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**BABEL**  
**OR**  
**THE PAST, PRESENT, AND FUTURE**  
**OF HUMAN SPEECH**

TO-DAY AND TO-MORROW

*For a full list of this Series see the end  
of this Book.*

# BABEL

OR

THE PAST, PRESENT, AND FUTURE  
OF HUMAN SPEECH

BY

SIR RICHARD PAGET, BART.

*Fellow of the Physical Society of London,*

*Fellow of the Institute of Physics*

Author of

HUMAN SPEECH

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BABEL  
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HUMAN SPEECH

CHAPTER I  
THE FOUNDATIONS

THE story of the Tower of Babel, as told in the ninth chapter of the *Book of Genesis*, runs as follows :—

“ And the whole earth was of one language (Hebrew : lip) and of one speech (Hebrew : word) . . . and the Lord said behold the people is one and they have all one language ; and this they begin to do : and now nothing will be restrained from them which they have imagined to do.

“ Go to, let us go down, and there confound their language, that they may not understand one another's speech. So the Lord scattered them abroad from thence upon the face of all the earth : and they left off to build the city. Therefore is the name of it called Babel (that is confusion) ; because the Lord did there confound the language of all the earth : and from thence did the Lord scatter them abroad upon the face of all the earth.”

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It is the story of a community that broke up, and of which the scattered and isolated elements developed their own distinctive dialects, so that they no longer were understandable to one another. It is also a reminder of the power which unity of language confers on all who speak it, and a useful parable for our own guidance. For we—the English-speaking people scattered over the face of the Earth—run the risk of a similar confusion unless we take steps to check the disruptive tendencies to which all languages are subject when their speakers become isolated from one another.

Human speech is a wild growth, even our finest flowers of speech are but wild flowers; and though poets and prose-writers may exhibit great artistic skill in their use of the language they have inherited, they can but weave their verbal garlands from hedgerow words—for there are no others. Even our learned words are but a potpourri compounded of hedgerow flowers of speech—Greek or Latin. Human speech has never been tamed, or, as we now say, rationalized; many learned authorities think that it never will be, and that, for all time,

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language must remain an irrational unconscious activity, evolving on its own account without benefit of science.

Thus, in *Pomona, or the Future of English*, of this series, Mr. Basil de Sélincourt writes<sup>1</sup>:—

“ It is because language is a branch of the tree of life that we can do so little by way either of influencing or predicting its future ”  
(p 12 )

“ As to the meaning of words, the temptation to suppose that they can be decided from on high must specially be resisted ”  
(p 51 )

Speaking of the future of English he writes :—

“ Changes are certainly in store for it ; but the best and most English instinct is still that of resistance to change, and above all to any plan or method of change, any committee or academy or school and association to enlighten us ” (p 69 )

According to this line of thought—which the great majority of the literary world at present follows—the fate of our language ought properly to be left to chance, or rather to herd instinct. Reason must be ruled out. To the present writer this seems altogether too pessimistic an

<sup>1</sup> “ To-day and To-morrow ” Series (Kegan Paul).

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outlook, and indeed an illogical one, in view of the experience that man has had in the successful training of other wild growths on which he was dependent in the past.

Thus, it is not so many thousands of years since the only fruits, vegetables, and cereals which man ate were those which he found growing wild—he had not yet learnt even to sow his wild oats, he just hunted about till he found them growing on their own account. Then, in time, he began to cultivate the wild growths, and to select the best of them for propagation ; thus, by degrees, man developed the science of horticulture, and produced the wonderful range of fruit, vegetables, and cereals which we now enjoy.

So far there has been no horticulture of the flowers of speech—only botany. Scholars and grammarians, philologists, linguists, and phoneticians have all made intensive study—each in his own way—of the existing forms and orders of words, and of their history, evolution, changes of pronunciation, and so on. Hardly anybody is yet concerned with the question of whether these languages,

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which are studied so learnedly, adequately fulfil their purpose in our lives, or whether they might not be made more useful by conscious effort on our part.

Speech is obviously an art of enormous importance to the human race—it is probably almost our only way of accurate thinking, and (except for bodily pantomime such as that of deaf-mutes) it certainly is our only way of communicating our thoughts and wishes, or of recording and preserving them for future use by means of writing or mechanical records.

If the language which we use is imperfect, our mental life is hampered from the start ; thinking, and the communication of thought, are both made unnecessarily difficult. Yet most people naturally assume that language is one of the inevitable phenomena, like the force of gravity, which we have to take as we find it, and they are confirmed in this view by the mystery which has surrounded its origin and nature. Let us try and clear up the mystery, and see whether, when the phenomena are rationally explained, they will not also point the way to a brighter future for

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man's reason and power of understanding and being understood.

Obviously human speech has grown up by a process of natural evolution: obviously, also, it was a common accomplishment of mankind at the beginning, since all known races of men (however primitive) are found to use speech for the expression of their ideas. It is true that certain of the most primitive tribes have an imperfect form of speech, which has to be helped out by pantomimic gesture, and that some of these aboriginal races actually cannot carry on a discussion in the dark—they must light a fire in order to see one another's gestures. This is not so surprising when we realize that all civilized nations also use auxiliary hand gestures, and that, though the Anglo-Saxons are comparatively gestureless in speech, there are very few among them who, if asked to describe a concertina or a corkscrew or a spiral staircase, would not do it by hand-pantomime rather than by words.

But if human speech has been evolved, it must have come from some pre-existing accomplishment of the animals from which man himself was evolved.

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We must, therefore, consider the animals and their ways of communicating with one another, and see whether their behaviour does not offer clues for our guidance. Above all, we must give up being obsessed by the sounds of words, and study how these sounds are produced.

The sounds of speech are admittedly the effects by which we understand one another's thoughts and intentions; but they are only effects. The underlying causes of all our spoken words are the various muscular movements and adjustments that we perform when we speak. It is by these movements and adjustments that we are really symbolizing our thoughts to ourselves, and signalling them to others. To study the sounds and ignore the gestures and muscular adjustments which produce them, is not so much to put the cart before the horse as to ignore the horse altogether, and give the whole credit to the cart.

It is commonly held that the mere antiquity of human speech, as compared with that of the oldest recorded speech, makes it impossible to hope for any knowledge of its beginnings. The most ancient inscriptions which have yet been



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deciphered are probably those of the Sumerians—say five or six thousand years old—whereas man may have been a talking animal for many hundreds of thousands, or possibly even for a million or more of years; in comparison with such antiquity, Sumerian is but the language of yesterday.

But why should the antiquity of speech frighten us? The geologists and astronomers have not been frightened by an antiquity of thousands of millions of years—their reconstructions of the past have become a science of precision, yielding results which can be independently tested and confirmed, and which offer almost incredible powers of forecasting the distant future.

Thus, in *Eos*,<sup>1</sup> Sir James Jeans confidently dates this Earth as “something like 2,000 million years old”, and indicates the probable condition of the Sun and the Earth a million, million years hence. The Stars are found to be some millions of millions of years old, perhaps from five to ten millions of millions—the Sun’s age itself being probably between seven and eight millions of million years.

<sup>1</sup> “To-day and To-morrow” Series.

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These are not guesses, but calculations based on observations of the present.

In this little book we shall take courage by Sir James Jeans' example, and attempt the much more modest task of spanning the relatively short space of man's life as a talking animal on this Earth. We shall be guided, on the one hand, by our observations of present conditions, and on the other by the assumption, on which the geologists and astronomers have always relied, that the principle of continuity is a safe key to the past, and that—except for the stately and gradual process of evolutionary change—the condition as it was in the beginning, is now, and ever shall be.

The higher animals communicate mostly by cries of various kinds, but these sounds are mainly expressions of emotional states rather than of any idea or message. Thus, a dog barks if he is frightened or suspicious; also (but in a different way) if he is pleased or excited; he howls when he is melancholy or sentimental, he growls and snarls when he is angry. The song of birds is also a language of the emotions; so is the song of apes and monkeys—the Gibbon

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or the Siamang monkey, for example, who sing to attract a mate or an audience, or perhaps simply to relieve their feelings. Ideas are expressed by a different process altogether, namely, that of pantomime. A dog who wants to lure his master out for a walk pretends to be off, then stops and looks round, and if his master does not take the hint, returns and tries again. A fox terrier which we had at my home in the country, and who was especially attached to our cook, used to "ask" her to take him for a walk by seizing the hem of her skirt in his mouth, and leading her out of the house. In appearance, at least, he pretended to take *her* for a walk.

The anthropoid apes are comparatively silent, but their gestures are expressive ; thus, the chimpanzees at the London "Zoo" have an interesting habit, when asking for food, of holding out their hands *and their lips* at the same time ; hands and lips move in sympathy.

Many primitive races point with their lips instead of with their hands to indicate direction—the lips thus taking the place of the hands ; all races, as we have said, use hand-gesture more or less, in associa-

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tion with the movements of tongue, lips, etc., which produce speech. All races also use the two codes of expression, the language of cries, calls, grunts, laughter, croonings, chucklings, sighs, groans, and screams, to express emotional states, and the language of mouth, lip, tongue, and throat movements to express ideas.

Speech is, of course, applicable only to those who can hear, for (except for the highly specialized art of lip-reading) it is meaningless to the deaf; it is also (as most travellers have had occasion to observe) almost meaningless to those who use a different language.

The deaf, in all countries, naturally evolve a pantomimic language of their own, by which they communicate with one another. This sign-language is so natural and instinctive that a deaf-mute from one country has no difficulty in making himself understood by one of another country. The deaf-mute sign-language is essentially universal.

But every community of deaf-mutes also tends to evolve its own special signs, conventions, abbreviations, and the like; the result is that two members of the

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same community can, if they wish, converse together in their own "dialect" so as not to be understood by a foreign deaf-mute.

A particularly interesting form of sign-language is that which was evolved by the Red Indians of North America. There, hundreds of different tribes who met on the plains, each speaking a language of their own, were able to communicate freely for purposes of trade, treaty-making, and social intercourse, by means of a single universal silent gesture language. A general description of this language, with illustrations of its principal signs, was published in 1929, by William Tomkins, of San Diego, California,<sup>1</sup> and its use is now being encouraged as a universal language for Boy Scouts of all nationalities.

It is interesting to note that this sign-language is so closely analogous to the natural language of deaf-mutes, that they have been able to understand it at sight. In one sense the Indian sign-language may claim to be more perfect than the deaf-mute sign-language, inasmuch as the

<sup>1</sup> *Universal Indian Sign Language*, by William Tomkins. Boy Scouts Association, 25 Buckingham Palace Road, London, S.W.

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Indian form depends only on gesture, whereas the deaf-mutes rely also on facial expression.

A word may be said here as to the principles on which these gesture languages are formed. To begin with there is no grammar, and there are no "parts of speech"; there are no declensions or inflexions—each sign is invariable, and is used in its logical order. The following examples, taken from William Tomkins, will make this clear: "Before the white man came, many buffalo roamed the plains"; this is signed: "Time-past many buffalo walk across prairie time-future white man come." "Don't wait for me, I'll come pretty soon," is signed: "Wait I not, I come short-time future"; I have substituted "I" for "me" since there is only one sign for I, me, we, and us; the plural is signed by adding the gesture for "all". The signs—made with one or both hands—are either imitations of movement, form, position, or size, or figurative uses of these ideas. Thus, ambitious is signed "person push"; ashamed is "blanket-over-face"; bad is "throw-away"; glad is "heart day sunrise", and so on.

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It is quite conceivable that man might have developed intellectually without the use of speech—he might have used pantomimic gesture instead, and made it even more expressive and less ambiguous than speech. But it would have been essential to devise a simple notation for the gestures (as we attempt to do in a roundabout way in our alphabets), or for the ideas which they conveyed (as the Chinese do in their ideographic writing) so that thoughts could be recorded. Professor Daniel Jones, of University College, London, has made the very interesting suggestion that sign-language might be a better form of auxiliary universal language than Esperanto and the other invented languages. These languages, being for the most part inflected on the Latin model, are unsuited to the large proportion of the human race who—like the Chinese—do not use verbal inflexion in their languages.

It will be seen that there are two quite different methods of symbolizing thought, namely, by movements and adjustments of the human vocal organs (lips, tongue, throat, etc.) or by panto-

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mimic movements of the hands and body, with or without the aid of facial gesture. To obtain the most expressive effect—as in the case of the Drama—it is well known that both methods must be used together. Before attempting to trace the relationship (if any) between these two methods, it may be well to remind ourselves of what we doubtless already know of our own speech-making apparatus.

The lungs supply the energy—in the form of an air-current of appropriate pressure and volume, just as they do when we play any wind-instrument. The air-current then passes up the windpipe and between the two little lips—very inappropriately called vocal *cords*—which lie within our larynx.

In whispering or breathing, these lips are separated; the air then “soughs” through the throat and mouth, like the wind through the trees; we may call this perflation, i.e. blowing through. In humming or singing, these lips are pressed together and behave almost exactly like the lips of a trumpeter while he is blowing his own trumpet. The passage of the air between them automatically sets them in vibration so as



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to chop up the air-current into a series of rhythmical pulses, which we then hear as a musical sound ; this is known as phonation.

Phonation, though it is the basis of voiced speech, is not yet speech ; it is a separate language by itself, earlier and more primitive than speech ; it is, as we have said, the language of the emotions. It seems likely—though as yet it is but a hypothesis—that just as man shows his emotions by the play of his mouth, so, if we could but observe the action in daily life, we should find that he also shows his emotions by the play of his vocal cords. We detect the visible smile, or the pout, or the stiff upper lip by the evidence of our eyes—may we not recognize the corresponding changes of attitude of the hidden vocal cords by listening to their effects in altering the pitch and quality and incidence of the sounds which their vibrations produce when air from the lungs is blown through them ? If so, it is easy to see how Phonation may have become the language of the Emotions.

Speech, on the other hand, is funda-

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mentally due to the movements of the tongue, and lips, and the other movable parts of the vocal cavity. Let us see for a moment how they function.

The apparatus begins at the lump in our throats, commonly called Adam's apple (though Eve also has one, though of a somewhat smaller size), inside which are housed the vocal cords of which we have already spoken.

Just above the vocal cords are a second pair of lips—the false vocal cords—which form as it were a variable mouth-piece for the “trumpeter's lips” of the vocal cords to play into. Their action is not fully understood, but they appear to be responsible for the difference of sound between a whispered *p* and a whispered *b*, or between a whispered *s* and *z*. They also are used as vocal cords—in addition to the true cords—to produce a certain type of raucous shout.

Further up the throat is the epiglottis—a movable flap hinged to the back of the tongue, and capable of lying (pointing upright) against the back of the tongue, or of being bent back so as more or less to close the passage of the throat behind

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the tongue. Still higher—at the back of the roof of the mouth—is a trap-door which opens downward and forward to give access to the nasal cavity, of which the nostrils form the outer opening. The door itself is called the soft palate, its handle (which seems to be of no use) is called the uvula.

Next we come to the tongue, which obstructs the passage of the throat and mouth. As an obstruction it is always present, for its volume is constant. But it is an obstruction of Protean form—capable of closing the mouth passage, either wholly or partially, in a great variety of different positions and of different manners and degrees of action.

Thus it results that the throat and mouth cavity is variously subdivided into two, three, or probably sometimes even more, connected cavities—like an hour-glass with more than one waist, and consequently more than two bulbs—each of which produces a definite musical effect on the souging or humming air which passes through it.

In the same way, the soft palate, when it opens the passage to the nasal cavity, allows the energizing air to pass through

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it (just above the roof of the mouth) and out at the nostrils. The vibrating air emerges, tinged by its passage through the nasal cavity, in the form of a "nasal" consonant sound, such as an M or N or NG. In the series of French nasal vowels UN, ON, EN, or IN—as in the words UN, BON, ENFANT, VIN—the air passes partly through the mouth and partly through the nasal cavity, the difference between the four sounds being due to the position of the tongue.

The human teeth may be left out of consideration, for all the speech sounds can, with practice, be produced without them, but the lips are of prime importance. Our lips form the outer door—the ultimate mouth of the instrument—by which the opening-to-air may be completely closed or varied in size, or the mouth cavity itself may be momentarily enlarged, viz. by protruding the lips as when we articulate the vowel U, as in who.

A whole book might be written on the way in which these changes of obstruction and subdivision of the vocal cavity actually produce the different sounds of speech. For our present purpose it will be sufficient to realize

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that they *do* produce them, namely, in much the same way as the stopping or unstopping of various holes of an oboe, or the lengthening or shortening of the telescopic tube of a trombone produce the changes of note in those instruments.

Shortly put, the human voice is a multiple musical instrument, in which an adjustable reed (the "trumpeter's lips" within the larynx) blows its varying melody through a series of cavities, each of them not unlike the cavity of an ocarina, while the number and size of these cavities is constantly modified by the action of the human tongue, lips, soft palate, epiglottis, and false vocal cords.

Let us recapitulate, and see that our foundations are secure before building higher.

Speech—which carries the message of the human mind—is not primarily a matter of making sounds. It is a matter of making a variety of movements with our tongues, lips, etc.—our organs of articulation—while we blow air through our vocal cavities. The sounds of speech are only the results of these movements. Their importance lies in the fact that

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we have learnt to associate the movements of articulation with the different sounds and sound-changes which they produce ; we are therefore able (unconsciously) to recognize the movements of articulation simply by sound, and thus to decode the message from the gestural performance which symbolizes it ; in other words, we lip-read by ear. It is to the movements of articulation that we must therefore go—not to the intangible sounds—if we would discover the riddle of human speech.

What then is the connection between the method of symbolizing human thought either by bodily pantomime, as the Red Indians and deaf-mutes do, or by the movements of the tongue and lips, with perflation or phonation to make the effect audible, as all hearing people do ?

The answer to this question was given in 1872 by Charles Darwin,<sup>1</sup> who pointed out that there is a natural sympathy of movement between man's hands and mouth, so that children learning to write are seen to move their tongues about " in a ridiculous fashion " as their fingers move.

<sup>1</sup> *The Expression of the Emotions*, p. 34.

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Charles Dickens had evidently noticed the same habit, and bestowed it on Sam Weller, Junior, whom he describes as "forming with his tongue imaginary characters to correspond" with the letters of his Valentine to the pretty housemaid.

Sir Edward Burne-Jones, the painter, once told me that if he wished to fix in his mind a form which he had seen or imagined, without actually drawing it on paper, he sketched it with the tip of his tongue on the roof of his mouth! Here again was a very close association of tongue and hand movements. It is quite evident that the sympathy of hand and mouth gesture, of which we have seen an instance in the chimpanzees, is also operative in the human race.

Let us now make the attempt to construct the story of the origin of human speech.

The original form of expression of all human ideas must be supposed to be that of bodily pantomime—man acted or pretended the ideas which he wished to convey to his fellows. As he acted with his body, and more particularly with his hands, his tongue followed suit *without his knowing it*. In this way,

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every body - gesture which became standardized as meaning some particular action, object or idea, came to have a sympathetic, correlated mouth-gesture which went with it. These mouth-gestures would produce no audible effect—just as the tongue-twistings of a child learning to write make no sound—unless the gesticulator also blew air through his vocal cavities while the gesture was in progress. But if he wished to be taken notice of, it would be natural that he *should* make an emotional cry or a sound of perflation, in order to draw attention to his bodily gesture. The combination of mouth-gesture and air-current then produced speech.

On this theory, the earliest form of speech must have been a combination of body-gesture and mouth-gesture, which was very exacting so far as the performer was concerned, since it completely occupied his hands *and* mouth, but it was also very advantageous in that it could be recognized by hearing *or* by sight. It was not necessary always to be in full view of your fellow in order to communicate with him.

The occupation of the hands must,



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however, have been a serious objection, since it interfered with man's growing use of tools and weapons. The tendency, therefore, would be for the hand-gestures to be abandoned, and for the tongue and lips to take the leading parts in the pantomime. It is interesting to note that the Northern races, who presumably had least hand-leisure, since they had a harder struggle for existence, are comparatively independent of hand-gesture as an auxiliary to speech. On the contrary, the dwellers in warm climates, with more hand-leisure, tend to use hand- and body-gestures to a much greater extent—possibly because they have never lost them since the beginning.

According to Professor Malinowski, primitive speech is not an expression of thought, but rather of action—in other words, primitive speech sounds denote actions. This view is consistent with that to which we have just been led by an entirely different path, since primitive pantomime, being itself a matter of action, is naturally best fitted to describe action; the imitation of objects and the figurative uses of action to

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symbolize qualities and ideas would come later.

Let us take, as an example of our supposed method of word or speech formation, the sign for a simple action, that of lift up or be up, as compared with to lower, or be down. The hand sign for up would obviously be to point up with finger or hand, and we are to suppose that this body pantomime was unconsciously accompanied by a corresponding mouth pantomime. Let the reader try the experiment for himself (I use the masculine as there is no English word yet for "himself-or-herself" or for "he-or-she") of raising the tip of his tongue to touch the roof of his mouth, as if pointing up to the sky. If, while performing this tongue-gesture, the reader simultaneously grunts, or blows air through his mouth, so that it passes out on either side of the tip of his tongue, he will find that it results in articulating a sound which might be written ULL or OLL in English, or AL in the Latin languages. AL (as we shall write it) is therefore a natural gesture-word meaning up. It is satisfactory to find that it does in fact form the root of words

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meaning up in a great variety of different languages. For example : In the Aryan languages, AL meaning up is found in the Latin word ALTUS, meaning high, from which we get our word ALTitude. In the Latin ALA, wing, the tongue-gesture is first upward (AL) and then downward (LA), and therefore means literally up-down or, as we might say, something that flaps. In Semitic, AL, ALE, mean to ascend. In Melanesian and Polynesian AL means to climb up, to rise ; it also has the same meaning in some of the languages of North America, e.g. the Kwakiutl word ALLELA (where LL represents an unvoiced L, somewhat as in Welsh) meaning up. On the other hand, in ancient Sumerian AL meant to protect, which suggests that the tongue-gesture here corresponds to arm-and-hand-up-gesture, signifying protection.

But the sound AL is not the only one that can be made by raising the tongue tip to touch the roof of the mouth. It is only if the air can pass freely on either side of the tongue tip that we get the sound L ; if the tongue tip is made broader, so as to spread across the palate and make an airtight closure, we then

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get the sound *τ* (or *ḍ*), while if the soft palate is simultaneously lowered and drawn forward so as to open the passage to the nasal cavity, we get the sound *N*. It may be said, therefore, that so far as tongue-gestures are concerned, *L*, *τ*, *ḍ*, *TL*, *DL*, and *N* are all closely allied and liable to bear similar gestural meanings.

All over the world this root *AL*, or its gestural variants *ATL*, *AT*, or *AN*—all made by raising the tongue tip to touch the palate—are associated with that which is up. The names of many of the great mountain ranges have it, as, for instance, the *ALps*, *ATLAS*, *ANDes*, *UrAL*, *ALAdagh* (Asia Minor), *HIMALaya*, *ALdan* (East Siberia), *TALa* (Abyssinia), *ALaska*, *ALLeghenny*, *NepAL*, *ChitRAL*, *ALTyn Tagh* (Tibet), *ALA* (Bokhara), etc. *ARARat*, like *TARARua* in New Zealand, are probably both members of the same family, since *AR* is formed by a gesture very similar to *AL*, the chief difference being that the tongue is raised and bent back. *AR* might, therefore, naturally mean an upward slope.

The root *AL*, or its vowel variants *EL* and *IL*, which differ from *AL* only in starting from higher initial tongue-

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postures, are found in many words for God or Heaven. The German word HIMMEL (heaven) is probably derived ultimately from the same original gestures as Himalaya, both words primarily meaning something enclosed (or surrounded) -up.

Hitherto such verbal similarities have generally been treated by linguists as accidental and of no significance. Let us hope that they may now receive more sympathetic treatment, and be properly respected as *prima facie* evidence of the origin of all human speech.

In studying the correspondence between hand- and mouth-gestures, there is an important limitation to which attention should be drawn. Let the reader try the experiment of whispering the vowel sounds AH, EH, EE, AW, and OO, and *at the same time* let him waggle the tip of his tongue from side to side in his mouth, so that the tongue tip touches first one corner of his mouth and then the other. He will find that, except in the case of the sound EE, the lateral movement of the tongue makes hardly any difference to the sound. But if instead of waggling the tongue laterally, it is

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waggled vertically up and down, he will get sounds like lahble-lahble, leeble-leeble, etc. Or, if the tongue tip is moved forward and backward, again the vowel sounds are entirely altered at each change of the tongue posture. The conclusion is evident—lateral movements of the tongue must be ruled out so far as speech sounds are concerned—they produce *no audible effect*. This is very unfortunate, for it lowers the gestures of speech to a matter of two dimensions—fore and aft, and up and down—as against the three dimensions—fore and aft, up and down, right and left—of hand (or bodily) gesture. The relation of bodily gesture to the corresponding effective mouth-gesture is therefore like that of a three-dimensional man to his two-dimensional shadow.

The case is even worse than this, owing to the limited number of effective gestures which the tongue can make compared with the human hands. We have only one tongue as against two hands; the tongue is anchored at its base, and can (for speech purposes) only reach or curl up and down or fore and aft; it is admittedly much more flexible than any

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hand, but as against this advantage it is a hand with only one finger. The result is a very great reduction in the number of possible tongue-gestures as compared with hand-gestures.

One obvious effect of these limitations has been that, owing to the comparative paucity of different mouth-gestures, each mouth-gesture—which produces its own particular sound or root word—has to stand for a considerable number of hand- (or other bodily) gestures ; to put it another way, each root word is naturally liable to bear many different meanings. This is abundantly verified in many “unrelated” language groups, where root words are found bearing a number of distinct meanings. These words of similar sound but different meaning are known as Homophones.

One other point may be noted ; the same mouth-gesture may be naturally construed in several different ways. Thus, the movement of tongue or lips may represent a pantomimic movement, symbolizing a real movement, or a spacial relation of some kind, e.g. above, below, around ; or it may represent a shape of some kind drawn in outline. Finally, any

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of these meanings may be used figuratively instead of concretely, just as they are in the American Indian Sign Language. Thus, to take a simple instance, a circular movement of the tongue tip might mean to roll or turn head-over-heels, or it might mean a geometrical circle, or it might, figuratively, mean a political revolution, or eternity; the same word could quite naturally have all these different meanings. Our words year, era, area, like the Old Sumerian word DARIA meaning eternity, are all due to a tongue-movement of this kind.

Let us now take another line of research by which present conditions may be linked with the past.

It is stated that the normal development of a human being recapitulates, to some extent, the evolution of the human race, and that a human child of two years is mentally comparable with an adult anthropoid ape. It is further well known that many children invent words, and sometimes even whole languages for themselves. Evidence of their method of word-making may therefore be very material to our inquiry, since what children naturally do now adult man may



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have done during the childhood of the race

In Professor Otto Jespersen's book, *Language*, he gives, at p. 152, a number of words invented by children, and their meanings. I have studied the gestures of articulation of these words, and find that out of 17 words 11 are due to a fairly obvious mouth pantomime, 2 are onomatopoeic, i.e. due to imitations of sound, and only 4 are not explicable in either of these ways.

Thus, FU'WÈ, meaning soap, is due to a blowing-out gesture, suggestive of the child's efforts to eject soapsuds from its mouth. BE'LUM-BE'LUM, meaning a toy with two men turning about, is a very clear lip and tongue pantomime of the action of rocking fore and aft. On p. 154, Professor Jespersen gives the word NDOBBIN, meaning food, and states that the word came originally from an accidental combination of sounds made while eating; here then, we have an eating gesture word caught in the act of evolution.

The following instance is interesting: An American boy, Granville Gilbert by name, had up till the age of four a language

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of his own which he persisted in using instead of English. His word for little was I-I (ee-ee), and his word for big was O-O. His word for dog was BA. Now I-I and O-O are fundamental words for little and big: we find these vowel sounds associated with words having those two meanings all over the world. Sometimes the vowel contrast is between I on the one hand, and A or AW instead of O on the other, as in the French PETIT, GRAND—or our own WEE, TEENY-WEENY—as compared with LARGE, HUGE, VAST, ENORMOUS, etc. The fact is that I-I and O-O (or AW-AW or U-U or AH-AH) are really gesture words, since I-I is made by pushing the tongue forward and upward so as to make the *smallest* cavity between the tongue front and the lips, while O-O or AW-AW, etc., are the results of a lowered tongue, producing a *large* mouth cavity. It certainly looks as though Granville Gilbert's words for little and big were due to unconscious mouth pantomime.

Following this and similar clues the experiment was tried of deliberately inventing new words by making a pantomimic mouth-gesture; of 19 such words

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which I submitted to Dr. Neville Whyment, 18 were matched by him with actual words occurring in Polynesian, Japanese, Indo-Chinese, or related languages. The chances of such a correlation occurring by accident must be very remote.

Another well-known characteristic of children's speech is the simplicity of its structure—its absence of grammar and inflexion ; thus, " up " may mean " please lift me up ", " Daddy come in " means " Daddy comes in ", or " is coming in "—in these respects children's speech is very analogous to the sign-language of deaf-mutes and Red Indians.

These observations suggest that primitive man, with the mentality of a modern child of two or three, was on the point of becoming a natural pantomimic word-maker, and that primitive language was a combination of body- and mouth-gesture, a universal language, comparable with the deaf-mute sign-language of to-day. Professor Malinowski's conclusions, that in primitive speech words express actions rather than thoughts, also point in the same direction.

How, then, have different languages

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arisen, if all, in the beginning, were produced by the same process of unconscious mouth pantomime? The answer suggested is that every isolated community tends to develop its own specialized pantomime of hand or mouth, just as we have seen to be the case among deaf-mutes to-day. In the same way, the various communities of the Roman Empire who spoke Latin had, by the ninth century A.D., developed a number of distinct languages, all derived from Latin, but differing so widely from the parent language as to be mutually incomprehensible.

There is, indeed, no difficulty in explaining the diversity of languages in the world when it is realized that it required only two or three centuries to develop our own English language, and that man has probably been a talking animal for many hundred thousand years.

The wonder is not that new languages have been evolved, but that so many roots are still found in widely separated countries, bearing the same, or nearly related, meanings. Nearly all the similarities which I have so far observed

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relate to gesture words : it is as though man unconsciously cherished his original mouth-gestures and preserved them intact through all the wear and tear of linguistic evolution.

So far we have said nothing about word formation by imitation of sound—the process known as onomatopoeia, to which reference was made in connection with children's invented words. Philologists have, in fact, recognized, for a long time, that such words as pop, crash, bang, clang, clash, hiss, swish, crack, plop, moo, cuckoo, bow-wow, quack, whip, and puff appear to be imitations of natural sounds. Many authorities have supposed that all language began in this way.

I do not believe that this supposition can be valid, for it seems difficult to imagine that primitive man can have discovered how to imitate a naturally occurring sound until he had had a long practice in the unconscious production of speech sounds by means of mouth-gesture. Even now man is but a very indifferent imitator of natural sounds, as witness his absurd attempts to represent the cry of the barn-door cock ; the Englishman says cock-a-doodle-do, the

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German says kikeriki, while the Frenchman describes it as coquerico !

In the list of 17 children's words recorded by Professor Jespersen, only 2 appeared to be imitations of sounds—a proportion of 12 per cent.

Yet among the English words for natural actions which produce noise, there are large numbers of apparently imitative words. If these were not produced by direct imitation of sound, how else were they developed? The answer may lie in the fact that many of these words are actually made by a movement of tongue and lips which imitates, more or less, the natural action which causes the noise in question.

Thus, POP is made by a sudden explosive opening (of the lips) which is, as suddenly, closed again. The resulting noise is therefore similar to that of the sudden explosive opening of any other cavity such as that of a seed-pod. Similarly, the word HISS is produced by adjusting the tongue relative to the back and roof of the mouth, so that on perflation the air emerges as a fine jet. From a gesture point of view, therefore, HISS is a natural word to express an escape of

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air or gas under pressure through a narrow orifice. WHIP—which may be dissected phonetically into something like H-OO-I-P—may represent gesturally a shooting out of the lips (or of the breath through them) HOO—followed by a sudden retraction and closure of the lips and a simultaneous raising of the tongue tip, -IP. The complete mouth-gesture would then mean to shoot out or project forward and then suddenly withdraw and raise that which is shot out or projected, so that the action comes to a sudden termination. It will be seen that the mouth-gesture imitates fairly closely the motion of the lash of a whip or of the hand which wields it. The actual sound of a whip and of the word which describes it are thus due to comparable actions. Lastly, in the case of the word PUFF (which we must pronounce POOF if we are to get its full value) we find the initial explosion POO- followed by a constriction of the lower lip against the upper teeth to produce the final -FF. Here again the imitative sound is due to an imitative gesture—namely, one which represents a jet of air beginning suddenly and then dying away.

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It will be seen, therefore, that many of the imitative words, in English, which are commonly considered as due to direct imitation of natural sounds, may equally be considered as the unconscious results of gestural imitations of the natural actions which produce those sounds. In the discussion which follows, we shall in effect disregard onomatopoeia, and concentrate our attention on the process of unconscious mouth-gesture.



## CHAPTER II

### YESTERDAY

Having now stated a *prima facie* case for our theory, let us see to what extent it can supplement the work of the philologists, and throw light on the otherwise inexplicable phenomenon of the verbal roots.

The old school of philologists, from Franz Bopp in 1816 to Max Müller in 1887, fought shy of the origin of speech ; they even fought rather shy of the gestures of articulation which produce it, and concentrated their attention on the sounds of speech and on the written word. Even so they made remarkable progress and demonstrated, amongst other things, that the great family of Indo-European languages could all be traced back to a common original language, of which Sanscrit appeared to be the earliest recorded descendant.

They discovered that all the native words of these various languages could

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be derived from a relatively small number of root words, expressive of general concepts—mostly actions—such as AD eat, AN breathe, TAN stretch, DA give, RUP break, SA sow (corn), SU squeeze out. It was a noteworthy achievement, but it offered no clue as to how the roots themselves had been evolved.

It is from this point that we shall now set out, fortified by the belief that speech is primarily a matter of making mouth-gestures, and that the sounds of speech are the natural acoustic results of the changes of shape and obstruction of the vocal cavities which these gestures produce.

A general account of the development of the Gesture Theory of human speech will be found elsewhere.<sup>1</sup> Within present limits it is only possible to give a very brief outline of the story.

Let the reader study for a moment the tongue and lip movements which produce the roots AD, AN, TAN, DA, RUP, SA, and SU, just as we have already done in the case of the root word AL, meaning up. It is not necessary to

<sup>1</sup> *Human Speech*, by the present Author. (Kegan Paul.) 1930.

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*say* the words : the best plan is to make the movements of articulation silently, without blowing air through the mouth at all, but thinking the while of *what* the tongue and/or lips are doing.

It will be found that, in articulating AD, the front of the tongue rises vertically to make an air-tight contact with the palate ; the gesture is similar to that of AL, but the tongue tip is made much broader so as to fit closely against the roof of the mouth. It is the same type of gesture as the tongue would make if it were tasting a morsel of food in the mouth while holding it against the palate, and the gesture therefore quite naturally means taste. But the same gesture might (equally naturally) have other meanings, all equally compatible with the same movement of the tongue.

Thus, in the meaning "taste" the tongue is merely playing—pretending to do something that it really does at other times, like a cat playing with a ball as if the ball were a mouse. If the tongue gesture in AD, taste, is to be considered as pantomimic, it should be called auto-pantomimic, for it is copying itself. But a gesture of the tongue may, as

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we have already seen, represent a gesture of the hand or of a finger pointing ; in such cases it is evident that a variety of other meanings may be implied. For example, the gesture which produces AD might mean to make contact with, since the tongue makes contact with the palate, or it might mean to support, since, in making contact with the palate the tongue presses up as if supporting the palate.

Such alternative meanings might be multiplied manifold, but the three instances already given will doubtless suffice. The important fact is that multiple meanings are natural, and that, owing to the paucity of distinctive tongue-gestures as compared with hand- and finger-gestures, it is almost inevitable that such multiple meanings should actually be employed, at all events in languages which have an extended vocabulary.

In articulating AN, the tongue itself makes precisely the same movement as for AD ; the difference of sound is due to the fact that the soft palate (which was closed in AD) is now drawn forward and downward, so as to uncover

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the entrance to the nasal cavity, and that, while the tongue is kept closed against the palate, air can pass freely through the nose, as when we breathe during eating, or with a closed mouth. The result is that, whereas in AD the breath is cut off altogether by the tongue closure, in AN it passes freely through the nasal passage and out at the nostrils. AN is, therefore, a not inappropriate gesture for breathe, or at least for the most conscious kind of breathing, namely, through the nose, not through the mouth. Here again the gesture might equally have other meanings, such as to shut off (because the mouth is shut off in the middle) or to keep held in the middle (because the tongue is kept held against the palate) or to pass to one side of (because the breath is by-passed through the nose).

In TAN, meaning stretch, we have an up-and-down movement of the tongue tip, such as that of the hand in stretching, say, a hide or thong held or fastened above. This particular (up-and-down) movement might again mean many other things as well as stretch; thus, it would be particularly applicable to the action of

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a hand tolling a bell, or making a hole in the ground with a crow-bar, or hammering, or even to the bodily action of jumping up and down. It may be observed that our word toll has a down-and-up gesture almost identical with that of TAN, so also has the sound DAN-in dance.

It is, as we have said, true of *every* mouth-gesture that it can, and commonly does, mean several different things—but they are all actions or shapes or qualities related, pantomimically, to the gesture.

By a similar process of analysis, it will be seen that DA, give, is a dropping or laying-down or offering gesture, made with the tongue tip; RUP, break, is made by a bent back tongue (R)—representing a bending back of one end of the object to be broken—followed by the lip projection U, which represents the pulling forward of the other end. The bending back and the pull forward together produce the breaking action, which is then completed by the lip closure P.

SA, to sow, has the small forward grip, s, of the tongue tip against the back of

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the upper gums or teeth—which represents a hand grip or a small object held in front—followed by the downward throw of the tongue tip to the open mouth and flat tongue posture of A; SU has the same front grip as SA, but followed by the outward projecting lip-gesture U, indicating outward; SU, therefore, means to grip (or squeeze) *out*.

This general type of symbolism is in no way peculiar to the Indo-European (Aryan) languages; it has already been noted also in the Semitic roots, in Chinese (both archaic and in the modern Cantonese dialect), in Sumerian (as spoken at Ur of the Chaldees), in Polynesian and Melanesian, in South African Bantu, in the Arawak languages of Guiana (South America), and in the Hoka languages of North America. In every case gesture words are in the majority—in some cases as much as 75 per cent of the words, or word-groups, studied.

PA, meaning father, is an example of a word of almost universal use, whose gestural meaning is *not* so obvious. It is formed (as the reader may prove for himself) by closing the lips and then suddenly opening them, while at the same

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time the tongue is lowered to the flat posture which produces the vowel-sound, AH. Is it a gesture of seizing (with the emphasis on the P), like the Aryan root AP (as in our word apt), suggesting the one who holds (compare our phrase "the governor"), or is it an eating, or rather a lip-smacking gesture, indicating the one who gives food as compared with MA, the one who suckles? The food gesture seems the more probable explanation. It is rather unlikely that many different races would have independently evolved this word; it is therefore especially interesting to note that PA meaning FATHER is found in a number of so-called "unrelated" languages.

Such words are worthy of especial study, since they suggest a common origin of the languages in which they occur. Where, on the other hand, the universal word (or root) is demonstrably pantomimic, it may have been independently evolved by different communities.

In view of the evidence of the verbal roots (p. 47), of children's invented words (p. 38), and of the prevalence of pantomimic words even in modern languages (see pp. 48 and 55), we seem



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justified in asserting not only that speech was originally a matter of mouth pantomime, but that it has never ceased to be so, and that the influence of unconscious mouth-gesture will continue to affect human speech as long as the pantomimic instincts of man and the sympathy between his hand and mouth both persist.

The gesture theory of human speech is not new, but it has long lain fallow. Plato, in the *Cratylus*, comes very near it when he makes Socrates ask :—

“ If we had no tongue or voice, and wished to make things clear to one another, should we not try as dumb people actually do, to make signs with our hands and head and person generally ? . . . and when we wish to express anything by voice or tongue or mouth, will not our expression by these means be accomplished, in any given instance, when an imitation of something is accomplished by them ? . . . a name, then, it appears, is a vocal imitation of that which is imitated, and he who imitates with his voice names that which he imitates ”

We only need to substitute “ articulatory ” for “ vocal ” in the last sentence, and the passage as a whole becomes a fair statement of our theory.

Some 2,200 years later the theory was enunciated in detail by Dr. J. Rae,

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of Honolulu, in three articles, published in 1862 in *The Polynesian*.<sup>1</sup> Dr. Rae describes how, in Polynesian, each syllable is the result of a pantomimic mouth gesture. He also points out that many of these pantomimic Polynesian words also occur in the Aryan languages. Dr. Rae appears to have found no supporters.

In 1895 Dr. Alfred Russel Wallace, the co-enunciator with Charles Darwin of the theory of Human Evolution, also developed a very similar theory, in an article published in *The Fortnightly Review*. Wallace dealt only with modern English, but he showed how, in many instances, words are produced by an appropriate gesture of tongue, lips, or jaw. He concluded that it was "in the highest degree probable" that the pantomimic use of the various parts of the mouth constitutes a "fundamental principle which has always been at work both in the origin and in the successive modifications of human speech".

Charles Darwin never went so far as this, but he did draw attention, in his

<sup>1</sup> A reprint of these appears as an Appendix to *Human Speech*.

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book *The Expression of the Emotions*, to the natural sympathy between hand and mouth, to which reference has already been made.

On this theory—as in that of present-day philology—human speech began without definite words or parts of speech, still less without grammatical devices of any kind. It could be understood by everybody who saw *and* heard it, just as the universal form of deaf-mute sign-language can be understood to-day. In time no doubt the language was enriched by imitations of the cries of animals, birds, and insects, and of other noises so as to produce “onomatopoeic” words, but hardly before man had had extensive experience in sound-making by the unconscious method.

But what of the large number of ideas which cannot be symbolized directly by hand-gesture, or by any consequent tongue and lip movement? The most direct answer is probably that, among deaf-mutes or the users of the Red Indian Sign Language, no difficulty appears to have been found in inventing signs for abstract ideas, qualities, etc.: the signs for actions, shapes, or spacial relations

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are simply used figuratively instead of literally.

The verbal ingenuity of quite young children suggests that primitive man, with the mentality of a child of two or three, would have found no difficulty in the (unconscious) development of figurative signs.

It is necessary to stress the point that all human symbolism by gesture—whether of hand or mouth—is primarily an unconscious activity, and that the symbolism of human speech is a product of man's subconscious mind. No doubt this may explain its extreme fertility of imagination, its fantastic originality, and, be it said, its extreme improbability as judged by any rational standard.

But then, are not our dreams (in spite of our sophisticated upbringing) still very fantastic at times? Are not the make-believe inventions of children full of surprising originality and resource? If, as is now suggested, the raw material of human speech was indeed such stuff as dreams are made of, there seems no difficulty in accounting for all the fantasy and originality which a study of mouth-gesture actually discloses.

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For example, a modern child of less than two years sees an aeroplane in flight, and instantly describes it as dicky-puff-puff; the early Chinese, wanting to describe a mountain mist, unconsciously raised their tongue to the palate (L) and then closed their mouth (AM) to indicate "Top-enclosed", i.e. "that which encloses the top", the mountain mist, LAM. Being unconscious, the symbolism was not limited to the use of the muscles which man can move by conscious effort: the unconscious muscles were equally accessible. Thus there developed a new technique, by which the number of different mouth-gestures became largely extended.

The tongue-to-palate-gesture which produces the sound T produces also (as we have said) the sounds D and N (NE). The difference between T and D is very subtle: it does not depend on the use of the voice (as is commonly said) since we can whisper T and D, and distinguish the two sounds when *both* are unvoiced. Actually the difference is made unconsciously by the false vocal cords.

My own conscious impression, when *whispering*, say, TA and then DA, is that

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the gesture of DA comes from *lower* down in the throat than TA—it is, as one might say, more fundamental, probably also more emotional than TA. In ordinary speech there can be no doubt that DA, and its allies BA and GA are more emotional than TA, PA, and KA, since we use our vocal cords (the language of the emotions) for the consonants B, D, and G, but not for P, T, and K.

The difference between D and N is (as we have said) due to the action, also unconscious, of the soft palate. In D, the soft palate is closed so that no sound escapes from the throat into the nasal cavity. In N (as also in M and NG) the nasal passage is open, though the mouth passage is closed either by the tongue or lips. The symbolic use of these gestures is very interesting; the tongue or lip closure bears its natural gestural meaning, but as the breath is being by-passed through the nose, the mouth closure can be continued indefinitely. Hence it is found that M, N, and NG denote continuing states of closure, pressure, etc., as compared with P, T, and K, which commonly mean sudden closures, movements, etc.

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We have only to compare such words as clang and clack, hang and hack, to see that the same tendency persists even in our own language—the nasal sound symbolizes something static, the same mouth-gesture without the nasal by-passing something dynamic.

Finally, with the isolation of various tribes of mankind, specialized signs (and consequent sounds) were evolved, so that the languages of different tribes became differentiated. Even that of the same tribe was also liable to change—namely, by the process known as sound-shift, by which P becomes F, T becomes TH, K becomes H, and so on. From our present standpoint these sound-shifts are merely the results of national or tribal mannerisms in the way of making the same mouth-gesture. Thus, where the Romans made a lip closure (PA), followed by a tongue-to-palate closure and a final fling back of the tongue (TER), the Germans did not quite close their lips, and the PA became FA. The English, in their turn, did not quite close the tongue against the palate, and the German T thus became a TH, hence our word FATHER. In the same way the German DANN

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became English THEN, DICK became THICK, and DÜNN became THIN.

Why a tribe or race became more or less careful or emphatic over its mouth gestures must be left to the psychologists to discover ; we can only state the law, that every unconscious mannerism by which a speech gesture is altered, be it ever so little, produces a corresponding alteration in the pronunciation of the resultant sound, and that such mannerisms tend to be used consistently every time the gesture is made.

It is but fair to warn the reader that this gesture theory of speech is not yet accepted by orthodox linguists and philologists, though the new English Dictionary does go so far as to describe the word BUMP as " expressing the sound *or shape* of swelling " (the italics are mine). It is indeed natural that, to students whose thoughts have been concentrated on the sounds and written forms of words, the suggestion that sounds are only of secondary importance appears as little short of sacrilege. Moreover, since the tongue and lip gestures which produce speech are but the unconscious shadows of equally unconscious hand-gestures,



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it is not surprising that we do not readily become consciously aware of them, and that a certain measure of training and effort is required before they can be appreciated and analyzed. Yet without intensive study of the gestures of articulation, there can be little hope of discovering the original nature of human speech. The study will be found well worth the trouble, for it offers a new and potent method of investigating the origin of words and their elemental meanings. Thus, the existence of homophones—words of similar sound but different meanings—in so many languages, is inexplicable to orthodox philology; to the gesture-theorist it is a natural consequence of the fact that every tongue- and lip-gesture can be construed in a variety of ways.

As an example of the information to be gained by gesture analysis, let us take the case of the Greek prepositions—so largely used in English—of which the meaning is otherwise quite inexplicable. Nineteen of the commonest of these words have been examined, and every one has been found to be the result of a mouth-gesture which directly suggests

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the principal meanings of the word.  
Thus :—

*ἀνά* (ANA- as in our word analogy), meaning on, upon, up, is due to a vertical up-and-down gesture of the tongue. It is the lingual equivalent of the gesture of holding the hand up and then dropping it, the AN- representing the operative gesture and the -A being the return to the normal tongue position.

*διά* (DIA- right through as in our word diameter) is due to a downward thrust of the tongue made in two stages, DI- and -IA. Here the downward tongue thrust suggests the hand-gesture of a primitive workman forcing a pointed implement through some resisting material.

*κατά* (KATA- downward as in our word cataract) is the result of two successive downward gestures of the tongue at the back, KA and at the front TA.

The theory also offers, as we have seen, an explanation of the large number of mysterious coincidences which occur,

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in widely different languages, whereby the same, or a closely allied word, is found with the same or a related meaning. For example, Aryan MA, mother, Semitic A-M, Sumerian AMA, archaic Chinese MA, Polynesian MA, father, Melanesian AMA, father, Hoka (North American) MA, father's mother, MAMA, maternal grandmother, Arawak (South American) MALI, mother of knowledge, Bantu MA-BÊDÊ, breasts (BEDE = two).

Such coincidences are explicable when we recognize that MA is the result either of a sucking gesture, as for example in the archaic Chinese word MA, meaning leech, or of a containing gesture (the lips being kept shut) as in our word MUM, meaning silence. The orthodox philology can give no explanation: it simply protests that coincidences have no significance. Thus, in *The Romance of Words* (E. Weekley) the author writes:—

“ On the other hand a close resemblance between words of languages that are not nearly related is proof presumptive and almost positive that the words are quite unconnected.”

The Gesture Theory, on the contrary, accepts “close resemblances” as a

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phenomenon to be expected, and questions rather whether their existence is evidence of the independent evolution of similar gestures of articulation by unrelated nations, or of the common origin of all human speech.

As a final example of the utility of the theory for explaining the origin of existing words, I have selected at random a few words from the new *Concise Oxford Dictionary*, of most of which even the literary history is obscure or unknown :—

*Butter* : The mouth gesture by which this word is formed is a downward jaw gesture of the closed mouth (BA or BU) and a raising of the tongue tip (-T), followed by a downward gesture of the tongue (TĀ) and by a backward curl of the tongue (R). The whole gesture therefore means : down in front (BA or BU), up at the back (-T), down at the back (TA) and a backward jerk (R). The gesture sequence suggests the action of moving the receptacle or plunger by which the cream was churned to butter—up and down forward and backward.

*Butterfly*, then, derives quite naturally from the down in front, up at back, down at back, and a backward jerk-action

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of the insect's flight, by which (as is said) it escapes being eaten by birds. In confirmation of this derivation it may be mentioned that in certain Bantu dialects BADA means butterfly; the Latin word PAPIL-IO is due to an analogous series of gestures, viz. flap low (PA), flap high (PI), fling up at the back (LI), -L being, as we have already mentioned, gesturally very close to R. The Latin MOVI- or MOBI-, meaning move, is due to a very similar series of gestures since M is, as we have seen, produced by the same lip-gesture as P and B, while v is but a half-formed B. Butter naturally suggests the allied product :—

*Cheese* (from Latin CASEUS): Here, KA means down (as in Greek KATA) SEUS is due to a tight pressure (s-), followed by an ejecting tongue- and lip-gesture (-EU-), whittled to a thread (-s), as in the Old English word SQUISS, meaning squeeze. The word CASEUS therefore suggests the action of pressing down the curd (KA) to eject the whey (SEU) in a thin stream (s).

*Good* (German GUT) is due to the hollow mouth-gesture (GU) meaning hollow, followed by the tongue-to-palate-gesture D.

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The whole gesture, to use an Americanism, "Says a mouthful."

Lastly, if the reader is not exhausted, let us take the word—

*Quench* (cf. Frisian KWINKA). Here we have KU, which, like GU-, means hollow, followed by the filling-up, squeezing, or hunched-up tongue gesture -NCH. KU-ENCH means, therefore, hollow, filled up (probably with water). It may be noted that the filling-up, squeezing or hunching gesture, -NCH, is found also in the words bunch, crunch, and hunch; possibly also in bench (Old Teutonic BANKIZ) and in pinch, paunch, punch, clinch, and clench.

Nearly all our words beginning in KU, GU, KO and GO relate to the action of projecting forward, or to the idea of a rounded or elongated hollow. Similarly nearly all words in STR import the idea of stroking or stretching—which is what the tongue actually does to produce the STR sound.

There is good hunting in store for any linguist who cares to follow in the footsteps of Alfred Russel Wallace and study the pantomimic gesture even of Modern English.

## CHAPTER III

### TO-DAY

If we look at Modern English with an impartial eye—considering it as a system of symbolizing thought and comparing its methods with those of, say, French and German—we cannot fail to notice that English offers some notable advantages. The following examples, taken at random, will make the matter clearer.

The French definite articles, LE, LA, LES, or the German equivalent DER, DIE, DAS, etc., are all represented in English by the single word THE, which does *not* vary; similarly our adjectives have only one form for qualifying the verbal symbols for male, female, or inanimate things, whether one or many, whereas in French and German the form of the adjective differs according to the gender and number of the thing to which it is applied. The same advantage obtains in the case of our verbs, which in the present tense have the same form

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throughout, except in the 3rd person singular, and a single form throughout in the past tense.

If we study the order in which words are grouped to form sentences, we find that in English the order is more natural and logical than in either French or German, German being the greater offender owing to its old habit of putting the verb at the end of the sentence.

James Russell Lowell evidently had this characteristic in mind when he described German as the language which had "such a fatal genius for going stern foremost".

English, owing to its mixed parentage, is exceptionally rich in words, the Latin parentage giving us a large vocabulary of abstract terms to add to our Saxon heritage of words of concrete meaning ; we also enjoy an unusual freedom to use the same word as more than one "part of speech". Thus, the word BLACK may be used as a verb, as when we say to black one's boots, or as an adjective, e.g. black boots, or as a substantive, e.g. a boot-black, or as an adverb, e.g. he looked black at me—where black is equivalent to blackly. In these respects



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English follows in the wake of Chinese, which (it is said) has no formal "parts of speech". Thus according to Professor Karlgren<sup>1</sup> SHANG can mean the above one, i.e. the Emperor, and then corresponds to a noun; in SHANG PIEN, the above side, it corresponds to an adjective; in SHANG MA, to above a horse, i.e. to mount a horse, it corresponds to a verb; in MA SHANG, horse above, i.e. on the horse, it corresponds to a preposition; in SHANG YU T'IEN, above have (= there is) heaven, it corresponds to an adverb.

But English is not consistent in this respect either, for though we can say to square the circle, to cube a building, to round a corner, to point a pencil, or to blunt a cutting edge, we cannot say to oblong, or to flat, or to sharp a tool.

There is no need to multiply such examples, the obvious fact is that very few of the outstanding advantages of English are carried out to the full. In the case of our verbs, in the present tense we have an anomalous relic of barbarism in the 3rd person singular, where we say he talks, he wishes, although

<sup>1</sup> B Karlgren, *Sound and Symbol in Chinese*, pp 70-1

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we use the forms talk and wish for all the other persons, singular and plural. On the other hand, in the past tense, e.g. talked, wished, we use the same form throughout! What possible justification is there for retaining an archaic form *only* in the case of the 3rd person singular of the present tense? "Go" with its past tense "went" is typical of another form of anomaly due to using one root (go-gat) for the present, and another (wend-went) for the past. Such irregularities make our language needlessly difficult to learn and use. Forms like good, better, best, are another relic of barbarism, dating from a time when man had not clarified his mind to the extent of realizing that these three ideas were all degrees of intensity of the *same* idea—good. In the case of the adjective strong, we use a (presumably) later and more orderly form and say strong, stronger, strongest. It would be "better" to say gooder!

It is well known that among primitive people there are often no words for general concepts such as that of tree, or weather; there will be separate names for all the varieties of tree which are of use to the

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tribe, or for particular weather conditions which concerned them, but none for the general class of objects or conditions to which they all belong. We have said that English is rich in words, yet it has some very obvious gaps, as, for example, the absence of any words meaning he (she or it) *here*, and he (she or it) *there*, like the words *HIC* and *ILLE* in Latin. We are thus driven to circumlocations such as "he (the speaker) said that he (Mr. A.) had told him . . ." where the invention of a new word (or words) would obviate all ambiguity.

We have already referred to the absence of any common word for he or she, or for his or her; the invention of such words is especially needed nowadays when men and women compete in so many spheres of activity. A word, or pair of words, to express that a word, sentence or longer passage is a quotation, i.e. to express the relation which we indicate in writing by inverted commas, would often be very useful.

Then there are the homophones, which we have already discussed. In this respect French is even more at fault than we are; the series *SAINT*, *SEIN*, *SAIN*,

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CINQ, CEINT, and SEING, all pronounced alike, could hardly be paralleled in English.

If we turn from words to the technique of speech production, we find an equally slovenly state of affairs. At present anyone who took trouble to make his movements of articulation accurate and precise—so that every speech sound was properly produced—would be considered very absurd and affected. We make, in fact, no pretence of speaking as we write ; we use a form of shorthand, or short-tongue (as it should be called) which is now actually transcribed in phonetic script and taught to foreign students of English.

The following passage, taken from one of the official publications of the International Phonetic Association and transcribed there in phonetic script, is re-transcribed (as nearly as possible in English spelling *as* it is intended to be pronounced. The letter *ĕ* as in the word cĕncluzhn (conclusion) is to be pronounced like the *e* in the words thĕ-King, or the terminal *a* in sofa. The letter *ũ* is used for the vowel sound—rather like the French *œ* in OEUF—which

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we, in Southern England, use in such words as EARTH, MIRTH, PURR, in all of which the *r* is no longer sounded.

### CĚNCLUZHN

All moveměnts ěv dhĭ augěnz ěv speech wŭ(r) sluggish. After ěbout 8 weeks treatment (one au two lessnz ě week) dhĕ studnt wĕz igzamind by ě psycholĕgist who judgd dhĕt ěkampĕning dhĕ pĕralysis wich wĕz seen in leg ěnd ahm thei(r) wĕz some injĕry to dhĕ cĕnnection bĭtween dhĭ ahticulatory ěnd auditĕry sentĕz of the brain, ěnd to ě less extent bĭtween dhĭ ahticulatory ěnd dhĕ vĭzuĕl sentĕz.

The reader will appreciate, from this example of current English as commonly spoken, how far our speech habitually departs from the written form. It is well known that all languages tend to do the same; the human tongue and lips take the line of least resistance, and drift naturally into easier and easier ways. Thus, terminal consonants tend to be dropped, tongue-twisting sounds get eliminated, and the language loses in consequence more and more of its distinctive sounds.

In North America the Tlingit,

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Tillamook, and Iroquois languages have thus lost *all* the consonants which depend on movements of the lips (P, B, and M) and retain only the half-closure W. Thus, where in the Chinook language the word for badger is IPANPAN, in Tillamook it is IHANHAN. In Chinese of the sixth century KA meant song, KAP meant frog, KAT meant cut, and KAK meant each. Then, through centuries of carelessness in pronunciation, the terminal consonants all got lost, so that the four words were all pronounced KA. Finally, the open A sound became reduced to O, and all four words are now pronounced KO.<sup>1</sup> It is a sad story of articulatory degeneration, which we should do well to remember.

Let the reader consider what would be the effect on music if we permitted a similar slackness in its technique. All difficult passages would be slurred over or cut out—music would quickly degenerate to a second childhood. Actually we take great pains over the technique of music, and the general standard of performance at our schools of music continually improves. We

<sup>1</sup> B. Karlgren, *Sound and Symbol in Chinese*, p. 28.

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should look forward to a similar interest and improvement in the technique of articulation, for the sake of enriching our speech and powers of thought—for it is only by accuracy in articulation that we shall be able to produce all the nice differences of meaning which a really efficient language will require if it is to be free from ambiguity, and yet keep its words reasonably short. It stands to reason that if we are to identify each of the 13 words: peat, pit, pate, pet, pat, pe(r)t, putt, pa(r)t, pot, port, pote, poot, put, without uncertainty, we must form the various vowel postures, which distinguish them, with accuracy.

It will be seen that whether we consider the structure of our language, or our ways of using it in ordinary speech, the result is the same. We find that there is a surprising lack of system or of technique—and a general haphazardness—which are impossible to justify in view of the immense importance of language to human mentality and welfare. What we *ought* to do about it will be considered briefly in the next Chapter.

## CHAPTER IV

### TO-MORROW

What moral shall we draw from this brief summary of the nature of human speech and of its evolution up to date? Probably that man is as yet only at the beginning of this surprising accomplishment, and that he has very far to go before his speech will have become a rational method of symbolizing human thought.

In *Icarus* and in *Tantalus*,<sup>1</sup> their distinguished authors, like a good many other thinkers of the present day, draw sombre pictures of the dangers that seem to beset our future on this Planet. We are in the alarming position of having enormous control over the forces of Nature, and very little reasoning power to guide our actions—in fact, very much like a lot of children playing with loaded guns. Man, it appears, is still constantly handicapped by his dependence on instinct, habit, and emotion rather than on reason, and by

<sup>1</sup> "To-day and To-morrow" Series.



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his muddled way of thinking. May it not be that much of this unreasonable muddle is due to the simple fact that our symbols for thought—language—are not yet set in order; that in the matter of thought-symbolism we are still much in the same state of confusion as the Romans were in their arithmetic, before the introduction of the “Arabic” numerals? We should be horrified nowadays at the difficulty of multiplying MDCCCIX by LVII; to the educated Roman it seemed natural and inevitable, but his arithmetical powers certainly suffered in consequence.

So long as speech was a mystery, it also carried magic and superstition with it; men were willing slaves to a form of words, they cared nothing that the same words might be used in fifty different senses—it was the words that counted, not their meanings. Long live the slogan! As the Red Queen said in *Alice through the Looking Glass*: “take care of the sounds and the sense will take care of itself.” Under such conditions it is hard to be reasonable; instinct, habit, and emotion are the winners every time.

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But when man once realizes that speech is only a form of pantomimic symbol for his thoughts—and a very rude and imperfect one at that—the mystery will disappear, and reason may begin to take some measure of control; then our future outlook may be brighter! At present it is hard to realize that our languages are imperfect, confused, unsystematic, and ambiguous—yet all those who study the structure of language with the eye of reason know that it is so. Thus, Professor Vendryes, in his book *Language*<sup>1</sup> writes:—"A light and flexible language in which grammar is reduced to a minimum allows the thought to appear in all its clarity and permits it freedom of movement; on the other hand, thought is hampered by the constraint of a rigid and heavy language." Yet all the European languages are more or less loaded with grammar so as to be needlessly rigid and heavy.

If we wished to, we could criticise scientifically the symbolism of our own speech, discover its defects and omissions, and set to work to remedy them, rationally

<sup>1</sup> *Language: a linguistic introduction to history.* (Kegan Paul, 1925.)

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and philosophically. We might take as great pleasure in adding new and systematically invented words to our language, for closing its gaps and removing its ambiguities, as an eager student of a foreign tongue has in adding to his scanty vocabulary in the language he is learning. There is plenty of room for new words, if we are to aim at a principle of one word one meaning! There are also plenty of suitable sounds available, for I reckon that several thousand monosyllables which can be made out of our English vowels and consonants are not yet used in English speech. Thus, out of, say, fifteen perfectly good two-letter words which can be made beginning with A, only about six are at present used in English: AD(D), AM, AN, AS, AT, and AX(E). On the other hand, the sounds AB, AC, AF, AG, AJ, AL, AP, and AV are all among the unemployed. If our new words are also "pantomimic", they may be expected to be more durable than if they are arbitrarily invented.

English especially would repay scientific cultivation. It is already the best

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language that man has yet evolved<sup>1</sup>; but it is still, as we have seen, hampered by many "relics of barbarism" which make it unnecessarily difficult to learn and understand and use.

Professor G. M. Trevelyan, in his *History of England* (pp. 131-2), gives a vivid account of how the development of English took place during the three centuries after the Norman conquest. Anglo-Saxon was spoken only by ignorant serfs, the clergy talked Latin, while the gentry spoke French; the language was seldom written, and was of no interest to scholars. He writes:—"If the grammar is clumsy and ungraceful it can be altered much more easily when there are no grammarians to protest." But the process of improvement and simplification was checked too soon, and when scholars and writers again began to take interest there were still many relics of barbarism remaining, and they have been allowed and even encouraged to remain till this day. I suggest that the time has now come when our "scholars and grammarians" should be invited to take up the subject

<sup>1</sup> See Professor Otto Jespersen's *Language* (Allen & Unwin), pp. 62, 335, 341, 425.

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of the improvement of English from the point where the ignorant serfs left it, when literature stepped in and stabilized its form, making further improvement impossible. It would be ridiculous to argue that the unconscious work of the peasant inventors of English cannot be improved or carried further, in the light of the modern knowledge of the nature and function of language. It would be equally ridiculous to pretend that our present language represents a really efficient method of symbolizing our thoughts.

Here then, is a good case for some scientific pruning, grafting, and cultivation to make our speech easier, better, and more euphonious. If the language were improved in such ways as these, so as to make it consistent, but without altering it so much as to make the classical form difficult to understand, English would in all probability become in a relatively short time the universal language of this planet. If we do nothing, one thing will be likely to happen, namely, that the English language will break up—America going one way, Australia another, and so on, till in the

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end these different communities will no longer be able to understand one another.

The ideal policy would be that all the English-speaking communities should join in a systematic and scientific study of English speech with a view to its future improvement and standardization throughout the English-speaking world. Broadcasting, long-distance telephony, the talking film, and the gramophone will make such standardization possible, and even comparatively easy to establish. Every English-speaking school in the world will be able to have samples of the new standard English to teach to its pupils; the "talkies" will give to the world at large the latest and best in rational English—the latest thing in new words to clarify the mind, instead of the latest thing in slang to surprise or shock it. If English were made, in this way, a really systematic language, it would give a corresponding advantage in power of thought to all English-speaking people.

The new standard English of which I am thinking will by no means be the English of "Eton and Oxford" any more than it will be the English of Yale

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or Harv ard. It will be based on reason, rather than on fashion or tradition. Its R's will certainly not be the degenerate sounds of Eton or Oxford: they will more probably be Scotch or Wessex or American; on the other hand, its vowel sounds will not import the American twang, which is mainly due to a tightening of the pharynx, and has nothing to commend it on gestural or phonetic grounds. Language will be recognized as being a matter of mouth-gesture, and good articulation will be an essential of good education. The spoken word seems destined to become more and more important as means for vocal long-distance communication become improved and extended: there is therefore great reason now, which probably will be greater still in the future, to make our speech as intelligible as possible.

The reader must not expect, at this stage, any cut-and-dried system of language improvement ready-for-wear. All that can be offered here are suggestions as to some of the fundamental principles at which we might aim.

Each word should, so far as possible, be gesturally appropriate to its meaning,

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since it then becomes more natural and durable. Thus the pantomimic symbolism of tongue-gesture might be used in the invention of new words, so that, for example, words importing the idea of little had the vowel I (EE as in eat), big words had A (AH), that which is forward or future had U (OO), that which is backward or past AW ; E (as in men) would denote a mid or medium position, EI a rising, AI a steeper rise, IE a falling, IA a steeper fall, while Ä as in hat (written phonetically Æ) would represent a sloping forward. Every word denoting an action, quality, or spacial relation should be capable (so far as possible) of being used as any "part of speech". Terminations such as -ness, -ly, etc., if used at all, should be capable of general use, so that, for example, it should be permissible to say longness, instead of, or as well as, length, or fastly as well as fast. We should aim at each word having a definite and invariable meaning, and at devising new words to express the various other meanings which a word at present bears. We should eliminate homophones. It is true that in so doing we shall deny ourselves the pleasure of the pun, but we



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shall no doubt find other verbal pleasures to compensate for this loss. The order of our words should be strictly logical; all our remaining inflexions should be done away with; we should aim at securing in our language the precision of mathematics coupled with the beauty of melody. In particular I would suggest that for the sake of melody, audibility, and emotional expression, the unvoiced sounds *s*, *sh*, *th*, and *f* should be abolished and replaced by their voiced equivalents—as they are to a great extent in the Wessex dialect. There is precedent for the elimination of *s* as an undesirable sound. The Yezidis of the Jebel Sinjat are said to have a deep-rooted objection to pronouncing the letter *s*, which is taboo inasmuch as it occurs in the forbidden name *Sheitan*.<sup>1</sup> I would support the taboo—but on other grounds!

The suggestion that our language should be forcibly and deliberately altered in the interests of science and reason will, I realize, strike many of my readers with horror. They have come to look upon English in its present condition as a symbol of our national character, history,

<sup>1</sup> *The Times*, 21st April, 1925

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and personality; the idea of altering this symbol is, therefore, instinctively as repugnant to them as that of, say, refacing Westminster Abbey with glazed tiles in order to make it proof against atmospheric corrosion! While I can understand this attitude, I would suggest that it is based on a view of language which is no longer tenable.

If national language were really comparable with national architecture, there would be strong reason for preserving it wherever possible, and for only adding such new structures as are practically essential. If, on the other hand, language is but a primitive irrational symbolism for thought and action of which we are only now beginning to understand the principles, surely the case is different, and we are not merely justified but obliged—in the interest of our national welfare and intellectual progress—to reconsider our inherited views.

Human thought requires an efficient method of symbolism such as no language yet supplies. If the keepers of our language maintain a die-hard attitude and succeed in preventing reasoned improvement, the result will, I suggest,

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be that language will be less and less used for intellectual and rational purposes, and relegated to an altogether inferior status as the symbolism of sentiment and small talk. All accurate thinking will have to be carried out by means of some other symbolism, like that of mathematics.

This idea also is not new. The great German philosopher and mathematician, Leibnitz (1646-1716), even at the age of 20, had realized the need of a reformed symbolism and method of thought. He imagined a universal symbolism of thought which would be understood by all nations, and by which thought itself would become accurate and quantitative. Thus he writes:—

“This true method (i.e. his universal symbolism) should furnish us with an Ariadne’s thread, that is to say, with a certain sensible and palpable medium, which will guide the mind as do the lines drawn in Geometry and the formulas for operations which are laid down for the learner in Arithmetic. . . .

“I dare say that this is the last effort of the human mind, and when the project shall have been carried out, all that men will have to do will be to be happy, since they will have an instrument that will serve

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to exalt the intellect not less than the telescope serves to perfect their vision."

Assuming for the moment that our language does not throw up the sponge, but attempts the self-imposed task of rational improvement, how are the necessary reforms to be brought about?

In the first place there must, of course, be a realization among "scholars and grammarians" that reform *is* desirable and that the work of the "ignorant serfs" who invented English deserves to be carried on, in our own time, to its logical conclusion, for the sake of the great benefits which a perfected language would bring to the English-speaking world. Then there must be a period of co-operative research and experiment, in which all the great English-speaking communities must have a share, by means of an authoritative linguistic committee. The English-speaking Union has made a beginning with its International Conferences on English, which meet alternately in New York and London, but the present aim of these Conferences falls far short of what we are now considering.

When a reasonable unanimity of

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instructed linguistic opinion has been secured—based on scientific principle and on the definite object of making the New English richer, more law-abiding, more flexible, more precise, and more euphonious—then, by the operation of world broadcasting, world telephony, the “talkies” (when reasonably perfect), and the gramophone, this improved language can be introduced to the English-speaking world and taught in all English-speaking or English-learning schools.

Then another problem will present itself, namely, that of preserving the new rational form of speech from degradation and decay by carelessness in pronunciation, by the introduction of slang, and by the invention of irrational or ambiguous words. Thus, it has recently appeared that in the talking film industry, the process of synchronizing the moving picture and the sound record is known as “sinking” (or “synching”, as it should presumably be spelt). This is a very improper word, for it forms a fresh homophone with the existing word, to sink. A similar outrage has been perpetrated over the modern word “fan” (abbreviated from

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fanatic), meaning devotee of a specified amusement, which is a homophone to fan (air), or in the case of the American abbreviation of gasoline (petrol) into "gas".

I can see no alternative but that there should, eventually, be a censorship of words, and that the printing or use in public of such improper words should be forbidden. This would be no novelty, for we already have a system of verbal taboo which is actively in force, only it relates mainly to words denoting sexual acts and organs, and indeed only to our native names for these things. The Latin names, which all educated people understand, may be used with impunity, so long as the context is itself proper. This irrational form of taboo should be dropped, and a reasoned taboo of words which are improper to the language should be substituted. We should require at least a minimum of decency in the verbal clothing of our thoughts, just as we do (probably with less good reason) for the clothing of our bodies. We should, as has already been pointed out, insist on a high standard of perfection in the symbolism of our thoughts by the

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technique of articulation. The gain to humanity would be very great. Human thought would be able to deal verbally with problems which at present are only soluble by mathematics, and we should have entered, in earnest, on the era of reason.

Sir James Jeans has shown us that the human race is still at the very beginning of its career on earth. Let us take heart, therefore, casting off the superstitions that bind us to the past, and welcome the help of science to the perfecting of human speech, for there is much need of clear thinking in the future.

As for ourselves, it is well to realize that the comfortable policy of *laissez-faire* is no longer practicable to-day, for the fate of English speech is in the balance. On the one side is the unifying influence of broadcasting and the other sound-transmitting devices ; on the other side is the natural tendency of all communities to develop their own individual gestures of articulation in a characteristic way so as to product new dialects and languages.

Over all is the fact—which we are just

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beginning to realize—that our own (and all other languages) are but the babblings of children, and that it is only by systematic and conscious effort that we can hope to attain unity and an approach to perfection in the future.

If we succeed, the English-speaking races may well fulfil the words of Genesis, which, for our remembrance, I will quote once more :—

“ And the Lord said behold the people is one and they have all one language— and now nothing will be restrained from them which they have imagined to do.”





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