resistance.

(1) Our culture has no organized institution or authority to change language as it has to build roads.

(2) To adopt the new pronoun would require the changing of many more individual habits than to build the roads.

(3) Pronouns are fixed parts of the folkways. The folkways allow us to add new nouns to represent new ideas, but the pronouns form a closed system which does not change. Everything is still either "he," "she," or "it," as it was in 1500. To violate a folkway invites laughter and requires courage. It may take more courage than it does to do something gigantic where one is expected to do something gigantic.

(4) Words, especially as used in literature, have emotional values which might be disturbed by such a change.

(5) The need is met in another, though imperfect, way, by using "his" to mean "his or her."

(6) There is little cultural basis for the leadership necessary to make such a change. For the only persons who command the prestige necessary to make a fundamental language change are the linguists, writers and educators. And these very people are trained, even more than others, to an attitude of respect toward existing language forms. The only people who would consider the change important are conditioned to an attitude against change.

Willey and Herskovits point out that radical economic changes in America are hindered by the tendency of the workers unconsciously to identify themselves with the business classes. They are not yet fully ready to admit themselves to be a class apart, needing special protection.[20] Marxian socialists hold that economic progress must be revolutionary, and is delayed by anything which makes the workers feel contented. The great social mobility in the United States, the easy opportunity to get free land or to "rise" socially, has delayed changes in the economic system.

[20] "Servitude and Progress," *Soc. Forces*, vol. i, p. 228 (1923).

Economy of Time a Root of Conservatism.—Ogburn points out that the desire for certainty, definiteness, facility and knowledge may be partly responsible for resistance to change. The employer can size up a person quickly by his manners, dress or language. If manners and customs were changing rapidly this would not be so easy, and more time would be required to make executive decisions.[21] Even the change-loving sociologist on a college faculty is often impatient with many petty though desirable administrative changes suggested by his colleagues, because the discussion involved, and the changes required in his habits, would take too much time away from the activities he considers more important. But eventually, if the pressure for a change continues in the same direction, the resistance is overcome, the temporary fuss and bother endured, and after that there is usually a real saving of time and labor through the change.

Much light would be thrown upon the psychology of culture by a study of the time used in making decisions as compared with the time used in carrying them out. When people vote on any proposed innovation they consider not only the advantages and disadvantages usually mentioned in the debate, but also whether it would lead to increased time and effort in making small decisions. This factor, strange to say, is seldom clearly presented in the debate. Though only half-conscious, it may really be the strongest motive and the best argument of the conservative side.

Resistance versus Free Rhythm in Changes of Fashion.—Kroeber has studied fashion changes in women's evening dress from 1845 to 1919 by making eight different measurements of the figures in fashion magazines, such as the waist diameter, mouth to skirt bottom distance, etc. He converted each measurement into a percentage of the mouth-toe distance, thus getting his measures in proportional terms. He then plotted curves showing the changes of each variable. He found that the width of waist increased with practical steadiness, the width of decolletage steadily decreased. The width of skirt rose from 1845 to 1860 (crinoline period), fell to 1875, then rose slowly to about 1906 (but never to anything like the crinoline

[21] OGBURN, *Social Change*, p. 184.

width), then fell rapidly from 1906 to the hobble-skirt days of about 1912, and since then has fluctuated in rather short cycles. Skirts were long until 1870 when they reached the ground, then shortened till 1890, lengthened till 1900, stayed long till about 1914, then shortened rapidly to an unprecedented degree. Some of the changes were cyclical, some secular. But nearly all were gradual. There were practically no irregular changes from year to year, but each up or down movement of the cylical changes lasted over a period of from 5 to 25 years.[22]

Fashion is not utterly subject to the will of the fashion makers. They may modify its course at certain crucial points, but fundamentally it goes its own way, driven by its own cultural forces. Some of the dress measurements are governed by more basic cultural attitudes than others. Thus, apparently, the skirt *width* has been more a matter of pure fashion, free to change according to the initiative of fashion makers or various unknown social interaction causes. Skirt length, on the other hand, seems to have been held for years within a narrow range (near the ground) by the tabu against showing the legs. Its unprecedented shortening since 1915 seems to indicate the sudden breaking down of a cultural tabu rather than a smooth, normal fluctuation of fashion.

"One-Way Streets" in Cultural Change.—Steiner describes the rise and decline of "Fairmont," a mining community. During the period of rise, there developed a pronounced social stratification. The mine officials and their wives, for example, built homes near the top of a mountain, moved in their own select group, and looked down geographically as well as socially upon the professional and business people living farther down the mountain side. When the town was declining owing to the working out of the ore, the population of course diminished and social equalization took place. The highest social set gradually amalgamated with the second and the third highest, in the effort to provide a sufficiently large number of persons for the social gatherings. The character of the town council declined until finally the people elected an alderman who could not read or write.[23]

R, "On the Principle of Order in Civilization; Fashion Changes," *Amer. Anthr.*, vol. xxi, pp. 235, 263 (1919).

[23] STEINER, J. F., *The American Community in Action*, Holt, 1928, chap. iv.

Not all social processes, however, can be "thrown into reverse" with the same smoothness and ease as they moved in a forward direction.

When the Austro-Hungarian empire was broken up, the city of Vienna, once an economic and political center for some fifty million people, became a center for only six million. Banks, wholesale houses, government offices, railway headquarters found both their functions and their incomes greatly reduced in quantity. It was necessary to lay off thousands of employees, for the volume of work no longer required their services, and there was not the income to pay them. As they left the city, or remained in unemployment and poverty, thousands of other persons who had earned their living by providing these employees with goods and services also found their incomes reduced, and many were forced to emigrate.

But the readjustment met great resistance. People refused to leave the city in as great numbers as the situation required. The workers, organized in unions and political parties, opposed the efforts of employers and the government to reduce payrolls. Thousands of workers were kept, who for economic reasons should have been dismissed, in order to prevent discontent from becoming revolution. It became necessary to employ a Swiss advisor or "financial dictator," Dr. Zimmerman, to manage the financial reorganization of the government, for no Austrian statesman dependent upon his own people for reelection, and representing some home political party, could take the responsibility.

There was no resistance to the growth of Vienna, but there was a great resistance to the opposite process. To analyze these processes, let us imagine this hypothetical but mathematically more accurate illustration.

Assuming a stationary population in the country at large, there would be no resistance in a town of 30,000 to the establishment of a new industry which would quickly attract 10,000 additional population. But there would be high resistance to the establishment of a government reservoir which would flood part of the town and compel 10,000 people to move away. In terms of total labor cost, there is no difference between the new building operations necessary to take care of the added 10,000 persons, and the operations which would be necessary elsewhere to take care of the dispossessed. And no more labor is required in expanding the industries of ten other towns, each a little bit, to take care of the displaced 10,000, than in expanding the industry of this one town so as to employ the

same number of people. If anything, the boosting process would probably result in more expensive building and greater total effort than the dismantling process. But the boosting process would be an assembling, converging process. It would draw in 10,000 individuals from widely scattered points. These 10,000 would be a selected group, they would be persons relatively dissatisfied with their existing stations in life, hoping to derive advantage from moving to the growing town. In general, the original 30,000 would profit economically, and the demand for the services and goods they have to sell would be increasing faster than the number of competitors who supply these things. So everybody would feel himself to be moving toward a greater prosperity; everybody would be satisfied.

In the dismantling process the total gain to the people of the country at large is as great. The people of some large city need this reservoir and are willing to pay for it. The total economic opportunity in the country at large is not diminished. But the process involves scattering, uncertainty, disturbance of vested interests, finding new homes and jobs, readjustment. Everybody is dissatisfied. The wish for security is frustrated as it is not in the boosting process. In the scattering process you must find and select 10,000 separate situations to suit 10,000 given people. In the assembling process you find and select 10,000 people to suit 10,000 given situations, all centered in one place and under one control. The first process is much more difficult. Persons are mobile, situations are not.

The 10,000 persons to be dispossessed are not selected by their personal desires, but by arbitrary geographic necessity. Such a selection meets resistance. The 10,000 persons to be brought into the city are selected by their personal needs. A society organized in military fashion could of course make either adjustment with facility, but a society which, like ours, is based on individual initiative, finds the scattering process more difficult.

And so we find certain ratchet-like channels of social change. It requires the same physical energy to move in either direction, but psychological resistances make movement in one direction much easier than in the other.

Some such principle explains why it is easier to grant a large privilege in exchange for an equivalent sum of minor concessions, than to make the reverse exchange.

To consider the psychology of this principle, it would seem that a single large advantage is overvalued in relation to a

sum of small disadvantage which compensates for it. Overvalued means, "has a greater motivating power than warranted by its time, money, or energy value." Likewise, a single large disadvantage weighs more heavily in our minds, in relation to its many small compensating advantages, than it weighs in the objective scale-plan of time or labor.

Cultural Transvaluations.—A culture trait may change its function without greatly changing its obvious form or content. The modern American family, while appearing on the surface to be much the same as the Colonial family, has become very different in its functions. Its earlier economic functions, such as the making of clothes and the preparation of food, from earth to dining-room, have largely been taken over by the factory, the tailor shop, the bakery, the delicatessen, the laundry. Its educational functions are being more and more appropriated by the school. Many of its recreational functions are now performed by the moving picture house, the automobile, and young peoples' organizations. On the other hand, the function of leisure-time companionship between husband and wife remains and may perhaps gain a larger emphasis. These changes are called cultural *transvaluations.*

The Lynds showed in their study of Middletown that the churches are taking over various secular functions once left to other agencies, such as athletic recreation, social dancing, fellowship between young people. On the other hand, non-religious organizations such as the Rotary Club develop ideals of service and unselfish fellowship, and often arouse those same "spiritual" emotions which it was once the peculiar rôle of the church to stimulate.[24]

The Universalist and Unitarian churches grow very slowly in the United States. Their growth, however, is of little value as indicating the growth of liberal religion, for the function they perform is being taken over gradually by the older churches as these liberalize their attitudes. We cannot judge the development of a cultural attitude or activity by watching the growth of some one institution which is supposed to represent it. It may permeate other institutions.

[24] LYND, *op. cit.*, p. 407.

S. C. Kichenloe shows how city churches, in order to survive, often so change their activities that they cease to be churches. They become social centers of various sorts. Others survive by specializing in primitive emotional religion. They find enough persons who desire that kind of stimulation, and cater to them.[25]

Marett says there are two kinds of cultural transvaluation, metataxis and metalepsis. (1) Metataxis is the raising or lowering of a trait in a scale of functions. Thus when a piece of furniture is moved from the parlor, where it served partly the purpose of display, to the attic or cellar, where its use, if any, is only for the storage of odds and ends, we can say that its function in the general culture scheme of the household has been lowered. When Hinduism absorbed and elevated the primitive religious practices of Dravidian India, but rejected its higher patrician varnish, it raised, or devulgarized these practices in the culture scale.

(2) *Metalepsis* is a change of meaning or function which seems horizontal rather than up or down. Thus the sacred mask becomes a means of entertainment, the charm against the evil eye becomes an ornament. When the change is from a "useful" to an "ornamental" function it is called depragmatization.[26]

It may be safer to refer to changes of both kinds as simply transvaluations, for we are not sure just what is a valid criterion of high and low in culture. To consider religious and artistic functions as high, amusement and basement storage functions as low, is using a scale of values which in itself is part of our culture and needs to be investigated to see whether it is universally valid and, if so, why. We shall understand human life better if we get rid of these "high and low" prejudices. It is not degrading, as Marett himself points out, for a magico-religious amulet to become a trinket of art.

"Survivals" Have a Present Value.—Marett makes this very important point, that the so-called "survivals" or "fos-

[25] "Major Reactions in City Churches," *Religious Education*, vol. xxiii, p. 868 (1928).

[26] MARETT, *op. cit.*

sils" of culture are not traits which have lost all value and been thrown upon the cultural scrap-heap, but rather traits which have changed their value (function) in a certain way. Every "relic" has a present value. The buttons on the rear of the dress coat, once used for fastening up the tails, are now mechanically "useless" but ornamentally important. Any ornament is important if fashion so considers it. The decorative functions are largely a matter of conditioning to certain visual patterns and objects. Any old thing will do if people get accustomed to seeing it in surroundings labeled "artistic." It would be purely arbitrary to choose sleeve buttons as a means of decorating a coat, but once they had become customary for other reasons, they acquired artistic meaning through constant association, and cannot be eliminated without spoiling the cultural picture. But a person brought up under different decorative traditions might readily dispense with these buttons and might consider them amusing rather than ornamental. In fact, modern fashions change so rapidly that they often do great violence to what was considered artistic only a few years ago.

As Marett shows, even to be customary is a value. The sense of security, among other things, is gratified by an environment whose only value is its familiarity.

Revolution.—Dale Yoder reviews four common definitions of revolution: (1) a change in the location of political sovereignty, (2) an abrupt social change, (3) a change in the entire social order, (4) a change in the attitudes which underlie the social structure. The last seems to him the best.[27]

Pitirim Sorokin has studied the sociology of revolution. He thinks it is due to the repression of "instincts." It perverts human behavior into abnormal channels: increases crime and sex license, and leads to a violent reversal of the attitude of subordination.[28] Drunken soldiers in revolutionary Central Europe in 1919 amused themselves in the railway trains at the expense of traveling aristocrats. Working-class families in Budapest gloried in their forcible occupation of middle-class

[27] *Amer. Jour. Sociology,* vol. xxxii, p. 433 (1926).

[28] SOROKIN, P., *The Sociology of Revolution,* Lippincott, 1925.

homes under the housing edicts of Bela Kun's government. During the first period of revolution, observes Sorokin, fanatics come to the top, then soldiers, then cynical schemers.

Consciously Planned Changes in Culture—Social Reform. —Some cultural changes, as Ross says, merely happen. Others are willed. The former he calls transformations, the latter reshaping.[29] Reshaping is popularly known as social reform. Man may gain control of cultural processes as he already has of mechanical processes. In the future, cultural changes may be, to a much greater extent than in the past, the result of conscious reshaping. Likewise, organized diffusion, in the forms of international propaganda, sales campaigns, and foreign missions, is to some degree replacing the natural cultural diffusion of the past.

A most important line of research is the measurement of social changes produced by educational or other policies. If we were to acquire sufficient knowledge in this field, we would learn how to produce certain social changes deliberately. We might develop a real art of social reform.

C. C. Zimmerman, for example, found by an attitudes test that farmers, of whom only 15 per cent originally favored cooperation, gave an 80 to 90 per cent yes vote after one or two years' experience with coöperation.[30]

Helen Witmer measured the effect of a special course of study upon the attitudes of mothers toward the sex instruction of their children. She measured their attitudes by a question test, which was scored according to the degree to which the answers approached the progressive attitude of the organization which gave the course of study. Out of 466 mothers who were interviewed and given the test, 29 took the course. These were retested after the course. The effect of the course was to make their average score slightly but not significantly more progressive, and to increase considerably the variability of their scores. But the group who took the course were more progressive to start with than those who did not take the course, the difference between them being 8.93 as against 6.91 points out of a possible 13. Thus the difference was 2.02 points with a probable erorr of $\pm .25$.[31]

[29] *Outlines of Sociology*, p. 354.
[30] "Types of Farmers' Attitudes," *Soc. Forces*, vol. v, p. 591 (1927).
[31] *Op. cit.*

Donald Young found that a course in Race Problems effected small change in the students' attitudes, as measured by the way they ranked various races in ability before and after the course.[32]

H. S. Woodward, with a different technique, has studied the changes in opinion produced in audiences by debates.[33]

Adapting and Constant Factors in Social Reform.—A nice problem in the theory of cultural change presented itself when Australia debated the adoption of minimum wage laws. The opponents of this legislation claimed that the enforced raising of the lower wages would reduce the higher wages; the minimum would become a maximum. These people were arguing, in other words, that the constant factor in the change was the total amount of wages. The results of the law showed they were wrong. The interaction process of competition worked as before, causing superior workers to get higher pay than the inferior.

To get a clearer insight into a problem of cultural change, we should ask ourselves what, if any, is the constant factor? Let us call the thing we change deliberately the stimulating factor. Then, we can be sure, this will cause some other factors to change. These are the adapting factors. But there is likely to be something which will be the same as it was before. This we may call the constant factor.

For example, we wish to improve real scholarship in a college. As our stimulating factor we decide to use the device of increasing the average grade required for graduation. Now the theory of our action is that real scholarship will be an adjusting factor which will increase as a result of the pressure put upon the students' emotions by the increased requirement. But there is another possible outcome. It may be that the professors, who grade mostly by subjective estimates rather than by standard objective tests, will unconsciously become more lenient. Their attention will increasingly be called to students on the dangerous border line, and they may "give them the benefit of the doubt." Or it may be, again, that students will

[32] *Jour. Abn. Psych. and Soc. Psych.*, vol. xxii, p. 235 (1927).

[33] "Measurement and Analysis of Audience Opinion," *Quar. Jour. of Speech*, vol. xiv, pp. 94-111 (1928).

elect the "pipe" courses in greater proportion than before. There are several other factors besides real scholarship which might become the adapting factors. Real scholarship may prove to be a constant factor, impossible to change by this device. If so, its constancy probably results from the constancy of two other factors: general intelligence and time spent in study. The first we know to be constant. With the second, we have an interesting question: can the total community time spent in work as against play be substantially changed by any administrative device, or does such a change require a more radical stimulus?

Hines claims, theoretically, that no honor system, in and of itself, does anything to raise the average level of actual moral conduct in a large group. The standards of the judged, he says, change so as to justify their conduct, and the standards of the judges adapt themselves to the situation. Ninety-two per cent of the students whom he questioned anonymously stated that they had seen cheating under the honor system.[34] Of course, this is no final word on the value of the honor system. In any case, it may be desirable because of its indirect results upon the attitudes between faculty and students, even though its direct objectives be no better attained than without it.

When we doubled the penalty for bootlegging it was assumed that the amount of bootlegging would adjust itself to the increased pressure, by diminishing. However, there is reason to suspect that the adjusting factor may be the attitude of prosecuting attorneys and juries, that they will be less willing to prosecute or convict, and that the amount of bootlegging will remain as a constant factor.

Now are there any earmarks by which we might distinguish factors which are likely to be constant factors, and unlikely to adjust very much to the efforts we put forth as long as they can "pass the buck" of adaptation to some other factor? It would seem that anything closely related to the following is likely to be relatively constant:

Native intelligence
Total energy

[34] *School and Society*, vol. xxvi, p. 481 (1927).

Proportions of persons having the different *temperaments*
Total time available
Total time spent in uninteresting work
Amounts (if they could be measured) of each kind of wish-satisfaction

The Rôle of the Individual in Social Reform.—A word now to those who want to accomplish social reforms. Which is wiser, a radical or an opportunist policy? Do the communists help the growth of labor unionism in the South, or do they hinder it? Are political reform movements, as Stuart Rice suggests, more likely to succeed when they proceed step by step than when they present their whole program at once?

The question for you to decide as an individual is what *rôle* you want to play in cultural change. For what part are you best fitted? In what capacity will you be happiest, best able to mobilize your energies? You cannot play a double rôle. If you want to elevate the Negro you can raise perhaps a hundred thousand dollars in some Southern city to build Negro schools, or you can entertain some Negro leaders at dinner. But you cannot do both.

There will always be daring radicals who are so far ahead of the common herd that they cannot be sure the herd will ever follow in their particular direction. But they play a necessary rôle. They are the outposts of progress, the experimenters, the stimulators of thought. But they are not the leaders of action. Again, there are many more who are just a little ahead of the herd. They never get too far ahead, and they are quick to see when a change of direction is necessary. They are the "practical" leaders. Their eyes may sometimes look impatiently toward the brave men of principle who are marching far ahead, or off to one side, scoffed at by the herd. But they hold their place and carry on.

Whichever rôle you choose, you will have some supporters. If you play the radical rôle you will have many more enemies than if you are a practical leader. Whether the intensity of approval of the small group of followers, and the sense of courage and daring, will compensate for the risks and the

enmity, is a matter to be decided in the light of your personality and circumstances.]

Leadership and Cultural Change

Leaders must be distinguished from *headmen* or *authorities.* Headmen merely hold the reins of social control; they keep society functioning in its accustomed channels. Leaders effect *changes.*

Theories of Leadership.—Every social group has its leadership. Leadership involves three factors: (a) the quantity or number of leaders, (b) the nature or qualities of their leadership behavior, (c) the choice of the particular persons who shall be leaders. The theories of leadership may be conveniently divided into three: (1) that leaders are born, (2) that leaders are made, but only slowly through training, and (3) that the group situation itself quickly and automatically provides whatever quantity and quality of leadership it needs. The first two are personality theories; the third, an environmental theory. Doubtless there is some truth in all three. The real problem is how much lies in each. Research upon leadership has busied itself largely with the study of the personal characteristics of leaders as distinguished from other men, and has barely touched the central problem.

If the main truth lies in the first or inborn theory, then the chief social problem is one of selection and distribution. A technique must be developed to discover the natural leaders, and incentives provided to attract them to where they are most needed. If this theory be true, then our rural communities are really suffering from a depletion of leadership, and their only hope is to provide some inducement to keep their natural leaders from drifting to the cities, or to attract others away from the cities. Rural sociology has to a large extent proceeded on this assumption.

If the second theory holds the main truth, then the social problem becomes one of training. Schools, Boy Scout troops, churches and community organization must emphasize the development of leadership.

The third, or environmental, theory does not ignore the natural differences between men, nor the differences produced by training. But it implies that leadership is not some specific kind of behavior, such as swimming or typewriting, which requires long practice. Rather it is a matter of individual attitudes which can be developed or changed very quickly when the situation so demands, and which otherwise may never develop. By definition, the leader is not necessarily one who can do some particular thing well, but one who can make others do things.

If this environmental theory holds the main truth, then the problem of leadership is entirely different from the usual conception of it. It is not a problem of finding, attracting, or developing leaders, nor yet of getting rid of surplus leaders in communities which seem to be overled. It is a problem of reorganizing and redistributing leadership situations rather than leaders.

The Personality of Leaders.—E. B. Gowin showed that the average height and weight of executives were somewhat greater than those of ordinary men.[35] Sorokin showed that farm leaders and labor leaders are more geographically mobile (reside to a greater extent outside their state or county of birth) than average men.[36] Several investigators have shown student leaders to have higher than average scholarship. In the army the men selected for promotion (without testing) proved upon testing to be much higher than the average in intelligence. In the writer's study of Rutgers seniors, "aggressiveness" as rated by judges correlated + .72 with student "points" (various activities and offices being allowed different numbers of points according to the conventional college valuation), and + .51 with athletic achievements. Aggressiveness as rated by professors correlated + .33 with activity points. Even kindness correlated + .32 with student points. The personality traits which did not correlate significantly with activity points were perseverance and mental activity as rated

[35] *The Executive and His Control of Men*, Macmillan, 1915.

[36] "Leadership and Geographic Mobility," *Sociology and Social Research*, vol. xii, no. 2, p. 121 (1927).

by students, and general intelligence, intellectual interest, and self-confidence as rated by professors.[37]

But these correlations between rated traits and activity points mean merely that the student-judges' estimates of these traits were based largely on what they knew about their classmates' activities. One naturally judges a person aggressive or ascendant whom one knows to be a leader in actuality.

W. H. Crowley, studying (by no definite technique) the traits of leaders in college, the army, the criminal world, etc., concludes that leaders differ not only from followers, but also from one another. He doubts that there is any general trait of leadership or typical leadership personality. Roosevelt, he points out, was far from being a leader at Harvard, but got started when in ranch life.[38]

The Polarization of Leadership.—Chapin measured 250 seniors at Smith College with respect to (1) student "points," *i.e.*, the total number of activities participated in, (2) academic grade, (3) grade on senior physical examination. He found these correlations: $R_{1-2} = +.40$, $R_{1-3} = +.17$, $R_{2-3} = +.21$. Other investigations have corroborated Chapin's finding that student leaders average superior in scholarship. By the partial correlation method, the correlation between student points and physique was reduced to $+.09$ when the grades were held constant.

Chapin then compared the highest, the middle, and the lowest fifty students on the activity scale. The highest had a median of 26 student points, the middle group 7, and the lowest, 2. Furthermore, the highest fifty had been more active every year than the middle group, and they showed many more activities continued from year to year. Among the upper fifty alone, a highly selected group, there was a correlation of $+.43$ between number of activities and number of executive positions.

Chapin concludes that leadership tends to polarize, to become concentrated in an inner circle which is common to several groups. Extensive and intensive activity go together. The more activities one is engaged in, the more offices he is

[37] FOLSOM, "A Statistical Study of Character," *Ped. Sem.*, vol. xxiv, p. 399 (1917).

[38] "Three Distinctions in the Study of Leaders," *Jour. Abn. Psych. and Soc., Psych.*, vol. xxiii, p. 144 (1928).

likely to hold, and also the more his scholarship is apt to be superior!

Chapin has definitely measured in a college community a phenomenon which from casual observation seems to hold true in perhaps all human communities. "If you want something done, get a busy man to do it," is evidently a good policy. Chapin suggests, in conclusion, that the group activities of any community have a saturation point, which is determined by the time and energy of the leaders rather than by the time at the disposal of the masses of people. When some leader's "range of elasticity" for participation in some activity is passed, then this activity is checked, its organization disintegrates, or there is some disintegration at several points in the fabric of group activities, until an equilibrium is restored.[39]

These findings at first seem to lend weight to one or both of the personality theories of leadership. If a community's activities are limited by the time, energy and qualities of its leaders, then leadership ability must be a more or less constant factor, depending on personality. The environmental theory, on the other hand, holds that the amount and quality of leadership vary readily and spontaneously with the situation. If this were true there would seem to be no saturation point. Further support to the personality theory seems to come from Y.M.C.A. officers having wide experience in community organization. They assert that it takes a community of some 20,000 population in parts of Eastern Europe to yield the same leadership resources as are obtained in a community of 5000 in the United States, and that a still larger community is required in Asia.

Personality versus Social Situation as Determiner of Leadership.—But the facts can be interpreted in another way. First, let us note that these findings refer mostly to what might be called extra-curricular activities. They do not measure or analyze the routine activities of getting a living, mak-

[39] CHAPIN, F. S., "Measuring the Volume of Social Stimuli," *Soc. Forces*, vol. iv, p. 479 (1926), and "Leadership and Group Activity," *Jour. Appl. Soc.*, vol. viii, p. 141 (1924).

ing a home, rearing children, which make up the bulk of a community's life. The saturation point for those unessential activities may depend not so much upon the number of persons who exceed some absolute degree of leadership personality, as upon the surplus time and energy permitted by the economic conditions. The amount of available leadership might be indefinitely increased by shortening the hours of labor, by labor-saving devices in the home, and by greater social efficiency in the care of children.

Second, we note that the leaders are in general the more intelligent and also the more economically successful persons. This may be due to (1) their greater opportunity to unload routine work upon other persons, and (2) their greater capacity to get interested in activities which are complex and exacting and at the same time unessential and non-compulsory. The great amount of time apparently spent in loafing by the less intelligent members of a community suggests that this second factor is of considerable importance.

The writer holds that the first personality theory (born leaders) is largely true as regards one trait: general intelligence. He believes that the amount and excellence of a community's leadership is ultimately limited by I.Q., but he seriously doubts whether any community actually comes anywhere near its intelligence saturation point. As regards all the other traits of personality, he is inclined to believe that the environmental theory is the better; namely, that differences between communities in the amount and quality of leadership are determined not by fixed amounts of leadership personality but by differences in the social interaction processes within the community. During the War, for example, there was a great outburst of activities of all sorts in communities which previously had been lethargic and had devoted themselves largely to earning their bread and butter.

These social interaction processes, however, vary not only with the course of events—wars, disasters, revivals, booms, etc.—but also according to permanent traditions or *culture*. In the European village, for example, there is a rich culture of dances, festivals, religious celebrations, courtship and mar-

riage customs, which is lacking in the American village. The play movement has in fact been interpreted as an effort to restore artificially to American small-community life the leisure-time richness which it lost through the isolated farm system and the dominance of city commercial recreation. Certain communities have traditions of organized activity which others lack.

The "leadership" which is needed lies in the interaction between individuals rather than in the personalities themselves. This is not to deny that the personality of some particular leader may be the stimulus which starts the change. But this personality represents a unique, accidental combination of circumstances rather than any "general improvement in the community leadership."

Strow describes how the type of leadership in a town (now of 30,000) changed with the development of the community. First there was the pioneer, then the "booster," then the business enterpriser, finally the public and semi-public official.[40]

F. C. Bartlett holds that modern society, because of its increased group antagonisms with decreased physical violence, develops a type of leadership behavior which is more persuading and less dominating than that of earlier societies.[41]

Perhaps the best way to get light on this question is to study the processes of leadership and social change in many particular communities. Steiner, in his *American Community in Action*,[42] has given us some excellent pioneer studies of this sort.

We shall throw more light upon the laws of leadership through such situation studies than through studies of the personality of leaders.

What Is "Opportunity" for Leadership?—It may seem difficult to believe that the lethargy of a backward community is due to lack of leadership situations rather than of leadership personalities for, indeed, the needs, the opportunities, for

[40] "Turnover of Leadership," *Jour. Appl. Soc.*, vol. ix, p. 366 (1925).

[41] "The Social Psychology of Leadership," *Jour. Natl. Inst. of Industrial Psych.*, vol. iii, p. 188 (1926).

[42] Holt, 1928.

leadership seem to cry out from the very housetops. Something must be wrong with the people if they don't respond to these opportunities. But this view betrays a very naïve conception of what an "opportunity" is. An opportunity does not exist merely because outsiders can see something which, ideally, needs to be done. The social situation must be such as to make it worth while to do this thing.]

[When I go searching for an address in some outlying section of a city where the street signs are not yet placed, the house numbers largely absent, and the roadways abominable, I impatiently think to myself of what an opportunity there is here for some leisured woman, or some Boy Scout leader, or temporarily unemployed artisan to take some initiative in the physical shaping up of the community. These conditions could be improved in no time if they had leadership. But the people who live there do not feel this to be an important need; even if they did there would be no social stimulus to arouse their interest in meeting the need. It is not according to the culture of the American community for an individual to bother himself with street signs and other peoples' house numbers; these things are the responsibility of the city government, or of each householder separately. To take initiative in such matters might invite ridicule or indifference rather than honor and praise. The evils might easily be corrected by the use of no more of a workman's time than could be paid for with the money saved if every member of the community would abstain from just one visit to the movies. There may be plenty of natural leaders in the community who are using up each day, in seemingly less valuable activities, far more energy than would be required to call a meeting and take up a collection for this community purpose. But the culture of the community does not favor the bringing together of leaders, time, and money into that particular combination necessary to accomplish that sort of a task. Such a combination does not fit the culture patterns, the accustomed way of doing things (see Chapter XII). Sociologically it is not an opportunity for leadership.]

[In a community of 36,000 people, including hundreds of

families where the wife works or wants to work, and other families in which divorce or insanity might be forestalled if the homemaker could have an occasional vacation from her children, what a need there would seem to be for a moderate-priced, scientific community nursery! And what a horde of idle women there are who have the ability to organize and operate it! But the very women who complain about being tied down are often vociferous in their condemnation of the only scheme which would prevent their being tied down. The mores say "no," and the opportunity hence does not exist.

The initiation of new types of business organization, to render new kinds or combinations of services for profit, is limited by the same cultural factors which limit the organizing of new voluntary activities. Cafeterias did not get under way until years after the objective "need" for them might have been felt. In the environs of Southern cities one finds a great dearth of amusement parks, roadhouses, swimming and boating facilities, attractive dining places, as compared with those existing near Northern cities of the same size. Physically and economically a wonderful opportunity is there; but culturally the opportunity is not there. It must be slowly created through the changing of the leisure-time habits of the people. Of course, the initial push that starts these habits changing is most likely to be given by bold entrepreneurs, business leaders who are willing to take chances in establishing such new enterprises. Yet the difference between the Northern and Southern situation lies not in the inherent boldness of their business men, but in the obstacles of custom and prejudice which this boldness must overcome.

Summary.—A culture changes through (1) the influence of other cultures, and (2) its own inner processes.

A culture is influenced by another culture through borrowing or imitating traits of that culture. This process, known as diffusion, is more important in the development of cultures than was heretofore believed. Parallelism or independent invention of really new mechanical principles is rare. As a rule, an invention is made only once in history, and diffuses to all societies which can make use of it. To be sure, inventions are

commonly made by two or more inventors independently at about the same time and in the same culture. But from the cultural viewpoint these represent a single invention. The geographic distribution of a culture trait furnishes important clues to its history. Material culture traits usually diffuse more readily than non-material traits.

The world's most advanced culture at any given time has relatively less to learn from other cultures, and must develop more by its own inner processes. One theory which attempts to generalize the inner growth of cultures is Spengler's cycle theory, according to which each culture tends to last about 1400 years and then give way to a younger, rising culture.

The study of culture history shows, however, that only certain features of culture rise and fall in cycles. This is particularly true of political and economic organization, but it is not true of material culture, which has from the beginning followed a continually upward course of development, or secular trend. Taken as a whole, culture accumulates in its total content, rather than follows cycles of increase and decrease. There have been very few lost arts.

Particular institutions tend to develop according to Chapin's formula of societal reaction pattern: a period of comparative stagnation in the particular field, then a period of rapid growth of the institution under the influence of some new condition, then a period of adjustment and slow growth on a new level.

Since every cultural change produces other changes, we can discover no first cause, no beginning or end of any series of changes. But from a certain practical point of view each series of changes has a starting point, and that is usually a material invention. It is the point where the advancing stream of knowledge contributes a new and usable discovery to the main stream of culture advancing beside it.

Invention does not result automatically from necessity, but from a felt need, plus a proper cultural base, plus a man of sufficient ability. Probably a qualified man is always available, and the invention therefore depends upon the cultural conditions rather than upon any particular individual.

Every material invention produces changes in the non-material culture. It fails to produce some changes as rapidly as others, and a maladjustment results, called cultural lag. This lag causes suffering to many individuals. Some parts of culture resist change more than others, and many types of change proceed smoothly in one direction but encounter great resistance if they move in the reverse direction. Many changes involve transvaluations: an institution or other culture trait takes on new functions, or surrenders some of its functions to another institution. There are no really useless relics in culture, for even a trait kept merely for the sake of Auld Lang Syne satisfies emotions and therefore has a present function.

Man is learning to guide culture changes deliberately, and to propagate advanced culture traits in backward regions by organized diffusion, which includes salesmanship and missionary enterprise. In trying to produce culture changes deliberately, we are often misled by our ignorance of the resistances we are attacking. Sometimes the thing we are trying to change stands fast, while something else changes as the result of our efforts. We need to learn what things in culture are constant, unchangeable factors, and what may be adjusting factors. In general, any factor closely related to human biology or working energy or final wish goals, is likely to be constant.

Leaders, as distinguished from officers or headmen, effect changes. The persons who shall be leaders are selected through their personal traits, but the total number of leaders and the limits of their possible achievement are determined by the social situation. The native ability required for leadership is probably adequate in most communities. A backward community is backward not from want of born leaders, but from the want of a fortunate combination of circumstances which will stimulate it toward change. The missing factor is a matter of interaction rather than of individual personality. The personality factor has been overemphasized, the situation itself needs to be studied.

CHAPTER XIII

SOCIAL PSYCHIATRY

Practical Applications of Social Psychology

Every science has its practical applications. What can be the practical utility of social psychology?

The Art of Social Control—and De-Control.—The most obvious answer is social control. If we understand the laws of social interaction, we shall be able to control human beings, make them do what we want. We shall have more scientific training of children, a more smoothly running government, better behaved working men, bigger and better salesmanship. The parent, the teacher, the labor manager, the advertising man, the public relations counsel, the government executive, ought all to study social psychology.

[But when we do study social psychology, and study it with an unprejudiced mind, looking to the general welfare of mankind, we begin to have certain doubts. We see social control all around us. We suspect that what man needs is not more control, but more freedom. On one side of the globe we see millions enthralled by disease, famine, and superstition. On the other side we see millions freed from physical hardships, but spiritually enslaved by the very civilization which gave them their physical comfort. We see them driven by the taskmasters of modern industry, neglecting the immense possibilities for the enrichment of life, racing for material wealth and struggling for external appearances.]

Many people talk as if control were the supreme aim of social policy. They would rather control somebody else than forego that pleasure in exchange for a corresponding freedom for themselves. They fail to realize that many human activities do not need to be controlled, and that many others which do need to be regulated cannot be regulated without a cost which far exceed the benefits. If we found it necessary to

exterminate whole clans of feud-waging mountaineers in order to stop feuds, it might be better to let the feuds continue. Fewer people would be killed that way. In practice we often recognize this principle. Lying is undesirable, but we judge it better to permit it than to attempt jailing all liars.

In some directions we do need more and better control, and in others we need more anarchy. In our economic life we need more regulation, in our personal life more liberty. If parents would cease their vain attempts to regulate *what* the younger generation may do, and would limit instead the *cost* of what they do in time and money, they might come much closer to a solution of the problem.

Salesmanship.—Advertising men and sales managers study social psychology. They think it will help them to exert an even greater control over consumers. They hope to get a little greater share of the consumer's dollar, at the expense of their competitors.

It is quite possible that these high-powered directors of the national consumption of goods have already learned almost all they can from social psychology. If the practical applications of this science enable one firm to sell more goods, it does so at the expense of other firms. The total purchasing power is limited by the total productivity of society. If all advertisers studied and practised more vigorously the techniques of social control, the total result might be simply that a greater proportion of human effort would go into advertising. No more goods, *in toto*, could be sold or produced unless there were a general increase in productive efficiency.

If advertising is really effective it leads people to buy something they would not have bought in the absence of advertising. This may be socially valuable in the case of new goods, particularly labor-saving devices, which really change our habits of living. But in most cases such an influence is more likely to be socially wasteful than beneficial. While the consumer may not be a perfect judge of his own wants, he is a better judge than is the salesman. The only thing that can better his judgment is impartial consumer-guidance, not salesmanship.

For example: An automobile salesman admitted that he often tells small lies, which in his opinion do not injure the consumer, in order to sell his cars. The purchaser asks a question about some detail which he thinks important, but which the salesman knows is unimportant. If the salesman doesn't know the correct answer, he guesses. He must above all things have some quick answer ready. A consumers' information service would tell the purchaser that this point is unimportant, and why.

While social psychology may help individual sales efforts at the expense of others, it has, in the long run, no general value in selling goods. Its real value lies in training the consumer to resist salesmanship. Its future service in the business world is debunking rather than controlling. Its mission is not to improve selling but to render selling useless and cause it to give place to informing.

This mission will be realized as social psychology becomes less the special secret of the salesman, and more the general knowledge of the masses of consumers. The goal is not more control, but de-control.

Moral Education.—Moral education is one of the most important forms of social control. It controls important types of behavior which cannot possibly be reached by the police, the courts, or even Mrs. Grundy. The instrument of control is conscience; the agency is the church, the school, or the home. Much attention has recently been given to improving our whole scheme of moral education. Up-to-date codes of morality are being written for school children, for lawyers, for real estate dealers. Comprehensive plans are being devised to infuse moral and civic education into the school curriculum.

The great need in moral education is a fundamental reconstruction of its patterns. It might be made more effective by such changes as the following.

Opposite virtues might be coupled in teaching instead of being lauded in splendid isolation. Instead of extolling obedience in general and then at another time self-reliance in general, we might give a single lesson covering both. What

the youth needs is to think clearly about when he should be obedient, and when disobedient.

Instead of general virtues, we might better teach particular situations. Research has shown that there is much less generality, much less transfer of a reaction from one situation to another, than the older psychology supposed. The moral educator who tries to teach children that lying is as bad as cheating, cheating as bad as stealing, stealing one pear as bad as robbing a whole orchard, conveys to even the unsophisticated child a sense of unreality. If there are degrees and qualifications of moral value, we strengthen rather than weaken our control by frankly recognizing these degrees and qualifications in our sermons. The old-fashioned moralist acts as if he were always afraid of saying something which might detract from the awfulness of his fulminations. His uncompromising rigidity defeats its own ends.

"Suppose everybody should do it," for example, is a common insufficient argument against an undesirable act. Maybe everybody doesn't want to do it. My unostentatious trespassing on a neighbor's posted property without his knowledge or consent, in order to save time in reaching my work, does not become morally serious simply because if everybody trespassed his property would be injured. Perhaps nobody else needs to trespass; yet this neighbor might be the rigid-minded type of man who would not permit my act if it came to his official notice.

The problem of moral education is not only a problem of *more* control. It is also a problem of *breaking control,* that is, of the inner repression and conflict caused by many absolute, undiscriminating standards which people reverence in words while they violate them in act.

B. Ginzburg has questioned whether a frivolous community really has less hypocrisy than a puritanical community. In the frivolous group, he says, hypocrisy is so generalized that it is taken for granted. But this is equivalent to saying that a new real code has developed, and that people live frankly by this real code instead of the verbal code. In the frivolous community, thought, attitudes and acts follow the liberal code, and

only words the austere code.[1] In puritanical hypocrisy only the acts are liberal, while thought, attitudes and words remain austere. Obviously hypocrisy needs more careful definition.

Social Psychiatry.—There is a more important conception of the practical value of social psychology, namely, social mental hygiene. Applied social psychology might be called *social psychiatry*. Let us see what this means.

Some sociologists look upon social organization, or culture in general, as an organism which may function normally, or be diseased and function pathologically. H. A. Miller's concept of the "oppression psychosis" suggests this view.[2] The Irish, for example, are a group with an oppression psychosis. This is conceived not so much as a mental disorder of the individual as of the group. It shows itself in the over-valuation of group traditions and symbols, such as the Catholic Church, over-sensitiveness to criticism, paranoid misinterpretation of the acts of other groups as being inspired by English influence, over-development of politics and protest at the expense of economic production. Again, Burgess' and Mowrer's concept of "family disorganization" suggests that the breakdown of the family is a social disorder, while the unity of the family represents social soundness. Conflict might be thought of as the prime social disease, accommodation and assimilation as social health. The processes of "estrangement," "ossification," "decadence," in Ross' system might be considered as pathological. One writer even speaks of a "mass neurosis."

These metaphors are misleading. There may be normal and abnormal processes of social interaction, but these are of ethical or hygienic significance only through the individual. Culture is something existing not for its own sake, but for the sake of individuals. All disease is biological, not cultural. The only true diseases are in individuals, for the individual is the only organism existing for its own sake, having purposes of its own. The decay of the family is not in itself pathological; it may or may not cause pathological behavior in individuals,

[1] "Hypocrisy as a Pathological Symptom," *Int. Jour. Ethics*, vol. xxxii, p. 160 (1922).

[2] *Races, Nations, and Classes*, Lippincott, 1924, chaps. ii and iv, pp. 27, 39.

and it must be judged solely by that criterion. Our notion of social psychiatry is not treatment of group diseases, *but treatment of the group causes of individual mental diseases.*

All Hygienic and Ethical Goals Lie within the Individual.—Conflict is in itself neither healthy nor unhealthy. Its value depends upon the weapons used and how they affect individual life, not upon the form of the process. Conflict with speeches and votes may be desirable; with bullets and knives, undesirable. A British election may lead to healthy results, a Latin-American election to pathological results.

We may call the last centuries of the Roman Empire an era of social decadence. But this appellation of cultural senility helps us not a whit to understand the real conditions then existing in individual nervous systems, muscles, blood vessels, adrenal and sex glands. For aught we are told by this phrase, the average human life may have been more worth living during the "Decay and Fall" than during the age of "Grandeur." Again, be it said, all good and evil are biological, and all mental evils consist in suffering, which has been defined physiologically in Chapter II as tension plus defensive emotions.

Assimilation is thought to be social health. But here again we must consider individual satisfactions. When an immigrant group assimilates American culture it adopts, among other things, our scale of superiority values. The good singer, the chess player, the picturesque dresser, may lose his power to command prestige. Money and the conventional American standard of living become the chief measures of superiority. Consequently there may be opportunity for fewer persons to feel superior, and hence more maladjustment.

Müller-Lyer holds that so far cultural evolution has been purposeless and has not cared for individual happiness. Now, he thinks, it has reached a new stage in which it may turn toward the perfection of the individual life.[3] Rousseau is the prophet of this new epoch. The writer has advanced a similar view in *Culture and Social Progress.* The reason for this new departure in cultural evolution is, Müller-Lyer says, that man

[3] *History of Social Development,* Unwin, 1920.

has become self-conscious. Rather he has become conscious of his *culture*, as distinct from himself. He is learning to distinguish cultural ideals from his own fundamental purposes, based upon his inborn biological drives.

From the point of view of pure science, the writer has agreed with Cooley and Kantor and Znaniecki and others, and has disagreed with Allport. The group is much more than a metaphor, it is as truly a functioning reality as the "individual." Contrary to Allport's notion, social or cultural phenomena must be *explained* in cultural terms. But from the standpoint of applied science, Allport is right. These phenomena must be *evaluated* by criteria which are found not on the level of group phenomena, but on that of individual life. As Allport says, we must bring human values down from society and restore them to the individual. Not the ideals and aims of institutions, but the purposes of actual men and women must be our ultimate terms of thought. "The task of social psychology is to teach individuals to examine the ends for which they must submit themselves to regulation."[4]

To use Bertrand Russell's phrase, let us not think of society as "something having a good of its own, quite distinct from the good of the citizens."

E. K. Wickman asked several teachers and several mental hygienists to rate four classes of children's abnormal behavior according to their seriousness. The most serious was to be numbered 1, the next most serious, 2, and so on. Here are the results:[5]

	Ranking by	
	Teachers	*Mental hygienists*
Immorality, dishonesty, transgressions against authority	1	2
Disorder and lack of application	2	4
Aggressive behavior	3	3
Shy behavior	4	1

[4] ALLPORT, F. H., "Social Psychology and Human Values," *Int. Jour. Ethics*, vol: xxxviii, p. 369 (1928).

[5] *Children's Behavior and Teachers' Attitudes*, Commonwealth Fund Div. of Publications, 1928, p. 188.

These results illustrate the difference in viewpoint between the teacher, whose main object is control, and the psychiatrist, whose main object is to protect the individual from maladjustment and possible insanity.

Mental Suffering the Essential Social Problem.—Policies of human betterment have concerned themselves largely with material improvement. The main thought has been more production, and a more just distribution of wealth. To be sure, these things are important, as *means.*

But the essential problem of human welfare is psychological rather than economic or socio-structural. Fewer people go to the poorhouse than before, yet the fear of poverty is unabated. Insanity rates rise steadily while material prosperity increases. Practically nobody in America dies of starvation, yet the problem of getting a living seems to cause as much anxiety as in famine-scourged China. Disease and death rates have been cut down to an unprecedented level, yet our anxiety over possible disease is probably greater than our grandmothers'. Education and recreation are better organized, more widely diffused, than ever before, yet there is no certain gain in happiness. New mental maladjustments arise with every improvement and elaboration of the social system. Physical health improves continually; mental health gets no better and is probably growing worse.

The real causes of human suffering are not dirty streets, decadent rural villages, political corruption, prostitution, disintegrated families, immigration, delinquency, but the *frustration of human wishes.* It is true that many frustrations are caused by what we call "bad social conditions." But many other frustrations occur in social environments which to the outside observer seem quite ideal. To the behavior clinics of Essex County, N. J., for example, come many pathological cases from families whose difficulty is not their poverty, but their competitive social climbing. In one area, says James Plant,[6] eighty per cent of the clinic cases came from families whose children were not well received in the better neighbor-

[6] "Sociological Factors Challenging the Practice of Psychiatry in a Metropolitan District," *Amer. Jour. Psychiatry,* vol. viii, p. 705 (1929).

hoods to which they had moved. There is serious suffering in the cozy homes of Brookline or Chevy Chase as well as in the tenements of the East Side and the miner's cottages around Pittsburgh. Statistics of mental disorder rather than of wages will tell us in which class the suffering really is greater. The necessary statistics are not yet available.

Even among primitive peoples there is mental suffering which, in our emphasis upon the physical, we have overlooked. For example, after the Pawnee Indians moved from Nebraska to Oklahoma they died in large numbers. The traditional explanation would be that the changed environment encouraged some physical disease. Clark Wissler, knowing the situation rather intimately, suggests that the primary cause was more probably the emotional upset of "homesickness."

To cite another example, the ordinary social work attitude toward vagrancy is to eliminate it by inducing the hoboes to settle down and go to work. Social psychiatry, on the other hand, suggests that perhaps many persons would be happier to remain hoboes. Their wishes may be so hopelessly fixated on a migratory life that the most humane thing society could do would be to provide opportunity for safer and more sanitary hoboing. And many bank clerks might be less psychoneurotic if they could turn tramps. Perhaps what we need is a bigger and better vagrancy. The social worker, like the older moralist, is often guilty of that fallacy, pointed out by Bertrand Russell, of "judging the social structure by whether it constitutes a pleasant pattern to contemplate." Real humanitarianism is to give people, as far as possible, not what you think is "good for them," but what they want.

Social psychiatry looks beyond social problems, social maladjustments, conflicts, bad environment, poverty, filth, and squalor. It keeps its eye on the essence of evil, and that essence is *suffering*. Among primitive people there was probably more physical pain than among us; certainly in modern society the great bulk of suffering is mental. Suffering, as we have seen, may be any of the defensive emotions continued for some length of time. Physical and mental suffering are, as a reaction, the same thing. But physical suffering means that the

defensive reaction is provoked by a simple (biologically adequate, or perhaps conditioned) stimulus acting upon the simple sense organs. Mental suffering means that the reaction is provoked by a conditioned, usually configurational, stimulus. The East European wife's reaction to a beating is physical suffering; the similar reaction of a Western wife to an insult or an injustice is mental suffering.

It is encouraging to the writer to find that at least one psychologist has the courage to investigate scientifically the most important topic in his field, that is, happiness. G. B. Watson[7] found by questionnaire that the factors positively correlated with general happiness were success in love, enjoyment of work, good health in childhood, popularity, success in dramatics, ability to deal with people, holding offices, love of nature, being married (if a man). It is not claimed, of course, that all these factors are causes of happiness. Some of them may be merely indications of it. But they are all traits in which the happy group (as judged from the subjects' own say-so) excelled the unhappy.

These factors were negatively correlated with happiness: failure in love, timidity, sensitiveness, shyness, music and poetry.

The other factors were neutral, showing no substantial difference as between the two groups: intelligence, grades, religion, hobbies, age, being an only child, having wealthy parents, having educated parents, having a mother with a career, athletic activity, having parents over 40 when they were born, radicalism, good sex education, manual craftsmanship, card playing, dancing, writing ability.

The writer hopes this study represents a general tendency of science to approach closer to the ultimate goals of living. Of what avail will it be to spend our energy trying to study and improve a host of "social conditions," if we shall some day awake to find that these conditions are not the ones which really affect happiness?

Maladjustment and Mental Suffering a Vicious Circle.—In a previous chapter we have seen that when an individual

[7] "Happiness Among Adult Students of Education," *Jour. Educ. Psych.*, vol. xxi, pp. 79-109 (1930).

undergoes continued mental suffering he gradually makes a personal behavior adjustment which tends to relieve the suffering. This may be a normal or a pathological adjustment. Pathological adjustments include various mental and nervous disorders, crimes and delinquencies, drug addiction and, of course, suicide. Normal adjustment permanently relieves suffering and causes no trouble to others. As we have seen, it is essentially a killing of the unsatisfiable wish, the defixation of the wish from the impossible object, the unconditioning of defensive emotions from the irremovable situation. Pathological adjustments also relieve the suffering which is their immediate cause. The murderer has satisfied his craving for vengeance, the alcoholic has drowned his sorrow, the schizophrenic has found comparative peace by fleeing from reality to his own inner world. Possibly insane patients suffer much less than they did before going insane.

But these pathological adjustments entail a new and different crop of sufferings, either for the patient himself or for others. The paranoiac may have relieved his sense of inferiority by blaming his troubles upon supposed persecution by others. But his unreasonable suspicions of others, his irrational talk about himself, brand him as "crazy" and cause him to lose his economic and social status. He loses his friends and his earning power and thus comes into new forms of suffering. For this he makes a further compensating mental adjustment which causes him to be regarded as still more "crazy." Finally he lands in the socio-psychological cellar, spending the rest of his days either in a hospital or as a mere child under the care and supervision of relatives.

This is not the whole story. The patient's pathological adjustment causes sufferings to other persons. These sufferings are of two kinds: (1) the anguish and anxiety caused directly by his condition, and (2) the economic waste of taking care of him. These exist whether the maladjustment be insanity, crime, or what not. *Suffering is contagious.* Let us consider these two sources of suffering.

(1) Maladjusted individuals are a source of worry to those

about them. They may, in fact, drag others with them into insanity or crime. If insane, they lead to family humiliation. If delinquent or criminal they lead to anxiety not only in their own families, but among other persons who might be their possible victims. The report of an insane murderer at large in a community strikes terror into many hearts, produces an epidemic of needless door-locking and arming, and disturbs the otherwise pleasant goings and comings of thousands of timid persons.

(2) Economic waste is not immediately a source of suffering. But it reduces the income available for satisfying wishes; it causes society to work harder than necessary for what it gets. Whether the waste be saddled upon a particular family which has to care for the patient, or upon society at large which has to care for many patients in its institutions, the final result is the same. Society is compelled to spend more of its income for protection, hence less is available for gratification.

Thus we see that a large part of human suffering is the result of personal maladjustment. The maladjustment in turn is the result of other sufferings, which are partly the result of earlier maladjustments, and so on. Suffering and maladjustment form a vicious circle. This circle of cause and effect, however, is fed at certain points from the outside by three other types of causes: (1) inborn physical defects, (2) acquired physical defects and diseases, and (3) bad social situations or interactions. A "bad social situation" cannot be defined except by saying that it is a situation which produces maladjustment and suffering. By experience, however, we learn that certain types of situations are generally, by this definition, bad. Social psychiatry consists in treating these situations. The treatment of the physical causes (1) and (2) belongs to medicine, dietetics, public health, accident prevention, and eugenics.

The Social Symptoms of Maladjustment

The chief outward social symptoms of personal maladjustment and suffering are:

Suicide
Mental and nervous disorders—insanity
Drug addiction and alcoholism
Crime, delinquency and school misconduct
Vagrancy
Divorce and desertion
Occupational and school failures
Personal disputes

By correcting and adjusting the statistics of these failures, and by getting certain data which are now not officially recorded, we may some day be able to make a quantitative index of maladjustment or mental suffering which could be applied to any community. But the raw statistics are very misleading, as we shall see.

Suicide.—In the United States, in an average population of 100,000 persons, we may expect about 12 suicides per year. The rate is about 2 per 100,000 during the teens, about 10 during the twenties, 20 among those thirty to sixty, and 36 among those over sixty. Juvenile suicides seem important merely because of their rarity. Since 1909 there has been a gradual decrease except in the group over 60 years. The urban rate is about 14, the rural rate 9. Catholics and Mormons have very low rates. The Far Western states (except Utah and Idaho) show the highest rates (24 in California), the Southern states the lowest (3 in Mississippi); New York State is just average. The foreign-born have higher rates than the native-born, and the various immigrant nationalities rank in about the same order as their home countries. In Germany and France the rate is about 22, in England 9, in Italy 7, in Japan, 20, in Pekin 15.[8]

From what we are told about the individual personalities of suicide, they seem to have suffered long periods of depression. Because of the difficulties of post-mortem psychological tests, however, there are no scientifically recorded data.

Suicide rates vary greatly with the social environment. Two

[8] CAVAN, RUTH SHONLE, *Suicide*, University of Chicago Press, 1928, gives a good summary of suicide data, See also ROALFE, V. R., "The Psychology of Suicide," vol. xxiii, p. 5 (1928).

kinds of factors seem to determine them: (1) constant or *cultural* factors, and (2) social interaction conditions which may vary within any given national culture. Thus, (1) the high rates of Germany and Japan, as contrasted with the low rates of England and Italy, seem to be due to differences in the general cultural attitude toward suicide. In Germany and Japan suicide is more or less "honorable," England's philosophy is "carry on." (2) The high rates of most of the Far Western states, as compared with North Carolina and Utah, the high urban rates as compared with rural, and the high Protestant rates as compared with Catholic, are probably due to differences in social stability. Catholicism and Mormonism leave no phase of the individual life unprovided for; rural sections and the old South have stable customs; while the Far West and the large cities contain large proportions of homeless, churchless, friendless personalities, wanderers in body and in soul.

Mental and Nervous Diseases.—A recent survey in New York State shows that the average person, at fifteen, has an expectation of 5 out of 100 chances of being sometime in his life committed to a hospital for mental or nervous disease.[9]

In 1920 there were, per 100,000 population, 220 patients with mental disease in institutions in the United States. The rate is now about 250. The rate varied from 83 in Arkansas to 374 in New York. In Nassau County, New York, according to the findings of the State Hospital Commission, 3.6 per cent of the people at large are judged to be mentally abnormal. This means 3600 per 100,000, or about nine times the number who are inside the hospitals in New York. The hospital rate of the whole country has been gradually increasing, from 81 in 1880 to 220 in 1920. We do not know whether this represents increasing mental disease or simply increasing hospitalization.

Insanity is a legal term, mental disease a medical term. You are either sane or insane, and the decision rests with some legal body. But in medical reality there is no sharp dividing line. "Everybody's a little bit queer," said the Quaker, "except me and thee, and sometimes I think thee's a little queer."

[9] POLLOCK and MALZBERG, *Mental Hygiene*, vol. xiii, p. 132 (1929); see also POPENOE, P., in *Jour. of Juvenile Research*, vol. xiii, p. 97.

The present view of psychiatry is that there are no "mental diseases," but only physical diseases and maladjustments. General paresis (softening of the brain, due to syphilis), tabes (syphilis of the spinal cord), alcoholic psychoses, various fever deliriums, are based upon definite physical and chemical causes. In the case of epilepsy and dementia præcox there is a difference of opinion as to how far they are due to constitutional factors and how far to the tensions of life. There is evidence that both run more or less in families, and some brain deteriorations have been discovered in autopsies upon dementia præcox cases (whether the cause or result of the disorder we do not know). The psychoneuroses of hysteria, psychasthenia (morbid obsessions, anxieties, etc.), neurasthenia (nervous breakdown or extreme "nervous fatigue"); and the psychoses of *manic-depressive* disorder, paranoia and involution melancholia, are thought to be functional rather than organic, due largely to maladjustment. The psychoses are less curable, and involve more permanent abnormalities of mental process, than the psychoneuroses. But all of these functional disorders must be regarded as different abnormal behavior patterns, not as different diseases caused by specific bacteria or other causes. In hospitals dementia præcox is the most common type of case; manic-depressive cases stand next.

Nervous instability is frequent among creative artists, but there is no proof that intellectually superior persons in general are more inclined to mental and nervous disorders than are the less intelligent.

Drug Addiction and Alcoholism.—The United States Public Health Service estimates that there are 150,000 drug addicts in the country. The habit may be acquired as a result of severe illness, or as a relief from mental suffering, which might cause other forms of maladjustment if drugs were denied. Our anti-narcotic policy is based on the theory that the drug habit is worse than these possible substitute maladjustments.

Alcoholic excess is a result rather than a cause of many of the social evils once attributed to it. Karl Pearson and his statistical research workers failed to find, among the children of alcoholic parents, any more physical and mental defects than among the children of non-alcoholic parents of the same social level. Prohibition has greatly reduced the consumption

of wines and beer, but its effect upon the stronger liquors is not definitely known. Whether it has, by cutting off one avenue of relief from frustration, increased other kinds of maladjustment, we do not know. Alcoholism is a culture trait. The hard-drinking habits of North Europeans do not, as some writers assert, necessarily indicate that they are more introverted or more depressed in temperament than the more temperate Latins or the coffee-drinking Arabs and Turks.

Crime and Delinquency.—Numerous investigations have shown that the average criminal in prison in the United States is of no lower general intelligence than the general population. We might therefore expect the average unjailed criminal to be somewhat superior. Many investigations have shown that prisoners in local jails and workhouses, where the lesser offenders are kept, are below the average in intelligence. C. H. Calhoon followed up 200 delinquent boys, 100 of whom were normal and 100 subnormal in intelligence. The normals totaled 206 subsequent appearances in court, the subnormals only 125.[10]

The normals totaled 753 months in the Boys' Industrial Home and $158,000 worth of damage and thefts, the subnormals only 210 months and $860. The chief influence of intelligence upon crime is that it determines the nature of the offense. Forgers and embezzlers are of high intelligence. Those who commit crimes against the person have been found in general to be of lower intelligence than those who commit crimes against property.

Many studies have been made of the personality traits of criminals and delinquents. The general trend of the results is to show that they contain a greater proportion of mentally abnormal persons than does the general population. The percentage of psychopathic cases increases with the degree of recidivism (repeated offenses).[11] B. Glueck found 59 per cent of Sing-Sing prisoners abnormal.[12]

Such studies are often misleading, however, because an arbitrary standard of what constitutes normality is made for

[10] *Jour. Juvenile Research,* vol. xii, p. 236 (1928).

[11] HEALY, W., and BRONNER, A. F., "Youthful Offenders," *Amer. Jour. Soc.,* vol. xxii, p. 47 (1916).

[12] *Mental Hygiene,* vol. ii, p. 92 (1918).

the prison under investigation and does not admit comparison with the outside population. More reliable are the studies which apply some uniform test to a criminal group, and then to a control group of persons as similar as possible to the criminals in all respects except that they are not criminal.

Differences in cultural environment and social position have a much greater influence upon crime rates than do intelligence or personality differences.

Statistics show that Negroes are more often arrested and convicted than whites; that the foreign-born are much *less* criminal than the native-born of the same age groups living in cities; that delinquency, however, is higher among the children of foreign parents than among other children, and that crime rates in general are higher in city than country.[13]

E. H. Shideler estimates that 25 per cent of all children in the United States live in homes broken by death, desertion, separation or divorce. But several studies of delinquents show that from 40 to 70 per cent of all the delinquents come from broken homes.[14]

Burgess notes that the boy delinquency rate in Chicago was 443 per 1000 for the district within one mile of the center of the city, 50 for the second, 27 for the third, 15 for the fourth, 4 for the fifth, 0 for the sixth and seventh miles. This phenomenon is called a social *gradient*.[15] It reveals the tremendous influence of the poor and mobile neighborhoods in causing delinquency, and the virtuous influence of the middle-class suburbs.

The homicide rate in the United States is about 8 per 100,000 population per year, that of England is less than 1. About 45 per cent of our homicides lead to convictions for murder or manslaughter, about one per cent to executions.

Great are the regional differences in this rate. Annual homicide rates are commonly over 50 per 100,000 in several Southern

[13] Good summary of crime statistics in SUTHERLAND, E. H., *Criminology*, Lippincott, 1924.

[14] "Family Disintegration and the Delinquent Boy in the United States," *Jour. Crim. Law*, vol. viii, p. 715 (1918).

[15] "The Determination of Gradients in the Growth of a City," *Publications Amer. Sociological Society*, vol. xxi, p. 178 (1927).

cities, such as Memphis, Jacksonville, Charlotte, and Atlanta. They are below 4 per 100,000 in many Eastern industrial cities, such as Paterson, Bridgeport, Lowell, Rochester, and Scranton. Considering only the white population, state homicide rates run from 1 to 3 per 100,000 in New England, 4 to 5 in New York and Pennsylvania, 8 to 11 in the South. Obviously these differences cannot be explained by foreigners or Negroes. They represent differences in native cultural attitudes. An insult, for example, is less likely to lead to homicide in Massachusetts than in Tennessee. Climate may make some difference, but careful analysis shows it to be of minor importance.

In Chicago, 420 juvenile repeated offenders produced 14 homicides and 39 professional criminals. In Boston 400 juvenile repeated offenders led to no homicides and 2 professional criminals. The juvenile court system of Chicago fails in 50 per cent of all the cases; Boston, in only 21 per cent.[16]

The rôle of cultural and interaction factors in determining crime is illustrated by the fact that nine times as many males as females are committed to prison. The ratio of arrests in Massachusetts is 15 to 1. But certainly no one imagines that anti-social personality traits are nine times as common among men as among women. It merely happens that the various social pressures which lead to crime are channelized by our culture so as to fall upon the male sex, because of its economic and social rôle. The women may share equally with the men in the causes of crime, but the men do the committing. Perhaps it would be uncharitable to say that most crimes are committed by men, on account of women.

Again, it is significant that in England 33 per cent of all homicides are deaths of infants, and in the United States, only 2 per cent. In England women are more frequently victims of homicide than men, while in the United States male victims are five times as frequent.[17] Here certainly is a significant

[16] THOMAS, W. I., "The Behavior Pattern and the Situation," *Publications Amer. Sociological Society,* vol. xxii, p. 1 (1928). This difference may be partly but not wholly explained by the fact that only the more serious cases come before the juvenile courts in Chicago, while nearly all cases come before juvenile courts in Boston.

[17] SUTHERLAND, *op. cit.,* p. 39.

difference in culture patterns. We leave the facts to be interpreted by the student.

Vagrancy.—Herman Adler, studying 100 unemployed cases in the Boston Psychopathic Hospital, classified them as 43 per cent paranoid personality, 35 per cent inadequate personality, 22 per cent emotionally unstable personality. The emotionally unstable group had averaged 50 months per job, the paranoid group 20 months.[18]

It would appear that the compensating paranoid temperament, when it meets with economic reverses, is more inclined toward unadaptability to a permanent job. Hoboes are not less intelligent than average men. There are many intellectual hoboes who compensate for their failures by dogmatically espousing radical economic theories. Glenn Johnson found Portland (Ore.) unemployed men to average higher in intelligence than the unselected men of the army.[19]

Divorce and Desertion.—In the United States in 1926 there was one divorce for every 6.6 marriages, or 3.75 divorces per 1000 married persons. The rate has increased steadily since 1870, when it was less than one-fourth as great as now. Of course no one believes that marital unhappiness has increased fourfold. Neither has the law changed much. The change has been one of cultural attitude. A door of escape from unhappy situations, once almost closed by the mores, by religion, and ignorance of the law, is now opened much wider.

Omitting South Carolina with its complete absence of divorce, and Nevada with its Reno, the rate per 1000 married persons varies from 2 in New York to 8 in Oregon. The Far Western states in general stand highest; the lowest are in order: South Carolina, District of Columbia, New York, New Jersey, North Carolina, Georgia, North Dakota, Delaware, Connecticut. Divorce varies greatly with nationality, religion and occupation. It is highest among actors, musicians, and commercial travelers, lowest among clergymen and agricultural laborers.[20]

[18] "Unemployment and Personality," *Mental Hygiene,* vol. i, p. 16 (1917).

[19] "Unemployment and Feeble-mindedness," *Jour. Delinquency,* vol. ii, p. 59 (1917).

[20] GROVES, E. R., and OGBURN, W. F., *American Marriage and Family Relationships,* Holt, 1928.

Desertion cases in the Chicago court of domestic relations have been rising in rate since 1907, and now amount to about 1 case per 1000 population per year (= 2.5 cases per 1000 married persons).[21]

Failures.—Men's failures in their occupations (except perhaps those due to financial causes), women's failures in homemaking, children's failures in school are in large measure symptoms of maladjustment.[22] In scientific technique, says Myerson, housekeeping is the lowest of the professions. It is not looked upon as a real job. Few women view it with the same attitude as the man does his work. Yet in reality it is a complex task requiring organization and technical skill, and worthy of great social respect. When the cultural attitude toward housekeeping changes, we may expect fewer nervous cases developing in it.[23]

J. B. Young found college failures more common among the emotionally stable, extrovert personalities than among others. The students who are above average in intelligence and also introverted have only one half their chance quota of failures.[24]

The Social Causes of Maladjustment

Types of Unhealthful Social Interaction.—These symptoms of maladjustment are not to be confused with the conditions which cause maladjustment. As we have seen, these conditions may be resolved into (1) inborn physical defects, (2) acquired physical defects, and (3) "bad" social situations. Social psychiatry treats the last condition.

What are the types of "bad" social situations? We may, for our purposes, classify them as follows:

Personal discord
Excessive love
Social isolation
Excessive rivalry

[21] Mowrer, E. R., *op. cit.*, pp. 89 ff.

[22] Fishbein and White have compiled an interesting collection of opinions and observations in *Why Men Fail,* Century, 1928.

[23] Myerson, A., *The Nervous Housewife,* Little, Brown, 1920.

[24] "Emotional Traits and College Failures," *Jour. Educ. Psych.,* vol. xviii, p. 631 (1927).

Economic insecurity
Social repression
Disappointment

These unhealthful types of interaction are not each the cause of some particular symptom. Any one of them may lead to one or several of the various symptoms. A great deal of social work consists in treating the symptoms directly by means of various kinds of institutions: prisons, reformatories, children's homes, special schools, hospitals, and court procedure. This work, of course, is necessary. But social psychiatry refers to those branches of social work which treat the causes.

Personal Discord.—While this type of interaction appears mainly in the family, it occurs also in other social groups, such as churches, schools, and business organizations. A most trenchant analysis of family discord is made by E. R. Groves. He distinguishes two classes; discord which results from airing inside the family troubles of outside origin, and discord generated by the family itself. In the first class of cases the family is used as a safety-valve to relieve tensions which are elsewhere repressed. In the second class there is fundamental disharmony between members of the family. Groves further classifies family discords as concealed, chronic, and acute.[25]

The seriousness of this type of interaction comes from the fact that the mutually irritating personalities have not the usual open door of escape from the situation which relieves other social frictions. They are tied to one another by powerful moral, social, and economic bonds; pressure mounts as in a steam boiler without a safety-valve.

Another obstacle to relief is the communistic economic pattern which obtains within the family. This permits flagrant injustice in the distribution of duties and of benefits. In society at large the more industrious personalities derive a rough justice from their recognition and higher pay. But the family, like the communist state pictured by conservatives, is a happy hunting ground for shirkers. Frustrations and resentments develop in that member of a family group who feels burdened beyond his or her share. Usually the trouble is that

[25] GROVES and OGBURN, *op. cit.*, pp. 78-92.

this unequal burdening is unconscious on the part of the slackers. They cannot see wherein they are shirking. Often it is very subtle. One daughter in a home, for example, may have the habit of calling upon others for aid in small tasks. To refuse such aid may seem discourteous and unkind. Yet the sum total of such calls for assistance may bulk so large as to amount to a serious encroachment upon the time and thought of the others, which is utterly unrepaid by services the parasitic daughter may render in return. In an army camp, or a frontier masculine society, such parasitism would be quickly detected and sharply checked. But in the genteel culture of the home it continues until serious unspoken resentments have been built up. Similar situations occur in offices, schools, and church societies.

Miss Colcord, in her study of 1500 cases of desertion, found the following causes:[26]

	Per Cent
Distinctly sex factors	39
Alcohol and drugs	37
Temperamental (?) traits	15
Economic issues	6
Mental and physical troubles	2

Mowrer, studying records of divorce cases in Chicago, found that the real causes of divorce, as distinguished from the legally alleged causes, were as follows:[27]

	Per Cent
Sexual factors, desertion for another, jealousy, etc.	40
Economic factors	40
Other factors (drink and cruelty 15%, others 5%)	20

Hamilton's *Research in Marriage* is the most thoroughgoing study of its kind yet published. His 200 cases (100 men and 100 women, mostly married pairs) were taken mainly from a large city environment, and hence may not be typical of the whole country.

To the question, "If you could press a button and find you had never been married to this person, would you do so?" only

[26] COLCORD, J. C., *Broken Homes,* Russell Sage Foundation, 1919.
[27] MOWRER, *op. cit.,* p. 68.

65 per cent answered with an unqualified "no." Fifty-nine per cent of the men and 47 per cent of the women had had illicit intercourse; 28 per cent of the men and 24 per cent of the women had committed adultery. Sixteen per cent of each sex admitted that at the time they were in love with some other person.

About 40 per cent reported the existence of sexual difficulties as "especially unsatisfactory" features of their marriages. Many of these, however, mentioned other causes as well, and the total mentions of sex difficulty were less than those of other unsatisfactory attitudes, and less than those of personal defects.[28]

Recent studies suggest that physical sex adjustment is less primary in marriage happiness than was formerly supposed. In many cases sex maladjustment itself is the result of other disharmonies. Again, it is often the result of discord or abnormal fixations in the families in which the persons were reared. Maladjustment is contagious and socially hereditary; it may be passed down from generation to generation.

The daughter of a tyrannous or drunken father, says Gallichan, is apt to seek an unconscious revenge upon her husband.[29] There is a record of a case of a daughter of immigrant parents who developed a general aversion to men. In childhood her father had often taken a dipper of water from the bucket by the well, had drunk, and then returned the unconsumed water to the bucket. This practice, common among immigrant laborers, but contrary to the æsthetic ideals the child had gained from American culture, filled her with disgust. This disgust transferred itself to her father, and finally to men in general.[30]

Hart and Shields find that marriages contracted at ages over 38 are from two to five times as likely to produce difficulties as those between 24 and 29. Marriages under 21 are likewise dangerous.[31] Hornell and Ella Hart, analyzing 7 typical cases of marriage tragedy, can find no one formula to cover them

[28] HAMILTON, G. V., *op. cit.* Popular summary in HAMILTON, G. V., and McGOWAN, K., *What's Wrong with Marriage?*, Boni. 1929.

[29] *Pitfalls of Marriage*, G. H. Wales, 1926.

[30] Reported orally by W. I. Thomas.

[31] *Jour. Soc. Hygiene*, vol. xii, p. 463 (1926).

all. When two personalities function in progressive integration, they conclude, there is love; if they thwart or hamper each other, disaster follows.[32]

Excessive Love.—It is disconcerting to learn that the most idealized of all the appetitive emotions can be a source of suffering. The trouble comes, of course, when the lovers must be separated, and then the situation is similar to that of social isolation. There is a serious frustration of the response wish. This frustration would not continue so long if the wish had not been so exclusively fixated. It is in childhood that these dangerous fixations are developed. Usually they are fixated upon a parent. They are encouraged by the one-child family, and by the discordant family in which the marital disharmony is relieved by undue love between one parent and one or more children, or undue preference of each parent for a particular child. Research has proved that these abnormal parent-child fixations actually cause a great deal of trouble in later life. In Hamilton's study of the 11 women who alone referred to physically unattractive qualities in their fathers, 10 were in the group dissatisfied with their marriages. Of the 17 men who married women physically like their mothers, 16 were satisfied. Of the 60 men who married women unlike their mothers, only 21 were satisfied. Freud's theory of parent fixation is indeed more than a mere opinion.

Social Isolation.—In the boarding-house districts of large cities, in communities where one sex predominates, in frontier farming regions, we find many people suffering from frustration of the wish for response. Mere density of population has nothing to do with the case. The large city may proverbially be more lonely than the open country. The key to the situation lies in more subtle factors, such as the cultural attitudes toward neighborly contacts and the presence or absence of informal gathering places. Friendship depends not only upon the personalities of two persons, but also upon the situation in which they meet. In a college town, for example, the boys had the custom of visiting a cheap public dance hall, and also of walking down the main street looking for "pick-ups." No

[32] "Unsuccessful Marriages," *World Tomorrow*, vol. x, p. 258 (1927).

matter what the real personality of a girl whom a college boy might meet in such situations, the cultural attitude was hostile to any real friendship. Only the lower orders of personal relationship could supposedly be formed in Columbia Hall or on Livingston Avenue. And because things were supposed to be so, they were so.

Social workers have attempted to treat this situation by means of settlement houses, community centers, Y.M.C.A.'s and Y.W.C.A.'s, supervised dance halls where partners may be introduced by hostesses, and so on. Downtown churches appeal to the lonesome stranger. But a change in certain cultural attitudes might render all this machinery quite needless. The social psychiatrist must use methods which fit existing culture patterns, but at the same time keep his eyes open for possibilities of change in the patterns themselves. Present culture places the barrier before the point of making a social contact. There is no natural social reason why the barrier could not be placed after that point. A girl might be as well protected from unwanted attentions by saying "excuse me" after the first few minutes of conversation as by all the conventions of introduction and chaperonage which prevent the conversation beginning.

Social Rivalry.—The struggle to own a more expensive car or gown, to give a dinner party which will excel that of a social rival, to get an invitation to an exclusive function, is a potent source of "nerves." It is always relative success which satisfies, relative and not necessarily absolute failure which frustrates.

The social rivalry of consumption fixates the wish for superiority upon economic goods. Thorstein Veblen estimated that one half of our labor and our abstention from labor is chargeable to the "struggle for respectability." Respectability sidetracks our efforts from the channels they would naturally follow in the satisfaction of other wishes. Wish conflict results. We take two weeks' vacation at the best hotels when perhaps fundamentally we would prefer a month's vacation with cheaper accommodations. Social psychiatry requires that su-

periority be obtained through as many different channels as possible, so that all may have a chance to be superior.

Unhealthful rivalries exist also in school work, in athletics, in business, in social work. Rivalry may exist without personal discord, but it often leads to jealousy and to discord situations. A body of Americans engaged in Christian welfare work in a foreign country was thrown into discord by needless rivalry between two different groups of workers, and one person developed a personality maladjustment as a result of the experience. The main cause of the trouble seemed to be in the jealous competitive attitude of one particular worker, but this attitude in turn could be traced back to some other bad social interaction in which he had participated, probably in his childhood.

In large cities we hear of "jaded nerves" and over-stimulation. We have a more varied life than our grandfathers. But we pay for it. We are obliged to attend daily to numerous unrelated details. We must remember to have the radio fixed, to have battery water put in the car, to take the potted plants indoors before leaving on the week-end trip. We must juggle numerous engagements. The society for improvement of this or that writes us an urgent letter begging us to wire our Congressman in support of some bill. The community chest, our college alumni association, and other organizations *ad infinitum* pester us for contributions. But it is our own fault. We go in for more activities than we can possibly handle. And to a large extent the motive behind this over-driving is generated by a subtle rivalry, which we perhaps do not like to admit even to ourselves. What drives us on is not the mere opportunity to go and to do, nor any inherent craving for the particular activities we choose. It is rather the unconscious fear that we might miss something that others are getting, might lag behind in the social game. Yet when we leave town for several months, or isolate ourselves from our friends for a time in order to accomplish some special task, we are not troubled by what we have missed. It is not humiliating to score zero in a game we are not playing.

Economic Insecurity.—Prosperity may be greater than ever before, yet economic insecurity is not reduced thereby. Standards rise, but the fear of falling below the standard remains. It may be greater than before. The greatest bugbear of the working class is unemployment; of the business class, failure to arrive at the relative success which was hoped for. Family relationships and occupational relationships are made abnormal and troublesome by these conditions.

Social Repression.—This type of interaction differs from personal discord in that the irritations are not directed so much toward particular persons as toward the general situation. One feels psychologically imprisoned, denied self-expression. This type of situation appears in many schools, colleges, and other institutions. College girls are still forbidden to smoke years after the general tabu has lifted. The cause of frustration here is not that they are forbidden something, but that they are forbidden something by their local environment which the more general environment would permit them. As was noted in Chapter V, the seriousness of a frustration depends upon the subject's idea of the possibility of gratification. Few persons wish long for what they are certain cannot be had. But most of us cannot get rid of a wish for something which is almost within reach. Local and partial restraints are more dangerous than the complete restraints imbedded in the general mores. A tabu about which people differ works more mental damage than an equivalent tabu which is generally accepted.

Institutions try to teach their inmates that the welfare of the group requires regulations which are not necessary in the outside world. This argument, however, is based upon a vague and unconvincing theory of group welfare. Workers in a powder factory forego smoking cheerfully; the argument here is convincing. But that smoking injures the morals and reputation of a women's college under present-day conditions is a mere theory about which the students may well disagree with the faculty.

J. E. Winter studied freshman rules in 42 large colleges. While many of the rules he thinks are commendable, others

provoke resentment, disgust, inferiority, self-defense, and are responsible for much maladjustment among freshmen.[33] In recent years there has been a growing regulation and softening of hazing, and a tendency to doubt the personality-training value of humiliation.

Much maladjustment among children and youth is due to restraints placed by their parents upon their going to the movies, having dates, and using the family car. If all children were denied these things there would be no frustration, for the wishes would not develop. But the more rigorously disciplined children see others more leniently handled, and there is no convincing argument to prove to them that they gain by the restraint.

"Is George there?" "What do you want to see him about?" This dialogue represents a subtle form of repression very common in primary groups. Unless George deputized somebody to act as his private secretary in this matter, "What do you want to see him about?" is a highly impertinent question, bad for the mental health of George and of his visitor and, indirectly, of the whole group.

In a Southern mill village no particular sense of oppression arises from the fact that the boss does not permit meetings for labor organization. But let the union once establish itself nearby, let it come within the range of possibility, and the employer's restrictions will become a source of violent resentment.

Sinclair Lewis has pictured the drabness of life in American small towns, as Chekhov has done for Russia. But repression is found in many other places in the social order. The routine of army, prison, and institutional life produces boredom. Girls in an isolated rural college are much given to walking to a nearby town. Asked why they go there, they say "for a change," "just to get away from what you see every day."

Disappointment or Anti-climax.—A family which had been living on an income of $100,000 was forced by business failure to live on about $4000. They gave up their elaborate city home and took a house in the country. The wife adjusted perfectly;

[33] *School and Society*, vol. xxv, p. 323 (1927).

she seemed quite happy on the lower income. Not all persons can make such an adjustment.

A young couple had an unexpected and very stimulating year abroad following their marriage. When they returned home and had to work among less interesting surroundings, with an income whose purchasing power was much less, they had a hard time getting "deflated."

The most serious frustrations of life are relative. It is not poverty, but being poorer than you were, that hurts. Sickness hurts mentally the person who is accustomed to health more than it does him to whom it is an old story. We need beware of life's anti-climaxes.

Here is an interesting theoretical problem. Given a certain total income and a certain total number of pleasant and unpleasant experiences, how would you distribute these factors throughout a lifetime of a given number of years so as to produce the maximum happiness? In general it would seem that the arrangement should be progressive. The income should gradually increase, never decrease, except possibly after the children were grown and independent. The pleasant experiences should not be piled up during the early years. Each should come of course before the physical vigor necessary to enjoy it was on the wane; but they should be well distributed through life's span, with the richer and larger experiences coming later than the lesser. Yet there should be enough joyful experience in the earlier years to provide a pleasant memory background and a hopeful attitude.

But fate seldom arranges things this way. Failure often follows success. Our own civilization is more cruel in this way than that of China, where the old are cared for with every effort filial piety can put forth.

The best remedy under our existing culture is subjective. We cannot regulate life's fortunes, but we can teach a philosophy of life which will prepare people to adjust to misfortune.

The woman who adjusted happily to her diminished standard of living had been well adjusted during her days of plenty. Her wealth had not been gained in nervous struggle, she was not *nouveau riche*. It is possible that many years of perfect

adjustment to life may be the best preparation for difficulties. It may be that only those anti-climaxes are serious which come to those who were already uneasy and troubled about other matters.

The Treatment of Unhealthful Social Interactions

Methods of Treating Immediate Situations.—The treatment of unhealthful social interaction situations is a very complex art. As yet it has not been formulated, as has medical treatment, into definite principles of universal application. We are not yet prepared to describe a distinct type of treatment for each type of poor interaction. Each specific situation must be studied by itself, and its treatment devised to fit the case. We can, however, classify and discuss the methods of treatment in general.

For any unhealthful social situation there are just three kinds of things we can do.

(1) We may *move* individuals out of or into the situation, temporarily or permanently. We may induce one or more persons involved to take a vacation, to try another job for a while, to go to a different school. We may separate or divorce mates, dismiss someone from a position, reseat persons in a dining hall. Also we may sometimes introduce a new person into the troublesome situation with good results. No general rules can be laid down. Family discords can often be cured by removing a mother-in-law; there are cases in which they might be cured by adding one. Discord in business or educational organizations can often be stopped by "firing" somebody; in other cases it can be stopped by introducing a new personality into the situation. Healy, Bronner, Baylor, and Murphy[34] have shown that delinquent children of the most difficult types, but without psychopathic traits, can be readjusted with 90 per cent success by placing them with well-chosen foster families, if necessary shifting them from family to family until a good adjustment is obtained. Esther Richards, of the Phipps Psychiatric Clinic in Baltimore, has been successful in handling psychopathic children by moving them about among homes

[34] *Reconstructing Youthful Behavior,* Knopf, 1929.

and farms till they found a place of adjustment. She discovered that many of her cases came from whole families of hypochondriacs, without any organic trouble. Success required keeping the parents away from the child.[35]

(2) We may *rearrange* the situation, leaving the same individuals there, but changing their rights and duties or their activities. In other words, we change the social structure, or the culture patterns of the situation, and depend upon the new patterns to rechannelize the interaction into more healthful directions. For example, in a family where discord exists because of the wife's frequent small requests for money and the husband's stinginess, a definite and liberal allowance given the wife might redirect the family interaction into the paths of harmony and peace.

(3) We may leave the same individuals in the same relationships, but *change their attitudes.* Such a change of attitude might come through (a) some stimulating or educating experience of one of the persons involved, or (b) the reeducating work of a psychiatrist or other outside adviser. Under (a) family discord situations have been improved through such experiences as a special summer course of study, a certain book, a serious illness, a new friendship, a religious revival. Under (b) they have been improved by psychoanalysis and by the prolonged influence and advice of outside counselors.

Whatever the method of treatment, one paramount rule must be followed. The social psychiatrist must never speak a word of blame or reproach to or about the persons in the situation he is trying to adjust. He must treat their personalities as the results of past causes, not as subjects for moral judgment. The attitude of blame arouses a defensive reaction in the person blamed, and this stops all progress. To say to a person you are advising: "Now here's where you're in the wrong," or "Yes, I think he's very unfair to you in this way," is the mark of an untrained counselor. The trained social psychiatrist will say, "Now, here is where your attitude

[35] THOMAS, *op. cit.*, p. 516.

makes things difficult for him." As Groves remarks, "We seek not an indictment but an explanation."[36]

Cultural Changes Needed to Make Effective Treatment Practicable.—These are the things we can do to the immediate situations. Practical social psychiatry must learn to make use of these methods within the economic limitations of the persons concerned, and within the limitations of the surrounding culture. No solution is a solution if it is financially impossible, or if it so violates the community mores and folkways as to make it socially impossible.

At the same time, the social psychiatrist will be alert to the cultural limitations which prevent his doing his best work, and will coöperate with the larger social reform movements which aim to remove such limitations. In so doing, of course, he will proceed vigorously in those directions where changes can be made without great resistance—in other words, without violating fundamental culture patterns. He will perhaps leave the agitation for the more radical changes to those who have no immediate practical task to accomplish.

What are the cultural changes needed for good social psychiatry, toward which there is some present possibility of making a start?

If we consider once more the types of unhealthful situations and the general methods of treatment, we shall see that these four broad changes are needed: (1) greater economic security through rearrangements in the economic system, (2) more and better psychiatric counselors and case workers, (3) readier mobility of employment and residence, and (4) rearrangements in the school system on the basis of mental hygiene.

(1) *Economic Security.*—An observer of Soviet Russia reports that, despite the low standard of living, there is a greater feeling of economic security among the working class than in America. This is just one of those little glimpses which makes the social psychiatrist look with a certain hopeful curiosity toward Russia, in spite of all the unkind words that are said about her. Economic security requires two things, (a) reasonable certainty of employment, and (b) protection against the

[36] GROVES and OGBURN, *op. cit.*, p. 88.

personal economic risks of sickness, accident, childbirth, and old age.

(a) *Certainty of employment.*—Economists and statesmen are working for security of employment through better control of the business cycle, properly timed government construction projects, regularization of private industry, employment exchanges and organization of the labor market, and unemployment insurance. In America it is not yet possible to adopt some of the more radical measures used in other countries, such as government unemployment insurance, the Ghent system (government subsidizing trade unions' unemployed benefits), dismissal wage laws, and government operation of industry. In America the traditional attitude is that fear of unemployment is necessary to make workers efficient: "If a man knew he couldn't be fired, he wouldn't exert himself very much." But if we have learned any lesson from history, we may predict that employment will, by some means or other, achieve greater guaranty, and employers will use their social psychology to devise some other methods of making their workers efficient. Fear is not what it was once "cracked up to be." We shall learn to get along without those salutary effects of the fear of discharge, as we have learned to forego the great benefits once derived from our children's fear of spooks and bogey men.

(b) *Protection against personal risks.*—Protection against economic risks is a great need in both the working and the business classes. Our culture has, however, put the emphasis upon business and property risks. We need more protection against personal risks. One of the greatest obstacles to a regular and happy standard of living is the fact that most of us always are betting on good health. In a fortunate year we live close to our incomes, quite unprepared to meet the sickness emergencies which may come unexpectedly. If we save against such a misfortune we are dismayed, nevertheless, when the emergency comes and takes away our savings. Some of us may even regret our savings; for might we not have enjoyed ourselves more while we were well, and pulled through the emergency by borrowing, by temporary readjustments in our

standard of living, charity, or the reduction of the doctor's fee "in view of our circumstances"? Savings utterly fail to solve the problem, psychologically speaking, for we feel, down beneath, that "there ain't no justice in it" that we should have to spend in hospital bills what a luckier family can spend on a summer vacation.

The Committee on the Cost of Medical Care, of which H. H. Moore is executive secretary, is doing a valuable piece of work investigating just how health is paid for. The general opinion seems to be that the poor can get much free service, the rich can afford to pay, and it is the intermediate classes who really suffer the greatest economic burden from sickness. The greater the development of medical knowledge and skill, the more we feel constrained to spend money on it, the more we feel obliged, even when there is no urgent necessity, to leave nothing undone which might possibly prevent or mitigate the damage which disease might do to our loved ones. The quiet unadvertising doctor has a better sales argument for his services than any high-pressure commodity booster.

The socialization of medicine.—What we need, and what we are moving slowly toward, is the socialization of medicine. There is no more fundamental human justice in laying the burden of illness upon those who are ill, than there would be in paying for a sunken battleship by taxing the families of the sailors who went down with it.

There are two general methods of socializing medicine. One is to put the doctors and nurses, the builders and the janitors of hospitals, and all the other people engaged in the health industry, into the public pay. There is no more unreason in doing this than in putting the school teachers into public pay. Already within narrower bounds we pay for a small part of our health work publicly, or collectively. Corporations and schools, for example, employ physicians. That collectively paid portion of our health service is bound to increase; how far we do not know.

Another method of socializing the cost of health is by means of health insurance. This cannot be obtained at reasonable cost unless a large number of people can be induced to sub-

scribe. When the insurance is purely voluntary, those buy it who least need it. The problem can be solved only by universal compulsory health insurance such as exists in the leading countries of Europe. In their systems the doctors are paid collectively and, in addition, a benefit is given to the sick person to compensate partly for loss of wages.

Of course the practical difficulty in health insurance is that it can be abused by persons who are not really sick, and thus lead to another kind of injustice. But there are social control devices which would make that injustice much less than the original inequality of the burden.

Workmen's compensation, mothers' pensions, old age insurance and old age pensions are schemes for socializing other obvious economic risks. Thus far these are but feeble steps toward that economic security which our mental health demands.

(2) *Psychiatric counselors.* We need more and better psychiatric counselors. This means not necessarily regular psychiatrists, who must be M.D.'s, but any person who is scientifically trained to treat unhealthful social situations and the mental disorders they cause. In this sense, the clergyman, the physician, the psychiatrist proper, the behavior clinic advisor, the visiting teacher, the advising teacher or dean, the vocational counselor, the social case worker, the consulting psychologist, the personnel manager, the morale officer, the grievance adjustor, the lawyer, the judge, and many a gifted layman are, try to be, or might be, real psychiatric counselors. Most of them *might be.*

"Social case work," says Miss Richmond, "consists of those processes which develop personality through adjustment consciously effected, individual by individual, between men and their social environment." In other words, social case work comes much nearer to our social psychiatry than do other social techniques which aim merely to reform conditions in general. The case worker studies the individual case. The treatment needed may be quite opposite from that needed in another case. We are now placing emphasis upon psychology and psychiatry in the training of social workers. Recently the

"psychiatric case worker" has come into prominence. Whether to take a child away from an unsatisfactory home, whether to bring back the deserting husband or let him go, whether to hold a family together or encourage its break-up, are questions which should be decided not merely according to precedent and economic need. They should be decided on the basis of psychology. No adjustment is an adjustment unless it relieves the defensive emotions.

Every school, every community, needs a psychiatric counselor. Several colleges already have them. Every person needs a safety-valve; someone to whom he can go with his troubles. It is essential, of course, that such an advisor stick consistently to his function. He cannot be at the same time an investigator, and a policeman or disciplinarian. He must take the viewpoint of the individual. He must be utterly "leak-proof" with the confidential information which is given him. The trouble is that many persons who presume to play this rôle, although gifted with much practical knowledge of human nature, are ignorant of scientific psychology and sociology. They make correct judgments on certain types of cases, but fail with others because of their limitations and prejudices. Others, such as school authorities, who by their official position are expected to act as personal advisors, have also a disciplinary function. They are tempted to use against individuals certain information which comes to them. Such a double rôle is of course impossible. A person in such a rôle usually hears only such information as his clients think safe to let him have. Hence he has no basis for sound judgment.

Special schools and courses might be established for the training of psychiatric counselors, a degree or certificate issued, and a code of professional ethics developed. Most of the counselors might need to follow other professions at the same time, but it would be of great value to distinguish the clergyman or college dean who really knows what science has to say about human behavior from him whose claim to sound judgment rests solely upon his "magnetic personality," his air of wisdom, or the venerable grayness of his hair.

(3) *Easier mobility.*—We need readier and cheaper mobility: geographic, economic and social. In these days of speed, when the automobile is being blamed for many social problems, when social workers find that the worst dens of maladjustment are in districts of rapidly shifting population, it may be surprising to hear a sociologist advocate still greater mobility. We might have expected him rather to advocate settling down, more stable community and family life, more money spent on homes and less on cars. Are not the I.W.W. and the hobo products of too much migration? Is not rapid social climbing a cause of American unrest? Does not even Bertrand Russell say that the fixed social relationships of China make for a peace and contentment unknown to the Western world?

J. S. Plant[37] interprets much of our maladjustment as personality disintegration caused by mobility and other features of urban life. Every five years, he observes, finds 78 per cent of the population in New Jersey suburbs at a new address. The home, the school, and industry are too much unrelated. It is the task of the social psychiatrist to integrate the social environment, to restore the synthesis of personality which was provided by the more settled life of the old-time community. But the fact that a certain mobility of residence is one feature of the modern conditions which have so increased the strain upon personality does not disprove that we may need more of another kind of mobility to remedy the situation. What we need is *freedom* to move according to our emotional requirements, instead of the present social *constraint* to move according to the fortunes of our occupation.

Here again we must keep in mind that social needs are relative, not absolute. If all of our other culture patterns could be just like those of China, we might be happier to give up traveling and social climbing and job changing. But given our material culture as it is, mobility is inevitable, and it may well be that our social adjustments would be improved by still greater mobility. However, it is not more mobility, but quicker

[37] "Social Factors Involved in Personality Integration," *Amer. Jour Psychiatry,* vol. ix, p. 113 (1929).

and cheaper mobility under certain circumstances, which we need.

To be concrete, rapid transportation makes it possible for the worker to live farther from work, parents farther from their married children, friend farther from friend, than was formerly the case. On the average, these distances are actually greater, as proved by various investigations. Our friends are more widely scattered than formerly, the local neighborhood is of less importance in our lives. We satisfy our various wishes at a greater number of different places than we did a generation ago. We have a greater radius of daily movement, a greater week-end touring radius, a greater vacation-travel radius.

But still we are constrained to come back to the same home nearly every night and to appear at the same office or shop nearly every day. Changes of residence and of job are still difficult, expensive, uncertain. The wider daily and vacation travel, the geographic scattering of our friends and points of personal interest, create new wishes for change and adventure. The comparative fixity of home and job frustrates these wishes. The desire for mobility has increased faster than the practical possibilities of mobility.

The kind of mobility which is needed is that which permits more frequent, but largely temporary, changes of residence and job. Modern life, it is said, produces greater nervous strain. The defensive emotions (which by the way *are* this nervous strain) get conditioned to the ever present surroundings. The tired business man gets "stale on" his office, the nervous housewife on her house. Put him into a new office, her into a new kitchen, and they "pep up" remarkably. Not rest but change was their need.

Our wishes for adventure and for response demand a wider radius of movement, while our wishes for security and superiority demand as much as ever that we put down roots in one place. A serious conflict arises out of this situation. Incidentally, the desert nomad has no such conflict—all his wishes are satisfied on the move. The Chinese villager has no such conflict—all his wishes are satisfied in his home village.

The serious need for personal change of environment.—One of the commonest prescriptions of the psychiatrist given to nerve-fagged people is change. But seldom is the advice taken. The patient clings to his desk or home, goaded by his need for money and social approval, until finally a nervous breakdown compels him to take the change. In the long run, the task of social psychiatry is to make immediate change possible when it is needed.

E. B. Woods has called attention to the "social waste of unguided personal ability."[38] Not only for economic but for psychological reasons is there a need for a better organization of the market for human services. Wise vocational placement is not a question merely of ability, but of attitude. Many a man, whose abilities fit him preëminently for the professional or business job he actually holds, suffers serious emotional disturbances because of some series of strains which have occurred in his work. What he needs is to be put on a farm or in a lumber camp. He needs it only temporarily, but he needs it immediately. With a well organized chain of employment exchanges he could readily find the situation which his emotional sanity requires. Without such a system, without adequate information, with all the social traditions piled up against such a change, he usually does not. He continues in his situation of strain until a nervous breakdown forces him out.

We need change not only of physical but of social environment. As we have seen, one of the three methods of treatment for an unhealthful social situation is to remove one or more persons from the situation. Usually a temporary removal is enough.

Martha Ostenso's *Dark Dawn* pictures a young man whose mental adjustment requires his getting out of his small-town environment. But family ties hold him. The story gives him one of those dramatic modes of release so common in fiction. In real life release must be sought not by awaiting chance events, but by a reasonable organization of life. The controls which hold people in situations of mental suffering need to be broken.

[38] *Amer. Jour. Soc.*, vol. xix, p. 358 (1913).

Practical problems of mobility.—To be practical and concrete, in addition to employment exchanges and information bureaus we need nursery schools and children's homes, at reasonable rates, for all classes of people, and we need many standardized furnished apartments. With perhaps the majority of business-class persons whose mental health requires a change of scene, the chief obstacle to such a change is their household possessions or their children. The working classes are more fortunate in that their possessions are fewer, and they are less deterred from moving by various niceties in the standard of living; on the other hand, they may lack money for the transportation itself.

Some sociologists think that one of the best things they can do for the welfare of a community is to stimulate greater home-ownership. Social psychiatry is not certain whether we need, in the mass, more home ownership or less. It is certain that we need readier adjustment to the individual case. Families whose adjustment to life would be promoted by a more permanent, stabilized home, owned rather than rented, should be helped by the social system to get such homes. But we have overlooked another class of cases. Some families would be better adjusted if they could move more easily. There is a need for standardized homes and furniture which could be quickly and cheaply occupied and vacated without the necessity of transporting large quantities of personal property. Such houses and furniture might be designed to meet the special needs of families with young children, families without children, families seeking temporary change from irritating surroundings. While the custom of accumulating furniture and possessions of one's own has important values, yet it is probable that less mental suffering is caused by the lack of such property than by the difficulties of selling or moving it when mental health so demands. Already in some modern houses built-in equipment is to some extent taking the place of transportable furniture.

The moving of children would be much less difficult if we had standardized homes and equipment for them. The problem is not so much one of transporting bulky furniture, but of

duplicating, in the new and unknown environment, just that right combination of milk, water taps, play space, bath facilities, adjustable windows, doors, gates, fences, safety from traffic, clothes closets, toy-chests, electric lights, high chairs, laundry facilities, medicines, chemical thermometers, and safety pins. One might suggest also to any automobile manufacturer who has an altruistic urge to do something for the mental hygiene of the population, that he build a new model for touring convenience rather than for the conventional style of appearance.

(4) *Mental hygiene in the schools.*—We need a system of education which is governed more definitely by the needs of mental hygiene. Great progress has already been made toward this goal, but more thoroughgoing steps need to be taken. There is now a tendency for schooling to begin at an earlier age and to occupy longer hours. The influence of the school over our children is growing, while many other influences wane. We need to continue our present program of studying and treating the individual child. We need to study more carefully the effects of segregating the dull and the gifted. Excessive rivalry in school work or play needs to be watched. As Morgan points out, it often leads to inferiority complexes and introversion among the less successful.[39] The school should provide more opportunity for studying and handling concrete things, in workshop, garden, and laboratory. It should take children much more frequently to visit factories, stores, railroads, farms, and forests. It should build its curriculum around the practical problems to be met in real life rather than around academic subjects. The various devices called the project method are useful.

At a recent sociological convention James Plant, of the Essex County Clinic in New Jersey, judging from the types of cases coming before the clinic, advanced the striking theory that city life is changing human temperament in the direction of introversion. Pleasures are more vicarious, more remote from reality; social contacts are more artificial and superfi-

[39] *Psychology of Abnormal People,* p. 606.

cial.[40] The school should be a cross-section of real life. It should above all things condition children's interest responses to the real environment rather than to the literary symbols of reality. It could well train children to derive more pleasure from the mere interested observation of things about them, both in city and country, and to depend less upon movies, story books, and artificial games. It could aim to develop in every pupil some kind of an exploring, observing hobby.

All teachers, as Morgan suggests, should be trained in mental hygiene. They should learn to notice in their pupils the attitudes of hate, cruelty, introversion, fear, suspicion, inferiority, suggestibility, the tendency to exaggerate illness, to blame others for difficulties, to rationalize, to daydream, to regress. Whenever a child is habitually markedly different from the rest of his group in any respect, he needs further study. That study may result in a clean bill of health or in finding a mental maladjustment. A school clinic should then study the cases in which the teacher finds danger signs.[41]

Is there any reason why the scientific study of human behavior could not begin, in elementary form, in the grade schools? John B. Watson[42] has suggested that school children be taught to observe their own behavior scientifically, as they observe various interesting things in the environment. He imagines, for example, a twelve- or thirteen-year-old boy writing in his behavior record or diary, "I find that I am going with girls very much less than I used to and that I have begun to gang up with boys in the neighborhood."

There is an ancient prejudice to the effect that thinking about our own behavior makes us self-conscious, and another to the effect that talking about ourselves makes us seem conceited or tiresome to our hearers. On the contrary, the way out of our mental difficulties may lie through more thinking and talking about ourselves, but of course with a very different attitude from what our old-fashioned mentors had in mind. In the past we thought about ourselves because we felt infe-

[40] *Publications, American Sociological Society,* vol. xxiv, p. 282 (1930).
[41] MORGAN, *op. cit.,* pp. 601-615.
[42] In *The Unconscious, a Symposium,* Knopf, 1928.

rior. We talked about ourselves in order to satisfy our wish for superiority. We also refrained from talking about ourselves for the same purpose. In the future, perhaps, we shall think and talk about ourselves to gratify our scientific curiosity and our desire for good workmanship in the art of living. We shall look upon ourselves objectively, as we do upon our friends, upon animals and buildings and machines, as interesting parts of the environment. Our main desire will be neither to exhibit nor to conceal, but to understand and adjust, our own personalities.

As Watson points out, our verbal or symbolic behavior controls our other behavior. Words, spoken or implicit, are the handles by which we take hold of life. We need verbal organization to control the maladjustments and difficulties in our behavior. We need to "talk them out." But our cultural attitudes have put difficulties in the way of acquiring this needed part of our symbolic behavior organization. We have been trained not to talk about our inner feelings except in vague or stereotyped phrases and in interjections, and then only with an eye open to "what people will think" about us. The attitude which bares human emotions and then greets them with sympathy rather than contempt, an attitude so well represented by Russian novelists like Dostoievsky, is foreign to our culture.

The writer remembers an occasion when, under strain, he behaved in a rather undignified fashion. His behavior was so good an illustration of a certain point that he described it in the original manuscript of this book. But a friend strongly advised him to delete the episode, on the ground that it might lower his prestige with many of his readers! And so he decided that it was this dignity-first attitude represented by these supposed readers, rather than his own behavior, which needed to be exposed.

Not only our behavior, but even our attitude toward our own behavior, is dictated by culture. But it is the task of the educational branch of culture to expose and criticize other parts of culture when they stand in the way of better human adjustment.

Teaching a Hygienic Philosophy of Life.—Schools have taught the Ten Commandments, the Hutchins Code of the Good American, and the rules of physical health. Is there any reason why they could not teach something like these rules suggested by Alice E. Johnson for mental hygiene?[43]

(1) Don't say yes and no at the same time. See everything with the price tag on. Self-depreciation is a bid for praise. Don't try to help people when you are really wishing to exercise power over them.

(2) Don't allow an accumulation of unfinished business. Don't evade.

(3) Keep your mind open to new aspects of truth. Life is greater than any experience of life.

(4) Disregard what is merely personal. The reason for moodiness is self-love.

We have seen in Chapter V that successful adjustment to wish frustration depends largely on the intellectual philosophy of life which the patient brings with him into the situation. In these days when the influences of the home and the church seem to be so variable and uncertain, the function of teaching a healthful philosophy of life devolves more and more upon the school.

The essence of a hygienic philosophy would seem to be this: *an attitude of fatalism toward the past, coupled with an attitude of responsibility toward the future.* Such a philosophy is in fact taught more or less by athletic sports. It could be carried over to other situations.

Religious teaching has too often made the mistake of applying the responsibility attitude to past and future alike, thus burdening human beings with mental conflicts over past "sins." On the other hand, there is a widespread philosophy of thoroughgoing fatalism which is spread by word of mouth rather than through any organized agency or literature. "When your time comes you'll go," "if you're going to get caught, you'll get caught," would seem to encourage irresponsibility and anti-social behavior.

[43] "The Unhappy Are Always Wrong," *Survey*, vol. lvii, p. 217 (1926).

Critical Thinking Habits Aid Mental Hygiene.—As a valuable type of school project, we suggest the study and "debunking" of popular misconceptions. Students should not need to wait for college to learn that the position of the moon does not predict the weather, that character cannot be read from the shape of the head or the lines in the palm, and that the mere putting of money into circulation by wealthy spenders does not increase economic prosperity. Gladys Graham describes such a "Laboratory Course in Straight Thinking."[44]

H. E. Garrett and T. R. Fisher selected 40 prevalent misconceptions and superstitions and asked 140 senior girls and 115 senior boys in New York City high schools whether they believed them. They found that 92 per cent of these supposedly well educated children believe that intelligence can be increased by training, about 75 per cent that man has just five senses, about 75 per cent that silent men are generally deep thinkers, about 60 per cent that adults sometimes become feeble-minded from over-study, 60 per cent that a man's character can be read by the shape of the head, 48 per cent that you can make a person turn round by the telepathic influence of staring at his back, 60 per cent that a shifty eye indicates dishonesty, 53 per cent that a slow learner is a better retainer than the quick learner, 43 per cent believe in prenatal influence, 36 per cent believe that any disease can be contracted by thinking too much about it, 41 per cent that all men are created equal in capacity, 28 per cent that sufficient faith could heal a broken limb, 38 per cent that the lines in the hand foretell a person's future, 31 per cent that the stars influence character.[45]

On giving this test to the entire senior class (76 cases) and to a sample of the freshman class (38 cases) at Sweet Briar College, the writer found the freshmen to entertain, on the average, about eighteen of these forty misconceptions. This score was about the same as that of Garrett and Fisher's high school seniors. The college seniors, on the other hand, averaged only about five misconceptions out of the forty. It would seem that college education may after all be worth while.

A. R. Gilliland reduced the average superstition score of liberal arts students from 9.58 to 6.15 false beliefs, and of

[44] *School and Society*, vol. xxiv, p. 658 (1926).

[45] "The Prevalence of Certain Popular Misconceptions," *Jour. Appl. Psych.*, vol. x, p. 411 (1926). See also NIXON, H. K., "Popular Answers to Some Psychological Questions," *Amer. Jour. Psych.*, vol. xxxvi, pp. 418-423 (1925).

commerce students from 11.98 to 6.58, by giving them the regular course in psychology. The high scholarship students, both before and after the course, tended to have lower superstition scores.[46]

The superstitions about thirteen and Friday are believed by only about 4 per cent of sophisticated (?) New Yorkers, but a host of other propositions, equally lacking in scientific foundation, are accepted by from 20 to 95 per cent of these same students. Any one of these superstitions by itself may seem quite harmless to mental health, but taken altogether they represent magical thought patterns which lead to groundless fears and hinder one's adjustment to reality. And the first principle of mental hygiene is to learn to face reality at an early age so that, when the more serious tensions of life come, one is prepared to meet them with a scientific, matter-of-fact attitude.

The value of our suggested training lies not so much in destroying particular beliefs as in the general habits of critical thought which might, by a good teacher, be developed during the "debunking" process. In any immediate crisis situation "emotions" may rule "intellect," and any amount of reasonable argument may fail to relieve the strain. But in preparing for a crisis which may come several years hence, intellectual training, begun now, will count heavily. Once more let us note the rôle which intellect plays in this process. It is not a substitute for the emotions, but a means of so conditioning the emotions in advance that when the test comes they will adjust to reality.

Summary.—The practical utility of social psychology as a science is not to teach the arts of social control. Our efforts to control other people merely neutralize one another, and nothing is gained.

In another way social psychology can accomplish something of absolute value by which all can profit. Namely, it can teach us to adjust more successfully to one another. It can alleviate the conditions which produce frustration and maladjustment. This practical application of our science may be called social

[46] *Jour. Abnormal and Social Psych.*, vol. xxiv, pp. 472-479 (1930).

psychiatry. This term does not imply treatment of diseases of the social mind, but rather, treatment of the social causes of the disorders of individual minds. All suffering is in individuals. The ultimate goal of all social work is to reduce suffering. In modern society most suffering is mental. Mental suffering does not inevitably result from what we call "bad social conditions," and it occurs in many situations which on the surface appear ideal. It is spread through all classes of society.

The social symptoms of personal maladjustment and suffering include suicide, mental and nervous disorders, drug addiction and alcoholic excess, crime, delinquency and misconduct, vagrancy, divorce and desertion, failures, and personal disputes. It is important to treat some of these symptoms specifically, for they endanger other people. But the main program of social psychiatry is to remove the causes, and in this main program the treatment needed for delinquency may be the same as that needed for insanity, suicide, or divorce. The treatment of maladjustment may consist of moving individuals, of reorganizing situations, or of educating individuals to new attitudes.

The practice of social psychiatry must proceed not by general rules, but by the careful study of individual cases. However, certain general social changes are needed to make the work effective: greater economic security, trained psychiatric counselors, easier mobility of the individual with regard to his residence, work, and social relationships, and a school program guided by mental hygiene.

CHAPTER XIV

THE FUTURE OF SOCIAL PSYCHOLOGY

As a review of this book, the analytical table of contents will perhaps serve as well as any additional summary. The few remaining pages are devoted to a brief consideration of the ways in which our existing knowledge of social psychology may be enlarged—in other words, to research.

Methods of Research in Social Psychology

Social science research employs the historical method, the case method, the comparative method, and the statistical method. As G. A. Lundberg shows, these are not distinct and exclusive methods, but rather stages in the development of research.[1] If, for example, we wish to study the causes of family discord, we may first use the case method, recording in detail all relevant facts about a great many specific cases. After studying these case records we may be able to pick out certain facts which seem to be more significant than others. Then we may apply the statistical method to these selected facts.

In general, the case method secures a wide variety of facts about a limited number of cases, but the facts of one case are not always readily comparable with those of another case. The statistical method, on the other hand, records fewer kinds of facts about a larger number of cases, and then makes quantitative classifications and comparisons. The statistical method commonly fills out a schedule for each and every case. The schedule may take the form of a questionnaire, a test, and so on.

The method to be applied to any problem depends upon the stage of development of our knowledge about that problem. In general we may say that research on a social science problem has not reached its maturity until it employs the statisti-

[1] *Social Research,* chap. i.

cal method. And the statistical method has not reached its mature stage until it seeks to discover correlations or associations. The mere gathering and tabulating of statistics, such as is done by the Bureau of the Census, is not true research, but only the preliminary work of research. It is only when these census data are compared and correlated that we are able to formulate scientific laws or generalizations.

Mature social science research, that is, research which is in the stage of yielding laws or generalizations of predictive value, follows this pattern. Namely, we study a certain, usually large, sample of *cases*. About each case we ascertain certain definite facts, and always the same kinds of facts for each case. If a class of facts or data can be arranged on a quantitative scale—that is, if the differences between the cases are differences of more or less—we call this class of facts a variable. If the differences are not quantitative but are rather differences in kind, we call the class of facts an attribute. Thus, if we are studying the phenomena of family discord, the size of each family (case) is a variable, the classification of the families as native or foreign, or as rural or urban, represents attributes.

The goal is to discover the relations between two or more variables or attributes. The relation between two quantitative variables may be *measured* by a definite mathematical procedure known as correlation. In Chapter VI was explained the nature of this process and the meaning of the correlation coefficient, which is the most commonly used measure of correlation. If the data to be compared are attributes rather than variables, we commonly speak of their relationship as an association.

Mature statistical research in social psychology may be divided into three types according to whether the cases under investigation are (1) individuals, (2) definite groups of individuals in behavioristic interaction with each other, or (3) whole communities, regions or cultures. Type (2) represents social psychology in the strict sense, but investigations of the other two types also may contribute to social psychology.

Research studies may be further classified according to

whether they do or do not involve the factor of *time* as an intermediary in the relation of the two variables. For example, a study made to discover whether family discord is correlated with a wide intelligence difference between the mates would not involve the time factor, for it would be a study of the relations of factors existing at the same moment. But a study to discover whether family discord is related to discord in the previous generation—that is, in the parental families of the two mates—would involve the time factor. The first kind of research attempts to formulate laws of contemporaneous relationship, the second attempts to formulate laws of dynamic relationship, sequence, or change.

Preliminary to the true, matured research must be the definition and measurement of the variables or attributes to be considered. A great deal of social psychological research work now being carried on consists simply in this preliminary work. For example, Margaret Barker describes a study in the classification of children's activities.[2] The purpose of this study is not to formulate any laws, but to classify and define activities in such a way that they may later be used as definite variables to be correlated with other variables. The social sciences devote much more time than do the natural sciences to the work of definition and classification, because our everyday language terms which are used to symbolize social situations are non-precise, overlapping, and confusing. Ammonium hydroxide, iron, sandstone, bacillus tuberculosis, and an elephant are sufficiently defined by being merely named. They can be confused with other objects through imperfect observation, but not through vagueness of definition. But when we come to social data, what, for example, is a room? Does it include a pantry, a hallway? What is a social contact? Does it include a collision between two skaters on an ice pond, the relation between the Japanese tea picker and the English tea drinker?

Alice Gregg, Marion Miller, and Ethel Linton describe a method of computing a "laughter index" for children.[3] We all

[2] THOMAS, D. S., *Some New Techniques for Studying Social Behavior*, Teachers College, Bureau of Publications, 1929, pp. 22-54.

[3] *Ibid.*, pp. 86-97.

know that some people laugh more than others, but before this tendency to laugh can be expressed as a variable and correlated with other variables, it must itself be measured in some definite way.

The principal types of variables and attributes which we measure, compare, and correlate in social psychology are the factors (variables or attributes) of: (1) individual ability, (2) individual temperament, (3) individual physique, (4) attitude, (5) overt behavior, (6) interaction (such as conflict, or degree of conflict), (7) physical environment, (8) non-behavioristic factors of the cultural environment, and (9) cultural evaluations, such as success, progress, achievement, efficiency, moral, social or economic status.

In Chapters VI and XI was given some account of methods used in measuring the first five of these types of variables. The measurement of factors of type (6) is barely begun. We may here mention briefly some techniques devised to measure factors of types (7), (8) and (9).

J. R. Commons, J. S. Chapman, and V. M. Sims, C. E. Holley, F. S. Chapin, J. H. Williams and others have devised scales for measuring the cultural value or status of homes. Chapin's scale for living-room equipment allows a certain number of points for every common kind or condition of floor, floor covering, wall covering, door protection, heat, artificial light, book containers, chairs, musical instruments, pictures, and so on, including 53 classes of items. The total score of a home is the total number of points it earns on all these items. Such a scale converts a great variety of quantitative and qualitative differences into a single quantitative variable. The procedure is perforce somewhat arbitrary because the quantitative variable itself ("living-room score" or "rating") is a sum of *values* rather than a sum of concrete physical dimensions. Chapin is measuring a cultural value rather than a physical quantity. He is not really measuring living-room equipment but a valuation of living-room equipment, a valuation which is determined by our common attitudes toward various material culture objects. But such a measurement is exceedingly

useful to sociology and social psychology.[4] There are also various scales for the measurement of the efficiency of city governments and health departments, the rapidity of cultural change at various periods, the productivity in eminent men of various countries, and so on.

Suggestions Toward Future Research

As we come to the close of this book, the thing which should most weigh upon our minds is this question: What lines of research in social psychology are most important? Now what do we mean by important? We mean, in the last analysis, useful for the enrichment and improvement of human life.

"Improvement" can be defined in the terms of Chapter XIII, from the standpoint of psychiatry, as the reduction of the total amount of frustration or maladjustment.

The traditions of pure science abhor practical utility. As a young student you are exhorted to seek science for science's sake. Anything which you can observe, measure, or correlate is worth observing, measuring, or correlating if you have the time and the financial support necessary to do it. But when you ask *why*, you are told that many useful discoveries and inventions have come through research work which was motivated by pure curiosity without any desire for utility. So then the goal is utility, after all, but we reach it best by not aiming at it!

In attempting to say what research is most important, the writer of course voices a personal opinion, which the reader must take as such. This opinion is based, however, upon much thought about the possible human values of different types of research and upon observation of the troublesome gaps which exist in our present body of knowledge. It may be worth while to express this opinion, even if only for the sake of provoking discussion.

First and in general, we need beware of spending too much time in measuring and correlating certain variables simply

[4] Chapin, F. S., *Scale for Rating Living-Room Equipment,* University of Minnesota, Institute of Child Welfare circular No. 3; Lundberg, *op. cit.,* chap. x.

because they are easy to measure with a certain superficial accuracy, or because we take pride in developing some new technique of measurement. We should always keep our minds on the question: what will be the value of measuring this particular factor even if we can measure it accurately? The Downey W-T tests, for example, are good and convenient measuring techniques, but the personality traits they measure are of doubtful importance and seem not to correlate significantly with other kinds of personality data. We should not consider the mere fact that we are measuring something as proof that we are doing something important. In many cases it might be more worth while to spend this time studying, by much less accurate techniques, the associations or patterning of less well defined and less accurately measurable factors. For such an undertaking might be putting us on the road toward distinguishing and measuring some variable which is really fundamental. Accuracy of measurement is less important than is the wise selection of that which is to be measured.

To be specific, the following tentative suggestions are offered as to the research needs of social psychology:

(A) Research in which the statistical case is the *individual.*

(1) Research in which ratings of traits are correlated with ratings of other traits is of doubtful value and has been sufficiently exploited to prove its own limitations.

(2) The "validation" of tests of the more important traits, by correlating them with other kinds of tests of the same traits, needs to be pushed further. Validation by correlating with ratings is of more limited value, and nearly always shows a disappointingly low validity (.20 to .60).

R. C. Travis suggests a new method of validating tests which would seem to be sounder and to offer greater hope of real scientific achievement, than the usual method of correlating a test with a rating, by acquaintances, on the trait which the test is supposed to measure. Travis' method is to check the test against a case history. He checked ten psychopathic case histories from the point of view. "Does the history show the subject to have this trait which the test shows him to have?"

He obtained agreements between tests and history of from 60 to 100 per cent.[5]

(3) We need to follow up vigorously the clues we have obtained as to the correlation between behavior traits and physiological variables such as those of bodily form, blood chemistry, etc. Kretschmer's researches, for example, are very important.

(4) We need techniques to separate temperamental from acquired attitudinal factors in behavior. We might, for example, study in detail the various extroversion-introversion tests, to find out which questions yield verbal responses correlating most closely with bodily form, with raised threshold during crystal-gazing, and with other temperamental or bodily traits.

(5) We need many studies of the correlations of very specific attitudes with one another, in order to determine which of our supposed "general attitudes" (such as love of outdoor life, radicalism, ascendance-submission, etc.) really are generalizations of closely related specific attitudes, and which are merely normal or arbitrary groupings of unrelated items. Thus there is reason to believe that "interest in natural science" among college students is really a general attitude, because persons highly interested in physics seem also to be more interested in chemistry than the average, and so on. But interest in fact courses as against interest in theory courses is more probably only a nominal general attitude, because interests seem to correlate on the basis of related subject matter rather than on the basis of similarity of form of mental work.

(6) We need tests for compensation, regression, etc., to supplement our tests for extroversion-introversion, in order that a more complete psychiatric-temperamental classification of individuals may be made. We need to correlate these psychiatric-temperament variables with various attitudinal traits of personality for which we already have measuring devices.

(7) Especially important is research which will define and classify the goal-situations of wishes. After this is done, we

[5] "The Measurement of Fundamental Character Traits by a New Diagnostic Test," *Jour. Abn. Psych. and Soc. Psych.*, vol. xix, p. 400 (1925).

may be able to proceed to the important study of the inter-substitutability of satisfactions.

(8) We need to develop standardized outlines, as Allport, Chassell, and others have done, for the genetic study of personality, in such a manner that the several cases can be more readily compared with one another. A study of many such case records might reveal certain common patterns of temperament, attitude, and personal history factors, combined in certain ways. A knowledge of these frequent patterns might be more useful than our present knowledge of intercorrelations between quantitative variables (ascendance, extroversion, intelligence, etc.).

(9) The new well developed techniques for measuring and recording attitudes should be supplemented by techniques for determining the motives or wishes which lie at the basis of attitudes. We have been sidetracked from the study of wishes by the fact that wishes cannot be readily observed, while attitudes can be more readily and definitely observed through simple verbal reactions to verbal stimuli. To be sure, we shall be obliged to observe the wishes also, mainly through verbal reactions. The difference between attitude research and wish (motive) research is that a more elaborate and perhaps concealed technique is necessary to get verbal reactions which will really indicate wishes.

For example, it is easy to construct scales for the measurement of the "radical" attitude, to correlate different kinds of radicalism with one another, and so on. But we might, by a more carefully devised technique, discover the motives which lead different persons to become radical.

For example, several questionnaire tests have already been devised which ask their subjects to state or check the motives which influence them in choosing an occupation, going to church, or in making some decision. Another possible technique is to ask questions as to what the subject would do in certain hypothetical situations. We might ask, for example, how the subject's attitude toward church-going would be changed if there were no music, if all his fellow worshipers were strangers, if the minister never preached any intellectu-

ally stimulating sermons, etc. A third possible technique is to infer wishes or motives from the past history of the attitude in question. All these techniques have their disadvantages, but they and other methods should be tried, and perhaps a valid motives test may ultimately be devised.

(B) Research in which the statistical case is the group of interacting individuals.

(1) We need to correlate family discord with the various factors which might be its causes. Especially important is the research suggested by some undertakings at Colgate, namely, the correlation of discord (ascertained via divorce, questionnaire data, interview data, etc.) with personality traits of the partners and with *differences between the partners* in various traits. With the personality tests now available we should be able to discover whether like or unlike temperaments, like or unlike attitudes, like or unlike intelligence, are important in marital happiness. L. C. Toops suggests a research program for the measurement of success in marriage and parenthood.[6]

(2) Studies of the general effects of social facilitation are of less value than studies of the effects of specific group situations upon individuals as correlated with the personality traits of those individuals.

(3) We need to correlate the incidence of nervous breakdowns and other disorders with the social interaction factors, such as personal conflict, existing in the primary group at or before the disorder began. For example, to what extent does the presence of mental disorder go with the presence of mental disorder in other persons with whom the subject is in intimate social interaction, and to what extent with biological heredity, physical ill-health, etc.?

(4) Interaction processes need to be studied by the case method to determine the more frequent sequences (time-patterns) of events. For example, what are the more common types of sequence in the events of a family break-up, or of the organizing or disorganizing of a community? Are fictional narratives of such events true to life? What are the criteria by which we may decide whether a series of events narrated

[6] *Teachers College Record,* vol. xxx, p. 579 (1929).

in fiction is typical of social interaction in real life? Mowrer's *Family Disorganization*, Steiner's *American Community in Action*, suggest the kind of study which is needed. Research of this kind must continue for some time in the case-method stage before the more mature statistical techniques can be used.

(C) Research in which the statistical cases are communities, regions, or cultures.

(1) There is great need for an index of maladjustment or frustration by which different communities and countries could be compared. Such an index might be based upon rates of insanity, suicide, delinquency, broken homes, etc. Each of these rates would need to be carefully interpreted and adjusted in the light of cultural differences. If a valid maladjustment index could be computed, it would be, more than would any existing measure of wealth, income, standard of living, education, etc., a true barometer of human welfare.[7]

(2) We need many detailed analyses of communities in different regions and cultures, made from the psychological point of view of comparing the ultimate satisfaction or wish-goals of individual life. For example, when the Lynds describe the peculiar group of human satisfactions obtained from the Middletown Rotary Club, and Daniel Kulp does the same for the "Mutual Aid Club" in the South Chinese village of "Phoenix,"[8] and Margaret Mead describes the psychological gratifications of the *aumaga* (organized group of young men) in Samoa,[9] we are reminded that the ultimate satisfactions of human life may be everywhere the same. We need comparative psychoanalyses of cultures, not merely formal descriptions.

Malinowski points out that the really important questions of cultural anthropology are: What are the elements of culture, what are the laws of cultural processes, and what is the nature of culture? The anthropologists, he says, are too in-

[7] See FOLSOM, J. K., *Culture and Social Progress*, Longmans, Green, 1928, chaps. ix, x.

[8] *Country Life in South China*, Teachers College, Bureau of Publications, 1925.

[9] *Op. cit.*

clined to take these matters for granted and to spend their time looking for origins and tracing histories and diffusions of culture traits. We need to analyze the family, the state, and so on, from a functional, psychological (wish-satisfaction) point of view, more than we need to trace their diffusions.[10]

(3) We need studies of the type made by Hobhouse, Wheeler, and Ginsberg, correlating various traits of culture with one another, using all the well known primitive cultures as cases.[11]

(4) The geographic distribution of attitudes needs to be studied as the anthropologists study the geographic distribution of material culture traits and forms of social organization. Stuart Rice, in his *Quantitative Methods in Politics*, reports such geographic studies of political attitudes within the United States.

Out of the many varieties of attitude tests we might construct a few well standardized tests and apply them uniformly to a great many different social groups and in several geographic culture areas. International effort to translate tests into different languages would be highly worth while. One of the ultimate purposes of attitude tests is to compare communities, groups, cultures, and, using these units as cases, to correlate attitude variables with one another, with factors of physical environment, wealth, density of population, and so on.

The Educational Rôle of Social Psychology

A science discovers new facts and relations, formulates and tests laws, and records systematically the whole body of knowledge in its field. This body of knowledge includes some everyday knowledge which is the more or less common possession of intelligent persons, and the newer knowledge which has been acquired through research.

What, then, is to be done with this body of knowledge? It may be used in three ways: (1) experts may use it in dealing

[10] "Useful and Useless Anthropology," *New Republic*, vol. 1, p. 109 (1927).

[11] *Material Culture and Social Institutions, . . . an Essay in Correlation*, University of London, 1915.

with their practical problems, (2) laymen may use it in dealing with the practical problems of the common life, and (3) laymen may use it for the non-utilitarian, cultural purpose of enriching their appreciations and enjoyments.

Therefore, in order that a science be fully utilized by humanity, it must not only be known to the experts who will employ it in its more detailed aspects, but it must also be popularized, or socialized. In other words, the body of knowledge in its field must be placed in the possession of the masses of the people, in so far as they are able to use it, either for utilitarian or cultural purposes.

Social psychology thus far has been taught, under its own name, only in the more advanced years of college curricula. Snatches of it are taught, of course, embodied in other subjects, in the lower schools, and by word-of-mouth tradition. But the full utilization of social psychology requires that it be made, more definitely and in greater measure, a part of high school and even grade school education.

The science of social psychology has a large and influential future. It furnishes the keys to many things which we now study under the captions of economics, political science, history, sociology, anthropology, and education. Instead of remaining in the rôle of an advanced and specialized subject in the department of sociology or of psychology, social psychology eventually may become a gateway subject to many other social science fields. For is not the science of interaction of human beings *in general* more fundamental than the science of any particular sphere of interaction, such as politics or economics? Is it not more important that grade school children should learn certain elementary facts, and methods of thinking, about the relationships of human beings in the family and the neighborhood, than that they should learn about even such important things as governmental processes and international relations?

And once more let us note that, in ultimate human terms, the goal of social psychology is not to help some people to exert better control over the rest, but to free all people from

the sufferings of maladjustment, to eliminate wish-frustrating forms of social interaction. The ultimate purpose of all science is to make human life more worth living. And, within this larger purpose, the rôle of social psychology is to teach human beings how to live more successfully one with another.

Appendix A

SELECTED BIBLIOGRAPHY

This bibliography aims to serve a limited purpose. It lays no claim to any sort of completeness, and many titles are omitted which might seem to be more valuable than some which are here included. In general, each work listed owes its inclusion to one of two characteristics. Either it is (a) a broad, general *treatise* covering a large part of the field, usually itself containing a detailed bibliography, or (b) an especially *clear, interesting* or *unique* presentation of some more limited subject. The list therefore consists mainly of books, and includes periodical articles only when they present broad summaries or reviews.

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*McDougall, W. *Social Psychology,* Luce, 1926. The classic presentation of the older "instinct" or "hormic" school of social psychology, now opposed by "behaviorism" or "mechanism."

Markey, J. F. *The Symbolic Process and Its Integration in Children,* Harcourt, Brace, 1928. The development of language in the child.

Marston, W. M. *Emotions of Normal People,* Harcourt, Brace, 1928. A unique theory of emotions.

Pavlov, I. P. *Conditioned Reflexes,* Oxford, 1927. General report on the experimental work of Pavlov.

Piaget, J. *The Language and Thought of the Child,* Harcourt, Brace, 1926.

Pillsbury, W. B., and Meader, C. L. *The Psychology of Language,* Appleton, 1928.

**Psychologies of 1930,* Clark University Press, 1930. A symposium, giving up-to-date statements of the important schools and theories in psychology.

*Schoen, M. *Human Nature,* Harper, 1930. An unusually clear and readable introduction to general psychology.

Smith, W. W. *The Measurement of Emotion,* Harcourt, Brace, 1922. Experimental data.

Tolman, E. C. "Habit Formation and Higher Mental Processes in Animals," *Psychological Bulletin,* vol. xxv, pp. 24-53 (1928). A summary of experimental data.

Washburn, M. F. "Feeling and Emotion," *Psychological Bulletin,* vol. xxiv, pp. 573 ff. (1927). Summary of recent theories of pleasantness and unpleasantness.

*Watson, J. B. *Behaviorism,* Norton, 1924.

Watson, J. B. *Psychology from the Standpoint of a Behaviorist,* Lippincott, 1919.

Chapters IV and V: Personality Organization and Disorganization: Wishes, Frustration, Readjustment, Psychoanalysis

Adler, A. *Understanding Human Nature,* Greenberg, 1927.

Bagby, W. E. *The Psychology of Personality,* Holt, 1928.

Conklin, E. S. *Principles of Abnormal Psychology,* Holt, 1927.

*Freud, S. *A General Introduction to Psychoanalysis,* Boni, 1920.

Furfey, P. H. *The Gang Age,* Macmillan, 1926. Good classification and illustrations of readjustment mechanisms.

Hart, B. *The Psychology of Insanity,* Macmillan, 1925.

*HEALY, W., BRONNER, A. F., and BOWERS, A. M. *The Structure and Meaning of Psychoanalysis,* Knopf, 1930.

HOLT, E. B. *The Freudian Wish and Its Place in Ethics,* Holt, 1915.

KEMPF, E. J. *Autonomic Functions and the Personality,* Nervous and Mental Disease Monograph series No. 28, 1918.

KEMPF, E. J. *Psychopathology,* Mosby, 1920.

LAY, W. *The Child's Unconscious Mind,* Dodd, Mead, 1919. Good analysis of readjustment mechanisms as illustrated in the child.

LEONARD, W. E. *The Locomotive God,* Century, 1927. A fascinating autobiography illustrating the cause and treatment of a psychoneurosis.

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*MENNINGER, K. A. *The Human Mind,* Knopf, 1930. A good classification of types of personality disorganization.

*MORGAN, J. J. B. *The Psychology of Abnormal People,* Longmans Green, 1928.

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OVERSTREET, H. A. *About Ourselves,* Norton, 1927. Interesting popular treatise on personality readjustment.

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Problems of Personality, Studies in Honor of Dr. Morton Prince, Harcourt, Brace, 1927.

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*ROSANOFF, A. J. *Manual of Psychiatry,* Wiley, 1927.

SANDS, I. J., and BLANCHARD, P. *Abnormal Behavior, Pitfalls of Our Minds,* Moffatt, 1923.

SHAND, A. F. *The Foundations of Character,* Macmillan, London, 1914. Studies personality organization in terms of emotions and sentiments.

TAYLOR, W. S. *Readings in Abnormal Psychology and Mental Hygiene,* Appleton, 1926.

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*THOMAS, W. I. *The Unadjusted Girl,* Little, 1922. Exposition of the concept of the "four wishes."

VAN TESLAAR, J. S. (ed.). *An Outline of Psychoanalysis,* Boni, 1924.

WELLS, F. L. *Mental Adjustments,* Appleton, 1917.

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WILLIAMS, W. *What's On the Worker's Mind,* Scribner, 1920. The superiority wish and the psychology of the workman.

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CHAPTER VI: PERSONALITY DIFFERENCES AND THEIR MEASUREMENT, CLASSIFICATION, AND CAUSATION

ANDERSON, N., and LINDEMAN, E. C., *Urban Sociology,* Knopf, 1928. Treats the relation of urban environment to personality and behavior.

*BARNES, H. E. *Psychology and History,* Century, 1925.

BERMAN, L. *The Glands Regulating Personality,* Macmillan, 1921. Speculates beyond actual scientific evidence, but is highly suggestive.

BINGHAM, W. V., and FREYD, M. *Procedures in Employment Psychology,* Shaw, 1926.

*BRIGHAM, C. C. *A Study of American Intelligence,* Princeton University Press, 1923. Based upon army mental tests.

BURGESS, E. W. (ed.). *Personality and the Social Group,* University of Chicago Press, 1929. A collection of important articles on the social causation of personality differences.

BURNHAM, W. H. "Personality Differences and Mental Health," *Journal of Genetic Psychology,* vol. xxxvi, p. 361 (1929).

CAMPBELL, C. M., *et al. Problems of Personality,* Harcourt, Brace, 1925. A symposium.

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FEARING, F. "Psychological Studies of Historical Personalities," *Psychological Bulletin,* vol. xxiv, p. 521 (1927). A review.

GARTH, T. R. "A Review of Race Psychology," *Psychological Bulletin,* vol. xxvii, pp. 329-356 (1930). A survey of research, 1925-1930.

*GUILFORD, J. P., and BRALEY, K. W. "Extroversion and Introversion," *Psychological Bulletin,* vol. xxvii, pp. 96-107 (1930). A review of theory and research.

*HARTSHORNE, H. L., and MAY, M. A. *Studies in the Nature of Character*: I *Studies in Deceit,* Macmillan, 1928; II *Studies in Service and Self-Control,* Macmillan, 1929; III *Studies in the Organization of Character,* Macmillan, 1930 (F. K. Shuttleworth, joint author).

HOLLINGWORTH, H. L. *Judging Human Character,* Appleton, 1922.

*JENNINGS, H. S. *The Biological Bases of Human Nature,* Norton, 1930.

JUNG, C. *Psychological Types,* Harcourt, Brace, 1924.

KIRKPATRICK, C. E. *Intelligence and Immigration,* Williams and Wilkins, 1926. Gives mental test results on various groups of foreign origin.

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*MAY, M. A., HARTSHORNE, H., and WELTY, R. E. "Personality and Character Tests," *Psychological Bulletin,* vol. xxvi, pp. 418-444 (1929); vol. xxvii, pp. 485-494 (1930). Reviews of literature of 1927-1930. See previous and following issues of *Psychological Bulletin* for reviews covering other periods.

ROBACK, A. A. *Bibliography of Character and Personality,* Science-Art Publishers, Cambridge, Mass., 1927.

*ROBACK, A. A. *The Psychology of Character with a Survey of Temperament,* Harcourt, Brace, 1927. An excellent general treatise.

SHAW, C., *et al. Delinquency Areas: A Study of the Geographic Distribution of School Truants, Juvenile Delinquents, and Adult Offenders in Chicago,* University of Chicago Press, 1929.

*THOMAS, W. I. and D. S. *The Child in America,* Knopf, 1928. Excellent summary of important research on personality differences and their causation.

THURSTONE, L. L. *The Nature of Intelligence.* Harcourt, Brace, 1924.

*WATSON, G. B. *Experimentation and Measurement in Religious Education,* Association Press, 1927. A useful summary of and guide to important personality tests.

WOODWORTH, R. S. *Constitution and Mental Types,* Second Conference for Research on Child Development, National Research Council, Washington, 1927.

See also many titles under Chapters II, III, IV, and V.

CHAPTERS VII AND VIII: SOCIAL INTERACTION

ALLPORT, F. H. *Social Psychology,* Houghton Mifflin, 1924.

ALVERDES, F. *Social Life Among Animals,* Harcourt, Brace, 1927.

BOGARDUS, E. S. *Fundamentals of Social Psychology,* Century, 1924.

COOLEY, C. H. *Human Nature and the Social Order,* Scribners, 1902.

*GROVES, E. R. *Personality and Social Adjustment,* Longmans,

Green, 1925. Wishes and the development of personality under the influence of social interaction.

HARLAND, O. H. *Some Implications of Social Psychology,* Knopf, 1929.

HART, H. *The Science of Social Relationships,* Holt, 1927. Contains valuable collection of cases and practical problems of conflict and accommodation.

LASKER, B. *Race Attitudes in Children,* Holt, 1929.

*MARTIN, E. D. *The Behavior of Crowds,* Harper, 1920.

*PARK, R. E., and BURGESS, E. W. *Introduction to the Science of Sociology,* University of Chicago Press, 1924. Sociology written in terms of social interaction processes.

Publications of *The Inquiry,* 129 East 52d St., New York: *Community Conflict, Creative Discussion, Training for Group Experience,* and others.

ROSS, E. A. *Principles of Sociology,* Century, 1920, and new edition (1930); *Outlines of Sociology,* Century, 1923. Sociology in terms of processes of social interaction and social change.

ROSS, E. A. *Social Psychology,* Macmillan, 1908. Planes and phenomena of social interaction. Based partly on Tarde's theory of imitation.

STRATTON, G. M. *The Social Psychology of International Conduct,* Appleton, 1929.

THRASHER, F. M. *The Gang,* University of Chicago Press, 1927. Studies gang life in terms of social interaction.

CHAPTER IX: SOCIAL CONTROL AND SOCIAL DECISION, PUBLIC OPINION, PROPAGANDA

ANGELL, N. *The Public Mind,* Dutton, 1927.

BERNAYS, E. L. *Crystallizing Public Opinion,* Boni, 1923. Practical methods of advertising, propaganda, and social control.

DEWEY, J. *The Public and Its Problems,* Holt, 1927.

*GRAVES, W. B. *Readings in Public Opinion,* Appleton, 1928.

HALL, G. S. *Morale,* Appleton, 1920. Inspired by war-time morale-building activities.

KENT, F. *Political Behavior,* Morrow, 1928.

KENT, F. *The Great Game of Politics,* Doubleday, Doran, 1923. Practical techniques of politics.

LASSWELL, H. D. "The Status of Research on International Propaganda and Opinion," *American Journal of Sociology,* vol. xxxii, no. 1, part 2, pp. 198-209 (Proceedings) (1926).

LASSWELL, H. D. *Propaganda Techniques in the World War,* Knopf, 1927.

LIPPMANN, W. *The Phantom Public,* Macmillan, 1927.

*LIPPMANN, W. *Public Opinion,* Macmillan, 1929.
*LUMLEY, F. E. *The Means of Social Control,* Century, 1925. Full of concrete illustrations and practical applications.
MERRIAM, C. E. *New Aspects of Politics,* University of Chicago Press, 1925.
MUNRO, W. B. *Personality in Politics,* Macmillan, 1924.
ODEGARD, P. H. *The American Public Mind,* Columbia University Press, 1930.
ODEGARD, P. H. *Pressure Politics, The Story of the Anti-Saloon League,* Columbia University Press, 1928.
OVERSTREET, H. A. *Influencing Human Behavior,* Norton, 1925.
RAUSHENBUSH, H. S. *High Power Propaganda,* New Republic, 1928.
*RICE, S. A. *Quantitative Methods in Politics,* Knopf, 1928.
*ROSS, E. A. *Social Control,* Macmillan, 1904. A classic work, origin of much of the concept and theory of social control.
SIDIS, B. *The Psychology of Suggestion,* Appleton, 1898.
TEAD, O. *Human Nature and Management,* McGraw-Hill, 1929.
WALLAS, G. *The Great Society,* Macmillan, 1914. Analysis of the processes of social control and social decision.
WEEKS, A. D. *The Control of the Social Mind,* Appleton, 1923.

CHAPTER X: THE PSYCHOLOGY OF CULTURE AND VARIOUS CULTURE COMPLEXES, SOCIAL AND CULTURAL ATTITUDES

BARTLETT, F. C. *Psychology and Primitive Culture,* Macmillan, 1923.
BOAS, F. *The Mind of Primitive Man,* Macmillan, 1913.
BOGARDUS, E. S. *Immigration and Race Attitudes,* Heath, 1928.
BROWN, A. R. *The Andaman Islanders,* Cambridge, 1921.
BROWNE, L. *This Believing World,* Macmillan, 1927. A popular treatise on the origin and history of the world's major religions.
DIESERENS, C. M., and BONIFIELD, M. "Humor and the Ludicrous," *Psychological Bulletin,* vol. xxvii, pp. 108-119 (1930). A summary of recent theories of laughter.
*FOLSOM, J. K. *Culture and Social Progress,* Longmans, Green, 1928. The relation of culture to individual psychology, to social problems, to liberty, and to progress.
FREUD, S. *Civilization and Its Discontents,* Hogarth, London, 1930.
GREIG, J. Y. T. *The Psychology of Laughter and Comedy,* Dodd, Mead, 1923.
HERTZLER, J. O. *Social Institutions,* McGraw-Hill, 1929.
HURLOCK, E. B. *The Psychology of Dress,* Ronald, 1929.

JUDD, C. H. *The Psychology of Social Institutions,* Macmillan, 1926.

*KIRKPATRICK, C. *Religion in Human Affairs,* Wiley, 1929.

*KROEBER, A. L. *Anthropology,* Harcourt, Brace, 1923. The origin and distribution of the world's important culture traits. The classification and geographic distributions of the several races, languages, and cultures.

*KULP, D. H. *Country Life in South China, The Sociology of Familism,* Teachers College, New York, 1925. Culture and cultural attitudes of the rural South Chinese. Shows how culture traits satisfy wishes.

LEHMANN, H. C., and WITTY, P. A. *The Psychology of Play Activities,* Barnes, 1927.

LEVY-BRUHL, L. *The Soul of the Primitive,* Macmillan, 1928.

LOWIE, R. H. *Culture and Ethnology,* Boni, 1917.

LOWIE, R. H. *Primitive Religion,* Boni, 1924.

*LOWIE, R. H. *Primitive Society,* Boni, 1925. The phenomena of primitive culture are shown as not explainable either by individual psychology or by general laws of cultural evolution. Each culture trait must be explained by its own peculiar cultural circumstances. An excellent presentation of the modern "historical school" of cultural anthropology, with abundance of concrete illustrations.

*LYND, R. S. and H. M. *Middletown, a Study in Contemporary American Culture,* Harcourt, Brace, 1929. A study of a typical American city from the viewpoint of cultural anthropology. Reveals cultural attitudes and their changes between 1890 and 1924.

*MALINOWSKI, B. *Crime and Custom in Savage Society,* Harcourt, Brace, 1926. A more penetrating, psychological or functional analysis of a primitive culture than anthropology usually makes.

MALINOWSKI, B. *Myth in Primitive Psychology,* Norton, 1926.

*MALINOWSKI, B. *Sex and Repression in Savage Society,* Harcourt, Brace, 1927. Gets close to the psychological functions, or wish-satisfactions, in its analysis of a primitive culture.

*MARETT, R. R. *Psychology and Folklore,* Methuen, 1920.

*MEAD, M. *Coming of Age in Samoa,* Morrow, 1928. Cultural attitudes of Samoans well described and contrasted with our own. Shows how culture functions, or satisfies wishes.

MEAD, M. *Growing up in New Guinea, a Comparative Study of Primitive Education,* Morrow, 1930.

NIXON, H. K. *Psychology for the Writer,* Harper, 1928. Some important points in the psychology of literary production and appreciation.

REDFIELD, R. *Tepoztlan, a Mexican Village,* University of Chicago

Press, 1930. A study of life and cultural attitudes in a Mexican village.

RIVERS, W. H. R. *Social Organization,* Knopf, 1924.

ROHEIM, G. *Social Anthropology,* Boni, 1926. A Freudian interpretation of primitive culture.

*SAPIR, E. *Language,* Harcourt, Brace, 1921. A study of languages from the point of view of cultural anthropology.

SCHOEN, M. *The Effects of Music,* Harcourt, Brace, 1927. The psychology of music appreciation.

SIDIS, B. *The Psychology of Laughter,* Appleton, 1913.

SIEGFRIED, A. *America Comes of Age,* Harcourt, Brace, 1927. Some observations on American cultural attitudes.

*SPROWLS, J. W. *Social Psychology Interpreted,* Williams and Wilkins, 1927. Treats the relation between culture and social interaction, and Znaniecki's laws of interaction.

*SUMNER, W. G. *Folkways,* Ginn, 1906. Historical survey of cultural attitudes and customs, with abundance of concrete illustrations.

SUMNER, W. G., and KELLER, A. G. *The Science of Society,* Yale University Press, 1927, 4 vols. A more complete presentation of Sumner's massive data on customs.

*THOMAS, W. I., and ZNANIECKI, F. *The Polish Peasant in Europe and America,* Knopf, 1927, 2 vols. A study of Polish peasant attitudes, based upon the analysis of personal letters. First part of Vol. I presents general and important features of Polish peasant culture.

*TOZZER, A. M. *Social Origins and Social Continuities,* Macmillan, 1925. Brief historical and comparative systematic treatment of culture.

WILLEY, M., and HERSKOVITS, M. J. "Psychology and Culture," *Psychological Bulletin,* vol. xxiv, p. 253 (1927). A review of literature.

WILLIAMS, J. M. *Our Rural Heritage,* Knopf, 1925; *The Expansion of Rural Life,* Knopf, 1926. A valuable account of American rural cultural attitudes and their recent changes.

*WISSLER, C. *An Introduction to Social Anthropology,* Holt, 1929.

*WISSLER, C. *Man and Culture,* Crowell, 1923.

WUNDT, W. *Elements of Folk Psychology,* Allen Unwin, London, 1921.

ZNANIECKI, F. *The Laws of Social Psychology,* University of Chicago Press, 1925.

ZORBAUGH, H. *The Gold Coast and the Slum,* University of Chicago Press, 1929. Reveals cultural attitudes of various classes and regions within the city of Chicago.

Chapter XI: Social and Cultural Attitudes

*Bain, R. "Theory and Measurement of Attitudes and Opinions," *Psychological Bulletin,* vol. xxvii, pp. 357-379 (1930). An important summary.

*Lundberg, G. A. *Social Research,* Longmans, Green, 1929.

*Rice, S. A. *Quantitative Methods in Politics,* Knopf, 1928.

Thurstone, L. L., and Chave, E. J. *The Measurement of Attitude,* University of Chicago Press, 1929.

*Vetter, G. B. "The Study of Social and Political Opinions," *Jour. Abn. and Soc. Psych.,* vol. xxv, pp. 26-39 (1930). Reviews all literature to date. Important.

See also titles under Chapter VI and X.

Chapter XII: Cultural Change

*Chapin, F. S. *Cultural Change,* Century, 1928. Among other things, uses statistical methods in the study of cultural change.

Ellwood, C. A. *Cultural Evolution,* Century, 1927. An oversimplified, overgeneralized, but highly suggestive theory of cultural evolution.

*Kroeber, A. L. *Anthropology,* Harcourt, Brace, 1923. Good treatment of the actual diffusions of culture.

Lynd, R. S. and H. M. *Middletown,* Harcourt, Brace, 1929. An intensive study of social change in a typical American small city.

Muntz, E. E. *Race Contact,* Century, 1927. A study of the changes produced in primitive cultures by contact with Euro-American culture.

Nystrom, P. H. *Economics of Fashion,* Ronald, 1928. Analyzes changes in fashion.

*Ogburn, W. F. *Social Change,* Huebsch, 1923. Processes of invention and internal change of culture.

*Rice, S. A. *Quantitative Methods in Politics,* Knopf, 1928. Variations and changes in political attitudes are studied by statistical methods.

*Sorokin, P. *Social Mobility,* Harper, 1927. Analyzes the stratification of human societies, and studies the mobility of individuals from stratum to stratum. Abundance of statistical data.

Sorokin, P. *The Sociology of Revolution,* Lippincott, 1925.

Steiner, J. S. *The American Community in Action, Case Studies of American Communities,* Holt, 1928. Traces sequences of social change in several specific communities.

*WISSLER, C. *Man and Culture,* Crowell, 1923. Treats diffusion, parallelism, and the relation of man to culture.

CHAPTER XIII: SOCIAL PSYCHIATRY

(1) GENERAL

CAVAN, R. S. *Suicide,* University of Chicago Press, 1928.

DEXTER, R. C. *Social Adjustment,* Knopf, 1927. A general textbook on social problems, emphasizing psychiatric problems and treatment.

GILLIN, J. L. *Criminology and Penology,* Century, 1926.

*GROVES, E. R. *Social Problems and Education,* Longmans, Green, 1926. A general text on social problems, emphasizing psychological factors and treatment.

*GROVES, E. R., and BLANCHARD, P. *Introduction to Mental Hygiene,* Holt, 1930. Comprehensive, up-to-date treatment of the mental hygiene movement in its relation to various social problems.

HAYNES, F. E. *Criminology,* McGraw-Hill, 1930.

MITCHELL, A. M. *Children and Movies,* University of Chicago Press, 1929. A research study.

SOUTHARD, E. E., and JARRETT, M. C. *The Kingdom of Evils,* Macmillan, 1922. A collection of case studies of personality maladjustment illustrating social causes and social treatment.

*SUTHERLAND, E. H. *Criminology,* Lippincott, 1924. Probably the most complete and best documented text in criminology, as regards statistical study of the causes of crime.

*THOMAS, W. I. and D. S. *The Child in America,* Knopf, 1928. Includes a thorough survey of the social techniques of adjusting children to the community and preventing delinquency.

(2) PROBLEMS OF THE FAMILY AND THE TRAINING OF CHILDREN

ADLER, A. *The Education of Children,* Greenberg, 1930.

CALVERTON, V. F., and SCHMALHAUSEN, S. D. (ed.), *The New Generation,* Macaulay, 1930. Relations of parents to children, and child training, as influenced by recent cultural changes.

COLCORD, J. *Broken Homes,* Russell Sage, 1919.

FOSTER, J. C., and ANDERSON, J. E. *The Young Child and His Parents,* University of Minnesota Monograph Series No. 1, 1927.

*GROVES, E. R. *Social Problems of the Family,* Lippincott, 1927.

GROVES, E. R., and G. H. *Parents and Children,* Lippincott, 1928.

*GROVES, E. R., and OGBURN, W. F. *American Marriage and Family*

Relationships, Holt, 1928. A comprehensive survey of (1) statistics, and (2) the general conclusions from case studies.

HAMILTON, G. V. *A Research in Marriage,* Boni, 1929. A carefully planned investigation, by interview method, of the intimate details of marriage relationship in a group of 200 persons.

HEALY, W., BRONNER, A. F., BAYLOR, E. M. H., and MURPHY, J. P. *Reconstructing Behavior in Youth, A Study of Problem Children in Foster Families,* Knopf, 1929.

MCGOWAN, K., and HAMILTON, G. B. *What's Wrong with Marriage?* Boni, 1929. A popular presentation of the chief conclusions of Hamilton's *Research in Marriage* (*q. v.*).

MOWRER, E. R. and H. R. *Domestic Discord,* University of Chicago Press, 1928. A study of treatment methods.

*MOWRER, E. G. *Family Disorganization,* University of Chicago Press, 1927. Analyzes causes of family disorganization.

ROBINSON, W. J. *America's Sex and Marriage Problems,* Eugenics Publishing Co., 1928.

SAYLES, M. B. *The Problem Child at Home,* Commonwealth Fund, 1928.

VAN WATERS, M. *Parents on Probation,* New Republic, 1927.

*WATSON, J. B. *Psychological Care of the Infant and Child,* Norton, 1928. Main principles of the newer child training simply stated and illustrated.

(3) EDUCATION AND THOUGHT PATTERNS IN RELATION TO SOCIAL PSYCHIATRY

CLARKE, E. L. *The Art of Straight Thinking,* Appleton, 1929. Subtitle: "A Primer of Scientific Method for Social Inquiry."

DRAKE, D. *The New Morality,* Macmillan, 1928.

LANGDON-DAVIES, J. *The New Age of Faith,* Viking Press, 1925.

*LIPPMANN, W. *A Preface to Morals,* Macmillan, 1929.

*PETERS, C. C. *Foundations of Educational Sociology,* Macmillan, 1930. Excels all other texts on educational sociology in its research background.

RUSSELL, B. *The Conquest of Happiness,* Liveright, 1930.

WELLS, H. G. *The Salvaging of Civilization,* Macmillan, 1921. A popular, forceful presentation of the proper rôle and nature of education as conceived by sociologists.

See also titles under Chapters IV and V.

CHAPTER XIV: RESEARCH METHODS

BOGARDUS, E. S. *The New Social Research,* Miller, Los Angeles, 1926.

*LUNDBERG, G. *Social Research,* Longmans, Green, 1929.
ODUM, H. W., and JOCHER, K. *An Introduction to Social Research,* Holt, 1929.
RICE, S. *Quantitative Methods in Politics,* Knopf, 1928.
THOMAS, D. S., *et al. Some New Techniques for Studying Human Behavior,* Teachers College, Columbia University, Bureau of Publications, 1929.
*THOMAS, W. I. and D. S. *The Child in America,* Knopf, 1929.
THURSTONE, L. L., and CHAVE, E. J. *The Measurement of Attitudes,* University of Chicago Press, 1929.
See also many other titles especially under Chapters II and III, and VI.

Appendix B

MINIMUM LIBRARY EQUIPMENT

Recommended for a Course in Social Psychology with Practical Problems or Laboratory Exercises

Subscription to:

Social Science Abstracts, 1929-date
Psychological Abstracts, 1927-date
Psychological Bulletin, 1927-date
Journal of Abnormal and Social Psychology, 1927-date
Journal of Social Psychology, 1929-date
American Journal of Sociology, 1927-date
Publications of the *American Sociological Society,* 1925-date.

ALLPORT, F. H., *Social Psychology,* Houghton Mifflin, 1924, for useful diagrams and analyses of individual behavior and elementary interaction mechanisms.

DASHIELL, J. F., *Fundamentals of Objective Psychology,* Houghton Mifflin, 1928, for objective treatment of the whole field of psychology.

GROVES, E. R., and BLANCHARD, P., *Introduction to Mental Hygiene,* Holt, 1930, for up-to-date survey of this field.

HART, H., *The Science of Social Relations,* Holt, 1927, a rich mine of concrete interaction problems and topics for discussion.

LOWIE, R. L., *Primitive Society,* Boni, 1925, for the culture patterns of primitive societies, in relation to their history and psychological functions.

LUMLEY, F. E., *The Means of Social Control,* Century, 1925, for suggestions as to valuable practical applications and problems.

LUNDBERG, G. A., *Social Research,* Longmans, Green, 1929, especially the Appendix, for one of the best guides to sources of information and to the techniques, rating and scoring devices used in social research.

LYND, R. S. and H. M., *Middletown,* Harcourt, Brace, 1929, for the best descriptive study of American culture and its recent changes.

MORGAN, J. J. B., *The Psychology of Abnormal People,* Longmans, Green, 1928, for one of best-organized and complete treatments of psychiatry.

PARK, R. E., and BURGESS, E. W., *Introduction to the Science of Sociology,* University of Chicago Press, 1924, the standard treatise presenting the Chicago system of sociology and social psychology, with its four wishes, social contacts, social forces, interaction processes, social control, collective behavior, etc., the various concepts presented by various writers, illustrated by cases, and documented with extensive bibliographies.

PETERS, C. C., *Foundations of Educational Sociology,* Macmillan, 1930, a guide to research in social psychology which has educational bearings.

RICE, S., *Quantitative Methods in Politics,* Knopf, 1928, for statistical techniques in study of attitudes.

ROBACK, A. A., *The Psychology of Character,* Harcourt, Brace, 1927, for all-round treatment of personality differences.

ROSANOFF, A. J., *Manual of Psychiatry,* Wiley, 1927, contains norms for word-association test.

SUMNER, W. G., *Folkways,* Ginn, 1906, for abundant illustrations and history of folkways and mores.

SUTHERLAND, E. H., *Criminology,* Lippincott, 1924, for guide to crime statistics.

THOMAS, W. I. and D. S., *The Child in America,* Knopf, 1928, for research techniques used in study of personality differences and their causes.

WATSON, G. B., *Experiment and Measurement in Religious Education,* Association Press, 1927, for a brief description of standard personality and attitude tests and information as to where they may be obtained.

WISSLER, C., *Man and Culture,* Crowell, 1923, for the general principles of cultural anthropology and the relation of man to culture.

YOUNG, K., *Social Psychology,* Crofts, 1930, for up-to-date general treatment of the field.

YOUNG, K., *Source Book for Social Psychology,* Crofts, 1927, for wide selection of reference readings.

Catalog of C. H. Stoelting Co., 424 N. Homan Ave., Chicago, for standard tests.

Lists of psychological tests and materials published by: World Book Co., Yonkers, N. Y.; Houghton Mifflin, Boston; Teachers College, Columbia University, New York; Hamilton Republican, Hamilton, N. Y. (Colgate tests); University of Minnesota Institute of Child Welfare, Minneapolis; Iowa Child Welfare Research Station, Iowa City. The Psychological Corporation, Grand Central Terminal Building, New York, can furnish information about most psychological tests, and often copies of the tests themselves.

Appendix C

FOLLOW-UP SUGGESTIONS

The student of social psychology who wishes to follow the future development of the science and to keep his knowledge up to date can do so with minimum labor by using the following sources:

Social Science Abstracts, executive and editorial office at 611 Fayerweather Hall, Columbia University, New York City, summarizes all the important periodical articles on social science subjects. Each article is digested in a few inches of space, and in most cases a reading of this abstract will either make it unnecessary to read the original article, or convince the student that he should look up the original article for detailed information. In any case, the *Abstracts* are a valuable time saver and permit the student to keep up with any field of social science even when his access to other periodicals is difficult. The *Abstracts*, however, do not cover books and pamphlets. For articles in journals, they cover all the important scientific journals in the world. Foreign articles are of course abstracted in English. These *Abstracts*, which were first issued in March, 1929, appear in a single paper-bound cover once a month, and cost $6 per year. An annual index is published. As a rule, the abstract of an article appears six months to a year after the original article was published, so that the *Abstracts* furnish a very complete guide to literature except that published within the last six months or a year. The *Abstracts* are classified as to sections, and the social psychologist needs to examine especially the sections and sub-sections entitled: *miscellaneous methods in sociology, statistical techniques in sociology, ethnology,* and all the sections under *sociology*, especially those on *human nature and personality, the family, collective behavior and social control.*

Psychological Abstracts are likewise published once a month, with two issues during December, at $6 per year, business offices at Princeton, N. J., and Lancaster, Pa. They abstract books and pamphlets as well as articles. The section headings most important to the social psychologist are *feeling and emotion, special mental conditions, nervous and mental disorders, social functions of the individual, childhood and adolescence, mental tests.*

In order to keep up with recently published books which are not sufficiently psychological to be represented in *Psychological Abstracts*, one might look over the book review sections of the *American Journal of Sociology*, published every two months by the Uni-

versity of Chicago Press at $4 per year; and of *Social Forces,* published every three months by the University of North Carolina Press, Chapel Hill, at $4 per year. The review may appear from six months to two years after the book itself is on the market. These review sections are confined to sociological books, and hence, may be read *in toto* without great expenditure of time, and without looking for particular authors or titles.

To learn of the most recent and of the soon-forthcoming books, one might write to the four or five or more publishers most frequently represented in the *Selected Bibliography* of this book, and ask to be put on the mailing list for all announcements of books related to social psychology. In this way one will secure advance information regarding many important books, since publishers are eager to sell them.

In order to learn where to get *any* book recently published by *any* American publisher, consult recent numbers of the *United States Catalog,* available in almost any library and never more than a month behind the date. Unless one knows the author or title of a specific book one wishes to look up, it is necessary, however, to look under the many subject headings, under which it may be listed, and the information given is limited to a complete statement of the title and subtitle, with publisher, date, price, etc.

The *Book Review Digest* gives, usually within a few months after publication of a book, abstracts of a few descriptive and critical reviews. In using the *Digest,* one must look for a specific title, author, or subject.

The *Readers' Digest* and *Public Affairs Information Service,* available in libraries, give up-to-date lists of articles published in most of the standard magazines, including some scientific journals. These guides are more complete as regards popular literature than scientific literature. One must search for particular author, title, or subject.

If one wishes to keep still more up-to-date with the scientific periodical literature than previous suggestions permit, he should visit a large library about once a month, or once in three months as his convenience permits, and look over the recent issues of the journals most closely related to social psychology. Among these are:

American Journal of Psychiatry
American Journal of Psychology
American Journal of Sociology
Journal of Abnormal and Social Psychology
Journal of Genetic Psychology
Journal of Social Psychology
Mental Hygiene

Publications of the American Sociological Society (annual)
Social Forces

Many of these journals also contain important book reviews. A complete list of American psychological periodicals is found in any issue of *Psychological Abstracts*, and many periodicals not mentioned above need to be consulted for the latest information on the personality-testing and experimental literature. Most of the material in all the above journals will eventually appear in abstract form in *Social Science Abstracts* or *Psychological Abstracts*.

The *Psychological Bulletin*, published ten times per year at Princeton, N. J., at $6 per year, contains from time to time valuable up-to-date reviews of literature (both books and articles) on particular topics, such as personality tests, social psychology, psychology and culture, animal behavior, etc. Each such review gives a complete bibliography and states the general trend of the research work on that topic. The *Bulletin* does not fairly represent the more purely sociological branches of the field. The *Publications of the American Sociological Society*, the *American Journal of Sociology*, and the *Journal of Abnormal and Social Psychology* also publish occasional summary reviews of importance.

The *American Journal of Sociology*, appearing once or more per year, publishes lists of doctors' dissertations and masters' theses which are being prepared upon sociological subjects. These give an idea of what actual research work is taking place. The more important of the dissertations are eventually published by the university at which they are written, or by some scientific journal. Often, however, important information may be secured from the writer long before the actual publication. In May of each year this *Journal* devotes its regular issue to a summary of the social changes which have occurred in America during the past year. Each topic is summarized by a scientist who is expert in that field.

While writing this book, the author has learned of many sources from which important research reports or summaries of research may soon be obtained, and of many scientific men and women who are consistently working on certain topics and who may be expected to produce important results from time to time. His notes in this respect are far from complete, and doubtless omit many other valuable sources which should be included. However, for the help that such very incomplete notes may give, and with apologies to those who are omitted, the following are listed:

General textbook in social psychology, embodying much material on life-histories and personality, by E. T. Krueger and W. C. Reckless, to be published early in 1931 by Longmans, Green.

Attitude studies and tests—G. B. Watson, Columbia University;

S. A. Rice, University of Pennsylvania; H. Hart, Bryn Mawr College; R. Bain, University of Washington; L. L. Thurstone, University of Chicago.

Character studies—H. Hartshorne and M. A. May, Yale University.

Child-behavior studies—University of Iowa; University of Minnesota; Teachers College, Columbia University; University of Toronto; Yale University.

Cultural groups in various parts of world, analyses of cultures comparable to Lynd's *Middletown*—often made by those holding fellowships of the Social Science Research Council, 50 E. 42d St., New York City. Consult R. S. Lynd (above address); R. Redfield, University of Chicago; Clark Wissler and Margaret Mead, American Museum of Natural History, New York.

Culture and psychology—M. L. Willey, University of Minnesota.

Culture and social institutions, measurements and statistics—F. S. Chapin, University of Minnesota.

Delinquency—W. Healy, Boston; C. A. Shaw, University of Chicago; W. I. Thomas, New School of Social Research, New York.

Extroversion-Introversion.—Dr. C. A. Neymann and K. D. Kohlstedt of Chicago proceeding to apply their test to other groups. D. A. Laird of Colgate University accumulating data with Colgate Mental Hygiene Test.

Interests—Important book summarizing whole field of research to be published soon, H. Douglas Fryer, New York University. Tests for vocational interests—E. K. Strong, Stanford University; also Carnegie Institute of Technology, Pittsburgh.

Life-history documents and studies—E. T. Krueger, Vanderbilt University.

Marriage and divorce, in relation to personality study and personality tests—E. R. Groves, University of North Carolina; E. R. Mowrer, University of Chicago; E. T. Krueger, Vanderbilt University; Gladys C. Terry (see *Amer. Jour. Psychiatry*, vol. viii, p. 881 [1929]).

Toops has a test for success in marriage (*Teachers College Record*, 1929, pp. 579-588).

Marriage and divorce statistics—W. F. Ogburn, University of Chicago.

Personality maladjustments and the cultural environment—Dr. J. S. Plant, Essex County Clinic, Newark, N. J.; E. W. Burgess, University of Chicago; W. I. Thomas, New School of Social Research, New York.

Personality tests and genetic studies—G. W. Allport, Dartmouth College; K. Young, University of Wisconsin; M. A. May, Yale

University; G. B. Watson, Columbia University; C. L. Kirkpatrick, University of Pennsylvania.

Social distance and other phases of social interaction between racial and nationality groups—E. S. Bogardus, University of Southern California.

Social interaction, leadership, activities, effects by education upon attitudes, studied by statistical methods—many studies being made at University of Minnesota.

Social interaction studies—University of Chicago.

Appendix D

1. Suggestions for Research and Inductive Observation by College Students

Listing and analysis of folkways, social tabus, etc.
Humor and its classification
Analysis of fiction, movies and drama, from viewpoints of social psychology. Analyses of characters, plots, wish fulfilments, etc.
Observation of mass meetings and other crowd behavior
Study of cultural changes over a period of the college history
Studies of college leaders and how they became such
Exercises in verbal formulation of the "unwritten law" or mores
Formulation of the distinctive culture traits and patterns of a given college
Precise verbal formulation of the "personality type" alleged to be developed by a given college, fraternity, or other group
Precise formulation of present differences between the sexes in cultural attitudes, and changes in those differences
Experiments on the effects of different kinds of recitations: lectures, debates, conferences, quizzes, informal discussions
Invention and trial of various usual and unusual patterns of group discussion: calling upon everyone in turn, direct and cross-examination, immediate checking of speaker who gets off the subject, Greek dialectic, etc.
Personal maladjustments—case studies
Family or room-mate discord situations—case studies
Case studies of the origin, development, and decay of particular friendships
Statistical and case studies of friendship selection
Testing of students with standard personality tests
The invention of new personality tests
Experiments with testimony and rumors
Experiments upon crowd psychology
Case studies of personality
Attitude questionnaires
Individual reports and questionnaires analyzing the satisfactions derived from music, art, fiction, movies, drama, etc.
Statistical studies of subjects of conversation
Verbatim stenographic reports of conversations, discussions, etc., with analysis thereof
Descriptions of groups and gangs

Use of association tests to determine innocence or guilt, familiarity or non-familiarity, in regard to some experimental situation
Experiments in reading facial expression
Case studies of the development of personality, and sequence of conditionings of emotions, in particular children observed by students
Observation of animal behavior and interaction
Questionnaires on interests, recreational preferences, motives involved in recreation.

2. Suggested Topics for Discussion and Debate

The honor system
Methods of controlling students' behavior
Extra-curricular activities and their regulation
Athletic policies
The control of dress
Objectives versus traditional examinations, and no examinations
The case method of teaching
Selection of entrants to college
College politics and electoral systems
Should college life be regarded mainly as a culture valuable in itself, or as a preparation for leadership in the larger community or national culture?
Gossip, shop-talk, and standards of conversation
The regulation of dances and social gatherings
College publications, criticism, and freedom of expression
Censorship
Frankness versus flattery
The control of advertising
The nature and value of "college spirit"
The radio
Relation of the automobile to personality, interaction, or culture
The control of personal conflict
Love versus rational choice of mate
Is illusion or deception ever justified in social control?
Is deception ever justified in personal relations? In what?
Personal liberty and its justifiable limitations
Should choice of friends be controlled by anything except individual wishes?
Is complete mutuality necessary to the stability of a friendship?
Is jealousy, in inter-sex friendships, psychologically normal, or abnormal? Is it dependent upon, or independent of, culture?
Do women dress for men or for other women?

In dress are we governed by what others really think, or by our own idea of what they ought to think?

Does the social requirement of formal "introduction" limit the breadth and value of our human contacts?

Should steady companions limit their time with one another in order to promote wider contacts

Secrecy in human relationships

College hazing, initiations, "rough-house," etc.

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