# MUNICIPAL EFFICIENCY

(WITH SPECIAL REFERENCE TO THE BOMBAY PRESIDENCY)

BY

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With 9 Diagrams

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#### PREFACE.

The science of City Management is as yet in its infancy, and the literature on the subject not yet sufficiently known, nor readily available. This book is based, on personal observation of some of our cities, a prolonged study of what is being done towards better city management in advanced countries, and a comparative statistical study of municipalities of the Bombay Presidency. It aims at the application of the fundamental principles of Efficiency, to the various fields of Municipal endeavour, and is thus a sequel to my more general work on 'Social Efficiency'. In addition to my own findings and suggestions, it tries to select and set down the best suggestions from several volumes on Municipal Management and Efficiency. It reveals the backwardness of our current Municipal Management, and points out how we may set about improving it. It tries to supply to councillors and citizens, right sort of ideals, ideas, programmes and tests, for improvement of municipal service and civic life. Looking to the fact that there are about fifteen hundred municipalities in India, the councillors and citizens of which can profit by the suggestions embodied in this volume, it will be admitted that such a book was greatly needed. It was, therefore, that I devoted all the liesure I could command during the three years of my tenure as Assistant Professor of Sociology at the Bombay University, towards fruitful study and research in this important branoh of investigation.

Over six crores of rupees are annually collected and spent by the 160 municipalities of the Bombay Presidency, which is only a tenth of the British Indian territory. Municipalities are, to my mind, the most readily available agencies for civic human welfare, and sound training in democracy. In this book I have tried to show, how every one keenly interested in the improvement of his city, may test whether his municipality is getting the good results in solid service to the people, that it can certainly get if it rightly manages its material and human resources. Actual ways of rendering greater and better service are selected and suggested for adoption.

My debt to the many thinkers and writers on Efficiency and Municipal Management is great and has been freely acknowledged wherever it has been possible to do so. This publication has been expedited by the kindly contribution of a hundred rupees by Mr. Chandiram J. B. of the silk factory Rohri and another hundred rupees by Shrivut Virumal Begraj, besides a similar contribution on my own part to diminish the risk of the publishers who have so kindly undertaken to publish the volume. My sincere thanks are due to all these parties who encouraged the early publication of this book. I hope the book will justify itself by its usefulness and would be freely used and recommended by all who feel it as a contribution, howsoever humble, to civic human welfare. I request all my readers to aid, as far as lies in their power. this great cause of intelligent citizen service. To all who are earnestly endeavouring to improve their own cities, along with the villages around then, I respectfully dedicate this volume.

Pherwani House Shikarpur, Sindh. 2nd Feb. 1926.

S. N. PHERWANI.

#### CONTENTS.

#### PART 1.

INTRODUCTORY IDEAS ABOUT MUNICIPAL EFFICIENCY.

Chapter.

1. Introductory. Fundamentals of efficiency—Information and enterprise—Method and Management—The Scientific spirit—Bacon's presentment—Descarte's rules, —Comte's contribution—Scientific management—Comte on regeneration—Taylor's principles—Emerson's analysis. p. 1

11. Municipal Efficiency. Human welfare—Mahatma's words—Survey to Serve-Attainable Improvements— Base Service on Science. p. 16

111. Organising A City. How cities Grow-Call To Citizenship-Neighbourhoods, Organize them -Settlements-Work to be done. p. 22

IV. Build up the Science of every operation. Build up Science—The way to do so—Motion and motive studies—List and seriate operations—Study Municipal Code—Establish Standards. p. 27

V. Selection and Training of all men. Select and train-Avoid misfits--Nine qualities-Physical and mental tests-Some books-Training citizens--Training of councillors. p. 34

VI. Cordial Co-operation. Healthy Co-operation-

PlanningProgrammes — Establishment of<br/>StandardsStandards-WelfareProgrammes—Councillors<br/>andCitizens—<br/>p. 40

VII. Sharing of Responsibility. Division of Responsibility-Scientific Management-The Citizens' Part-The Councillors' Part-Superior Municipal Staff. p. 47

VIII. Organise the Working Forces. Organisation as arrangement — Organisaton Types — Military or Line Type—Taylor's Functional Type—Brahman Type of Organization—The Kshatriya Type—The Vaishya Type —The Panchayat Type—The Scientific Type—Staff and Line—Emerson on Organization. p. 55

IX. Reward by Results. Task and Bonus-Reward by Results-Reward for Councillors-Duty of Voters p. 69

X. Analyse your inefficiencies. Inefficiencies --1. Delays 2. Rejections. 3. Changes in Manufacturing 4. Idle Equipment Time. 5 Inefficiencies of Management. 6. Inefficiency of Workmen. 7 Change in the operations of Task Schedules. 8. Purchase-Failures. 9. Delayed Deliveries. 10. Faulty Movement of Material. 11 Poor Arrangement of Equipment. 12. Complaints. 13. Lack of Co-operation. 14 Faulty Planning. 15. Congestion at Machines. p. 76

XI. Be fair to the villages. Fair Deal-unfairness of Cities-Forgotten villages-Do the right-House the villager-Help the farmer-Visit the villager-Survey and Service. P. 84

XII. Deepen Civic Franchise. Deepen the Franchise -The Social Centre Idea-Bombay should lead-An Educational force. p. 90

#### PART II. SIX GENERAL TESTS.

Chapter.

XIII. Municipal efficiency in the Bombay Presidency —Municipalities are welfare agencies—Municipalities in the Bombay Presidency—Need of training for municipal welfare work—Apply general and specific tests of municipal efficiency. p. 95

XIV. Six General Tests of Municipal Efficiency— Standards Tests Survey and Service Tests—Method and organisation tests—Personnel and organization tests—Municipal Efficiency-Resume-Literature on the Point. p. 100

XV. The Survey Test. Survey your city to Serve it better—"A comprehensive social survey" Steps in the survey—its purpose. The different orders of survey— The literature necessary. p. 108

XVI. The Service Programme Tests. Indebtedness and Extravagance of Bombay City-Karachi's Extravagance-Required Volunteer Fire Brigades-Comparative costs of lighting.-The cities as death traps-Public Works or Public Health-Unprogressive Public Instruction-A Gauge for Budget Testing. p. 116

XVII. The Standard Methods Test. More business in government--Manage Scientifically--Set up standards--Wide variations in administration and reports--The undetected waste in lighting contracts--Waste through want of standard methods in public works-Absence of Co-operation between university and city--Waste due to absence of standard methods in public health--Wastes due to absence of standards in public instruction. p. 125

XVIII. Efficient Organization Test.--Centralized Co-operation-Efficient Voters--Organization of Couneillors--Autocratic Organisation of the Executive-How to improve the Organization ?- Bruere's Suggestions-Literature Recommended. p. 136

XIX. Trained Personnel Test. Wanted Trained, Socially Minded, Units-Greater and better Citizen Interest-Social Centres and welfare weeks-Training the Councillors-A Suggestive Syllabus-A Trained Working Force-Literature Suggested. p. 146

XX. Active Citizenship Test. Enlist Citizen Enthusiasm-Invite Associated Opinion-Suggestion from those served-Graphic Publicity of Essential Facts-Enlist Citizen Effort-The Elberfeld System-Social Centres and Social Settlements p. 154

## PART III. TWELVE SPECIFIC OR FUNCTIONAL TESTS.

XXI. Invelve Specific Tests. Public Health Test-Public Education Test-Public Safety Test-Public Morality Test-Child and Women, Welfare Test-Public Organisation Test-City Planning Test-Park and Playground Test-Public Utility Test-Public Ownership Test -Budget and Publicity Test-Literature Suggested. p. 163

XXII. The Public Health Test. The Test Stated-The Death-Rate Test-The Ten worst Towns-The Ten Best Towns-Some Current Misconceptions-Real causes of High Death-Rate-Prevention of Disease-Promotion of Health-Study and Practice Prevention-

Graphic Publicity of Death-Rates—Health Budget— Educate in Health Matters—Co-ordinate Health Agencies —Train Citizens in Health Work—The Example of Indore —Student's Effort in Hyderabad—Students Mosquito Brigades—Cleveland's Junior Sanitary Police—Graphie Reporting. p. 172

XXIII. Public Education Test. Increase Education Facilities—General Test—Specific Test—Reach the Greatest Number--Secure Maximum Attendance—Reduce the Cost Per Pupil—Increase the Allotment for Education—Qualitative Tests—Relativity or Adaptation --Rotation or Rhythm—Vocational Training—Communion or Observation—Creativeness or Freedom—Co-operation or Fellowship—Recommendations—Adult Education— Literature on the Subject—Bachman's Suggestions. p. 192

XXIV. The Public Safety Test. Police—Fire Fighting—Causes of Fire—Fire Prevention Tests— Educate in Fire Prevention—Fire Fighting—Ample Water Supply—Individual Fire Fighting—Lighting Test —Protessor Merriam's Investigations—Chicago's Record —Cincinnati's Story—Reduce the Unit Cost. p. 219

XXV. Public Morality Test. The Drink Evil-Worst in City Areas-Drink in Sindh-Dr. Mathai's Remarks-Recommendations-Prostitution-Reverend Goodies's Classifications-Cause: of Prostitution-Remedial Measures-Prevention-Rescue Work-After Care-Disproportion between Sexes-Gambling-Congestion or Slum Conditions-Howe's Hope of Democracy-Reduction of Slum Conditions. p. 234

XXVI. Maternity and Infant Welfare Test. Save Mothers and Babies-Maternity and Infant Welfare Associations-Train the Dais-Dr. Samey's Suggestions-Dr. Mistri's Views-Dr. Dadabhoy on Reduction of Infant Mortality. p. 256

XXVII. Public Charities Test. Need of Charity Organisation-Municipal Supervision of Charity Thoughtful Help-Hayes on Wise Charity-Organise-Charity-Hamburg's Methods-Constructive Philanthropy Encouraging Results. p. 267

XXVIII. City Planning Test. City Planning Little Known—Every City Has its Own Site and Every City Must Have Its Own Plan—A City Plan Commission— Get the Money From—Bonds if Necessary—Nolen, On Town Planning—The Underlying Principles-Literature on the Subject. p. 278

XXIX. The Budget Test Three Classes of Funds-Current Funds-Capital Funds-Trust Funds-Five Kinds of Control-Budget Control-Dr. Breure on Municipal Accounting-Breure on Budgets, their Three fold Purpose-Budgets as Service Programmes-Functionalizing Appropriations, Citizens Should Participate-Budget Exhibits-Effective Administration-Metz Fund Publications and Suggestions. p. 297

XXX. Public Work Test. Standardize Specifications —Have Standard Testing Laboratoric —Stadardize Unit Costs for Different Services—Guarantee Clauses in Pavement Contracts—Koad Inspection—Reports as to Areas Restored—Welton on Labour Efficiency—Kinds of

Labour Inefficiencies—Causes of Labour Inefficiency— Remarks on Labour Inefficiency—Citizens Must Investigate. p. 322

XXXI. Public Utilities Test. Public Utilities are Monopolies—Public Ownership of Public Utilities—The Example of Germany—Fairlie on Municipal Management —His conclusions. p. 343

XXXII. Public Ownership Test. Ascertain Extent of Municipal Ownership—Ascertain Home Owning Citizens—Housing Efforts at Rome—Housing Efforts of Ulm. p. 349

XXXIII. Park and Play-grounds Test. Provide Healthy Recreation—Don't Forget the Child—The Play Centre Movement, England—The Play Ground Association New York—How to Make the Play-ground a Success—Happy Play Life. p. 355

XXXIV. Resume and Final Suggestions, Citizens ! Improve your cities—Study Scientific Management —Apply Six General Tests to your own city—Apply Specific Tests to your own city—Adopt Social Service Type of Organization—Humanly Possible and Actually Workable—Enlist Volunteer Effort—Socially Train Expert Talent—Consecrate Tained Councillors. p. 366

#### viii

#### LIST OF DIAGRAMMATIC SUMMMARIES, GRAPHS, ETC.

		to face page.
1.	Masters in Scientific Method : summary of their suggestions.	6
2.	Masters in Scientific Management . Summary of their suggestions	ť 7
3.	Comparative Death-Rate of big eities	120
4.	But Cities can triumph over death	121
5.	Promote Health	180
6. Postpone Death. On the rever		2
	Supposed and real causes of above high deata-rate.	
7.	Prevent Disease.	181
8.	Principles of Modern Education	
	Outer Adjustments.	206
9.	Principles of Modern Education	207

#### PART I.

## Introductory Ideas About Efficiency.

#### CHAPTER HEADINGS.

			Page.	
Ι.	Introductory idea of efficie	ncy	•••	1
П.	Municipal Efficiency			16
III.	Organizing a City.			22
IV.	Build up the science of eve	ry operati	on.	27
v.	Selection and training of a	ll men		34
VI.	Cordial Co-operation			40
VII.	Sharing of responsibility			47
VIII.	Organize the working forc	es		55
IX.	Reward by results			69
Х.	Analyse your Inefficiencies			76
XI.	Be Fair to the Village			84
XII.	Deepen Civic Franchise			90

#### PART I.

#### INTRODUCTORY IDEAS ABOUT MUNICIPAL EFFICIENCY.

Questions for Councillors and Citizens.

1. Oivic Organization.—Has the city been organized? Has it been divided into suitable working units, and co-ordinated for effective collective action ?

2. Scientific Operation.—Is every operation connected with city management and services to be rendered to the city, been analysed, and standardised ? Is an effort being made to find out and build up the science of every such operation ?

3. Scientific Selection.— Are the principles of scientific selection of all men for the duties they are best fitted to discharge, being investigated and duly emyloyed ? Is there an employment bureau trying to list the specific physical and mental requirements for each work?

4. Scientific Training.—Are all employes being con stantly trained to better, quicker and easier methods of doing their alloted work?

5. Co-operation and division of responsibility.—Is there cordial co-operation, and due sharing of responsibility between management and men?

6. Organization.—Has the right kind of organisation been installed in each department?

7. Reward.—Is there rewarding by, results, or seniority, or party preferment ?

8. Are inefficiencies being constantly analysed and eliminated ?

9. Are the villages supporting the city, served and helped in return ?

10. Are there any Social Centres for training citizens for their work of participation in the city government?

## CHAPTER 1. INTRODUCTORY. Fundamentals of efficiency.

#### INFORMATION AND ENTERPRISE.

The improvement of the world, it has been said, depends on exact information and courageous enterprise. The ways of finding exact information, and rendering it available for ready reference, are thus immensely useful to humanity. When we lay our plans on the basis of exact information and courageously carry them out, our intervention becomes successful. The degree of success attained in converting efforts into desirable results measures our efficiency. If then we can march from large efforts and small results to small efforts and large results, we are said to have increased our efficiency.

#### METHOD AND MANAGEMENT.

What then shall we do to get exact information? Pursue the scientific method of investigation, is the answer. How may we get the reasonably attainable maximum of result from our efforts? Make use of Scientific Management, of Efficiency, in the direction of our efforts. Scientific Method and Scientific Mangement, are then the two approaches towards improvement, whether it be in personal, domestic, neighbourhood or municipal affairs.

#### THE SCIENTIFIC SPIRIT.

And what is the scientific method that is to be used for getting the exact information we require for every enterprise? It is the method elaborated by Bacon in his "Novum Organum", the method suggested by Descrate in his "Discourse on Method", the method so notably expunded by Comte in his Positive Philosophy and Positive Polity, called by him the Positive Method. In the words of Prof. Minto, "The mandate issued to the age of Plato, and Aristotle was, 'Bring your beliefs into harmony with one another.' The mandate of the medieval spirit was, 'Bring your beliefs into harmony with dogma.' Then a new spirit was aroused the mandate of which was, ' Bring your beliefs into harmony with facts'." This is the spirit of the Scientific Method.

BACON'S PRESENTMENT.

What in the briefest manner, may we put down as Bacon's presentment of the scientific method?

Spiller in his "New system of scientific procedure" (P 42) summarises Bacon's teaching as follows: "Bacon bids us turn to facts, and cease drawing conclusions from propositions, which have not been established inductively. He insists that all interpretation of nature commences with the senses, and leads from a perception of the senses by a straight regular and guarded path, to the perception of the understanding. Observation should be virtually exhaustive in regard to variety, so far as classes of relevant facts are concerned. We are to observe, and to move step by step, and not to aim directly at distant conclusions; we are to watch for the presence of a quality (e,g, in the example which he takes to illustrate his method "Instances agreeing in the nature of heat") or its absence under certain circumstances (Instances in proximity where the nature of heat is absent); we are to examine the degree of the presence of a quality (The table of degrees or comparison in heat") we are systematically to exclude from the three preceding collections, what is immaterial to the issue ("Exclusion or rejection of natures from the form of heat") and finally we are to formulate a double conclusion, theoretical and practical (First and second vintage). The purpose of Science on the theoretical side, Bacon defines to be, "the

knowledge of causes and secret motions of fings" (New Atlantis) or as he expresses this in another place: "the true and lawful goal of the sciences is none other than this, that human life be endowed with new discoveries and powers" (Novum Organum bk 1, 81.) The method is as we have seen to collect positive, negative and graded instances and then draw theoretical and practical conclusions. This involves a comprehensive and cautious survey of facts, and a systematic elimination of everything that is irrelevant to the matter in hand, a procedure quite the opposite of the all too common practice of cursory observation, chance generalisation, and casual verification.

#### DESCARTE'S RULES.

Let us now take note of Descarte's rules given in his Discourse on Method. He writes, "I-believed that I would find the following four rules sufficient, provided that I made a firm and constant resolve not once to omit to observe them.

"The first was never to accept anything as true, when I did not recognise it clearly to be so, that is to say, to carefully avoid precepitation and prejudice, and to include in my opinion nothing beyond that which should present itself so clearly and so distinctly to my mind that I might have no occasion to doubt it.

"The second was to divide each of the difficulties which I should examine, into as many portions as were possible, or as should be required for its better solution

"The third was, to conduct my thoughts in order, by beginning with the simplest objects, and those most easy to know, so as to mount little by little, as if by steps, to the most complex knowledge, and even assuming an order among those which do not precede one another

And the last was to make every where enumerations so complete, and surveys so wide, that I should be sure of omitting nothing " (p 22 Discourse on Method in Scott Library Series).

COMTE'S CONTRIBUTION.

What in the briefest summary is the Positive Method of Comte? It is the employment of the different methods of investigation developed by the exact sciences. Thus the Positive or Scientific Method is statistical, axiomatic, deductive, and resorts to indirect measurement of magnitudes as in Mathematics. The Positive Method is observational as in Astronomy. It it experimental as in

Physics. It resorts to exact nomenclature, and notation as in Chemistry. It is comparative and classificatory as in Biology and Psychology. It is historical and evolutionary as in Sociology. It is telic, purpositive and has the promotion of human welfare in view as in Ethics. The seven characteristics of positive ideas are that they are real, useful, certain, exact, organic, relative, and sympathetic. Further the Positive Method tries to make helpful and legitimate use of the ascertained laws of all sciences for each science. Thus Mathematics expands and is regenerated by Astronomy, Physics, Chemistry, Biometry, Psychometry, History, and the Ethical attitude of being humanly useful. Similarly Economics should take aid from Mathematics, Physics, Chemistry, Biology, Psychology, and Sciology its general science, and must be guided by ethical motives and have a purposive human welfare outlook.

6

#### SCIENTIFIC MANAGEMENT.

Investigation or collection of exact information should, therefore, proceed according to the Scientific or Positive method, as out-lined by Bacon, Descarte and Com<sup>4</sup>e. Enterprize to be effective must likewise make use of the principles of Scientific Management or Efficiency. My study

### Masters in Scientific Method.

SUMMARY OF THEIR SUGGESTIONS.

BACON.

1561-1626.

- 1. Clear Your Mind of Idola.
- 2. Collect Instances, Positive, Negative, Graded.
- 3. Reject Irrelevant Instances.
- 4. Draw Theoretical Conclusions
- 5. Verify by Application.
- 6. Draw Practical Conclusions.

DESCARTE.

1596-1650.

- Accept Only What You Cannot Doubt.
- 2. Divide Your Difficulties.
- Arrange in a Series from Simple to Complex.
- Enumerate Exhaustively and Review Comprehensively.

#### COMTE.

#### 1798-1857.

- . Employ Deduction as in Math.
- 2. Observation as in Astronomy.
- 3. Experiment as in Physics.
- Have Exact Notation and Nomenciature as in Chemistry.
- Compare and Classify, as in Biology.
- 6. Filiate as in Sociology.
- 7. Consider Ends as in Ethics.

## Masters in Scientific Management.

THEIR SUGGESTIONS 1N BRIEF.

<ol> <li>COMTE</li> <li>Separately Develop Theory and Combine with Practice.</li> <li>Ascertain the Active Aim.</li> <li>Find Social Elements Best Fitted for it.</li> <li>Redistribute Authority and Reform Institutions.</li> <li>Institute Historical Ob- servation.</li> <li>Seientifically Educate All.</li> <li>Perfect Collective Action.</li> </ol>	<ol> <li>Separate Planning from Performance and Combine Them.</li> <li>Find the Science for Every Work or Operation.</li> <li>Scientifically Select the Workmen.</li> <li>Adequately Train Them.</li> <li>Give Them Proper Tools, Conditions and Materials.</li> <li>Divide Responsibility Between Management and Men.</li> <li>Reward by Results.</li> </ol>	<ul> <li>HARRINGTON EMERSON</li> <li>1. Keep and Consult Records.</li> <li>2. Plan and Schedule All Work.</li> <li>3. Dispatch Work as Planned.</li> <li>4. Standardise Conditions.</li> <li>5. Standardise Operations.</li> <li>6. Standardise Practice Instructions.</li> <li>7. Have Definite Ideals.</li> <li>8. Test by Common Sense.</li> <li>9. Consult Competent Counsel.</li> <li>10. Discipline to Conform to Conditions Required.</li> <li>11. Give and Demand Fair Deal.</li> <li>12. Gain Efficiency Reward.</li> </ul>
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of Comte has shown me that he was a pioneer in enunciating the principles of Scientific Management too, though he did not live to write his great work on the organisation of human industry, where he would doubtless have developed these principles in detail. We have however a good first statement of principles in his essay on scientific works required for the regeneration of society. Fredrick Winslow Taylor, the modern apostle of Scientific Management has given us a statement of the principles of scientific management in his work bearing that title. Harrington Emerson has given us an amplified statement of these in his work known as " Twelve Principles of Efficiency." I must content myself with a bare statement of the principles of efficiency enunciated by these great minds, and hope that the earnest enquirers will study first hand, in detail, the writings of these pioneers in the application of scientific principles to the management of human effort.

#### COMTE ON REGENERATION.

Comte bent on regenerating human society enunciated the scientific operations necessary for that purpose, which to my mind constitute a first enunciation of the principles of scientific management or efficiency. The efficiency principle of planning is thus stated by him. "Each complete human operation, from the simplest to the most complicated, whether executed by an individual or a multitude, is unavoidably composed of two portions; in other words gives rise to two kinds of

8

considerations; in other words gives rise to two kinds of considerations; one theoretical, another practical, one concerning the conception, another the execution. The former necessarily precedes the latter which it is destined to guide. In other words all action presupposes antecedent speculation."

"In the earliest infancy of the human mind, theoretical and practical labours are executed by the same person for all operations. Yet this circumstance while rendering the distinction less evident, does not affect its reality Soon however these two classes of operations begin to disengage themselves, as demanding different, and in some respects contrasted capacities and training. As the collective and individual intelligence of the human race begins to develop itself, this separation becomes more and more pronounced and general. and constitutes the source of new advances. The degree of a nation's civilisation, philosophically considered, may be readily measured by the extent to which Theory and Practice have been separated and harmonised; for the grand instrument of civilisation consists in the Division of Labour, and the Combination of Efforts. (p115 Comte's, Early Essays, Harrison.)

The further hints that can be gathered from the same chapter for effective organisation of human efforts are, firstly the ascertainment of the active aim of a social system; secondly finding out the social elements and forces best fitted for carrying out that aim; and thirdly the necessary redistribution of authority and reform of institutions. Finally he says there are three series of works that are required to be executed for the reorganisation of society. "The first series aims at forming a system of historical observations upon the general progress of the human intellect, destined to become the positive basis of politics, thus wholly freeing it from a Theological or Metaphysical character and impressing on it a Scientific character."

"The second series seeks to establish a complete system of Positive Education, adapted to a regenerated society, constituted with a view to action upon Nature; in other words it aims at perfecting such action, as far as it depends upon the faculties of the agent.

"Lastly the third series embraces a general

exposition of the collective action which civilised men, in the present state of their knowledge, can exercise upon Nature, so as to modify it for their own advantage, directing their entire forces to this end, and regarding social combinations only as means of attaining it." As will be seen by comparing these with the Principles of scientific management as laid down by Tayor these rules run parallel to his principles, and thus Comte anticipates the modern efficiency movement by fully eight decades.

#### TAYLOR'S PRINCIPLES.

The four great principles of Scientific Management as stated by Taylor are :--(1) The development of a true science of each and every work or operation. (2) The scientific selection of the workmen (3) His scientific education and development. (4) Intimate friendly cooperation between management and men.

"As contrasted with the prevailing methods of doing things managers under scientific management take new duties on themselves.

"Firstly they develop a science for each element of a man's work which replaces the old rule of the thumb method. The person actually doing a piece of work, the common labourer does not know the law that governs the production of the best results from his efforts. He is equally unable to know the science of what he is doing. So the management help him by finding the best, easiest, and quickest way of doing the particular thing."

"Secondly they scientifically select and then teach and train the workman, whereas in the past he chose his own work, and trained himself as best he could." There is a good deal of waste on acount of misfits. The idea seems to be that one man is as good as another, in the world of labour, just as that out of the ordinary methods of doing a work, one method is just as good as another. This is a fallacy. We find different capacities and aptitudes, different qualifications in different men, and we select the best man for the work i,e, the man best fitted to do the work, looking to his physical constitution, his mental make up. Then we are to train him in the best method of doing the work.

"Thirdly, they heartily cooperate with the men so as to ensure all the work being done in accordance with the principles of the science which has been developed." The management has to provide not only the right sort of training but the right kind of tools, and the right sort of conditions for getting the best results.

"Fourthly there is an equal division of works responsibility between the management and the workmen. The management take over all the work for which they are better fitted than the worker, while in the past the workman had all the responsibility."

All this requires the kindly cooperation of the management, and involves a much more elaborate organisation and system than the old fashioned gang system. The organisation consists of one set of men, who are engaged in the development of the science of labouring through time study, another set of men mostly skilled labourers, who act as teachers and help and guide men in their work, and a third set of toolmen who provide the workmen with proper implements and keep them in perfect order. Another set who plan the work well in advance, move the men with the least loss of time from one place to another, and properly record each man's working."

"The cooperation aimed at in this type, aims at helping each man individually, studying his needs and shortcomings, teaching him better and quicker methods and seeing that all other workmen help and cooperate with him, by doing their part of the work right and fast."

#### EMERSON'S ANALYSIS.

Now how have the principles of Efficiency, been stated by another great exponent of Efficiency, who has done the greatest amount of work in popularising its great message? I refer to Harrington Emerson, the author of the 'Home course in Personal Efficiency.' Efficiency, he defines, as the physical and mental ability to take the best, easiest, and quickest ways to the desirable things in life. He then divides Efficiency principles into practical principles of efficiency and ethical principles of efflciency. According to him the practical principles of efficiency require, that in order to find out and take the best, easiest and quickest ways to the desirable things in life, or to doing any work, it is necessary that :---1. We must make use of immediate, reliable, adequate and permanent records. 2. We must make a definite plan of all we desire and want to do. 3. We must make schedules based upon standards for employment of our time, materials, equipment and energy. 3. We must make a habit of dispatching all operations. 5. We must make a rule to standardise all conditions. 6. We must make time and motion studies and standardise all operations. 7. We must make study, and follow written standard practice instructions.

The ethical principles of Efficiency according to Emerson are that in order to find and take the best, easiest and quickest ways to the desirable things of life, 8. We must have clear, and definite *ideals* of what those things are. 9. We must measure and test every means used for attaining, achieving and acquiring them, by the standard of *common sense*. 10. We must seek and follow *competent counsel*. 11. We must *discipline* ourselves into active harmony with the principles, laws, and rules governing those things. 12. We must give and demand the *fair deal*. 13. We must eagerly desire, earnestly seek and insistently demand for ourselves, our *efficiency reward*.

Analysing these principles further, we find the practical principles of efficiency really require us to "*Plan our work and work our plan*" Without a plan, a man is not able to do his best and utmost work; similarly also a municipality or a society working without planning, or planning and not carrying out the plan is sure to remain backward. But the plan must be based on accurate investigation of facts, on adequate and reliable records. The plan must be itemised or detailed, else it will not be workable

The ethical and psychical principles of efficiency require that the ideal or goal must be defined, must be eagerly desired, and that we must be fair to ourselves and others, make the best use of our wits and get help from those that are most experienced and then regulate our conduct in conformity with the ideals.

## CHAPTER II. MUNICIPAL EFFICIENCY.

The message of Efficiency is simple, yet how sublime! It is essentially finding and taking the best, easiest, and quickest ways to doing the work that an individual or corporation is responsible for. The well doing of what needs be done, is the aim of Efficiency. Taylor, the pioneer in the field of industrial efficiency aptly named it 'Scientific Management'. Efficiency is the scientific management of human endeavour, so as to render efforts more fruitful of desirable results. Municipal Efficiency, is thus scientific management of municipal endeavour, of municipal activity, so as to lead to greater and better municipal achievement.

#### HUMAN WELFARE.

Those interested in human welfare, will be keenly interested in Municipal Efficiency. Are not Municipalties, comprehensively organised agencies of human welfare? Does not the city government touch more people, at more points, and more frequently, than any other branch of Government? How great, indeed, are the welfare opportunities of a Municipality! It can make of the city a garden or a grave. Well managed, the city may become prosperous, cultured and capable of conserving and promoting all life values. Ill-managed, neglected, corrupt, wasteful, and inefficient, the city may seriously diminish possibilities of employment for its citizens, curtail their opportunities for culture, destroy or retard all life values.

#### MAHATMA'S WORDS.

The following words of Mahatma Gandhi are worth recalling in the present connection: "If we cannot regulate the affairs ef our cities, if our streets are not kept clean, if our homes are dilapidated and if our roads are crooked, if we cannot command the services of selfless citizens for government, and those who are in charge of affairs are neglectful or selfish, how shall we claim large powers? The way to National life lies through the cities". He goes on to say: "the plague has found a home in India. Cholera has always been with us. Malaria has taken an annual toll of thousands. The plague has been driven out from every other part of the world. Glasgow drove it out as soon as it entered. In Johannesberg it could appear but once. Its Municipality made a great effort and stamped it out within a month, whereas we are able to produce little impression upon it. We cannot blame the

government for this state of things. In reality we cannot make our poverty answerable for it. None can interfere with us in the prosecution of any remedies we might wish to adopt"

#### SURVEY TO SERVE.

Many are the opportunities for welfare effort presented by our cities. We need every where cooperative effort to promote community welfare. Each and every city must study its special requirements and shape its programme accordingly For that we need careful surveys of every city. The city surveys carried out by some cf our cities and towns, are merely land surveys. For effective service programme we need not merely land surveys, but economic and aesthetic surveys, educational and hygienic surveys, religious, social and political surveys of each and every ward in each and every town and city. Thus, for instance, in Karachi we have 54 members representing 201,634 persons. In round numbers each one of them represents about 4000 persons, or 800 families of 5 each. How many of the members know the living conditions and possibilities of the 800 families each of them represents? How does each item in the agenda affect the welfare of those one represents? It is only coordinated and enlightened

effort on the part of municipal members that will redeem our cities from reproach of backwardness.

ATTAINABLE IMPROVEMENTS.

Not only do we need correct and comprehensive knowledge of the conditions of those whom we represent, but we have to further bring to our task a vision of the reasonably attainable improvements and the way in which similiar achievement has been attained elsewhere. Everyone admits that a doctor in order to do efficient service requires much more than mere good intentions. He needs specific training and study. To be a good lawyer one similarly requires a course of study and training. Is Municipal work so simple, then, that it requires no study, training, preparatory and continuous effort for its proper discharge? To honestly discharge one's duty to the city, is if anything a harder and more complex work than that of the lawyer or doctor The fact that it is unpaid service. does not do away with the law of all successful effort being necessarily founded on adequate factual and scientific basis as well as the requistite sympathy.

BASE SERVICE ON SCIENCE.

Municipal effort, then, to be fruitful, needs to
be based on Municipal science. The Municipal Councillor must know how the difficulties and problems facing him have been successfully solved elsewhere. The two suggestions that emerge as primary recommendations for improving municipal efficiency are thus firstly an intensive survey on the part of each member of the quarter and families he represents, and an insistance on wider and more comprehensive city serveys as a preliminary to city improvement, and secondly a study of at least half a dozen good books on municipal science as a basis for better service to the city. Here are the names of a half a dozen of the best books known to the writer. Perhaps the best single book on the subject is by Zueblin, entitled 'American Municipal Progress,' published in the Social Science Series by Macmillan, New York. A second one very inspiring is Pollock and Morgan's 'Modern Cities,' published by Funk and Wagnallis, London. The whole list of books in the National Municipal League Series, by Appleton, New York ought to form part of every municipal library. Two out of the series may be mentioned, one by lames on Municipal Functions, and another by Henry Bruere on 'The New City Government.' Two more to complete the half dozen may be: Organising the community' by MacClenhan in

the Century Social Science series, New York, and 'Town Planning in Madras' by Lanchester. Of course a knowledge of Municipal Law is also required, but that is a thing known and perhaps the only thing known. Every Municipality should possess a decent collection of books on Municipal topics, selected from the excellent bibliographies given at the end of some of the books I have suggested. Besides that, Municipalities ought to exchange administration reports with similary situated and like sized sister municipalities, and a comparative study of what others are doing is bound to prove highly suggestive.

## CHAPTER III. ORGANISING A CITY.

## How CITIES GROW.

Cities of old were slow organic growths, if they were not the creations of a conqueror, in which case too they were orderly. The seaward pull of commerce, now, plants quick growing cities, which are neither organic growths, nor orderly laid out wholes, but ill-coordinated deposits of people attracted by the opportunities for employment, and assorted by nearness to their places of work, or worse still by economic pressure. In modern cities upon the sea, one therefore finds different elements of population, often mixed pellmell with no uniting bond of blood, neighbourhood, occupation or common purpose. Byron's epithet of "peopled desert" is often true of larger parts of these sea-side cities. They present the sad spectacle of human isolation and anonymity. Very few dwellers in the city know their next door neighbours, or take interest in each others' welfare. The lack of neighbourly warmth often drives the worker to the drinking saloon, sends the quill driver to the cinema, or leads to other objectionable ways of spending one's leisure. A

new adjustment is therefore needed to make city life sweet and wholesome for the multitudes drawn into its vortex.

## CALL TO CITIZENSHIP.

In what way may life in different city localities be improved, thus becomes an important problem for students of social welfare. How raise the level of neighbourhood life, not only for a few choice neighbourhoods, but for all neighbourhoods? This is the call to citizenship, in the modern sea-side city such as Karachi is. The way to visualise a city is to picture it as a neighbourhood of neighbourhoods, just as the way to conceive of a neighbourhood is to consider it as a "family of families." To organise a city is to organise all its neighbourhoods, its different classes of family groups, for maximum mutual welfare.

### NEIGHBOURHOOD.

And what is a neighbourhood? It may be a group of families dwelling on opposite sides of the same street. It may be a group of similar dwellings, clustered within five minutes walking distance. Any way a natural neighbourhood is a distinguishable patch, possessing some common structural, communal, or occupational features, limited by the range of frequent face to face, direct, primary, personal

contacts. If we were to construct a civic table it would run somewhat as follows. Sixty to a hundred families make a neighbourhood, several neighbourhoods make a quarter, several quarters make a city. The most convenient unit of organisation in a city would thus appear to be a neighbourhood. It was a practical philanthropist, Chalmers, who said, "Man will at length learn to be more practical and less imaginative. He will hold it to be a worthier achievement to do for a neighbourhood, than to devise for the whole world" Chalmers enunciated this 'principle of locality' in welfare work, he divided his parish into neighbourhcods, assigned a residential elder to look after the spiritual interest, and enlisted the help of all men of good will in each neighbourhood, as a staff of volunteer assistants

#### ORGANIZE THEM.

Organise all the neighbourhoods, link up the neighbourhood organisations and you have organised the city. But how organise the neighbourhood? Settle in it, or look about the one in which you are settled. Survey it, serve it, and invite the different elements to contribute their quota in making the neighbourhood fairer, happier. Here is a call to active citizenship, to utilise the social settlement idea, to employ the technique of social survey, and frame and carry out adequate programmes of neighbourhood service.

## SETTLEMENTS.

Now what is a settlement? It is residence within a more or less shattered, neglected, disorganised neighbourhood, (of which there are so many in sea-side cities of new growth) with a view to sharing one s noblest gifts, with the less favoured neighbours, and gladdening them and guarding them against human weaknesses, guiding them to help themselves to better, and more organised neighbourhood life. The aim of the University settlement, its first type, was to form between the scholar and the toiler the tie of the neighbour. It may be conceived as a missionary corps. It suggests a scheme of moral defence against internal friction, class cleavages, and other disruptive forces within a community. It is not the monopoly of a special creed. 'It provides for no apostles. It relies solely on a discipleship, pledged to a new way of life.'

## WORK TO BE DONE.

Thus Karachi with its over two lakhs of population, would have about four hundred neighbourhoods of a hundred familes each. Had we four hundred residents of good will, settling in different neighbourhoods, surveying them, and serving them, uniting them for mutual welfare, we shall he able to organise this city.

Here is an opportunity for ministry of culture and good-will open to all educated and sympathetic souls. Could friends of this type gather to gether they would soon collect or develop further details about the working of social settlements, the conducting of neighbourhood surveys, and the programmes of service open to educated men of good will. If India is to make quick progress, such work is required for every city and every village in this vast land of ours.

26

# CHAPTER IV. BUILD UP THE SCIENCE OF Every operation.

#### BUILD UP SCIENCE.

The first great principle of scientific management as stated by Mr. Taylor, is the building up of a true science for each and every work or operation to be performed. We are told, "as contrasted with the prevailing methods of doing things, managers under scientific management take new duties on themselves. They develop a science for each element of a man's work, which replaces the old rule of the thumb method." The person actually doing a piece of work often does not know the laws that govern the production of the best results from his efforts. He is equally unable to know the science of what he is doing. So the management help him by finding out the best, easiest and quickest way of doing the particular thing.'

#### THE WAY TO DO SO.

How is the best, easiest, and quickest way to be found? Here are the directions of Taylor for developing the science of every work. Writes he, "The steps in developing the science of any work or operation are :---

1st. Find out 10 or 15 different men who are skilful in doing a particular thing to be anaylsed. (observe accurately the existing varieties and conditions.)

2nd. Study the exact series of elementary operations, which each of these workmen uses in doing the work which is being investigated as well as the implements. Dissect every work into its elements or parts. Observe each element separately.

3rd. Study with a stop watch the time required to make each of these elementary movements and select the quickest way of doing each element of the work.

4th. Eliminate all slow and useless movements.

5th After doing away with unnecessary movements collect into one series, the quickest and best movements, as well as the best implements. The best method then becomes the standard. ["Principles of Scientific Management" p. 118]

MOTION AND MOTIVE STUDIES.

These are what are known as time and motion studies. But the conception of the development of a science is far reaching. Materials and machinery studies, arrangement and movement of materials and tools, best working conditions, and motive studies, rest and fatigue studies have all to be conducted to build up the science of each and every operation.

#### LIST AND SERIATE OPERATIONS.

It will thus be seen that the first requirement of municipal efficiency is to list and seriate the operations required to be performed by a municipality. A good general idea of these can be gathered from the headings given in statement number III, in the Annual Resolution reviewing Municipal Taxation and Expenditure. The items are grouped mainly under five heads, namely general administration and collection charges, expenses on public safety, on public health and convenience, public instructions and miscellaneous. Under general administration and collection charges again we have such items as, office establishment, inspection, honorary magistrates' establishment, collection of taxes including bonded warehouses, collections of tolls on roads and ferries, survey of land, pensions, annuities etc. Each of these operations needs again to be broken up into elements and the best. easiest and quickest way of performing those elements studied. Under public safety we have such operations as fire appliances, lighting, electricity, police, destruction of wild animals, etc. Public health and convenience operations are subdivided into water supply, drainage, conservancy, health officer and sanitary inspectors, hospitals and dispensaries, plague charges, vaccination, markets and slaughter houses, ponds, dak bungalows, arboriculture, public gardens, veterinary charges, registration of births and deaths etc. Then we have public works also included under this item, subdividing into establishment, buildings, roads, stores etc. For all these suitable units have to be fixed, and standard specifications, and cost per unit operations have to be determind and frequently applied for purposes of comparison. Then we have the item public instruction, which subdivides into schools and colleges, contributions, libraries, museums, ctc. Then there are miscellaneous items which have to be suitably classified and analysed, for determination of standards. Municipal research is needed along all these lines and substantial economies will certainly result, if a fact basis is provided for result-getting and result-judging in these operatious. General comparisons show wide variations in the per capita cost of these services in different cities. The cities that show the

lowest per capita and unit service cost should be specially studied for helpful suggestion. Thus may we build up gradually a science of municipal operations.

## STUDY MUNICIPAL CODE.

Another way of listing and seriating the operations of a municipality, is by consulting the municipal code and analysing the obligatory and optional duties of municipalities, as given in sections 54 and 56 of the District Municipal Act. Analysing municipal functions given there we find that they can be conveniently grouped under the headings of care and provision of public streets, provision for public safety, public health, and public education. Under the care and provision of public streets we may group such municipal duties as street lighting, street watering, street sweeping, removing street obstructions, naming streets, laying out new streets, constructing and repairing streets. Under public safety we may group such municipal duties as provision for extinguishing fires, regulating dangerous trades, removal of dangerous buildings, destruction of dogs and dangerous animals, contribution towards police upkeep, and establishment of honorary magistrates, etc. Under public works we may

group such duties as contruction of tanks, wells, culverts, public buildings, the provision for maintaining a healthy and adequate water supply, provision for drainage, sewage disposal, etc. Under public health the municipality has such duties as registration of births and deaths, adequate provision for public vaccination, provision for public hospitals, inspection of food supply, provision for parks and playgrounds, care of trees and gardens, epidemic relief and famine relief work, regulation of burning and burial grounds, etc. Under public education we have the mainttenance of primary schools, furthering educational objects, publicity of administration reports, taking a census, making a survey, holding public exhibitions, or public reception.

### ESTABLISH STANDARDS

For each of these we require to establish standards of best, easiest and quickest ways of doing these things, best materials, processes, products, quick inspection, standard unit cost etc. These standards can be worked out only cooperatively and comparatively and gradually only can we get to reliable rules for guid ance and judgment for all these operations. A list of such standards established in different areas will help the different Municipalities to measure how far they are discharging the different operations economically and efficiently. They will only then be able to detect, locate, and eliminate, wastes going on in city work, so that from the economies effected, greater and better service might be rendered. In short we want not more government in business, but more business in city government. "No city can sustain a progressive programme which does not sedulously check waste in every department." Were the forty lakhs that are annually spent by Karachi, for instance, spent with the efficiency which Ford exercises in his far larger works, we shall be able to have less loss of life, greater and better provi ion for health and education, greater and better business and employment possibilities, and greater and better welfare all round Hence the need and appeal for building up the science for every operation.

## CHAPTER V. SELECTION & TRAINING OE ALL MEN.

#### SELECT AND TRAIN.

The first principle of scientific management, of efficiency, is, as we have seen, the effort to develop a science for each element of an operation or function that has to be performed, to replace the old rule of the thumb method. The second principle according to Taylor is to "scientifically select, and train, teach, and develop the workman where as in the past he chose his own work and trained himself as best as he could." Since City improvement results from the combined efforts of citizens, municipal councillors and municipal staff, care has to be exercised to select the right sort of men for the different services that have to be rendered, and train them for the work they have to do, to educate and develop their innate capacity for the tasks entrusted to them.

## AVOID MISFITS.

There is a great deal of waste going on in our cities, on account of misadjustment between function and capacity, and the consequent number of misfits. The idea seems to be, that for several jobs one man is just as good as another, just as it is also popularly supposed that one method of doing an operation is just as good as another. We find different capacities, different qualifications in different men, aud we must select the best man for each work, just as we must select the best method and the best tools for doing it. The physical constitution and the mental make up of employees needs to be tested. Having selected the right man for each job, he is further to be helped to employ the right methods of doing the job.

## NINE QUALITIES

Taylor gives us the following list of "nine qualities which go to make up a well rounded man: Brains, Education, Special technical knowledge, Skill or strength, Tact, Energy Grit, Honesty, Judgment or common sense and Good health. Plenty of men who possess only three of the above qualities can be hired at any time for a labourer's wages. Add four of these qualities together and you get a higher priced man. The man combining five of these qualities begins to be hard to find, and those with six, seven or eight are almost impossible to get" (Shop Management p. 96) Having this fact in mind we have to look to the knowledge and qualities called for each and every operation and see that high quality men are not employed on low quality jobs, nor low quality men on high quality jobs, for there is waste either way.

## PHYSICAL & MENTAL TESTS

The principles of scientific selection and training may first be applied to municipal staff. The physical qualification tests may be carried on by the medical officer and intelligence tests may be carried on by the professor of psychlogy in the nearest college. This will give an impetus towards creating a branch for vocational testing, and the city would advance by conservation of experience in that direction. If we test before we train, a good deal of wasted training would be saved "When the United States of America entered the great war, one of the first steps taken was to mobilise the experimental psychologists of the country to grade the population according to their intelligence" What America did for war work may well be done for peace work, and with very good results. Their Alpha and Beta series of intelligence tests devised for testing the mental ages of literates and illiterates will be useful for a mental survey not only of municipal staff, but gradually of the whole city population, for determining the quality of citizens in different cities.

#### SOME BOOKS.

As helpful towards starting thought in these directions the following books may be provided in Municipal and College libraries: Yoakum and Yerkes. "Mental tests in the American Army." Kemble, "Choosing employees by tests." (Industrial Management Library) James Drever, "The Psychology of Industry".

With the help of the study and experience along these lines we may gradually work our way to what Drever points out, (viz) "(1) adequate specification of the physical and mental requirements of the various (municipal) tasks, (2) tests sufficiently comprehensive and sufficiently delicate and accurate to give us reliable indications regarding the corresponding capacities of human beings."

Mr. Bruere in his "New City Government" states this principle of municipal efficiency in the following terms:—"One of the standards of Municipal efficiency, is efficiency of *personnel* conceived of as a *specially trained*, *specially minded*, *skilfully directed and permanently employed* corps of municipal workers, to man the organisation and to devise, supervise and employ methods to execute an efficient programme of service." By this test may Municipalities see how far they are efficient.

#### TRAINING OF CITIZENS.

For an efficient municipality we need not only to select and train the staff, but to select and train each citizen for the service he can do best towards the city, and likewise to select and train the Municipal Councillors for their work. For improvement we want in the words of Bruere, "Efficient citizenship equipped through intelligence regarding citizen reeds and armed with facts regarding government conditions and results, to cooperate with public efficials in enlarging the usefulness of government and ensuring its adherence to established standard of efficiency." For promoting a self evolving cycle of efficient citizens, we should try to bring the voters together oftener than once in three years as at present. Citizenship is not exhausted by meeting once in three years and registering one's vote in favour of some one. The electorate has to be educated. This can be done by holding weekly meetings of the voters in each ward, for free discussion of ward conditions, grievances and improvements. The primary schools may be utilised for the purposes of such voters' meetings as they

are done in America. The abilities and intelligence of different citizens may thus be enlisted for better discharge of neighbourhood needs. A greater interest may thus be created, and a new zest added to many a life. India is at present in the state of domestic consciousness. To bring her to the stage of civic consciousness we need some such endeavour. From the voters' meetings also we shall discover the number of fit candidates for future selections. A broader basis will thus be provided for municipal endeavour.

#### TRAINING OF COUNCILLORS.

Best municipal councillors, thus elected by the slow continuous test of interest in civic welfare, may further continue their self-training by joining together to form civic study circles, by trying to build up the science, and establishing standards and tests for different municipal functions. They may also cooperatively survey the needs of the city and plan for a wider programme of service, comparing their success with the work of sister municipalities. Thus may be started an agency for better selection and training of municipal councillors as well.

## CHAPTER VI. CORDIAL COOPERATION.

## HEARTY COOPERATION

Build up the science, or in other words find the best, easiest and quickest way of performing each operation, that is the first step towards greater efficiency. And the second step we have seen is scientific selection and training of each member of the municipal staff for his work, selection and training of each and every citizen for his appropriate advisory and active duties, and a consequent better selection and training of the representatives returned. The third principle of efficiency according to Taylor is that the management should "heartily co-operate with the men so as to ensure all the work being done in accordance with the principles of the science which has been developed." (Principles of Scientific Management, p 36).

#### PLANNING PROGRAMMES.

The type of relationship as between management and men, exists in the municipality, firstly between municipal directives and municipal exe-

cutives, secondly between municipal councillors and municipal directives and finally between citizens and municipal councillors. Hearty cooperation to get the work done in the best, easiest and quickest way is therefore required between these three directive agencies and the workers they direct. The superior staff, like the Chief Officer, the Chief Engineer, the Health Officer the Education Secretary etc., have to help the workers under them, so that each one of those workers may carry out his duties according to the best developed and recorded practice instead of rule of thumb. These high functionaries have to plan every operation exactly as it should be performed, have constantly to be on the look out for and eliminate wastes of every kind in the operations with which they are connected and thus give a lower unit cost per service rendered.

ESTABLISHMENT OF STANDARDS.

The Municipal councillors have to see that these standards are established by the staff for each and every work, they have to heartily cooperate with them, in the establishing and maintaining of these standards for different orders of service to be performed. Cooperation between them and the staff takes the shape of laying down general policies, and framing suitable welfare programmes for the city and seeing that they are carried out.

WELFARE PROGRAMMES.

"The community inevitably relies on cooperative action through its organised agency for relief from common evils." "According to Bruere the welfare program of an efficiently governed city includes for all citizens such simple prerogatives of citizenship as:

Personal and community healthfulness.

Equitable taxation for community benefits. Purposive education.

Protection from exploitation by tradesmen, landlords, and employers.

Prevention of injury to person and property. Adequate housing at reasonable rents.

Clean, well paved, and well lighted streets. Efficient and adequate public utility service. Abundant provision for recreation.

Prevention of destitution caused by death, sickness, unemployment and other misfortune.

Publicity of facts regarding municipality's programme, acts, and results.

The councillors, cooperating with the expert

staff have to see that these ideals of city government are progressively realised in their own city. As these ideals are visualised in detail for the whole city and each ward, a better state of things can be gradually brought about. Then only may the municipality perform the services for which it stands.

### COUNCILLORS AND CITIZENS.

In addition to the cooperation between councillers and superior staff, there is required close, constant, and sympathetic co-operation between the citizens and their representative councillors. I have already suggested weekly meetings of voters in different primary schools to discuss ward problems, and ward grievances and find a way out for their solution. Such social centres in each ward are now a common feature of many American municipalities. India may profit by that example in interesting citizens in city welfare. Monthly reports of various branches of municipal activity may be graphically exhibited and discussed at these citizen meetings. Gradually the intelligent citizens may come to include in their intelligence some idea as to what is going on in the city hall. More light may be focussed on the city budget, with a view to greater economy and efficiency.

Self interest, civic pride, social interest and public spirit, lying latent in many a citizen, will come to the help of city welfare when such voters' meetings in different wards become the rule. A great deal of voluntary help will thus be at the disposal of municipal administration for better civic government. The avenues for citizen cooperation have to be widened by and for the citizens. To vote once in three years is not to discharge the duty of citizenship adequately. Each citizen must realise his responsibility if things are wrong with his city. Each educated man, each doctor, each pleader, each preacher, and teacher must keenly question himself if he is taking as much interest in civic welfare as he should or could If the citizens are indifferent or unintelligent the city will not be very high in efficiency. If the trained talent of a city is interested only in personal and domestic affairs, city efficiency cannot be high It is the right and sacred duty of every citizen to take a worthy part in city government, to look to the promotion of general welfare as best as he can. This sacred duty is most highly obligatory on those who have enjoyed a greater share of the cultural opportunities that the city affords. It is by close and constant cooperation of this sort that the citizens can be trained for self government in all spheres.

### A MAYOR'S HINTS.

Citizen cooperation alone can utilise opportunities which confront efficient city government, which the mayor of an American city thus summarized :---

"The opportunity to guard and promote the health of the community. The opportunity to enlarge the scope of education until it includes men and women in a continued process of increasing enlightenment. The opportunity to study means of establishing economic security (minimizing unemployment). The opportunity to achieve economy and efficiency."

The mayor recommends as first steps towards this end, health measures which advanced city governments are increasingly adding to their programmes. These steps include:—

"Making the health department an educational power to enlighten through lectures, demonstrations and exhibits, the people of the community, about conditions which are at the root of disease.

Employing maternity and infant nurses, trained as social workers, to teach expectant mothers proper hygiene during the lying in period and watching and reporting on the health of children, until the time of their entrance into school.

Conducting rigid inspection, by qualified physicians, of the physical condition of school children, and following up as we'l as reporting upon all cases of deficiency and illness.

Inspecting living conditions not only for cleanliness, but to demonstrate through trained social workers, how, even under the difficulties of poverty, a minimum of decency may be attained.

Recognizing tuberculosis as a social disease and working towards its prevention by utilizing the resources of society.

Inspecting and controlling the milk supply. Providing play grounds and other means of recreation."

Such are some of the things that citizens can cooperatively bring about. Will the voters come together by communities and localities in different wards, and study how fast the members of their community or locality are dying and how by cooperative action death and disease rates for their community and locality may be reduced? That is the work before them.

## CHAPTER VII. SHARING OF RESPONSIBILITY.

#### DIVISION OF RESPONSIBLITY

The essence of efficiency as we have seen lies, firstly, in the development of a true science for each and every operation, secondly, in the scientific selection of each man for the work for which he is best suited, and his scientific education and development, thirdly, in intimate friendly cooperation between management and men and finally, in equal division of responsibility between management and Taylor thus states this final principle. men. Under scientific management "there is an almost equal division of the work and the responsibility between the management and the workmen. The management take over all the work for which they are better fitted than the workmen, while in the past almost all of the work and greater part of the responsibility were thrown up on the men."

## SCIENTIFIC MANAGEMENT

"The philosophy of management of the old or 'initiative and incentive type', makes it necessary for each workman to bear almost the entire

responsibility for the general plan, as well as for each detail of his work, and ir many cases for his implements as well. In addition to this he must do all of the actual physical labour. The development of a science on the other hand, involves the establishment of many rules, laws, and formulas which replace the judgment of the individual workman and which can be effectively used only after having been systemetically recorded, indexed etc. The practical use of scientific data also calls for a room in which to keep the books, records, etc. and a desk for the planner to work at. Thus all of the planning which under the old system was done by the workman, as a result of his personal experience, must of necessity under the new system be done by the management in accordance with the laws of the science; because even if the workman were well suited to the use and development of scientific data, it would be physically impossible for him to work at his machine and at a desk at the same time. It is also clear that in most cases one type of man is needed to plan ahead, and an entirely different type to execute the work."

"The man in the planning room, whose speciality under scientific management is planning ahead, invariably finds that the work can be done better and more economically by a sub-division of the labour; each act of each mechanic, for example, should be preceded by various preparatory acts done by other men. And all of this involves, as we have said, an almost equal division of the responsibility and work between the management and the workmen."

A bridge, or a house is planned before it is erected. This saves wastes and rejected work. In the more complex problems of human endeavour it is found that a higher efficiency can be attained by first maturing the conception before the execution is undertaken. The planning is thus separated from the performance and perfected before the performance is entered upon. Planning and performance it has been found require contrasted capacities, and those who apply mental power to planning aright, may not have the muscular power to carry out the physical execution of the work. A new efficiency thus results in human affairs, when the theory and planning of each function is first carefully developed, and the practice afterwards harmonised with the theory then evolved. Plan your work and work your plan is the very essence of efficiency. The management must develop the theory of every work, scientifically analyse each operation, plan

it according to the science developed, provide the proper conditions, and proper implements, and proper standard instructions for the performance of each operation. That is the responsibility that falls to the share of the management Under this conception we see that the management may be at fault, and responsible for failure as much as the men, who are generally the only ones blamed in case of failure.

For an efficient municipality, then, we require that each element should share the responsibility for the part it has to perform. Municipal efficiency may be low because the citizens may not be doing their part, or because the councillors may not be doing theirs, or because the higher staff does not manage scientifically, or because the workmen do not work properly. The total municipal efficiency thus depends on the relative efficiency of each of these four factors. The responsibility is divisible between them all.

### THE CITIZENS' PART.

Now what is the citizens' part in Municipal failure or Municipal success? Not surely merely voting once in three years as at present supposed. The citizen makes the city. The noble citizen makes the noble city and the city in turn increases the

nobler parts of his nature. The selfish citizen makes the corrupt municipality. The negligent citizen begets a backward municipality. The citizen and and the city inter-act regeneratively or degeneratively. Better that they should act regeneratively, the city renewing the citizen and citizen the city, rather than each corrupting the other. The citizens' part it is to give constant attention to his neighbourhood, quarter, ward and city. Sometime every week he must think of the welfare of those around him and how it may be helped by his participation in thought, word or action. Let the voters meet in each ward, and begin to think how to make their ward the most beautiful, healthy, hap, y and holy, how to shake off and lessen its shan e, sickness, sadness, ignorance, or poverty We require citizen-leaders outside the municipality a. w ll as inside it The candidates, who stood up for different wards and could not get inside the municipality, may work outside to serve the general interests of the ward they wanted to serve. Thus only can they prove their sincere desire for se vice, and not merely for personal prestige. Let all bring their gifts to the service of the city, be they the capaci-. ties for street cleaning, or tree planting, or serving the sick, or teaching the illiterate, or comforting the sick and sorrowing. It is for the citizens

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to aspire for the highest they want expressed in the city, to express their needs, and discover and utilise their citizen resources. Theirs it is to desire and discover the possibilities around them, and help to make the better city.

## THE COUNCILLORS' PART.

What is the councillor's part? Briefly it is to design the city's future, to discuss how to realise the aspirations of the citizens, to think out how to utilise the paid effort of municipal staff and the maximum of volunteer effort of citizens that may be enlisted in the city's welfare. They are the spokesmen for their respective wards; on them lies the responsibility of thinking out ways and means for realising the aims of citizens, of diminishing the pain and privations of the people in their ward, and enlisting their enthusiasm. Theirs it is to see that standards are established and maintained for each and every operation that needs to be performed by the Municipal staff and employees, and that the comparative unit cost, and per capita cost for each service rendered is the lowest and the quality of the service rendered is the highest. Maximum service for minimum cost is to be the ideal to be progressively realised by the councillors. The city is a sacred trust, the home of their homes, the family of all families, and they as the representatives for all are to see that death and disease are being successfully combated, that health and happiness are being progressively increased. They have to maintain constant and close contact with their voters on the one hand and municipal workers on the other, so that the public needs of the citizens may be fully satisfied.

#### SUPERIOR MUNICIPAL STAFF.

What is the part of the superior municipal staff? It is theirs to efficiently carry out the policies laid down by the councillors. It is theirs to analyse, and use more and more of their brains to see how to give better service at lower cost, to standardise and organise all functions, to help actual workers with best tools, best working conditions and standard practice instructions, to thus save wasted or unnecessary effort on their part They fail, if they do not select proper men for different tasks, if they do not get things done in time, and most economically. True are the words of Ford : "Some employers (managers) are not fit for their jobs. The employment of men--the direction of their energies, the arranging of their rewards in honest ratio to their production and to the prosperity of the business-is no small job. The unfit employers cause more trouble than the unfit employee "(Life and Work p. 260). Thus a municipality is efficient in the measure in which the workers do their part, the managers their own part, the councillors theirs, and lastly the citizens their own. The responsibility rests on all, and all must share the shame or glory, and try to do better if they want to create a nobler city.

54

## CHAPTER VIII ORGANISE THE WORKING FORCE.

We have so far considered the principle of investigation, survey or study to build up the science of every operation, secondly the principle of selecting and training the right man for the right work, thirdly the necessity of cordial cooperation, and finally the right sharing of responsibility by the different elements, the citizens disclosing what they want, the councillors framing policies, the directives planning what is to performed and providing right materials, conditions, tools etc, and the doers doing according to the plan. But for doing, what needs to be done, efficiently, according to the above principles, we require a different sort of organisation from what is usually found in municipal management.

#### ORGANISATION AS ARRANGEMENT.

Let us consider the fundamental principles of organisation and then see what kind of organisation we need for greater efficiency. Organisation is nothing but the arrangement of different components that contribute to a common result. And different arrangements of the same elements yield different results. To take a familiar instance,
given a carriage, three men and a horse, if we put the carriage and the men on the back of the horse it may not be able to move; but put the men on the carriage and the horse can pull them with ease. A horse can in this way pull a good deal more than it can carry. Similarly we know in chemistry, isomeric compounds have the same elements but differ in properties, because of the different ways in which the elements are arranged within the compound. Or take again the elements, 1, 2, 3. These, as will be seen, admit of six different arrangements and yield six different results. We may arrange them as 123, or 231, or 321, or 132, or 213, or 312. In each case they yield a different result because of altered location and relationship, So in a working force, though the components be the same, results may vary greatly on account of difference of location and relationship.

## ORGANIZATION TYPES

The mind of man feels, thinks and acts, and groups of man have organised differently for achieving these ends of feeling, thought and action. Different types of organisation have thus evolved, which may be clearly understood in terms of these primary categories of the mind of man. Thus the

council, committee or parliamentary type of organisation is primarily for discovering, and aligning the feelings, and the underlying interests of the participants. It serves to discover how a proposition arouses the sympathy or antipathy of different interests. The differing attitudes are then partly modified and harmonised by discussion. As a thought organisation, the council type is not so effective as the scientific type which proceeds by investigation and demonstration, rather than by debate or discussion without data. For purposes of thought a committee of a few well informed is better than a council or assembly of many ill informed, but both are inferior to the scientific type which discovers truth by investigation and gains adherents by demonstration rather than by discussion or disputation. In organisations of effort whether they be of the military type or industrial type, the element of the scientific type of organisation has been incorporated and styled as expert staff, advisory in its nature, but not madatory.

# MILITARY OR LINE TYPE.

The military type of organisation is evolved from the gang with a leader, and shows centralisation of authority, and insists on unquestioning obedience. It is a standing example of efficiency of a regimented group, how when many act as one, they can destroy or overcome a disorganised mass many times their number. The military type is dictatorial, and can get things done quickly. It is technically known as the "Line" type of organization, in which every one carries out the orders of his superior. The Line type of organization is autocratic and links the units by a chain of command. It is an organization of effort by force or orders. Most of the businesses have simply adopted this autocratic type. Others have added committee methods of control. Most of the municipalities have come to this level only.

TAYLOR'S FUNCTIONAL TYPE.

But scientific management has discovered a new type of organization, styled by Taylor as the Functional type. This "introduces two broad and sweeping changes in the art of management

"(a) As far as possible the workmen, as well as the gang boss and foremen, should be entirely relieved of the work of planning, and of all the work which is clerical in its nature. All possible brain work should be removed from the shop and centered in the planning or laying out department, leaving for the foreman and gang bosses work strictly executive in its nature. Their duties should be to see that the operations planned and directed from the planning room, are promptly carried out in the shop. Their time should be spent with the men, teaching them to think ahead, and leading and instructing them in their work.

"(b) Throughout the whole field of management, the military type of organisation should be abandoned, and what may be called the "functional type" may be substituted in its place "Functional management" consists in so dividing the work of management that each man from the assistant superintendent down shall have as few functions as possible to perform. If practicable the work of each man in the management, should be confined to the performance of a single leading function.

"Under the ordinary or military type the workmen are divided into groups. The men in each group receive their orders from one man only, the foreman or gang boss of that group. This man is the single agent through whom the various functions of the management are brought into contact with the men. Certainly the most marked outward characteristic of functional management lies in the fact that each workman instead of coming into direct contact with the management at one

point only, namely through his gang boss, recieves his daily orders and help directly from eight different bosses, each of whom performs his own particular function. Four of these bosses are in the planning room and of these three send their orders to and receive their returns from the men usually in writing. Four others are in the shop, and personally help the men in their work, each boss helping in his own particular line or function only. Some of these bosses come in contact with the men only once or twice a day and then for a few minutes perhaps, while others are with the men all the time, and help each man frequently. The functions of one or two of these bosses requires them to come in contact with the workmen so short a time each day, that they can perform their particular duties perhaps for all the men in the shop and in their line they manage the entire shop. Other bosses are called upon to help their men so much and so often, that each boss can perform his function for but a few men, and in this particular line a number of bosses are required, all performing the same function but each having his particular group of men to help. Thus the grouping of the men in the shop is entirely changed, each workman belonging to eight different groups, according to the particular functional boss whom he happens to be working under at the moment." Thus Taylor found helpful in a machine shop to have four executive functional bosses, and four planning functional bosses in the planning room. The titles of the executive bosses are (1) gang bosses (2) speed bosses (3) inspectors, and (4) repair bosses. The bosses in the planning department are named (1) order of work and route clerk, (2) instruction card clerk, (3) time and cost clerk, and (4) shop disciplinarian. A brief description of their duties may be found at pp 100-103 of Taylor's "Shop Management," from which the above description of 'Functional Management," has been set forth in the founder's own words.

## BRAHMAN TYPE OF ORGANIZATION.

The different types of organization may best be associated with the Hindu scheme of human classification We have thus the Brahman type of organization, the organization of thinkers and seekers after truth, exhibited in the Budhistic Sanga, the monastic corporations of medieval monks, the investigative type of organization of the scientists, an organization of thought based on the principles of freedom rather than force, the binding element being pursuit of an ideal according to a peculiar discipline. This is the "staff" element in modern organization, investigative and advisory, but non-dismissable, and not caring to fawn, flatter, or force, like the senses in the human organism, informing but not coercive.

## THE KSHATRVA TYPE.

In sharp contrast to this stands the Kshatrya or Military type of organization, an organization based on force rather than freedom, on command rather than counsel. It is the organization of action rather than thought, of excution rather than mere conception. This is known as the "Line" type of organization, autocratic in form, with its established chain of command. Of the units in such an organization it has been said :---

" Their's is not to question why,

"Their's is not to make reply,

" Their's is but to do or die."

This is the organization of the unthinking mass, human automatons drilled through fear, and led to acts despicable or noble, as the leader wishes. Contrasted with the Monastic type, the coefficient of consent in the Military type is the least, while the coefficient of coercion is the greatest. All autocracies and tyrannies are partial to this type, they get things done, but at what human cost!

#### THE VAISHYA TYPE

There is then the Vaishya type of organisation, which in its lower forms is based on fraud or flattery, on cunning and contract rather than coercion, but which in its highest type may reach the ideal "functional management" fitting every one into where he can function best, and investing him with authority only so far as he is able to function properly. This is the organisation of productive effort. The units are bound by a unity of aim, through all their diversity of effort. It embraces the whole of society in unconscious cooperation. It leads to division lof labour and distribution of function. Perfected, it is the great hope of mankind. This Mercantile form of organisation stands midway between the free association of the Monastic type, and the forced association of the Military type. At its best it is the exponent of 'from every one according to his capacity.' The binding element is a fair exchange useful to both sides, provided it has been free from its characteristic vice of fraud.

#### THE PACHAYAT TYPE

Finally there is the Panchayat type of organization. Contrasted with the military it is demooratic, rather than autocratic. It believes in discussing out differences, rather than fighting out