

MUNICIPAL EFFICIENCY

(WITH SPECIAL REFERENCE TO THE BOMBAY PRESIDENCY)

BY

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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 leisure 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 branch 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 Shriyut 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 them, I respectfully dedicate this volume.

Pherwani House
Shikarpur, Sindh.
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S. N. PHERWANI.

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PART I.

Introductory Ideas About Efficiency.

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PART I.
INTRODUCTORY IDEAS ABOUT MUNICIPAL
EFFICIENCY.

Questions for Councillors and Citizens.

1. *Civic 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 employed? Is there an employment bureau trying to list the specific physical and mental requirements for each work?

4. *Scientific Training.*—Are all employes being constantly trained to better, quicker and easier methods of doing their allotted 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 Management, 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 Descartes in his "Discourse on Method", the method so notably expounded 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 things" (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 Descartes'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 preception 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 is 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, purposive 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 Sociology its general science, and must be guided by ethical motives and have a purposive human welfare outlook.

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 Comte. 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.

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

COMTE.

1798-1857.

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

Masters in Scientific Management.

THEIR SUGGESTIONS IN BRIEF.

COMTE

1. Separately Develop Theory and Combine with Practice.
2. Ascertain the Active Aim.
3. Find Social Elements Best Fitted for it.
4. Redistribute Authority and Reform Institutions.
5. Institute Historical Observation.
6. Scientifically Educate All.
7. Perfect Collective Action.

TAYLOR

1. Separate Planning from Performance and Combine Them.
2. Find the Science for Every Work or Operation.
3. Scientifically Select the Workmen.
4. Adequately Train Them.
5. Give Them Proper Tools, Conditions and Materials.
6. Divide Responsibility Between Management and Men.
7. Reward by Results.

HARRINGTON EMERSON

1. Keep and Consult Records.
2. Plan and Schedule All Work.
3. Dispatch Work as Planned.
4. Standardise Conditions.
5. Standardise Operations.
6. Standardise Practice Instructions.
7. Have Definite Ideals.
8. Test by Common Sense.
9. Consult Competent Counsel.
10. Discipline to Conform to Conditions Required.
11. Give and Demand Fair Deal.
12. Gain Efficiency Reward.

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 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 civili-

sation 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 Taylor 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 account 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 efficiency. 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 *stand-*

ardise 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 back-

ward. 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 Municipalities, 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 of 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 Johannesburg 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 of 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 similar 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 requisite 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 insistence on wider and more comprehensive city surveys 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 James 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 similiary 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 neighbourhoods, 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 neighbour-

hoods of a hundred families 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 be 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 together 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.

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 analysed. (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 determined and frequently applied for purposes of comparison. Then we have the item public instruction, which subdivides into schools and colleges, contributions, libraries, museums, etc. 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 operations. 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 construction 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 maintenance 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 co-operatively and comparatively and gradually only can we get to reliable rules for guidance 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 provision 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 OF 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, and 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 psychology 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 *specialty trained, specialty 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 needs, and armed with facts regarding government conditions and results, to cooperate with public officials 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 councillors 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 well 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 RESPONSIBILITY

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 men. Taylor thus states this final principle. 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 in 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 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, happy and holy, how to shake off and lessen its shame, sickness, sadness, ignorance, or poverty. We require citizen-leaders outside the municipality as well 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 service, and not merely for personal prestige. Let all bring their gifts to the service of the city, be they the capacities 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

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.

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 be 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 regimen-

ted 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, receives 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 hap-

pens 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 KSHATRYA 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 execution 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 of 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 democratic, rather than autocratic. It believes in discussing out differences, rather than fighting out

differences. It believes in counting of hands, rather than breaking of heads. It is the parliamentary representative type, that decides by discovering differences of interest, and trying to meet the situation by compromise. It is the organization of talk, rather than that of action, or thought, or production. Within its limits it is very useful, as it anticipates issues and clears them up. But sometimes the talking fraternity forget that words cannot do duty for works, that labour saving inventions, and the greatest achievements of every type of genius have not been and could not be the outcome of votes. Committees, conferences, congresses, assemblies and parliaments have a critical corrective, constraining, and propagative function, but they cannot create. They focus divergent views, and thus disclose the weak points of individual impulse, or interest. Often times they are simply strogolds of sectional views, rather than truly representative.

THE SCIENTIFIC TYPE.

Enough of the philosophy of organization. The best organization will unite the virtues of each type, without the peculiar vices to which each of these is prone. Thus the municipalities seem to have enough of the committee type, and

enough too of the autocratic line organization. They lack in elements of the scientific or investigative side, and in application of the principles of functional management. These elements should be introduced if greater efficiency is to be attained. Taylor's emphasis on functional management was right in a pioneer of that element, but efficiency engineers, who have taken up his work, have realised that the other types have also a place in a perfect or ideal organization. Thus Knoeppel in his excellent book "Installing Efficiency Methods" points out:—"Consideration shows the engineer that the existing organization which he calls the "Line" is too busily engaged in performing the various duties in connection with its regular work to devote painstaking and comprehensive attention to the factors mentioned. It must be properly assisted and, to this end, he decides to create an organization to be known as the "Staff"—advisory in nature and without jurisdiction over any of the line officials. Its chief function is to analyse and point out the road to business efficiency. The task of *attaining the ideals pointed out is the function of the Line.*

STAFF AND LINE.

"Before taking up the matter of welding staff

and line to make an efficient machine, which will produce the results possible, the work of the staff should be fully outlined under the following headings:— 1. Study division. 2. Planning division. 3. Standards division. 4. Bonus division. 5. Analysis division.”

After organizing the staff as outlined above, Knoepfel suggests that the line organization should be maintained intact, but the line activities should be functionalized as follows :—

“ Engineering and Drafting, Planning Conditions, Operations, Materials, Relations and Incentives.” These are the different functions that should be provided for. To relate the Staff organization to the Line organization thus functionalized, Knoepfel suggests that “Arrangement should be made for the consideration of all important matters, by both staff and line, along such legislative or committee lines as to render it difficult to determine where staff advice ends and line acceptance begins”. (168) He thus provides for one general coordinating Executive Committee, an engineering and drafting committee, a planning committee, a conditions committee, an operations committee, materials committee, and relation and incentive committees. It will thus be seen how he tries to find a place for all types of organization.

EMERSON ON ORGANIZATION

Harrington Emerson, another great Efficiency expert, in an article contributed to the "Industrial Management" thus outlines the requirements of a perfect organization :— " A perfect organization requires, 1. Staff mandatories, who order, not merely advice, as to righteousness, hygiene, information, competency, adaptation.

2 Creation of equipment by staff mandatories, and guided by the wishes of the organising owner.

3 Creation of the department of upkeep and growth (working continually and automatically at low tension like digestion).

4 Appointment of staff of counsellors for the executive (like the senses).

5. Selection of a supreme coordinating executive (who lives detached like the head, listens to the counsellors and decides).

6. Selection of an adequate line under restrictions imposed by the staff mandatories (like the legs, arms, hands and feet. These work strenuously for a short time and rest).

The supreme principle of sound organization is, having due regard for the moral law, let the

workers be adequately sustained, yet wisely directed, and supremely counselled." When will our municipalities realise the economy of high wages, provided the management selects properly, provides correct conditions, and methods and appliances. Ford has proved that high wages are compatible with low unit cost and cheaper and greater service. Will the Municipalities adopt business methods for rendering greater and better service?

CHAPTER IX REWARD BY RESULTS.

TASK AND BONUS.

When every task connected with Municipal service has been scientifically studied and standardised, when the men best suited for each service have been selected and trained, when cooperation between all the working units has been secured, when the management division duly plans, and the working division duly performs services as planned, when the working forces have been organized, to keep every one performing his part of the service at his best, we need to introduce the principle of rewarding by results. Efficiency carries on not only time and motion studies, but motive studies as well, to afford adequate incentives to stimulate every one to do his best. It is the idea of efficiency to "give each man the highest grade of work for which his ability and physique fit him. It requires that each man should turn out the maximum amount of work which a first rate man can do and thrive on. And that working at the best pace he should be paid 30 per cent to 100 per cent beyond the average of his class." (Shop Management, p. 29) So important is this principle of

Efficiency, that Scientific management has been called by Taylor as "Task and Bonus" type of management. The philosophy of the "Bonus" is that, with most men, personal ambition is more powerful as a motive than social service, and that reward in order to be effective should be immediately and daily perceptible rather than remote. Hence, the highest type of management would be one which unites "high wages with a low labour cost" and renders most economical service. Taylor believes that "this object can be most easily attained by the application of the following principles :—

(a) A large daily task :—Each man in the establishment, high or low, should daily have a clearly defined task laid out before him. This task should not in the least degree be vague nor indefinite, but should be circumscribed carefully and completely and should not be easy to accomplish.

(b) Standard conditions.—Each man's task should call for a full day's work, and at the same time the workman should be given such standard conditions and appliances as will enable him to accomplish his task with certainty.

(c) High Pay for success.—He should be sure of large pay when he accomplishes his task.

(d) Loss in case of failure.—When he fails he should be sure that sooner or later he will be the loser by it”

To stimulate activity to the fullest in the labourer, a sound thinker like Comte, the pioneer in the field of social science, surprisingly enunciates the same principles as the Efficiency experts of to-day. He thinks that there should be an irreducible minimum living wage for every worker, and that besides that there should be a variable portion of the wage, rewarding the worker by results. Knoeppel, Emerson, and Ford, also recommend this plan of wage and bonus. Ford has gone perhaps the farthest in this line. He insists that this flat wage should also be very high. He has in his works proved the economy of high wages, for the lowest wage that he pays is a six dollar wage and a bonus according to daily results, and life at home. And yet with the highest wage he has been systematically reducing the labour cost per unit of output and consistently cheapening the price for the purchasing public. The ideal of efficiency is thus to give the highest wage and yet get the most economical service, through putting more brains in the management.

REWARD BY RESULTS.

The principle of rewarding by results, stands

in sharp contrast to the prevailing principles of rewarding by custom, or by seniority, or by political preference. At present the highest services usually go by political preference, the clerical services are managed on the principle of seniority, and the wage earning classes are rewarded according to local custom, which keeps slowly adjusting to price levels. For introducing greater fairness, and stimulating the best efforts in all services, we need to make greater use of the principle of rewarding by results. The reward may take the form of promotion for the paid services, and public recognition and esteem, in the case of honorary ones. The principle is the same, its application has to be suitably modified in different cases. Increase of efficiency is bound to result through the adoption of this principle, as supplementary to, or in place of the prevailing principles of rewarding service.

To be efficient, our municipalities must reward their paid workers by results. The unpaid workers, whether counsellors or citizens, have also to be rewarded by results. For each paid worker a large daily task, and daily and weekly reminder whether he has performed it fully or partially, and a reward in proportion to the results seems to be

the ideal. Any worker who performs less than half the standard task is clearly in the wrong place and needs to be changed to some other task. Upto two thirds of the standard task the flat rate obtains. Beyond that point the worker is stimulated by a bonus in proportion to his efficiency so that there is always an incentive to make him do his best. Any one of the standard systems, whether Emerson's, Gantt's or Knoeppel's may be studied to advantage and adopted where it will be likely to yield good results. The higher workers get their efficiency reward according to the percentage of efficiency the workers in their departments maintain. There are certain failures due to faults in the management and for them the management gets the discredit. So that the management as well as the men are kept mindful of their proper duty.

REWARD FOR COUNCILLORS.

Standards need to be set up for the service of the councillors. The time, and talent they devote to work, the useful suggestions they put forth, the number of meetings they attend, need publicity and recognition. The voters in each ward need to know what their representatives are doing and express approbation or disapprobation, as the conduct of their representatives merits.

Thus through public praise may the ward voters enthuse their representatives, and stimulate them to better service. Once in three years contact is not enough, an interest in the doings of the elected members should be maintained, if efficiency is to be increased.

DUTY OF VOTERS.

Similarly the voters too must have certain standards, of sustained interest in city welfare, created and established for themselves. In their weekly meetings in each ward they need to discuss their ward problems, and place volunteer service at the disposal of their representatives. Presence at the ward meeting, and participation in welfare programmes ought to be rewarded with additional voting power and absence or apathy result in deprivation of voting power. Some such policy is needed to awaken sustained citizenship, instead of apathetic indifference that we at present have. With the voting power goes a responsibility of interest in public welfare. Certain minimum standards of seeing that such interest exists and is kept up, need to be worked out, if people are to be educated in citizenship. This will be a great instrument of adult education. In the weekly voters' meetings will be provided an outlet for the civic

enthusiasm of those who had stood up as candidates, but could not gain entrance in the municipality, because after all only a restricted number can get in. Here too we may develop a higher type of civic membership which simply does its duty without seeking the stamp of elections. Here will be an examination ground for aspirants after municipal membership, and here will be gained the education necessary for adequately representing the interest of different localities as well as the city. Electoral rolls will be examined here, and the real voters in the community discovered, and trained. Voters and candidates too should therefore be rewarded by results, if a municipality is to be efficient.

CHAPTER X ANALYSE YOUR INEFFICIENCIES.

INEFFICIENCIES.

One of the ways of increasing efficiency is to analyse inefficiencies, to find out the weak places and dissatisfying elements, and find out definitely how to do away with them. As Knoepfel writes on page 212 in his "Installing Efficiency Methods." "The first consideration should therefore be an outline of the elements which in industry are responsible for inefficiency, this serving as the basis for determining what to analyse." Let us take up these items one by one and see how far we may apply them to municipal affairs. Here are the items.

1. DELAYS.

"Regardless of their nature, delays mean a loss of money. They interfere with the attainment of the highest efficiency. As most of them can be eliminated, study of their causes is worth while." Municipalities should realise how far they are helping or hindering building efforts, how much time they take in disposing of applications

for building or improvement, and how much time they take in disposing of proposals on the agenda. A time limit on the disposal of all kinds of work would improve dispatch and provide standards against which the work of the Municipality may be measured from month to month.

2. REJECTIONS.

"Rejected work is waste of the worst kind, the elimination of which will mean a greater production, hence the necessity for closely analyzing rejections." A list of rejected constructional work, or partially carried out schemes, will be a great eye-opener against ill-advised steps.

3. CHANGES IN MANUFACTURING.

"Schedules have to be revised. Machines broken up because of rush orders, incomplete or delayed designing, rejections or other causes. Loss is the result in each case, no matter how small it may be. Search light should therefore be put upon this feature." In municipalities changes in the mode of service of different items may cause analogous losses. And such changes should therefore be analyzed.

4. IDLE EQUIPMENT TIME.

"The object of every progressive manager is

to keep his equipment working as continuously as possible. Idle machines mean that the share of overhead which would ordinarily be absorbed by them, must be borne by those that are working. They also mean loss in production. The aim is to find out why, and what will keep them running." An inventory of municipal buildings and equipment, with the number of hours each is used, will reveal what may be done in this direction. Thus most of the school buildings lie unoccupied and unused during Saturday after-noons and Sundays and during vacations. They can be used for purposes of night schools, free lectures, civic clubs, social and recreational work, voters' meeting places etc.

5. INEFFICIENCIES OF MANAGEMENT.

"Inefficiency beyond the control of workmen, is something that should be closely watched, for so long as it is in evidence, maximum results are out of the question." The usual practice is to blame the under-dog for all failures, and claim all the credit for success. Efficiency requires division of duties and responsibilities between management and men, so that it does take into account cases where the management is at fault. If the plan is faulty, or the proper materials or tools have not

been supplied to the workmen, the blame is with the management, and not the men.

6. INEFFICIENCY OF WORKMEN.

"What was said with reference to the inefficiency of the management, applies to the workmen as well"

7. CHANGE IN THE OPERATION OR TASK SCHEDULES

"When changes are necessary in the tasks set before the men, the real reasons ought to be investigated in order to reduce them if possible to a minimum." The idea is to study every operation so thoroughly, and plan so carefully, that very few changes may thereafter be required. There may be a hundred different ways of doing the thing, but only one of them can be the best, easiest and quickest, and that having been found, frequent changes become unnecessary."

8. PURCHASE FAILURES.

"Waiting for material purchased is one of the most annoying things to contend with and is a much larger factor in manufacturing than many have an idea of. It means delayed deliveries, rush and hustle, loss of business, night and Sunday work, interference with plans made, and numercus

extra changes. Such a form of waste needs looking into." In municipalities too purchases of stores should be according to standard specifications and the deliveries secured in time, otherwise unnecessary trouble is bound to occur.

9. DELAYED DELIVERIES.

"Failure to deliver as promised, is always detrimental to business success. The reputation for prompt delivery is the desire of every concern. The aim is therefore to watch this in an effort to improve the deliveries so as to enable the concern to retain the good will of the trade." This applies to municipalities as well, with reference to the services they render.

10. FAULTY MOVEMENT OF MATERIAL.

"Managers fail to realise how easy it is to waste money in moving material. The loss is greater than usually appreciated. To carry materials long distances in piece-meal fashion is certainly not efficiency. Analysis is the only thing which will discover this loss." If the course of a single letter be traced from the time it is received to the time it is dispatched, it will be realised how zigzag its travel is and how several to and for motions can be avoided by a rearrangement of the office

tables. Similarly in removing material from one place to another, if the removal is done by hand instead of by basket, or by basket instead of by a wheel-barrow, or by a wheel-barrow instead of by a cart, or in a cart instead of by lorry, or by a circuitous path instead of by a direct, straight-line path, there is wasted movement.

11. POOR ARRANGEMENT OF EQUIPMENT.

“While the desire of every manager is to have his equipment placed with reference to the most efficient practice, cases are many where it is improperly located. The efficiency of each unit may be high, but when inter-relation is considered, loss due to faulty arrangement is apparent. This is another excellent field for analytical work.” Oftentimes the schools are not evenly distributed in the different localities, some localities are well served and others are starved. So also with dispensaries. In municipal workshop and municipal stores, the same thing is also found. Here is a useful hint to set the managers a-thinking.

12. COMPLAINTS.

“The study and analysis of complaints that can be secured from men or foremen will in many cases lead to the uncovering of sore spots which

can be healed. While many men are unreasonable, the majority do not kick without having something to kick about. Where there is smoke there is fire, and analysis aims at finding out the fire." Municipalities may learn much from the nature and frequency of complaints against municipal services. Efficiency aims at securing the greatest satisfaction to all concerned. If that be wanting, there is something wrong somewhere.

13. LACK OF CO-OPERATION

"Success in increasing efficiency is largely dependent on securing the full co-operation of men and shop management. If there is an absence of this essential, the engineer should know it, and why." Co-operation in the municipal employees, and between the employees and the councillors, and between the councillors and the citizens is essential to Municipal efficiency. Citizenship is a training in co-operation and absence of it shows that something needs to be altered.

14. FAULTY PLANNING.

"Anything that interferes with the most efficient planning will cause loss, confusion and delays. As these are the very things that the engineer must eliminate if his work is to be successful, he

will have to find the faults preparatory to elimination." There is very little planning in our municipalities. Drift and haphazard are observable in most of them. Hence avoidable loss, confusion and delays. Plan your work, and work your plan, is of the essence of efficiency.

15. CONGESTION AT MACHINES.

"This often holds a shop back and blocks progress. Whether the trouble is lack of equipment or fault of the shop, is something the Engineer can only ascertain through analysis." If there is congestion of work in any department, either the staff is idling, or insufficient. Anyway, matters need looking into. Whatever disturbs smooth, even working, and leads to overloading or idling of any part of the working force is an undesirable condition so far as efficiency is concerned.

Here then are suggestions for analysing the various inefficiencies, and bettering the efficiency of any municipality, and seeing if it has an alert membership, and active citizenship, or trained management. Great will be the losses that can thus be saved. We can then increase wages, give greater service, reduce taxes, and establish lower unit and per capita cost for services rendered.

CHAPTER XI. BE FAIR TO THE VILLAGES.

FAIR DEAL.

One of the ethical principles of efficiency is the principle of the fair deal. Unfairness leads inevitably to degeneration and death. So it is with the city. The city is supported by its surrounding villages. It draws its food from them. If it does not support the villages in turn with its cultural efforts and products, if the city does not do its duty by the villages and allows them to lead diminished lives, it is not discharging its function, and it must pay the penalty in degeneration.

UNFAIRNESS OF CITIES.

Most of our cities are diseased collectivities, because they violate this fundamental law of fair deal, of mutual aid and reciprocity. They draw their natural products and food-supplies for the body from the villages, but do they make an adequate return in the shape of manufactured implements for the villagers' work, and cultural help for the villagers' mind? The cities take too much from the country-side and return too little, with the result that a double disaster is

created. As my friend, Prof. Vaswani, put it in the course of conversation, 'the cities are suffering from dropsy and the villages from consumption.' Yes, the cities are bloated with easily diverted supplies of food, and the villages drained of all active men, and with their food supplies sucked by cities that forget to help them to produce more, are suffering from a sort of consumption.

FORGOTTEN VILLAGES.

I often wonder how utterly forgetful we city-dwellers are of the existence of the villages on which we feed. Thus in the Karachi district, the gazetteer tells us, there are, besides Karachi, 4 towns and as many as 660 villages. How many of the citizens of Karachi would be able to name the villages round about Karachi? How many have entered into sympathetic relations with them? Morally, Karachi is responsible for raising the productive and cultural level of the four towns and 660 villages that are found in the district. Does it raise their productive and cultural level or depress it? Let it beware, otherwise degenerative nemesis is bound to overtake it.

DO THE RIGHT.

It is a truth, biological no less than moral,

that rise in the scale of superiority of the type, goes with increasing rectitude of function. So long as the city does not discharge its legitimate functions, we cannot expect to get superior types of cities. City life will not be sweet and sane if it fails to discharge its debt to the villages surrounding it, the villages that should be its care, since they are the seed-bed from which it draws its material and human products. As Reinheimer puts it —“Symmetry of structure is reached only through a legitimacy of life, through a complete discharge of duties requisite in the division of labour.” Cities are at present parasitical, and disclose a diseased structure.

HOUSE THE VILLAGER

What then may the city do, to discharge its debt to the villages? One of the sins that most of our cities suffer from is that they draw more males than females. If by hospitality of housingaccomodation it could draw its workers in families, instead of dividing and breaking up family life for them, it would be less sinful, and more sweet. The unnatural requirements of the army of fighters quartered in barracks, create as a natural corollary a brothel, and affects public morality, spreading disease and death. The army

of workers, too, through lack of legal responsibility on employers, suffers from lack of hospitality on the part of the city and is barracked still worse. Thy city should do something to provide against this invasion of males without females and females without males. The Bombay municipality requires a minimum surface area of 75 feet for a horse stabled in the city, $62\frac{1}{2}$ feet for each buffalo, 50 feet for a bullock, but only 25 feet for man! Many a man has worse accommodation than a horse in our cities. Besides, the horse is stabled generally on the ground floor, and the working man may be stabled in several stories, one above the other. Those who attract labour have no corresponding responsibility laid on them by conscience, or custom, or law. Ample dwelling provision for full family of every worker attracted or employed should be the rule of a civilised city. Thus alone would the city be able to show proper hospitality to children of the village which it draws into its vortex, often ruthlessly to destroy.

HELP THE FARMER.

Beside fulfilling its housing obligations, what else may a noble city do towards the villages that surround it? Should it not carry on experiments in its laboratories for helping the farmer to increase

his food crops? Should it not share its cultural products with the villagers, by sending some of its best educationists to the village every vacation a corps of travelling teachers? The city must feed the mind of the villager as the villager feeds the bodies of the citizen. The citizen should devise and supply better farming implements to lessen the drudgery and monotony of agricultural life. He should plant cottage industries to occupy the spare months of the villager. In short, he should help his village brother with his brain-power and manual-and machine-dexterity to make life more happy and harmonious for him.

VISIT THE VILLAGER.

What else may the citizen do privately and in groups? Why, he may start visiting the villages during holidays, cheer up his village brother with picture and song, enter into his difficulties, and see how they may be overcome. This commerce of goodwill between the city and the country will alone integrate the region, and make the villager appreciate the life and labour of the man behind the plough. Such visits to the village will afford a healthy outing and will thus be useful for the body and brain, as well as character of the citizen.

SURVEY AND SERVE.

A survey of the needs of the surrounding villages will disclose various avenues of service, for which individual or organized effort may be enlisted. Travelling libraries are needed as well as travelling teachers, travelling medical and malarial relief, in fact a knitting together in bonds of brotherhood of both the villager and the citizen. Thus alone can both progress, otherwise they may both deteriorate and decay, for want of sympathetic contact and the understanding and the mutual aid it breeds. Let the cities then look after the villages around them, and pass on the best in them to their sacred trust, the villages around them

CHAPTER XII. DEEPEN CIVIC FRANCHISE.

DEEPEN THE FRANCHISE

It is good that Municipal franchise has been widened. In terms of the Government resolution steps have been taken in several municipalities "to enfranchise a considerably larger portion of the population of each Municipal District by reducing the qualifying tax." I wish it should be widened still further, so that residence and age should be the only qualifications necessary to entitle one to take interest in civic affairs. But side by side with efforts at widening the franchise should go efforts at deepening it. What do I mean by deepening the franchise? Just this, that the individual vote be more intelligently exercised, that the voting citizen be trained to take more systematic and sustained interest in the welfare of his city. Now, how can this be brought about? It can be brought about by adopting the foremost social invention of democratic America, in each and every one of our cities. It can be brought about by having in every neighbourhood an institution "wherein voters may and will gather of right, across all different lines of opinion, creed and

income, upon a common ground of interest and duty, simply as neighbouring citizens."

As Woodrow Wilson has put it, "It is necessary that simple means should be found, by which, by an interchange of points of view, we may get together; for the whole process of modern life, the whole process of modern politics, is a process by which we must exclude misunderstandings, bring all men into common counsel and so discover what is the common interest..... There is no sovereignty of the people, if the several sections of the people are at loggerheads with one another. Sovereignty comes with co-operation. You say, and all men say, that great political changes are impending in this country. Why do you say so? Because everywhere you find men determined to solve the problem by acting together, no matter what older bonds they may break, no matter what former prepossessions they may throw off, determined to get together."

THE SOCIAL CENTRE IDEA.

This is how Wilson spoke about citizen organization, and the use of the school house as the neighbourhood centre of this all-inclusive association. This is what is known as the Social Centre Idea, an idea which we need to employ/

every city, if we want to deepen the franchise. Civic consciousness has hardly developed amongst us, even among the educated. With most of us citizenship means only voting once in three years. If our citizenship is so low, we can hardly complain, with any reason, of the bad state of things we find around ourselves. We find around us that private interests are organised and therefore get things done, while public interests are not organised. "Only when citizenship is organised will the public interest be conserved in our cities." In the words of William Fowell. "If democracy is to survive and provide good government, it must become organic, constitutionally organic. Electors must be visibly and physically associated, and possess an apparatus by which they can co-operate effectively." For this they need a common gathering place, where they may meet periodically. Now such a place is the primary school, distributed throughout the city, a convenient meeting place for local voters.

BOMBAY SHOULD LEAD.

How then ought we to deepen the franchise? By converting every primary school, in every municipality, into a meeting place for voters, say once a week every Sunday, or Saturday afternoon.

We have about three hundred municipal schools in Bombay. If we could get together and organize the voters at these three hundred different centres we would be educating the citizens to citizenship in a way not realised so far. Our citizenship would not then be a matter of voting once in three years, but a real active participation in the deliberations of our neighbourhood and city welfare. A body of intelligent public opinion would thus be created which would result in better municipal management. If each municipal councillor here organizes three primary schools in his ward in this way and gets together voters and interests them in their local and civic problems, he would be deepening the franchise, and helping materially towards better citizenship. And if Bombay sets the example other cities will follow.

AN EDUCATIONAL FORCE.

There is great deal of enthusiasm about adult education. This ideal of promoting Social Centres for voters throughout the city will be found to be a real step towards better adult education as well. For here the educated can make their learning interesting by linking it up with local problems and the pressing needs of the

people. This will stir up thought. Again the Social Centre lends itself to the uses of a branch traveling library for Sunday issue of helpful literature in every locality. If only the hundreds of municipal schools could be used for the purpose of adult education in this way, and for thus deepening the franchise, a great step shall have been taken. Those councillors who feel interested in exploring the great possibilities of the wonderful social invention, will find stimulating material in the book upon the subject entitled "The Social Centre" written by the pioneer of this movement, Edward Ward, published by Appleton in the Municipal National League Series. They will find the book in the Wacha Collection for Municipal Councillors kept in the Bombay Corporation Chamber. Those outside Bombay should order that book for their Municipal library and study and propagate this great idea and thus deepen the franchise, and train people to use their vote, and use their local government for the promotion of greater public welfare. Will the councillors do it?

PART II.

Six General Tests.

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PART II.

SIX GENERAL TESTS.

Questions for Councillors and Citizens.

1. *The Survey Test.*—Has there been a comprehensive and careful survey of the peculiar needs and available resources of the community and the city ?

2. *The Service Programme Test.*—Has there been framed an adequate service programme, based on ascertained needs and available resources ?

3. *The Standard Methods Test.*—Have the best, easiest and quickest methods been discovered and developed, and consistently employed for every item in the service programme ?

4. *The Adequate Organisation Test.*—Have all the working resources and forces been duly classified and arranged, and organised for the carrying out of the service programme ?

5. *Trained Personnel Test.*—Is the personnel “specially trained, socially minded, skilfully directed, and permanently employed to devise, supervise and carry out”* efficient methods to execute the programme of service?

6. *Active Citizenship Test.*—What percentage of the total citizens has been selected, influenced, and trained to take enlightened and sustained interest ?

* (See Bruere's, *Now City Government.*)

CHAPTER XIII. MUNICIPAL EFFICIENCY IN THE BOMBAY PRESIDENCY.

MUNICIPALITIES ARE WELFARE AGENCIES.

Municipalities are the organised agencies for city wide welfare. So far as the cities are concerned Municipal government touches 'more people, at more points, than either the Provincial government or the Central government. If the efficiency of these agencies of human welfare be increased, and civic enthusiasm enlisted for the work, we shall be training the future democracy of India in a way which it is not otherwise possible, and we shall be able to lay the foundations for rendering the largest possible city service at the lowest ascertained and actually attainable cost. That the 160 municipalities in the Bombay Presidency and other municipalities outside may be stimulated to render greater and better service than they are rendering at present, is the object which inspires me to undertake this study.

MUNICIPALITIES IN THE BOMBAY PRESIDENCY

Besides Bombay, we have in the Presidency 157 municipalities (now 159) listed in the Resolution reviewing the report on Municipal taxation and expenditure for 1920-21. We have 34 municipalities in the Northern Division, in the seven districts of Ahmedabad, Kaira, Panch Mahals, Broach, Surat, Thana, and Bombay suburban area. We have 58 municipalities in the Central Division, in the seven districts of Ahmednagar, East Khandesh, West Khandesh, Nasik, Poona, Satara and Sholapur. We have 39 municipalities in the Division in the six districts of Belgaum, Bijapur, Dharwar, Kanara, Kolaba, Ratnagiri. Finally we have 26 municipalities in Sind, in the seven districts of Karachi, Hyderabad, Sukkur, Larkana, Nawabshah, Thar Parkar and Upper Sind Frontier. In all these we have a total population of 26,77,313, which added to 11,75,914 the population of the Bombay Municipality gives us a population of about thirty-eight lakhs and a half. In trying to think of the improvement of municipal efficiency in the Bombay Presidency, we are concerning ourselves with the civic well-being of about thirty-eight and a half lakhs of people, on whose behalf over 4,50,00,000, four

krores and fifty lakhs are collected annually and spent according to the present light and character of the elected, nominated and appointed custodians of municipal affairs.

NEED OF TRAINING FOR MUNICIPAL WELFARE WORK

Most of these Municipal councillors and staff, though they may have the best of intentions, lack the enlightened and trained intelligence that ought to be brought to bear on the work of municipal management which concerns itself with the welfare of such a large population. A knowledge of what municipal endeavour has been able to achieve in more advanced countries, will doubtless serve as an inspiration to most of these councillors. But the books bearing on the point are not so much as known to most of them. Municipal management is looked upon by them as needing only common sense, spontaneously applied, instead of systematically trained for the discharge of municipal functions. The inspiration that will come from the comparative study of what other sister municipalities similar in size or physical and social setting, are doing is also missing to a large extent. Hence a comparative study of the results of municipal management as revealed

by the published reports, will be a great eye-opener, and a constant source of inspiration for improvement. Similarly a knowledge of the available and important publications on the subject of Municipal management is bound to stir up better thought and lead to more effective endeavour. If each of the divisions established a circulating library of books on Municipal management it might awaken some of the councillors to the need of training for municipal welfare work, and thus lead to a better equipment for the duty.

APPLY GENERAL AND SPECIFIC TESTS OF MUNICIPAL EFFICIENCY.

Again there are about half a dozen general tests of municipal efficiency and a dozen specific tests, which if closely and constantly applied to municipal work would show each municipality where it stands in the scale of municipal efficiency. Formulation and discussion of these tests will likewise liberate a good deal of cogent thought on the point of rendering greater and better municipal service. I propose to state and apply those tests to the different municipalities, to make comparative studies of similar or similarly situated municipalities, and suggest relevant literature on the point of municipal improvement. This only

by way of a suggestive analysis rather than an exhaustive one which will require far greater time and labour than I can afford at present. I hope, I shall be able to enlist the attention of the more advanced section of municipal councillors and workers in this great endeavour.

CHAPTER XIV. SIX GENERAL TESTS OF MUNICIPALITY EFFICIENCY.

STANDARDS.

Efficiency is measured by standards and tests. A standard is the reasonably attainable maximum, the actually ascertained highest result in any line of endeavour. Standard conditions are the conditions that yield this highest result. Similarly standard operations are those motions that contribute to the best known result. In the words of Taylor, "the loss going on in the country from failure to adopt and maintain standards for all small details is simply enormous." Methodical and careful investigation in the choice of every detail of work is both necessary and fruitful. The one best way of doing every operation has to be found out and adopted, and results in every case measured by reference to the ascertained standard. Bringing the backward ward in every city upto the best ward of the city provides a perpetual incentive to better directed efforts. The best results attained in any ward, may be taken as the provisional standard for the whole city.

Then the best attained and maintained anywhere else may be used for the promotion of greater efficiency even in the best ward.

TESTS

Having determined the standards, we proceed to test the different departments of Municipal endeavour by reference to those standards. These actually attainable standards become our ideals which we try to reach, and by slow or quick approach to which, we measure our relative efficiency in different periods. A series of general and specific tests may thus be formulated which will be generally helpful in indicating to each Municipality its degree of efficiency, and lead to increase it, by application of right endeavour.

SURVEY AND SERVICE TESTS.

What then are the general tests by which a Municipality may judge of the work and worth of its different departments, and of itself in a wholesale way, to get an idea where it stands in the scale of Municipal endeavour? Just as in an industrial plant, the first thing needed to increase efficiency is to ascertain what the plant wants to manufacture and in what quantities, so in improving Municipal endeavour the first line of inquiry

is, "What is the service programme of the Municipality? Has it been ascertained by a careful survey of community needs? What are the objectives, towards which Municipal activities are directed? What are the objectives towards which they should be directed considering the peculiar needs of the city? The first pair of general tests will thus be whether there has been a careful community survey, and secondly whether the service programme has been adjusted to the ascertained needs and available resources of the community. Most of the Municipalities show at once their backwardness, for there has not been an adequate social survey of the peculiar needs and opportunities for service in the peculiar area; the Municipality wants to serve. Often the more clamant and the more powerful sections receive the greatest attention, while on the less articulate and the less powerful is laid the burden of supporting such programmes. So a survey is essential to ascertain needs, against a background of which efforts may be matched. Some cities in America have actually carried out such surveys, the best known being those of Pittsburg and Cleveland. Others are trying to carry them on. Would not our Municipalities also conserve and carry on accurate surveys? The series of maps given at

the end of Lanchester's "Town Planning in Madras" shows the type of effort required.

METHOD AND ORGANIZATION TESTS.

The service programme ascertained, the next pair of tests is whether the best, easiest and quickest method has been worked out for each item in the programme, and whether the working forces and resources have been adequately arranged and organised to "facilitate the economic execution of the service programme" according to the best ascertained method. In the words of Taylor, "The adoption and maintenance of standard tools, fixtures, and appliances, down to the smallest item throughout the works and office as well as the adoption of standard methods of doing all operation which are repeated, is a matter of importance so that under similar conditions the same appliances and methods may be used throughout. This is an absolutely necessary preliminary to success in assigning daily tasks which are fair and which can be carried out with certainty."

PERSONNEL & ORGANIZATION TESTS.

The next pair of general tests of the efficiency of a Municipality take into consideration the type of personnel the Municipality has attracted and

trained and retained for its various organisations and carrying out the methods through which the service programme is to be covered. The second item in this pair of tests is the quality and percentage of citizens attracted, trained, and retained for sustaining a progressive welfare programme open to noble citizenship. What is to be looked for, in the personnel, is the degree of training for skilfully discharging each duty. The extent to which the personnel is socially minded instead of being selfishly inclined; skilfully directed and permanently employed instead of being shifted every one or two years. Is it patronage that governs the employment of the personnel, or fitness for the adequate and skilful discharge of duty, that weighs in all selection and retention of staff and employees?

MUNICIPAL EFFICIENCY

This test will have to be extended to the type of councillors returned by the citizens, as well as the type of the paid working force of the Municipality. The better the citizen, the better will be his choice, and faster will he be able to improve his city. Beyond the selection of councillors and the paid working force, the efficiency of the Municipality depends on the percentage and quality of citizens

who take a sustained and enlightened interest in the welfare and continued improvement of the city; the number present and active at the weekly ward meetings of voters who are capable of taking a systematic interest in Municipal endeavor. The basis of the franchise would show whether the Municipality has a greater or smaller number of people disinherited from the rights of citizenship, taxed without being adequately represented. The ratio, the actual number of voters bear to the total number of major members of the community, measures the efficiency of the basis of the franchise. Then out of the voters, the number who take sustained and enlightened interest, measures the efficiency of franchised citizenship. It is a matter of regret that citizen enthusiasm is not enlisted, and that needs and problems are not placed before citizens to keep their minds exercised for public good. We need to wean people from their narrow domestic consciousness, or partial sectarian attitude, to a recognition of the locality bonds to join their efforts in promoting commonweal in the area they inhabit.

RESUME.

Such then are the six general tests of Municipal efficiency.

First. Has there been a comprehensive and careful survey of community needs?

Second. Has there been an adequate service programme based on ascertained needs and available resources?

Third. Have the best, easiest and quickest methods been discovered and developed and consistently employed for every item in the service programme?

Fourth. Have all the working sources and forces been duly classified and arranged and organised for the carrying out of the service programme?

Fifth. Is the personnel "specially trained socially minded, skilfully directed, and permanently employed to devise, supervise, and employ methods to execute the programme of services?

Sixth. What percentage of total citizens has been selected, influenced, and trained to take enlightened and sustained interest in civic welfare?

LITERATURE ON THE POINT.

Councillors interested in knowing something

further about these tests, would find suggestive hints in Bruere's "The New City Government" published by Appleton Co., New York and London, a book which should be in every Municipal Library.

Apart from these general tests there are a dozen specific tests of Municipal efficiency which we shall enumerate and enunciate in part III of this volume.

CHAPTER XV. THE SURVEY TEST.

SURVEY YOUR CITY TO SERVE IT BETTER.

That is the formula of social service. Find out the facts about the area you want to serve more effectively, is the first step. Understand before you improve, investigate before you advocate, is the scientific procedure. So the efficiency of a Municipality may be gauged by the fact, whether it has adequately surveyed the area, resources and needs of the city community. How far have the exact needs and resources of the population been ascertained and mapped, before framing an appropriate programme of service? That is the question which gives a first glimpse into the efficiency of a Municipality.

There are many duties obligatory and optional to be discharged by a Municipality, but it cannot discharge them without "knowing its own peculiar needs." It has therefore been provided that a Municipality may undertake a survey. But for most Municipalities the word survey has a very narrow content. The few cities that have conducted a survey, have merely conducted a land survey.

The administration report of the Bombay Presidency for the year 1921-22 shows that the department of Land Records has surveyed about 57 Municipalities in all out of the 159. Thus on page 40 under the heading "City Surveys" we find that in the Northern Division "City Surveys of Ahmedabad, Ankleshwar, Dohad, Surat, Murbad and Shahpur are in progress. Revision of the Broach city survey and the survey of the town of Cambay are in progress. Eleven city surveys are being maintained. In the Central Division. "Survey of the cities of Karad and Sangamner has been completed, and that of Dharangaon is in progress. Fifteen city surveys are under regular maintenance. In the Southern Division, the city surveys of Nipani and Pen have been completed, while those of Hubli, Bijapur and Panwal are in progress. Ten city surveys are under regular maintenance." On page 39 we find that in Sind, "the remaining work of Sukkur resurvey was completed during the year. The work of Rohri town survey was also finished. The survey of Hyderabad was commenced. The maintenance work of Shikarpur and Garhi Yasin city surveys was conducted during the year."

It will thus be seen that as yet 103 Municipalities are without a survey of any sort. But

even for the 57 Municipalities which have this so-called city survey of the land record type, we must clearly realise that such a survey merely provides the starting point namely the city map, that it is in no way the comprehensive social survey that is needed for discovering the real problems of each Municipality, and for evoking citizen enthusiasm.

“A COMPREHENSIVE SOCIAL SURVEY.”

In the words of Aronovici, the Director of the Bureau of Social Research, a comprehensive social survey may be defined “as a stock taking of social factors that determine the conditions of a given community, whether that be a neighbourhood, village, city, country, state or nation with a view to providing adequate information necessary for the intelligent planning and carrying out of constructive and far-reaching social reforms.” This is the type of survey that is needed to make the city government “a laboratory of social inquiry in order that every social need of the community which may be satisfied by co-operative action, may be brought to the attention of the public and officials, and as far as funds and powers permit, may be incorporated in the service programme of the city.” Thus a comprehensive

social survey of a city is hardly known to most of our Municipalities and has therefore not been undertaken as yet by any Municipality in the Bombay Presidency. Judged then by this test the Municipal efficiency of the Bombay Presidency is very low, and can be increased a great deal if the idea of a comprehensive scientific survey is understood and increasingly adopted by all Municipalities.

STEPS IN THE SURVEY.

A first step in the survey would of course be the city map. This must be supplemented by a contour map and regional map. But our survey should not stop here. If it is to be serviceable, it must map communal distribution throughout the city; it must likewise show the industrial facts of the city localised on the map. Various social agencies may be interested in the "Know Your City" campaign and asked to collect and submit facts of different orders regarding the city for the purposes of knowing the popular needs and resources of the city. The facts must then be mapped, graphed, and exhibited to evoke civic interest.

ITS PURPOSE.

A comprehensive social survey, according to

Prof. Elmer makes an intensive study of several interrelated conditions and activities in a community, and of their bearing upon each other.

The recognised purpose of such a survey is to bring about needed changes and to increase the general efficiency of the community by creating a social consciousness which will help the members thereof to live together." Such a comprehensive survey will deal with natural physical conditions, population, social conditions and activities relating to health, comfort and convenience of the community, with wealth and industry, with group relationships, political, ameliorative, recreational, with education and religious activities" as all of these have to do a great deal with the welfare of the city.

A hundred and three cities in our Presidency or nearly two out of every three cities, are without a survey of any sort. Our appeal to the citizens is "to know their city." For this purpose they must understand the different kinds of survey.

THE DIFFERENT ORDERS OF SURVEY.

"What are the different kinds of survey?" We may classify them according to content as McClenaham has suggested in his excellent book

"Organizing the Community" on page 45. Thus there is:—

"1. The General Survey, which presents a cursory view of the community resources and problems and which may be made either by the local community or by an outside agency. The Men and Religion Forward Movement made this type of survey in various cities of the United States several years ago."

"2. The Comprehensive, Interlocking survey, which is a very detailed and analytical study of the entire social, economic, industrial and political structure. It requires experts in the various fields and is an expensive undertaking. The Pittsburgh survey made in 1907 under the auspices of the Russel Sage Foundation has made similar surveys in other cities. The Spring-field Illinois survey (1913) is perhaps the most comprehensive survey upto this time and has set a high standard in effectiveness of organization to conduct the survey and in the practical results obtained."

"3. The Unit Survey, which may be a careful study of a given neighbourhood or a city block, or which may be concerned with the most obvious local problem. In either case the individual study should be related to the community as a whole and to the different phases of city welfare.

"4. The Informal Survey, which is a quick review and summing up of a local situation. It is usually made by an outside expert brought for the purpose. It may be followed by a comprehensive survey or a unit survey."

"5 The Continuous Survey sometimes called the permanent Survey which is carried on by a local association, such as an endowed institution or a centralised agency supported by private subscriptions or by public or private funds. In the Middle West are to be found strong centralised welfare bureaus which are giving to the public yearly reviews of the status of community welfare, of its progress in the foregoing year, and on the basis of actual facts are pointing out needed reforms."

THE LITERATURE NECESSARY.

Thus it will be seen that our Municipalities are not familiar with the idea of comprehensive and continuous survey which alone will provide the factual basis of a sound service programme. To increase their efficiency therefore it is necessary that "such literature be made available and increasingly studied," so that the councillors may carry on comprehensive studies of the wards they represent and leave that as a heritage to their successors.

Or the different associations and institutions may be induced to carry on such preliminary study necessary for real reform. I therefore suggest the literature on the point, which I am sorry to say is not yet to be found even in the Bombay Municipal Library. To familiarise the corporators, citizens and Municipal workers with the survey idea, perhaps the best single book is Carol Aronovici's "The Social Survey" published by Harper Press, Philadelphia. Secondly there is Elmer's "Technique of Social Survey," which classifies all the questionnaires. McClenaham's "Organizing the Community" published by Century Co., New York will also be found very suggestive. And lastly in my book on "Social Efficiency" published by the Modern Publishing Co., Bombay, I have set forth three other comprehensive schemes of social survey. Such literature should be put within reach of all Municipal Councillors as a first step towards their self-training for Municipal welfare work. It will show them the interconnectedness of all social phenomena, and the necessity of basing their service programme on a survey of the real problems and needs and available resources of the community. May the councillors realise their great opportunity of doing wholesale good in this scientific way!

CHAPTER XVI. THE SERVICE PROGRAMME TEST.

A general idea of the paid service programme of the different Municipalities may be formed from the headings of the statement showing the expenditure of the municipalities, in the Resolution reviewing Municipal taxation and expenditure 1920-21. For increase of efficiency the service programme of a municipality should be adjusted to the peculiar needs, and problems of the municipality and the opportunities that are revealed by a comprehensive survey as well as the needs common to all the municipalities.

But since the survey idea has not yet been widely known or utilised we have the spectacle of customary and clamorous needs being served to the omission of what a close diagnosis would reveal as more urgent in nature or emphasis. A rough idea of the customary service programme of the municipalities can be formed from the expenditure headings as already stated.

INDEBTEDNESS AND EXTRAVAGANCE OF BOMBAY CITY.

Thus analysed the service programme is seen to fall under the main headings of Public

Safety, Public Health and Convenience, and Public Instructions. The total expenditure, however, is not made up of these items alone but of the necessary item of maintenance of the Municipality itself as an organization, the collection and administration charges, and two other headings, entitled general contributions and miscellaneous expenditure, which includes interests on loans and other necessary and unnecessary items. The efficiency of a municipality may often be judged from its administration charges being reasonably low or unreasonably high, and likewise from its general contributions, and its miscellaneous not exceeding a certain percentage say 5% at the most. These administration and accessory items should not as a rule absorb more than 15% of the total budget at the most, while as a matter of fact they absorb about 17% of the total expenditure of municipalities excluding Bombay. The Bombay city municipality seems to lead in indebtedness and extravagance, if judged from these accessory items. For almost $\frac{1}{3}$ of the total budget here is absorbed by these accessory general contributions, loans, and miscellaneous. Instead of 5% we have 32% being thus utilised, abstracting thus from the items spent on direct service programmes.

KARACHI'S EXTRAVAGANCE.

Now among the direct service programmes again, the heading public health and convenience is made up mainly of two items, public health and public works, which if kept and totalled separately would conduce to a better general estimate of the efficiency of each municipality. The road building activities of many municipalities seem to run very much in excess of their health building activities, witness Karachi spending about 8,00,000 out of 28,00,000 on road making in the year 1920-21. So it will be better to consider the service programmes of municipalities under these four main headings of Public Safety, Public Works, Public Health and Public Education.

REQUIRED VOLUNTEER FIRE-BRIGADES.

Public safety absorbs about 6% of the expenditure of municipalities excluding Bombay. For the city of Bombay the percentage spent on public safety is only 2.8%. Services under public safety cover four main items, namely fire engines, lighting, police and destruction of wild animals and snakes. The expenses on public safety seem to average higher in the northern sections of the Presidency than in the Southern, being 7.9% in the Northern division, 6.5% in Sind, and only 4.6%

in the central and 4.5% in the southern coastal strip, where proximity to the sea perhaps reduces the dryness and therefore the danger of fire. The expenses on police quarters, and destruction of wild animals are negligible and therefore the main services under public safety are fire and lighting. The item for fire is the most directly variable according to dryness, thus Sindh Municipalities spend 3% Northern municipalities 2.9%, the central ones .7% and the Southern municipalities only .1% of their total expenditure, while the Presidency average for fire fighting is only 1%. The lighting expenses vary less being between 4 and 5% of the total expenditure. For fire fighting the idea of encouraging citizen or student fire brigades will be found highly useful, and educative.

COMPARATIVE COSTS OF LIGHTING.

So far as lighting is concerned, exact comparative costs of lighting by Kitson, Gas, and Electricity would be a great desideratum in pointing which system of lighting should be encouraged in different localities. Unfortunately no co-operative organization of municipal research exists to furnish data for guidance in this direction. Neither are there lighting tests of candle-power supplied and candle-power contracted for, and periodic lighting

tests in different quarters. Efficiency would be increased if there were reliable data worked out for different conditions and circulated by some agency of municipal efficiency. Great wastes were revealed in American cities by such tests. Our cities would also show similiar wastes.

THE CITIES AS DEATH TRAPS.

As we have suggested, the heading public health and convenience should, even in the general review of Municipal Expenditure, be considered in its contrasted dual form of public health and public works. If there were separate totals available for these, they would show the proportion of attention given to these service items. For the whole presidency we find that 57% of the total expenditure is absorbed by these services, out of which 14% are absorbed by Public Works and 33% by public health. It is a sad comment on our municipal inefficiency that while in England and America urban death-rates have been so far decreased as to be lower than rural death-rates, here the death-rates in the municipal areas are far higher than those in rural areas, being 34.84 per thousand in 1921 against the rural death-rate of 23.89. While the death-rate for urban areas is higher, the birth-rate is lower than that in rural

"Comparative death-rate is an index to relative civilization." Mayo Smith.

Amsterdam, Hague and Christiania	.....	13' 5
Rotterdam	.....	13' 9
Brussels, London, Chicago, Stockholm, Dresden	.....	14' 9
Hamburg	.....	15' 0
Berlin and Copenhagen	.....	15' 4
Edinburgh	.....	15' 7
Vienna, Chicago, Philadelphia	.....	17' 5
Paris, Glasgow and Munich	.....	17' 9
Turin, Rome and Boston	.....	18' 7
Budapest, Prague, Belfast	.....	19' 8
Milan	.....	20' 1
Breslau and Venice	.....	21' 3
Dublin	.....	23' 5
St. Petersburg	.....	25' 7
Moscow	.....	27' 7
Urban death rate in Bombay		31' 8

.....

Annual death-rates per mille in different European Cities in 1911. Figures taken from Pollock and Morgan's, *Modern Cities*.

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*But cities can certainly and should try to triumph over death.
Thus between 1881 & 1911, the following cities reduced their death-rates.*

	From	To	Points decreased.
Moscow	32'8	27'7	..... 00000000000000000000000000000000
St. Petersburg	32'8	25'7	..... 00000000000000000000000000000000
Dublin	30'6	23'5	..... 00000000000000000000000000000000
Venice	28'3	21'3	..... 00000000000000000000000000000000
Milan	30'4	20'1	,..... 00000000000000000000000000000000
Belfast	24'7	19'8	..... 00000000000000000000000000000000
Prague	32'7	19'6	..... 00000000000000000000000000000000
Budapest	31'5	19'4	..... 00000000000000000000000000000000
Boston	24'9	18'7	..... 00000000000000000000000000000000
Rome	21'8	18'7	... 00000000000000000000000000000000
Turin	27'9	18'1	..... 00000000000000000000000000000000
Munich	30'4	17'9	..... 00000000000000000000000000000000
Glasgow	26'0	17'9	....., 00000000000000000000000000000000
Paris	24'4	17'7	..... 00000000000000000000000000000000
Philadelphia	22'3	17'5	..... 00000000000000000000000000000000
New York	27'5	17'4	..... 00000000000000000000000000000000
Vienna	28'2	17'3	..... 00000000000000000000000000000000
Edinburgh	19'6	15'7	... 00000000000000000000000000000000
Copenhagen	22'3	15'4	..... 00000000000000000000000000000000
Berlin	26'5	15'4	..... 00000000000000000000000000000000
Hamburg	25'2	15'0	..... 00000000000000000000000000000000
Dresden	25'0	14'9	..... 00000000000000000000000000000000
Stockholm	24'3	14'8	,..... 00000000000000000000000000000000
Chicago	21'5	14'4	..... 00000000000000000000000000000000
London	20'9	14'4	..... 00000000000000000000000000000000
Brussels	23'4	14'2	..... 00000000000000000000000000000000
Rotterdam	24'2	13'9	.....,..... 00000000000000000000000000000000
Christiania	19'9	13'5	..... 00000000000000000000000000000000
Amsterdam	25'1	13'3	..... 00000000000000000000000000000000

But cities in India have been increasing their death rates.

areas, being 25.25 per thousand compared with the rural which is 34.36. This shows that the health service programme of municipalities still leaves much to be desired. This is specially the case so far as infant mortality is concerned. The infant mortality in rural areas is shown as 146.86 per thousand while that for cities is 323.26 (See p. 45 Director of Public health's Report for 1921).

PUBLIC WORKS OR PUBLIC HEALTH.

Looking to the divisional distribution between public works and public health, we find that Sind is the most spendthrift so far as public works are concerned, 23% of the total expense being absorbed in public works, while even the city of Bombay spends only 15.5% on public works, the Northern division spends 8.4, while the central spends 7.3 and the southern 7.2% on public works. For public health the highest percentage is spent by the Central division, being 48.2%, next comes the northern division with 43.1%, next comes Sind with 43% for public health programmes, and next comes the city of Bombay with 37%, and finally comes the Southern Division with only 35.9%. It appears as if the Southern Division attaches greater importance to public ins-

truction than to public health, for there its percentage is the highest.

UNPROGRESSIVE PUBLIC INSTRUCTION.

Next to public health and public works if we look at the Public Instructions service, we find that the general average for the Presidency is 20% of total municipal expenditure. The highest percentage on Public Instruction is spent by the Southern division, being 34% of its total expenditure, but it must be remembered that it is the poorest division; and so there is not so much difference in the sums if judged as absolute figures. But still it is creditable that it takes out so much for education. Next to that comes the Northern Division with 24% appropriated for Public Instruction. Next comes the Central division with 21% on instruction, and next comes Sindh with only 13% allotted to education and last comes Bombay city devoting only 7.1% of its vast expenditure towards education. These figures go to show that *the educational efforts of different municipalities do not expand with their revenues but are as it were kept at a uniform level, namely the minimum required, instead of the maximum possible under better resources.* This shows that our vision so far as municipal educational effort is concerned is very

restricted, securing indeed a minimum but not progressively expanding with the resources of different municipalities. If a progressive scale of educational effort is suggested municipalities may emulate to reach higher standards of attainment, proportionate to their expanding means. Not less than 30% should be spent by every Municipality on this most important item of service, public instruction. If primary education is not able to absorb that, Libraries and Laboratories, industrial instruction in connection with the prevailing industries, may be attempted.

A GAUGE FOR BUDGET TESTING.

This general examination of the service programme of municipalities leads me to state on the basis of facts examined, a rough suggestive gauge for testing Municipal budgets. Of the total expenditure 7% for administration, 6% for safety, 40% for public health, 12% for public works, 30% for public instruction, and 5% for miscellaneous, would show a well balanced budget, else it will reveal some abnormality which should be looked into. Of course these will have to be slightly altered to suit the different peculiar needs of each municipality, but the normality of the budget, and service programme may be gauged by some such

standard provisionally set up and gradually defintised. Of course the richer and larger a municipality the lower should be the administration percentage. The poorer a municipality the less will it devote to instruction and miscellaneous, though the curtailment should usually take place in public works, rather than public instruction. The item of public works has a tendency to swell, and absorb the expanding resources of municipalities, witness Sindh rich in resource, not expanding its public health or public instruction activities but rather its roads and public works. This guage applied to different municipalities will reveal to them some of the points that need looking into.

CHAPTER XVII. THE STANDARD METHODS TEST.

MORE BUSINESS IN GOVERNMENT.

The great need of the day as Ford has said is "not more government in business, but more business in government". That our municipalities should find out the best, easiest, and quickest ways for doing the things they have to do, is what we want in the interest of civic welfare. As Bruere says "wrong, roundabout, old fashioned, slovenly methods cling to city government". Almost every municipality gives shelter to work methods that efficient private enterprise discarded a generation ago."

MANAGE SCIENTIFICALLY.

Scientific management or efficiency requires that we should build up the science of every item of the service programme, and establish standard conditions, standard operations, and written standard practice instructions for every repetitive effort. That such do not exist is amply proved from the wide variations in the budget allotments, from the vexatious delays in the disposal of work, and from the extravagance and frequent mistaken

efforts on the part of several municipalities, whose work the writer has had occasion to watch even from afar. That books on scientific management, on business administration, on industrial management are not to be found even in the Bombay Municipal Library shows how municipalities still fail to realize that they are mainly industrial and business units, for discharging certain public services most economically, rather than merely autocratic, or bureaucratic red tape, routine state mechanisms.

SET UP STANDARDS.

Standard methods of accounting, standard methods of reporting, standard testing laboratories for all purchases, standard specifications for all kinds of public works, standard exhibits for publicity of budget or health facts, can all be cooperatively worked out by municipalities but are not worked out. There are no bureaus of municipal problems, so as to get the best thought of the colleges and university, on what worries the different cities. Under such circumstances the best course seems to be to expand the horizon of municipal councillors and active citizens with regard to what is actually attainable along these lines.

WIDE VARIATIONS IN ADMINISTRATION AND REPORTS.

Examining the main items of municipal endeavour, for evidence of presence or absence of standard methods, we find a deplorable lack of a notion of this sort. Thus to take the dozen municipalities next to Bombay if arranged according to population we find that the administration expenses vary from 7% in the case of Sholapur, to 13·7% in the case of Sukkur ; that is to say that the cost of collecting and spending one rupee in different municipalities varies from over two annas per rupee to slightly over an anna per rupee. It is not that the ratio of administration expenses tends to decrease, as the municipality is bigger or richer, for Surat, a bigger and richer municipality than Sholapur, spends 12·9% of its total expenses on administration. This shows the lack of standardisation, or lack of similar methods of accounting, and administration, in our municipalities. Or again take another fact, the annual administration report of municipalities. We find Broach with a population of over 41000 is content with an annual report of 8 pages, or 2 pages per 10,000 of the population, while Karachi the most extravagant of the lot in this respect issues a report of 368 pages which works out to 18 pages per 10,000 of

the population, Ahmedabad though greater in size than Karachi is content with 104 pages which works to 5 pages per 10,000. Surat is content with a report of about 22 pages *ie.* about 2 per 10,000 standard. Leaving the question of size of reports, if we take the methods of presenting reports we find the same surprising variations. Graphic methods of reporting are entirely absent from several reports, so that the reports will never easily get inside the brains of citizens and will not evoke any citizen effort. Standard methods of reporting different orders of facts would thus ensure the best form of publicity for municipal administration, and evoke intelligent citizen co-operation.

THE UNDETECTED WASTE IN LIGHTING CONTRACTS.

Under the heading of public safety, if we were to examine the street lighting efforts of several municipalities, the conditions would not in all probability be found much better than what the commission of enquiry into the expenditure of Chicago found. Prof Merriam of the University of Chicago, in his report on investigation for administrative efficiency writes thus :—

“ In the street lighting contract, providing for

6000 gasoline lamps, the difficulty was with inspection. The city did not even possess a "portable photometer," necessary to make the tests, and allowed the contractor a free hand. Our tests showed that instead of a guaranteed candle-power of 60, the average was 19 as shown by one set of tests, and 26 by the other. No deduction was made for failure to furnish the light guaranteed, and the loss incurred from this cause was estimated at \$85,000." "The lighting contracts of our municipalities if similarly examined would reveal similar undetected wastes. Thus take the case of Karachi municipality, the only one that appears to report on lighting efforts, somewhat intelligently. We find on p 170 of the report for 1920-21, the annual cost of a fifty candle-power electric lamp for 3800 hours as Rs 64-2, while that for a 100 candle-power lamp as Rs 100-14. The kitson, the same report mentions, cost 319 per annum, but the candle-power is not mentioned. Similarly for petrol lamps the cost per lamp per year is given as Rs 114-13 but the candle-power is not mentioned. It is not also mentioned whether the electric lamps were tested for actual candle-power. This shows how such wastes go undetected and unremedied.

WASTE THROUGH WANT OF STANDARD METHODS IN PUBLIC WORKS.

The Chicago city Commission of enquiry into municipal expenditure found great wastes in contracts and purchases, and found that they were due to certain well marked types of evils. According to Prof: Merriam "these evils may be grouped in a general way as follows: (1) Defects in the specifications themselves, due either to careless continuance of old specifications, or to collusion with contractors. (2) Failure to secure wide competition from a number of bidders. (3) Failure to enforce terms of the contract either because of the general inefficiency of inspection or because of collusion with contractors." Now these defects exist in our municipalities as well. We have no standard specifications for different municipal requirements. We have no standard testing laboratories for testing the materials purchased. We often fail to secure wide competition from a number of bidders in important contracts, witness the complaints about absence of open bidding in the case of an important contract of 20 lakhs regarding asphalt roads recently entered into with McKenzie & Co in Bombay. And as for inefficiency of inspection we have no standard testing

laboratories or ready methods of testing developed for different municipal services.

ABSENCE OF CO-OPERATION BETWEEN UNIVERSITY AND CITY.

Our colleges are so disconnected with the cities that the laboratories are not used for testing municipal supplies or directing routine tests. We have a very good example of what the relations ought to be between universities, colleges and cities. Thus in the university of Cincinnati "Co-operation has become the keynote of University activities, this term being defined as 'the plan of using all existing local establishments, whether public schools, factories hospitals, social settlements, museums, libraries, zoological gardens, water works, gas and electric plants, and street railways in the training of men and women for practical life and service. Training in real life for real life is this University's educational doctrine, and co-operation in service, its ideal.' "The training of the students is incidental to the protection of the citizens. The children's clinic of the medical college maintains milk supply stations and visiting nurses. The bureau of City Tests is in the Department of Chemistry of the engineering college. In one year 660 samples were tested by

this Bureau. Paints were detected containing benzine instead of turpentine; water-proof felt was found loaded with asphalt, and rubber pump valves made of vegetable substitute. Coal was exposed with 44% ash. How many of our municipal supplies are upto the mark? Who knows? Co-operation between the colleges and the cities does not exist. Here is a step of the greatest importance in city welfare, to use its college laboratories as testing laboratories for municipal supplies.

WASTE DUE TO ABSENCE OF STANDARD METHODS IN PUBLIC HEALTH.

The death-rates in the towns and cities of the Bombay presidency are 34.84. As compared with the rural death-rates which are 23.89, they are nearly 11 per thousand higher. This means that the cities kill off over 41000 men, women and children annually more than they would if they came to the level of rural health. What a great waste of precious human life does this represent? Whereas in England and America the urban death-rates are lower than rural, our cities are so backward that they are below the rural level in health. The factors most responsible for this great loss of human lives are congestion, impure water supply and bad drainage, all due to civic neglect, and social mis-

management, and therefore avoidable. Standard methods in public health would tackle these problems first, would rouse the health conscience of the community by standard health reporting, in the form of graphic health bulletin showing by localities and communities the varying death-rates, so as to set up communal and neighbourhood emulation to establish a better health record. The local medical profession would be interested in health work in every city. Instead of only a few sanitary associations in the whole of the Bombay Presidency, we would then have a sanitary association in every city and town, and itinerant sanitary exhibitions. It is surprising how such simple means as interesting school students in mosquito, rat and fly campaigns are not universalized and standardised, by means of creation of what in America are known as Junior Sanitary Police. The younger generation may thus be trained to fight out disease from our towns and cities. Similarly we find absence of city-wide programmes of lantern lectures in hygiene. All these show our absence of finding out the best methods, erecting them into standards and universalizing them. Quantitatively we find such variations in the budget allotments for public health in different divisions, as 48.2% in the Central 43.1% in the Northern,

43% in Sind and 37% in the city of Bombay, and only 35.9% in the Southern division. All of this shows absence of standards:

WASTES DUE TO ABSENCE OF STANDARDS IN PUBLIC INSTRUCTION.

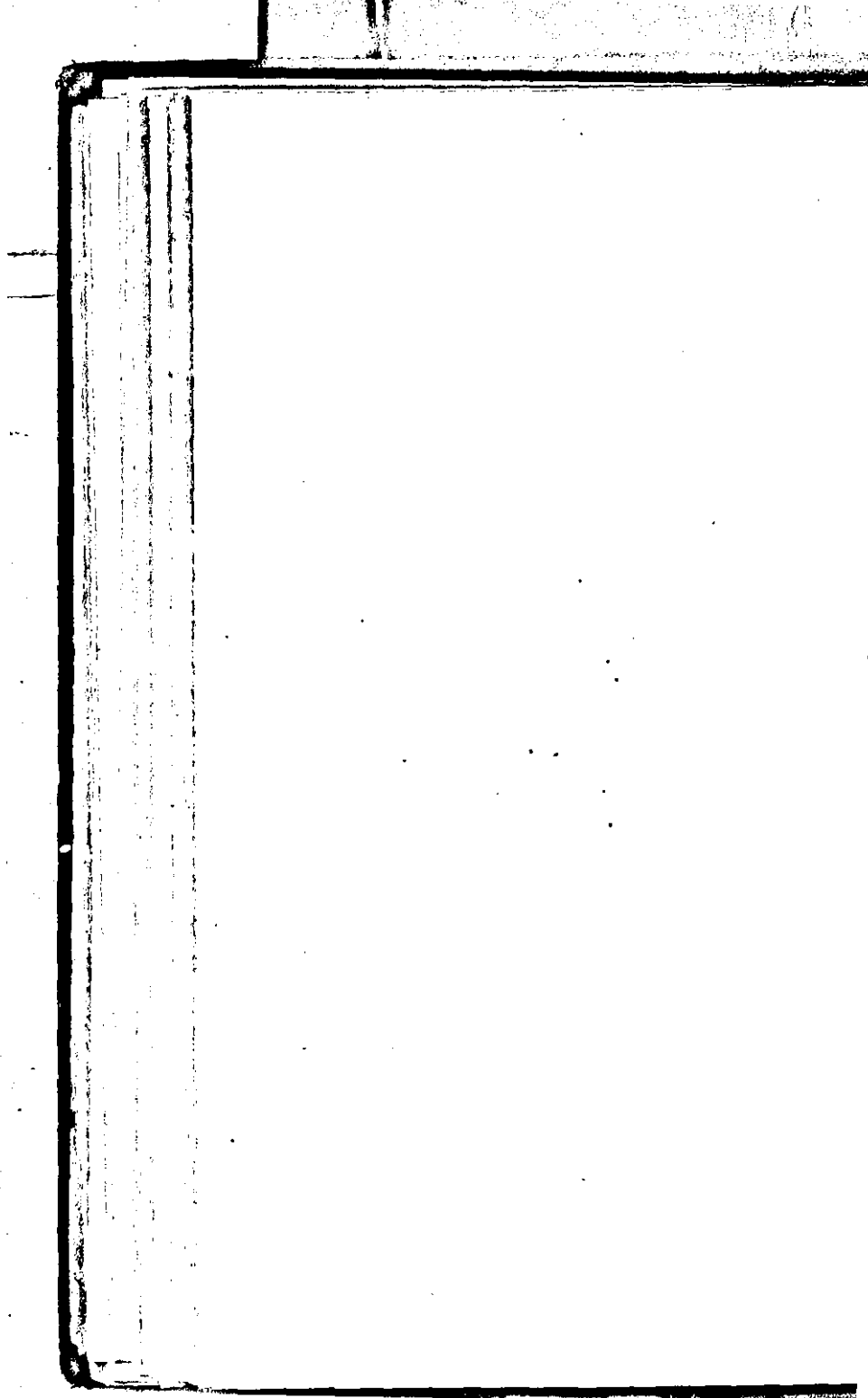
If we look to public instruction efforts of municipalities we find the same lack of clear standards, and therefore waste. Comparing the average annual cost of educating a pupil in the primary schools in different districts of the presidency in 1920-1921 we find that it ranges from Rs. 11 as. 12 per head in Ratnagiri to Rs. 37 as. 10 in Bombay, while the average for the presidency is Rs. 16.8. At the most conservative estimate only half the boys of the school going age are hardly reached. While though the curriculum is uniform it is really mis-standardised, for it does not provide different types of studies and courses for coastal, plain, and inland towns and is not adjusted to the industrial peculiarities of each city. As regards testing methods in various subjects, several standard mental and school subject tests continue unknown and unutilised.

We thus find everywhere the absence of effort at finding out the best known methods, and adopting them as far as they can be,

Annual Per Capita Cost of Primary Education in different districts based on figures given on pages 51-54 of the Supplement to the Report of Director of Public Instruction for 1920-21.

BOMBAY PRESIDENCY.		Rs. as
Ratnagiri	.....	11' 12
Satara	.....	12' 6
Bijapur	.....	13' 1
Sholapur	.....	13' 3
Sukkur and Belgaum	.....	13' 9
Dharwar and Ahmedabad	.....	13' 11
Colaba and East Khandesh	.....	14' 5
Deesa Camp, Ahmednagar, Nawabshah, Larkana	.....	14' 13
Nasik, Poona, West Khandesh, Thana, Surat	.....	15' 14
Broach	.....	16' 6
Upper Sind Frontier, Hyderabad, Sind	.....	17' 10
Karachi	19' 13
Thar and Parker	21' 4
Baroda Camp	22' 14
Ahmednagar Camp	33' 12
Bombay	37' 10

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rapidly and thoroughly. Literature on the point thus needs to be widely circulated. We would recommend in this connection, Taylor's, Principles of Scientific Management, Knoeppel's, Installing Efficiency methods, both published, in the Industrial Management series, New York. We would also recommend Vol XLI of the Annals of the American Academy of Political Science, entitled Efficiency in City Government, as the three best books on this point.

CHAPTER XVIII. EFFICIENT ORGANIZATION TEST.

CENTRALIZED COOPERATION.

As Comte has pointed out in his Positive Polity, all social force is centralised co-operation. All organisation is a division and distribution of activities serving a common purpose, so correlated that the effectiveness of each is increased by its relation to the rest. Because of this dual aspect of all organisation, namely correlation and coordination of activities on the one hand, and their division and distribution on the other, we find that every sound organization sets up central coordinating agencies, and local or peripheral distributing agencies, so as to completely cover a prescribed area where it wants to function. Again organisation types differ for different purposes, thus organizations for developing accurate thought differ from organizations for ascertaining and adjusting varied interests, and these both again differ from organizations of effort, whether they be of the industrial or military type. Elsewhere we have already dwelt upon these different types of organizations so we need not repeat those basic ideas about organization here.

THE THREE ELEMENTS.

In all municipalities three distinct elements necessarily function and these need to be duly organized, and the application of the organization test means seeing how far they are efficiently organized. There is first the voting citizen element, next the body of councillors, and lastly the body of paid workers, the executive element. If a municipality has all these three elements adequately and appropriately organized, it will be able to perform its service-programme efficiently. Now let us see how far these elements are organised in our Indian Municipalities.

EFFICIENT VOTERS.

Have we efficient voters' organizations, in every town and city? Are there many voters' leagues, or rate-payers' associations, meeting regularly and examining critically the doings of the representatives and executives? Are they sympathetically suggestive and ready to co-operate in all measures of municipal welfare, so far as in them lies? Voting-citizens' organizations are absent from almost all of our cities. Voters, even the educated ones, are merely stimulated into activity once in three years, and sleep between the election intervals. Our citizenship is thus dormant, and not watchful

and active, and therefore our municipalities are not efficient at all. In fact people have hardly realised that municipalities are not merely or mainly administrative units of the provincial government, but mainly organizations for the satisfaction of local needs, agencies through which all public welfare activities ought to be regularly carried on. Our citizens have yet to realise that as the citizen, so the municipality. If citizens neglect their duty, the municipality will surely neglect its, and the city will suffer from higher death-rate, lower intelligence, greater dirt and ugliness. What is needed is to create voters' organizations in every municipality. All the primary municipal schools, need to be used as regular weekly meeting-places for ward voters, so that citizens may be trained to do their duty. Till the citizens are so educated, councillors worth the salt, should set an example of thus frequently calling, and discussing live issues with, their voters in the different schools in their ward. The use of the school-house in every neighbourhood as the the head-quarters of the organization of the electorate, their orderly deliberation and intelligent voting, is a step highly necessary for increasing the efficiency of our municipalities. As a means of civic adult-education such weekly meetings of

voters will be found to be of the greatest use. They will widen the sympathies of our people, and give them an active interest in the affairs of the city. This is known as the Social Centre idea, a very great social invention which should be immediately utilised by our municipalities.

ORGANIZATION OF COUNCILLORS

Next to well-knit actively-organised, regularly-functioning voters' organizations, we need organization of the councillors. Here too in our present state we need self-education of the councillors as much as self-education of the citizens. Not only do the councillors need correct and comprehensive knowledge of the conditions of those whom they represent, but they have further to bring to their task a vision of the reasonably attainable improvements, and the way they have been attained elsewhere. Every one 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 councillor's 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 any-

thing a harder and more complex work than that of a lawyer or doctor. The fact that it is unpaid service does not do away with the operation of the law that all successful effort must be founded on factual and scientific basis, as well as requisite sympathy. Municipal effort to be successful needs to be based on municipal science. The municipal councillors must know how the difficulties and problems facing them have been successfully solved elsewhere. The two suggestions that emerge as primary recommendations for improving municipal efficiency, are firstly an intensive survey on the part of members of the quarters and families each represents, and secondly a systematic plan of study-circles or independent study of the most necessary municipal literature, pointed out in these pages. The organisation of the councillors into committees, has to be based on the fact of such previous or concurrent training for adequately judging of the work of the different departments of municipal activity. We do not find councillors organised for intensive investigation, or mutual education, and therefore our municipal efficiency in this direction is also low.

AUTOCRATIC ORGANISATION OF THE EXECUTIVE.

If we next apply the organization test to the

paid executive staff of the municipalities we find that we have mostly the military type of line organization prevailing. The investigative element has been very little developed in our municipalities, and the planning element very much under developed. Without an effective investigative element the leaks and losses, in labour and purchase are bound to go undetected, and the condition in most of the municipalities is bound to be not much better than what an investigation revealed in Chicago municipal expenditure 1909. The investigator of the Bureau of sewers reported "that a fair estimate of the existing payroll waste, would not be less than sixty five per cent of the labour payroll expenditure." Similarly street-cleaning investigation revealed remarkable "lack of standardisation of work. For example one street cleaner swept 10,970 square yards of asphalt in good condition, with a horse traffic of 351 in eight hours. Another cleaned 15,190 sq. yds. in similar condition with a horse traffic of 699. Another cleaned 14,920 sq.yds. of brick in poor conditions with a horse traffic of 1406, while another cleaned 9500 yds. in good condition with a horse traffic of only 495. Investigation of street-sweepers' work showed a loss of twelve per cent in time. This amounts to about 12000 dollars a year." "The time lost by

the garbage teams observed was 22.5% , a loss to the city as calculated by Mr. Fox of about 7000 dollars a year. The ash teams lost in time, 13.7% or the equivalent of about 70,000 dollars a year." "In the department of electricity, the gas lighting service maintained by the city was found to be in a poor condition. Of 956 mantle gas lamps inspected only 62 were in condition, which could be called passable ." (See *Efficiency in City Government* p. 291.) Such losses in labour-force must be constantly occurring where preliminary time and motion studies are not carried on for all jobs, where in fact the methods of Scientific Management are not applied. And scientific management is a word unknown to our municipalities. We need the introduction of elements of investigation and planning, we need the introduction of functional management instead of the present military type of management, if we want better service at lesser cost. We need further "to chart the organization of every city department, to show by schedules what is being done, who is doing it, the organization provided, and the exact powers and duties of every unit in the departmental structure." For the first time then, we shall have our city governments shown graphically. That alone will help an intelligent discussion of the budget, showing how each

rupee is spent in the service of the city. "By reference to the charted plan of organization and schedules of powers and duties, discussion of defects in organization would be immediately definitized. Overloaded divisions, underloaded divisions, conflicts in authority, overlapping or incongruous functional responsibilities would be brought to light." (Efficiency in City Government p, 12)

HOW TO IMPROVE THE ORGANIZATION ?

"In summary, efficient planning of organization will include :—

1. Study of existing organization and relation to powers and duties.

2. Reclassification, if needed, by functional groups.

3. Eliminating incongruities of functional responsibilities or excessive or under responsibility.

4. Eliminating conflicts of jurisdiction.

5. Centralising all activities of one kind, so far as possible, under one general administrative control.

6. Leaving to local authorities and administrators determination of details of organization, divisional structure and distribution of duties."

BRUERE'S SUGGESTIONS.

In the opinion of Bruere "Few city depart-

ments will retain their present organizations, if Commissioners or Councillors will have existing organizations diagrammed, functions listed in detail, and actual duties described. An honest photograph of the average city department will generally lead an efficient head to take one of the following steps :—

1. To group and centralise control over like general functions.

2. To put together detailed activities belonging together.

3. To place emphasis on important work now carried on as side issue.

4. To divide work now done by one employe among two or more (rarely).

5. To give one employe work now done by two or more (often).

6. To abolish unnecessary steps, work, and positions, old fashioned habits, private memorandum records, soft snaps, drudgery, free lance jobs, irresponsibility in subordinates, roving commissions, permanent special assignments, laxity or redundancy in supervision and conflicts in authority." (Efficiency in City Government p 13-14).

LITERATURE RECOMMENDED.

For organization of citizens, Ward's book 'The Social Centre' in the National Municipal League series, by Appleton, will be found most useful. For organization of councillors, their self-education, Zeublin's 'American Municipal Progress' would be found specially helpful. For organization of paid executives 'Science of Management' by Church, published in the Industrial Management Library, would be found suggestive.

CHAPTER XIX. TRAINED PERSONNEL TEST.

WANTED TRAINED, SOCIALLY MINDED, UNITS.

It is not enough that the citizen voting-forces, the councillor thinking-forces, and the paid working-forces of a municipality be properly distributed and co-ordinated; for improvement in efficiency it is necessary that they should be 'properly trained, socially minded and skilfully directed, and permanently employed to devise, supervise and carry out efficient methods to execute the programme of service'. How far then is the personnel trained specially for its task, minded socially, directed skilfully, and employed permanently are very good tests of the extent of efficiency of a municipality.

GREATER & BETTER CITIZEN INTEREST.

If we were to apply these tests to the citizen voting forces of every municipality in the Bombay presidency, we shall know how still only the first step has been taken in this direction, namely that "directing that steps should be taken to enfranchise a considerably larger portion of the population of each municipal district by reducing the qualifying

tax." It is only the barest beginning that more citizens are thus enlisted to take interest in voting to elect municipal councillors. This does not however ensure their proper training or encouragement towards being socially minded, or skilfully directed or taking systematic and sustained interest in the welfare of their cities. Our efficiency in this direction is very low. It will therefore be profitable to consider how greater and better citizen interest may be enlisted in civic welfare, and how a larger life may be thus opened to a greater number of our fellow countrymen.

SOCIAL CENTRES AND WELFARE WEEKS.

The best single agency for thus training, socialising, directing and sustaining citizen effort is the Social Centre idea to which we have referred. In the words of Ward, the pioneer of this great social invention, "The use of the school in every neighbourhood as the head quarters of the all inclusive district organization of the electorate, for such orderly deliberation as voting, furnishes the most convenient and practical means whereby the whole business of politics may be simplified and rationalised." Next to such weekly voters' meetings in every school house in every city, citizen training can be stimulated through having regular

arbor days, clean up-days, health weeks, baby and mother welfare weeks, education weeks, city welfare weeks etc. Much may be done by holding civic exhibitions in every city, gathering together locality facts and thus affording greater impetus towards citizens knowing their own city and community. A very good way of training future citizens, is to enlist student activity in public health programmes, and have junior and senior mosquito, fly and rat brigades, as we shall suggest later on. In such ways may our municipalities secure enlightened, socialised, and systematically working citizens, for civic welfare work.

TRAINING THE COUNCILLORS.

What may be done for training the councillors, and socialising them, and making them systematic and serious workers in the interests of their city? The first requisite is to deepen the conviction, that every sort of service must be based upon its appropriate science and that municipal service should be likewise based on municipal science. The more advanced municipal councillors should lay down suggestive study-courses and give lectures and demonstrations in scientific municipal endeavour. A better example in municipal leadership should thus be set, and the service

ideal emphasised, instead of personal prestige ideal which leads people to seek elections now. Our great need for training of councillors will be apparent from the fact, that still in many cities local leadership has not been developed for municipal management. The ideal is to have an elected non-official chairman in every municipality. The actual state of affairs shows that only 75% of the municipalities have reached this stage in our most advanced division the central division of the presidency. The northern division show 58% elected non-official chairmen, the southern division shows 56% of the municipalities having non-official elected chairmen, and the most backward division Sind, show only 34% of the municipalities having reached this stage. This clearly shows that enlightened municipal leadership is still lacking, and must be made up by greater and better training of councillors.

A SUGGESTIVE SYLLABUS.

What advanced countries do in this direction may be gathered from the following courses which the training school for municipal service offered at Cologne during the winter semester of 1912-13. We reproduce them from Prof. Hayes' Introduction to Sociology p 95. They are 1. Civics, 2. Law, 3. Administrative Law, 4. Local Ordinances,

5. Civil processes, 6. Political Economy, 7. Credit and Exchange, 8. Taxation, 9. Finance, 10. Statistics, 11. Inspection methods, 12. Labour legislation, 13. Labour unions and societies, 14. Social insurance, 15. Welfare work, 16. Social questions, 17. Fire Insurance, 18. Hygiene, 19. City Planning, 20. Schools, 21. Ecology and Topography, 22. Chemical industries, 23. Iron Machine industry, 24. Coal and mining, 25. Electro-technique, 26. Agricultural management, 27. Rhenish and Westphalian Economic Development, 28. Art and History of the Rhineland, 29. Paris and her Romance. If courses from local experts are arranged on some such subjects in the corporation hall, and study-circles organised among councillors, we have a scheme of adult education that will improve our cities a good deal. Local trained talent of all sorts should be utilised for advisory purposes. If each municipality encourages and houses a local health association, enlisting the volunteer efforts of all medical practitioners, an educational association enlisting the help of all local teachers, an economic association enlisting the help of merchants and manufacturers, and an esthetic association enlisting the help of artists, musicians, and a civic association for study and discussion of municipal civic welfare problems,

and finally a character development league for evoking the best moral effort among individuals and institutions, we shall have live municipalities and ample opportunities to discover and develop and utilise the best local talent for the welfare of the city, the city duly rewarding its best vounteer workers in this direction by annual certificates issued by the corporation.

A TRAINED WORKING FORCE.

Coming next to the question of trained working force in every municipality, we have to see how far every municipal employe has been adequately trained for his particular job, and how far opportunities are provided in the shape of suitable magazines, and upto date literature to keep him conversant with the best in his line. A local municipal library, and a district circulating library on municipal topics will be found very stimulating in this connection. To keep the expert employes keyed up to their best efficiency, they may be induced to lecture on their special topics to the citizens. Thus lectures may be organised on drainage, water supply, public health, the school system of the city, the citizens' part in welfare work, the city lighting system, its comparative cost with the lighting efforts of other municipalities, the city

road system, its comparative cost, city conservancy, etc etc. Apart from such lectures, prize essays may be invited on such subjects, as well as many of those mentioned in the training for municipal service, and thus great effort released in the required direction of improved knowledge which alone can be the basis of improved service. Again efficiency suggestions should be regularly invited from all members of the municipal staff and suggestions that lead to paying improvements suitably rewarded. Promotion may be made to depend on passing of examination in certain municipal subjects, and such examination may be held by various colleges or the university. In such ways may better and greater training be secured in the paid employes and working force of municipalities. The greater prevalence of written standard practice instructions would thus be secured, so that every item of work may be done in the best, easiest, and quickest way. Such written standard practice instructions, may be exchanged between municipalities or co-operatively investigated and utilised. The working force will further have to be watched and encouraged for social mindedness, instead of selfish endeavour. Here the citizens' verdict ought to count, and the most socially minded be rewarded annually. Skilful direction

and continuity of employment are other factors which should form a part of the permanent work-policy of every municipality. The percentage of dismissals and fresh appointments to the total employed force would measure the efficiency in this direction. As the reports are silent on this point, each municipality will have to find out for itself, how far it has secured, continued, and improved service for itself. Such training, socializing, skilful direction and continuity of employment tests if carefully carried out would result in increasing municipal efficiency a good deal.

LITERATURE SUGGESTED.

One book may be suggested in connection with the training for enlightened citizenship, as well as, the subjects for which municipalities should provide training. It is Pollock and Morgan's 'Modern Cities.' From that book the citizen will know advanced practice, and the councillor the subjects on which he should seek enlightenment, and for which he should afford facilities for training.

CHAPTER XX. ACTIVE CITIZENSHIP TEST.

ENLIST CITIZEN ENTHUSIASM.

For increasing efficiency we need not only a citizenship, that is organised and trained, but we need that such organised and trained citizens should actively participate in the welfare of their city. Hence the next test of the efficiency of a municipality is this active citizenship test. If we were to divide the population of a city by 5; we would get the potential number of adult male citizens, provided the city is quite normal and has families of five each. In most of the cities we have hardly four to a family and so the potential male citizens are greater than that number. We may similarly in a normal city have an equal number of women citizens. This vast citizen resource is hardly if ever utilised. The ratio of the number of voters to $\frac{2}{5}$ of the citizens shows roughly the efficiency of selection of citizenship. Out of these again the number influenced and trained to take enlightened and sustained interest in civic welfare, measures the active citizenship of a city. Measured by these tests we find that our municipalities are very backward in active citizenship. Citizen-

ship even with those who have the power to vote is a matter of one hour in three years, indeed almost a dead citizenship. When will cities learn to tap their vast citizen resources rightly, and throw out an opportunity to the greatest number, to render the best service they can in the service of the city? Very much indeed can be done in this direction, but very little is done

INVITE ASSOCIATED OPINION.

Thus opinions can and should be invited from all commercial associations in the city, on the city budget. If the city councillors do not move in this direction, the associations should set up this legitimate demand of seeing how the public funds are spent in the interests of the city. Or again why should not the city interest all the local medical practitioners in the administration of public health service? Why not invite them to lecture on hygiene and preventive methods at as many places as possible in the city? Similarly the engineering population should be interested to look into public works administration and suggest ways and means of improving it. The teachers and old and learned men of the community should be invited to take interest in the educational efforts of the municipality.

SUGGESTIONS FROM THOSE SERVED.

As Bruere has pointed out "even enlightened self-interest, when turned towards government may lead to improvement." Thus tax payers may help improved road pavement. Women voters may help proper location and distribution of markets. And so on for every service, the persons served may suggest methods of cheaper and better service. All this requires active citizenship.

GRAPHIC PUBLICITY OF ESSENTIAL FACTS.

But active citizenship in its turn depends on adequate publicity of essential city facts. If we want to enlist citizenship, graphic publicity should be increased. Thus in every city the death-rate in different wards and among different communities varies. If every month graphic posters of death-rates by wards and communities were exhibited, in the backward wards and among backward communities and at schools, it will set up emulation among the wards and communities to come up to the level of the best ward and the best community. Educational facts may be likewise published graphically in all public places to induce citizen interest and citizen effort. Graphic budget exhibits will give the citizens an idea of where the taxpayers money goes. A great deal of interest in civic welfare can

thus be aroused. "City reports must be intended not for printing only but for reading, understanding, interpretation," and most of all for arousal of citizen activity.

ENLIST CITIZEN EFFORT.

It is a mistake to suppose that municipal efficiency depends mainly on higher taxation in money, or that money tax is the only tax which a municipality should levy on its citizens. On the contrary the ideal should be to tax the least in money and most in enlightened attention available in the community. Enlightened citizen attention and citizen co-operation should, be attracted, invited and enlisted even by social pressure, and social approval for purposes of city welfare. It invests the citizen with a sense of dignity to be called upon to participate in the joint creation of a healthy, happy, beautiful city, to take part in city welfare work. Responsible and responsive participation in civic affairs is likely to add a new zest to many an otherwise humdrum life, and bring out the latent powers of many a citizen. Instead of relying on outside help, this sort of active participation in city affairs thrown open to the greatest number of citizens, would very likely make them self-reliant. It should, therefore, be an aim to interest

as many citizens as possible in intelligent participation in the welfare work and social service programmes of the city. The money levy is also ultimately useful when converted into human energy. Why not tax available enlightened energy at convenient times, instead of increasing the rates, and thus educate the citizen for his work as well?

THE ELBERFELD SYSTEM.

A very good instance of active citizen participation is the famous Elberfeld system of charity administration. The system, as briefly described by Blackmar and Gillin in their 'Outline of Sociology' p 466, is as follows. "The city is divided into 564 sections. Within the confines of each section are included about three hundred people, but with not more than four paupers in any one section. Over each of these sections is placed an almoner, as he is called. The almoner is the official with whom each needy person comes into first-hand contact. To him the needy of that section make application for help. He then enquires carefully into all the circumstances of the case. If convinced that the family needs relief he gives it himself. He must, however, keep in close touch with the family by a visit once in two weeks. He gives relief according to a mini-

imum standard set by law. Any income the family may have is deducted from this minimum, so as to make sure it is not getting more than enough to supply the bare necessities of life. He not only supplies relief but is also supposed to keep a general oversight, over his district, and act as advisor to any whose circumstances may indicate the possibility of falling into dependence. He helps secure employment for the unemployed, medical help for the sick, and offers advice to the improvident and dissipated, or in case of the incorrigible, reports them for prosecution. He loans sewing machines and tools belonging to the municipality to those who may thus be kept out of want. These almoners are appointed for three years and service is compulsory, on pain of loss of franchise for three to six years and increase of taxation. The best citizens are thus secured for the work. The office is considered such an honour that it is frequently sought by the best citizens, being considered the first step on the ladder to political office in the municipality. Fourteen of these sections are organised into a district, over which is an overseer whose business it is to preside at the fortnightly meetings of the almoners, where the reports of all these almoners are considered, and a minute book prepared for the central

committee of nine, which is over the whole system of the city. This committee meets fortnightly also, but on the night following the meeting of the district meetings. Indoor relief is also controlled by this committee, the overseers and almoners having no connection with that. In many places both men and women serve as almoners. These almoners are chosen from all classes of the population and not from the upper class alone. In every city where this system is in operation, a large army of men and women of at least average intelligence are interested in the problem of poverty, not after dilettante fashion; but by first-hand acquaintance. Efficient service is secured because it is personal and intimate. With no more than four cases to look after it is possible to show neighbourliness. The system where introduced leads to decrease of pauperism. Similar efforts for the promotion of health and diffusion of education would lead to active citizenship, which would be comprehensive and co-operative.

SOCIAL CENTRES AND SOCIAL SETTLEMENTS.

Among other measures for the promotion of active citizenship, we have already referred to the social centre idea, the weekly meeting of voters in every primary school. The social settlement idea

is another wonderful social invention which if popularised would open opportunities for constructive and active citizenship through sharing ones best with ones neighbours and increasing friendship with them. It is a constructive movement of the highest kind. As helpful literature on active citizenship we may therefore suggest besides Ward's Social Centre, that excellent book 'The Settlement Horizon', by Woods and Kennedy, issued by the Russell Sage Foundation, New York.

PART III.

Twelve Specific or Functional Tests.

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PART III.

TWELVE SPECIFIC OR FUNCTIONAL TESTS.

Questions for Councillors and Citizens.

1. *The Health Test.*—How far does the city discharge the functions of promotion of health, prevention of disease, and postponement of death? Is the death-rate the lowest for the region? Is it increasing or decreasing?

2. *The Education Test.*—What is the percentage of population reached by appropriate education? What is the percentage in school? What is the quality, and what is the cost per pupil, in different grades of education?

3. *Public Safety Test.*—How far does the Municipality promote public safety through adequate fire prevention, adequate policing, lighting and traffic control?

4. *Public Morality Test.*—How far is public morality guarded? How far are drunkenness, debauchery, gambling, and rowdyism checked? Have the slums been improved, or reduced?

5. *Maternity and Infant Welfare Test.*—Has anything been done towards Child and Women Welfare, in housing plans, in milk supply, in teaching mother-craft, and in playground provision in every neighbourhood?

6. *Public Charities Test.*—Is there a register of all public charities? How far is the city advanced in charity administration? Is charity discriminate, preventive, and well-organised?

7. *The City Planning Test.*—Has the city been planned? Is its lay-out being systematically improved,

with a view to present and future residential, industrial, and recreational requirements, etc.

8. *Efficient Budget Test.*—Is there sufficient reporting and publicity of essential facts? Is there efficient accounting, and full and free discussion of the budget? Is the distribution of appropriations for different functions fair, and economically utilised?

9. *Public Works Test.*—Are there standard specifications and schedules for public works and stores purchased? Is there a standard testing laboratory? Is the cost per mile of road-making, of different widths and specifications, being noted, and gradually reduced? Has the same procedure been adopted for other important items of public work, *e. g.*, street lighting, street watering, street cleaning, etc.?

10. *Public Utilities Test.*—Are the public utilities, like power, light, tram and telephone acquired and economically managed by the Municipality?

11. *Public Ownership Test.*—How far does the Municipality own the buildings required for its various institutions? How far does it own land required for its further development? Has land speculation been eliminated, and is economical housing provided by Municipal efforts?

12. *Parks and Playground Tests.*—What is the percentage of residential area reserved for open squares, parks and playgrounds in each ward? Is there an open space within five minutes' walk of every home? Is the tree census taken? Is the plantation of trees being steadily increased, through institution of "Arbor Day," etc.?

CHAPTER XXI. TWELVE SPECIFIC TESTS.

Besides the six general tests of a comprehensive survey, and an adequate service programme based on ascertained needs, efficient method for each item of service, and a smooth working organization, trained, skilful, socially minded, permanently employed personnel, and active enlightened citizenship, there are about a dozen or more specific tests by which any municipality may measure its efficiency. We shall now proceed to enunciate them and consider how they may be used to improve municipal efficiency.

PUBLIC HEALTH TEST.

In the noble words of Ruskin "There is no wealth but life—life including all its powers of love, of joy, of admiration." Conservation of human life is the prime work of all human groups. Man seeks the help of his fellow man to extend his life and enrich it. So a city or municipality, that does not promote the utmost of the best life of its citizens is so far inefficient. With Mayo-Smith the great statistician we may take it as a great truth, that "the comparative death-rate is

an index of the relative civilisation of countries" and may we add of the relative efficiency of cities. So the first functional test, and the greatest test of municipal efficiency is the health test. How far does the city satisfactorily discharge the functions of promotion of health, prevention of disease, and postponement of death? That is the prime test.

PUBLIC EDUCATION TEST.

And if the first test be health of body, the maintenance of greatest percentage of long-lived, "ful-breathed, bright-eyed, happy-hearted human creatures" the second best test of municipal efficiency is how far it aids in the formation of the intelligence and the correct exercise of the affections of the citizens. This may be called the education test of the municipality. How far does the municipality improve the intelligence of citizens through reaching all with appropriate education, retaining them till the completion of different stages, primary, secondary and higher, improving the quality and minimising the cost of education? What is the percentage reached? What percentage retained? What is the quality? And what the cost per pupil in different grades of education? Such questions reveal the comparative efficiency of a municipality.

PUBLIC SAFETY TEST.

What is the third specific test of municipality? It is what may be called the safety test. The questions that will reveal the condition of a municipality in this connection, may be framed somewhat as follows. How far does the municipality promote public safety, through effective fire prevention and fire-fighting appliances, through adequate policing and traffic arrangements? The number of accidents, thefts, fires, etc. and total loss of life and property caused thereby from year to year measures the efficiency in this direction.

PUBLIC MORALITY TEST.

Parallel to the public safety test is the standard of public morality test. How far is rowdiness and drunkenness checked? How far has the problem of prostitution been solved? How far has the numerical disparity between the sexes been kept down by adequate housing arrangement for labourers attracted from the country? Adequate cheap and commodious housing has a deep effect on not only public health but public morality. Common privies and common bath-rooms are not conducive to decency or correct behaviour. The housing policy and bye-laws have thus to do with the promotion of a certain standard of morality in

the city. Housing inefficiency and the absence of employers' responsibility for housing their employees is responsible for the excess of males over females in most of the cities and the consequent increase of social evil.

CHILD AND WOMEN WELFARE TEST.

This leads us to another test of municipal efficiency, child and women welfare test. Is the child adequately considered in the housing-plans passed? Are the requirements of recreation and play considered for children in all localities? Are there any pure milk depôts? Is there systematic instruction in infant welfare? Is maternity welfare work done to any extent? What is the infant mortality and mortality through maternity?

CHARITY ORGANISATION TEST.

Along with child and mother welfare, we may consider how far the city has advanced in charity administration. Charity may be so misadministered as to keep up poverty instead of curing it. The best charity is that which keeps the recipient out of the need for further charity. The gift without the giver is bare, and much of our indiscriminate charity only increases the evil which it seeks to remedy. An enquiry into

municipal and private charitable institutions would reveal how far charity is discriminate and organised. With Ford we may say: "If human sympathy prompts us to feed the hungry, why should it not give the larger desire to make hunger in our midst impossible. It is easy to give. It is hard to make giving unnecessary. Charity organisation is necessary, so as to make every unit more productive and self-reliant and self-respecting. Charity should put the recipient on his feet, and not render him a cripple throughout his life. We need training schools for defectives and sub-division of productive operations, so that the operations that can be performed by the blind and the lame and the maimed, may be made over to them, thus rendering them self-reliant and respectable and independent of further obligation."

CITY PLANNING TEST

Leaving now these tests which more or less concern directly the life of citizens, let us enquire into further functions that indirectly promote citizen welfare. Foremost among these is the city planning test. Has the city been planned or has it grown haphazard? If the latter, is its lay-out being systematically improved with a view to present and future requirements? Has the

city co-ordinated each part with reference to the rest, and adequately provided for quiet and cheap residential areas, with properly distributed health and educational facilities? Such questions reveal the presence or absence of conscious and controlled design and development of the living entity the city.

PARK AND PLAY-GROUND TEST.

Then there is the park and play-ground test. What percentage of the residential area is reserved for open squares, parks, and play-grounds? Is there an open space within five minutes' walk of every home? What is the total acreage used for such purpose? What percentage of the total area? Is it being reduced or increased? Is the tree census taken? Is there anything like an arbour day? It may almost be said with truth that he who opens a play-ground closes a drinking saloon. Parks and play-grounds are a great need for health and education. This, therefore, is a good test of municipal efficiency.

PUBLIC WORKS EFFICIENCY TEST.

Next to that, a specific functional test is the efficiency of the public works division, including road efficiency, standard specifications for public works, standard testing laboratory, a department

perhaps the least developed, but one which needs most to be developed and can be developed co-operatively by sister municipalities and one which could effect much saving.

PUBLIC UTILITY TEST.

Next to that, the efficiency of a municipality may be gauged by the fact whether public utility services like power and light supply, and tram etc., are in the hands of the municipality or in the hands of private corporations. Public utilities should be in the hands of the municipality so that the advantage of expansion may not be monopolised by a few capitalists, but may go to reduce the unit-cost per service rendered. German municipalities have gone the furthest in this direction. "How far are the public utilities acquired and economically administered by the municipality?" is a test question in this direction.

PUBLIC OWNERSHIP TEST.

Not only public utilities, but cheap areas for housing developments are also acquired by some German municipalities. In this way land-speculation is eliminated and economical housing facilities provided for dwellers in the city. The rental goes to lessen the burden of taxation. "How far

is public-ownership of housing etc. encouraged?" will thus also be one of the tests.

BUDGET AND PUBLICITY TEST.

Finally efficient reporting and efficient publicity of essential facts, so as to keep the citizens in vital touch with the city government, is one of the tests of an efficient municipality. This finds its culmination in efficient accounting, full and free discussion of the budget and a fair appropriation and allocation of resources for the different purposes according to their urgency. The budget test is thus a very good test to see whether most is being got out of the funds spent, and whether the funds are being spent on necessary purposes. What percentage of total expenditure is being spent on health and education and recreation? What is the percentage of expenses on other items, and how do these percentages compare with past years and with other municipalities that may be considered as more advanced in those directions?

Such are some of the specific functional tests of municipal efficiency. By applying these one can discover where a particular municipality stands with reference to the services it has undertaken to discharge. These tests will be found

great eye-openers. It is comparison with the past and the performance of other municipalities that is a great revealer of weak spots and a spur to greater excellence. Will the Municipalities make use of this comparative and co-operative method?

LITERATURE SUGGESTED.

Two books will be found of great value to those who want to know fully about these specific tests. "Municipal Functions" by H. G. James, in that eminently useful series known as the National Municipal League Series, published by Appleton, the whole of which should form a part of District Municipalities' Circulating Library, and secondly the best single book on the highest water mark of municipal achievement, a book which ought to be read by every municipal councillor, even if no other is read, viz. "American Municipal Progress" by Charles Zueblin, in the Social Science Text Books Series, published by Macmillan & Co.

CHAPTER XXII. THE PUBLIC HEALTH TEST.

THE TEST STATED.

Now we enter upon the specific tests of municipal efficiency and let us see where the cities of the Presidency stand when judged by these tests. The prime test in this connection is the Public Health Test. We have briefly enunciated it as follows:—*How far does the city satisfactorily discharge the function of promotion of health, prevention of disease and physical disability, and the postponement of death?* Stated more fully, the objects of public health are the same as those of Preventive Medicine, as laid down by Sir George Newman, Chief Medical Officer of the Ministry of Health, in his excellent paper "An outline of the practice of preventive medicine" on p 5. They are as follows:—

(1) To develop and fortify the physique of the individual, and thus to increase the capacity and powers of resistance of the individual and the community.

(2) To prevent or remove the causes and conditions of disease or of its propagation.

(3) To postpone the event of death and thus prolong the span of man's life."

THE DEATH-RATE TEST

In a way the postponement of death, as revealed by the higher or lower prevailing death-rate in a city, is the crucial test, as it sums up the results of endeavours to prevent disease, and promote health. Judged by the death-rate test the municipalities of the Bombay Presidency, show a deplorable inefficiency. From the fifty-eighth annual report of the Director of Public Health, the latest available, pages 31 and 37 it will be seen that the death-rate for towns is 34·84 per thousand, while the death-rate for the rural portions of the same districts is 23·89, i e nearly 11 per thousand higher. The town population of the Presidency is 3,728,396 and this gives us an avoidable waste of precious human life to the tune of 41000 annually. While the cities of civilised nations have progressed so far during the last forty years as to bring the urban death-rates to several points below rural death-rates (See Comparative Death-Rate Graph) our cities are still in that state of civic negligence in which the the cities attract the most forward spirits from the country side and manage to destroy them faster by 41000

annually. Will the citizens wake up and repair this great wrong to their own country-men?

THE TEN WORST TOWNS.

Judging by the figures of 1921, the ten most sinful towns in this respect in the order of their sinfulness are 1. Pandharpur with the appalling death-rate of 54·74, 2. Chopda, 51·62, 3. Poona City, 47·61, 4. Parola, 46·36, 5. Bombay, 46·25, 6. Barsi, 44·94, 7. Sholapur, 44·37, 8. Ahmedabad, 40·10, 9. Dakore, 38·92, 10. Trimbak, 37·68. Judging by the mean death-rate for the last five years the ten worst towns in descending order are 1. Sholapur, 89·32, 2. Malegaon, 73·12, 3. Deolali Cant, 68·19, 4. Dhandhuka, 61·79, 5. Poona, 61·49, 6. Ahmedabad, 60·38, 7. Barsi, 59·59, 8. Karra, 59·42, 9. Ranibenur, 59·10, 10. Nadiad, 57·81. Judged by both tests the following stand convicted of the grossest neglect Sholapur, Poona, Ahmedabad, Barsi. Will the Doctors, Engineers, Public workers, and educated men of these and other cities organize these cities for better health, and thus repair their sinfulness at least, with regard to this dreadful human holocaust?

THE TEN BEST TOWNS.

Let us compare these with the actually

attainable best even in our presidency. The best towns from the point of view of health during the year 1921 in their respective order of merit were 1. Nepani, 6'25, 2. Karad, 8'35, 3. Deolali Cant. 9'97, 4. Hyderabad Cant., 10'37, 5. Tando Adam, 10'87, 6. Karwar, 11'96, 7. Nawalgund, 12'84, 8. Bulsar, 14'37, 9. Ahmedabad Cant., 14'39, 10. Nawabshah, 14'44. Judging by the five years mean death-rate the following ten stand out as the best ten towns 1. Chiplun, 7, 2. Karwar, 17'01 3. Hyderabad Cant., 19'72, 4. Poona Cant., 20'13, 5. Belgaum Cant., 21'44, 6. Uran 22'11, 7. Bandra, 22'27, 8. Halla, 23'34, 9. Bulsar, 25'55, 10. Igatpuri, 26'08, By both tests Hyderabad Cant., Karwar, and Bulsar stand as the best. While some of these figures may not be reliable on account of defective registration, those pertaining to cantonements are probably highly reliable, and Poona Cant., Bandra and Bulsar show what is attainable in towns of over twenty-thousand even. Let the backward towns try to come up to the level of these best attainable standards.

SOME CURRENT MISCONCEPTIONS.

Before I proceed to make specific recommendations for the improvement of municipal efficiency in public health, let me dispose of

certain current misconceptions with regard to the operative factors controlling death-rates in cities. That cities in all parts of the civilised world have been able to reduce their death-rates during the last forty years, proves conclusively that the higher death-rates in our cities are not as is popularly supposed due to divine dispensation, but to our social ignorance and mismanagement, and greatly due to civic disorganization and neglect. That intelligent human intervention, can reduce infant mortality, and maternity mortality, can prevent many of the epidemics, and reduce death-rate and thus postpone death to seventy years or more, now admits of no doubt.

Another current misconception is that death-rate depends on the size of the city. Death-rate does not depend on the size of the city. Thus Pandharpur with the highest death-rate has a population of only 25,210, or again Barsi with a mean five years' death-rate of 59 has a population of 22,074 while Bandra with a five years' mean death-rate of 22.27 has a population of 28,738 and Poona Cant. shows a death-rate of only 20.13 though it has a population of 25,498. Again London the world metropolis with a population several times these small cities has yet a death-rate of only 14 per thousand.

Again it is popularly supposed that death-rate depends on nationality or race. It does not. Cities inhabited by people of the same race differ greatly in death-rates. Thus in Sindh, Sukkur and Shikarpur, have such different death-rates, though they are both in the same district and ethnically the same. Rural and urban areas have the same nationalities and yet such different death-rates.

Elaborate statistical studies carried on by Pollock and Morgan justify in their opinion the above conclusions as well as the following, namely that thirdly death-rates do not depend on the age of the city. In several towns the death-rates have declined as the towns have grown older.

“Fourthly the death-rate depends only slightly on climatic conditions. In primitive communities heat and cold, rainfall and other features of the climate such as winds and storms produce decided effects on the health of a people, but civilisation has neutralised their effect to a large extent.” Thus Italy a hot country could yet reduce its death-rates, while St. Petersburg a colder one had still high death-rates. There are no doubt seasonal variations in every city, but we are talking of the com-

parative annual death-rates of different cities, where these seasonal variations do not count so much.

REAL CAUSES OF HIGH DEATH-RATE.

"5 The death-rate does depend on water supply and drainage arrangements of a city. Cholera and typhoid are disseminated through impure water. By introducing a filtered water-supply Albany, New York reduced its typhoid deaths from 84 annually to 21. Hamburg and Naples had a similar experience."

"6. The death-rate depends on housing conditions." There is overwhelming evidence from all parts of the world that overcrowding leads to debility, to increased sickness rates, and higher death-rates. (See Newman's *Outlines of the practice of Preventive Medicine*, p. 63 and Pollock and Morgan's, *Modern Cities*, p. 64) The Bombay Municipality report for 1920-21 shows that in one roomed tenements the infant mortality, was 63.11% while among two-roomed dwellers it was only 30.40. When Berlin made its housing conditions survey in 1885, it found that the death-rate among one-room dwellers was over seven times as great as among two-roomed dwellers, twenty-three times as great as in three-roomed dwellers, and

thirty-three times as great as in four and more roomed dwellers."

"7. The death-rate depends on the protection afforded to the citizens against fire, disease, and crime."

"8. The death-rate depends on the economic conditions of the people." The city must therefore favour the development of industries, and by foresight locate them so as to save transport and nuisance as far as possible.

"9. The death-rate depends on the habits of the people." Drink, debauchery and gambling increase the death-rate. The liquor shop and brothel, the race course, the stock exchange, and speculation hasten many a man to an early grave. There should, therefore, be citizen effort to discourage these, by finding out other channels for adding zest to life, giving vent to the adventurous spirit of man. In athletics, art, and politics we have such outlets for civilised man.

PREVENTION OF DISEASE.

Taking now our second item viz prevention of disease we find that we have made very little headway indeed. Several of the items of a com-

plete policy are altogether absent. Prevention of non-infectious disease, such as heart diseases, rickets, dental diseases, indigestion, has not yet been included in the programme. Industrial hygiene has just attracted a bare attention. A complete policy of prevention would include these, as has been so ably shown by Sir George Newman.

PROMOTION OF HEALTH.

For increasing our health efficiency, our municipalities have not only to steadily endeavour to postpone death and prolong life, not only to do all that can be done in the way of preventing diseases that can be prevented, but advance further and lay down and carry out policies for positive promotion of health. Among the items which aim at fortifying the physique, the foremost will be an awakened interest in Eugenics. Through Eugenics we can help the coming generation with a fair start in the race of life. The rousing of the Eugenic conscience is necessary for controlling ante-natal infection through alcoholism, syphilis, feeble-mindedness, tuberculosis etc. Public opinion has to be roused against marriages with alcoholics, syphiletics, feeble-minded persons, and tubercular persons. The Hindu Shastras have put such types under a social ban. There are some eugenic

PROMOTE HEALTH THROUGH

1. **EUGENICS** to control ante-natal infection through alcoholism, syphilis, feeble-mindedness tuberculosis, and lead-poisoning.

2. **MATERNITY AND INFANT WELFARE WORK.** Pure milk supply. Little mothers' classes, etc.

3. **ATTENTION TO THE SCHOOL CHILD.** Physical education. Play grounds.

4. **PUBLIC EDUCATION IN HYGIENE.** Mothercraft, open air education etc.

POSTPONE

Causes of High

NOT.

1. SIZE.

London the world metropolis, has a death-rate (14) much lower than many smaller cities, and its death-rate has decreased as its population has increased. In Sind, Sukkur has a death-rate (18) much lower than many a smaller town.

2. RACE.

Cities inhabited by people of the same race differ greatly in death-rates. Thus Sukkur and Shikarpur though in the same district and ethnically the same have such different death-rates.

3. AGE OF CITY.

Death-rates may decline as a town grows older.

4. CLIMATE.

In primitive communities heat and cold rainfall and other features of the climate affect the death-rate ; but civilization neutralises their influence to a large extent. Seasonal variations remain, but the annual death-rate may still be reduced through citizen and municipal effort.

DEATH.

Death-Rate are :

BUT.

5. WATER SUPPLY AND DRAINAGE.

Cholera and typhoid are disseminated through impure water. By introducing a filtered water supply Albany, New York reduced its typhoid death-rate from 84 annually to 21. Hamburg and Naples had a similar experience.

6. HOUSING.

Housing conditions affect death-rate much. Overcrowding leads to debility, increased sickness and higher death-rates. Bombay shows that infant mortality in one-roomed tenants is 63.11 % while in two-roomed dwellers it is only 30.40. Berlin in 1885 found that death-rate in one-roomed dwellers was seven times as great as in two-roomed and twenty three times of three-roomed.

7. DISEASE AND CRIME.

Protection against fire, disease, and crime affects the death-rate.

8. POVERTY AND VICE.

Poverty affects death-rate, through malnutrition, bad housing, and insufficient clothing.

Vice or bad habits such as drink, debauchery and gambling, whether on the race-course or exchange or speculation, shorten life of many a citizen.

PREVENT DISEASE BY

1. MINDING ITS FOUR FACTORS. Soil, Seed, Surroundings, Treatment.

2. ORGANIZATIONS. Public Health service, School medical, Health insurance.

3. SUPPLY of Pure Water, Pure Food, Pure Milk.

4. PREVENTION OF INFECTIOUS DISEASES through mosquito, fly, and rat destruction.

5. PREVENTION OF NON-INFECTIOUS DISEASES. *e. g.* Heart diseases, Dental diseases, Indigestion.

6. INDUSTRIAL HYGIENE.

provisions in the Hindu marriage ceremonies. The Garbhadan sacrament revived by the Aryâsamâjists is a eugenic sacrament. In the words of Galton, we must try to disseminate a knowledge of the laws of heredity, we must enquire into the reproductive rates in different classes of population, we must assiduously collect facts about the conditions of thriving families, influence right marriages by social approval and disapproval, and persist in setting forth the national importance of eugenics.

To fortify the physique of the individual, we must further look to maternity and infant welfare work. In this connection it is interesting to note that we have the Lady Chelmsford All India League for Maternity and Child Welfare, which issues a quarterly magazine which ought to be widely circulated by municipalities.

To promote health we must look to the nutrition and cleanliness of the school children. There should be regular dental clinics. Dr Osler rightly says that dental decay leads to greater physical degeneration than even alcoholism. And so a tooth-brush drill conducted in schools and attention to the teeth of children and elders is a health-promotion work of very good kind. Then we must have more of physical education work, and public

teaching of hygiene, in which we must enlist volunteer effort of the medical profession. Mothercraft should be taught in all girls schools. Open air education should be promoted. Excursions to gardens, and scouting both for boys and girls is a right step in this direction. These and similar methods should be adopted by the municipalities for promoting health.

STUDY AND PRACTICE PREVENTION.

What then are the proposals for increasing municipal efficiency so far as health is concerned? In the forefront of my suggestions I would place the request that each of the big municipalities should buy and keep in active circulation a dozen copies of the excellent memorandum addressed to ministry of health, by Sir George Newman, entitled "An Outline of the Practice of Preventive Medicine." obtainable from H. M. Stationary Office, Imperial Kingsway, London, W. C. 2. It is an inspiring and cheap brochure which should be read by every municipal councillor interested in his city's health, and will prove an unfailing source of constant inspiration. The publication costs only six pence and is worth its weight in gold. Another book for understanding modern public health procedure is Dr. Hill's.

A report to be very carefully read by all citizens interested in Public Health is the Director of Public Health's annual report, several copies of which should be kept in active circulation. The details as to present conditions of municipal health staff employed by different municipalities will be found on p. 32—33 of the report for 1921. All municipalities can at least follow the excellent example of Kaira and Bulsar who rely for advice in sanitary matters, on the elected medical officers among their councillors. In fact municipalities should elect as many experts in medicine, engineering, and science as they can, and they will be run all the better.

GRAPHIC PUBLICITY OF DEATH-RATES.

A second suggestion I would like to make is that graphic publicity be given to death-rates, and disease-rates. Boards should be placed at different registration offices, noting down the daily figures. That the rates be analysed every month and graphed by communities and quarters to lessen their death-rates. That these be exhibited in the form of the posters in the 'different quarters, and discussed at ward meetings, and in different schools. They should be so brought to the attention of the people that action may be evoked.

COMPARATIVE DEATH-RATES.

Having found by comparative death-rates, the position of the different communities, and the different wards, we should try to have a comparative idea of the death-rates of the whole city as compared with its past five years' average, and with the death-rates in cities in the same region, or cities of the same size. We have next to see what percentage of the budget is spent by different municipalities on health, and see that atleast 30% of the entire municipal expenditure goes to the conservation of human life. We have to see that it is spent in the best way for the purpose.

INCREASE THE HEALTH BUDGET.

Beyond increasing the financial budget for Health, we should draw upon the energy budget of citizens for promotion of public health. We should enlist as much volunteer effort as can be enlisted in this cause in each ward, to satisfy the requirements of each ward. Student effort should be enlisted as hereafter suggested.

EDUCATE IN HEALTH MATTERS.

Public lectures on principles and practice of Hygiene should be held in each ward, and the

ward doctors invited to help in that direction. They may preferably be held in different primary schools and be accompanied by lantern shows. There should be a small health library in each ward. Every collection of books on health and physical culture existing in the neighbourhood, should be listed and fully utilised. A separate room may also be provided in each school where any voter may weigh and measure himself, and record at a slight cost the essential facts about himself for future reference. In fact everything should be done to introduce the physical culture cult.

COORDINATE HEALTH AGENCIES.

The public health department of the municipality should coordinate all preventive, curative, cultural, and community effort in each and every ward, so as to give the benefit of the best to all. Citizen effort should be aroused to the utmost through publicity, press and platform, and each ward should be encouraged to take all correct steps towards the reduction of death-rate, and disease-rate, and prevention of avoidable disability. Each and every city may thus try to bring down its death-rate to the level of the best in its region and thus reach the reasonably attainable minimum of 13 per thousand.

TRAIN CITIZENS IN HEALTH WORK.

Karachi was declared as plague infected. And Karachi looked to its Health Department for plague prevention. It also looked to private exodus, to migration into health camps by those who could afford. It relied on rat destruction, disinfection, protective inoculation and improved sanitation. Poor cat, the natural enemy of the rat, found no honourable mention in municipal record, nor encouragement in plague service. Still the programme was fairly comprehensive, but it did not build the backbone of the people, it did not train citizens to fight plague producing conditions in every home, in every neighbourhood. Its call on citizen cooperation was feeble, its enlistment of citizen enthusiasm left much to be desired. It is the citizen who must be roused to do his bit. The success of the health department must be measured by the extent of citizen cooperation it secures, the extent to which it educates each individual citizen, and evokes his enthusiasm.

THE EXAMPLE OF INDORE.

How is that to be done? Indore did it by public pageant and procession. (See 'Town Planning in Indore,' Geddes) A huge effigy of the demon of plague, riding a magnified rat, with

a flea quite conspicuous settled upon the rat, the whole accompanied by the procession of workers in the health department, perambulating through the city on a camel cart, with halts and speeches and distribution of leaflets at every junction and final burning of the effigy of the plague demon, would grip the imagination, and focus the thought of citizens, as nothing else will. It will be a pageant of driving out the plague, instead of fleeing from it by those who can afford, and leaving the rest to their fate.

STUDENTS' EFFORT IN HYDERABAD.

If the adult citizen is torpid though I don't admit he is, may we not catch him when he is young, in the plastic period of his schooling, and interest him in rat destruction, and at appropriate seasons in fly campaign and mosquito campaign as well? Hyderabad did it, why may not other cities? Thus we read in the report of the Hyderabad Municipality for 1918-19 that the school pupils were interested in rat campaign, and caught 10,400 rats out of the total of 36,000. In the next year the children's contribution was 6,267 rats. The school children were given a reward of one pice per rat. Why not also a reward for pet cats?

STUDENT MOSQUITO BRIGADES.

In the mosquito campaign, too, it would be quite interesting and instructive to enlist student enthusiasm, if not adult enthusiasm, in the matter of inspection and report to begin with, and by and by in oiling, ditching, draining, and destroying the breeding places. The mosquito brigade may exhibit its work at different schools, and call for mosquito brigade volunteers, who may be supplied with the necessary tackle, and go on supervised rounds twice a week under one of their teachers, tracking the breeding places, and oiling them where necessary. Thus may the future citizens be trained and interested in public health work, and every neighbourhood rendered mosquito free, and kept regularly inspected. The best health department is that which trains the citizens to help themselves under its expert guidance. Greenwich, Connecticut, in the United States reduced its malaria from 600 cases in 1912 to only 30 cases in 1914. Philadelphia began its mosquito campaign, by an extensive propaganda specially in schools. In 1913 twenty illustrated lectures in the life history of the mosquito were given in churches, schools, libraries and lodge rooms. The public schools teachers were persuaded to talk to the children on the subject. One hundred thou-

sand pamphlets were distributed among school children, and a hundred thousand more among householders. Then followed the treatment of pools, and breeding places. Seventy five acres of malaria breeding places were thus rendered malaria free. Public Health departments in Sind, and public health workers have here a chance of saving many deaths and doctors' bills by citizens' efforts.

CLEVELAND'S JUNIOR SANITARY POLICE.

America has discovered that flies are more dangerous to civilised man than all the wild beasts in the world. *Junior Sanitary Police* made up of school boys and school girls, has made many a city flyless. The board of health, Cleveland, inaugurated a campaign, organising the children of the sixth, seventh and eighth grade of the public schools. The schools were used as distributing centres for literature. The campaign was initiated by a gifted lady Dr. Jean Dawson. 'She organised the boys into Junior Sanitary Police, and the girls into Sanitary Aides. The boys inspect backyards and inform house holders of the conditions of their garbage cans and other fly-breeding places. The girls working in pairs, have inspected stores and counted the number of flies visible in three minutes.

The great achievement of Cleveland is in arousing the entire population to the significance of the early fly. A fly in hand in the breeding season is worth two thousand in the kitchen. The campaign of education starts with lectures on the life history of the fly, from its breeding place in manure and filth to its fatal climax.' The official fly catcher instructs in the use of the fly trap. Breeding places are disinfected. Fly traps are distributed, and thus the fly scourge and typhoid eliminated. It is a pity that typhoid cases are not separately shown in the municipal reports of Karachi. Karachi ought to set an example in fly destruction as well. Will it allow Hyderabad to have the lead in this too? Let these movements be India-wide in scope, but local in expression.

GRAPHIC REPORTING.

A graphic monthly report of city's health, exhibited in a prominent place in every school, market and public place will train the future citizens to take interest in health and life, the real wealth of a people. Such report to get inside the mind of the citizens should be brief, prompt, explicit, graphic. One foolscap poster a month will do. It is quite possible for a high school pupil to learn that 'the efficiency of the health

department may be gauged by some such facts as the following:—

1. Death-rate, 2. Increase or decrease in epidemics, 3 Infant mortality rate, 4 Bacteria count of milk—maximum, average. 5 Number of school children treated for defects, 6 Number of nuisances abated, etc. etc.,

All compared with previous periods.”

With our students lies our future. The future citizen must be interested in the city's work and welfare. He can be trained to prevent disease and postpone death. Will the health departments tap this great source?

CHAPTER XXIII. PUBLIC EDUCATION TEST.

INCREASE EDUCATIONAL FACILITIES.

Among the opportunities which confront an efficient city government, the next to that of the promotion of the health of the citizens, and saving of avoidable waste of life, is the really great opportunity and responsibility for education. In the words of the Mayor of Schenectady, the ideal in direction may be stated to be 'to utilise the opportunity to enlarge the scope of education until it includes men and women in a continued process of increasing enlightenment.' It will thus be clear that the educational policy of a progressive municipality would include within its scope, not only boys and girls, but infants and children, and adults of all ages as well. In the words of Comte the whole of the objective life is a process of education for the subjective life, and the city ought to help the citizen at all ages and help him or her in assimilating the best social heritage.

GENERAL TEST.

The ideal being, to enlarge the scope of educational effort to include citizens of all ages in a

process of increasing enlightenment, what may be the tests by which we may judge of the efficiency of a municipality as regards this important function? Of course, there is the general test whether the city is rising in its scale of nobility, whether the citizens are increasing in mutual goodwill, knowledge, skill and self control, or are torn by internal jealousies, losing grip on the realities of life, becoming increasingly helpless to do any thing well with their hands and pursue the arts, and losing the hold even on their own life through increasing drunkenness, debauchery, gambling, vice and crime? That is the *ultimate test, the generational advance, arrest, or retardation in the scale of nobility.*

SPECIFIC TESTS.

Specific efficiency tests, such as objective tests for different school subjects as reading, writing and arithmetic are still in the course of development. The art of mental measurement is being gradually developed by the Americans, and perhaps the day will come when the cities will conduct a psychological survey of their population and ascertain the general intelligence level of their citizens. It will perhaps be a matter of several decades before we reach that stage.

What then are the available tests by which

we may judge of the educational efforts of a municipality? The percentage of citizens it reaches with appropriate education is one of them. Their steady attendance, the level of education, are other tests for the purpose. Applied to its school system, these tests may be laid down in the words of Dr. Bachman of the committee of School inquiry, New York, as follows:—"Generally then a school system is most efficient: (a) which *reaches* the largest proportion of the children of the community of school going age;

(b) which secures their maximum attendance and succeeds at the same time in giving to the largest proportion of the children of the community, *a complete elementary education* if not a complete high school education;

(c) Which gives at the same time the *best quality* of elementary and high school education;

(d) Which educates the children of the community when everything is taken into account, *at the smallest cost* to the tax payer."

REACH THE GREATEST NUMBER.

Let us now apply these tests to the 160 Municipalities of our Presidency. What do we find?

While America has compulsory education upto 16 years with a tendency to raise it upto 18, and while England has compulsory education upto 14 with a tendency to push it upto 16, we are here still in the stage when we are aspiring to have compulsory education upto 11. Socialization, and universalization of education is the first sign of an advancing civilization, and our present aspiration shows just how backward we are. Without education our population quality remains low and we cannot advance as a people. Municipalities should therefore exert their best to reach all atleast upto the age of 11. Let us see where they stand when judged by this test. From the Report of the Compulsory Education Committee p. 6, we find that out of 150,000 boys of school going age in our municipalities excluding Bombay city and Sindh, the schools as yet reach only 82000 or hardly 55% and similarly out of 135000 girls of school going age, we reach at present only 29000 or 20½%. The municipalities in Sindh are still more backward. Out of 38000 boys of school going age in the municipalities in Sindh the schools are able to reach only 16000 i, e, about 42% only. While out of 27000 girls, the municipalities reach only 7000 or about 26% , which though better than the rest of the presidency is not very high in itself. This shows

that judged by the reaching test the municipalities of the Bombay presidency are still very backward.

SECURE MAXIMUM ATTENDANCE.

Applying the attendance test, we find from the Supplement to the Report on Public Instruction 1921-22, pages 35-50, that the attendance in the day schools of municipalities ranges from 78 to 72% for boys, and from 70 to 64% in the case of girls. In the case of boys the Sindh division shows the best attendance having 78% , both the Southern division and the Central show an attendance of 77% , the Northern division shows 76% while Bombay division has the lowest average attendance, showing only 72%. In case of day attendance of girls in Municipal schools the best record 70% is shown by the Northern division, the Southern division standing next with a record of 69% , the Central division showing 66% , Sindh 65% and Bombay division lowest here too having 64% attendance. Each Municipality should chart by ages the total number held in school, and improve on its own records from year to year.

REDUCE THE COST PER PUPIL.

Applying the cost test, we find from the same supplement p. 33-50 that the annual cost of educa-

ting each pupil in the primary grade varies from Rs. 50-1 in Bombay municipalities, to Rs. 36-12 in Karachi municipalities, to a minimum of Rs. 14-6 in Satara municipalities, a very wide variation showing great lack of standards. While when we examine the schools within the same municipality the cost per pupil still varies within very wide limits, which shows absence of local standards. A great deal can be saved for further diffusion of education, if optimum standards were rigidly applied, in a matter of routine like primary education. Now if we compare the cost per pupil in Municipal Schools with the cost for the same grade of primary education in aided schools we find that with the exception of Nawabshah, they are uniformly lower ranging from Rs 28-10 in Bombay district, to Rs. 3-15 in Kanara.

It will thus be seen that a great deal can be saved by substituting aided schools for municipal managed schools. Private effort should thus be encouraged to the utmost. The Compulsory Education Committee remark on page 26th of their valuable report as follows. "It will perhaps be safe" they state "to take Rs. 20 as the inclusive cost in the first year of the programme, and to allow for a slow but steady

reduction, say 8 annas each year, bringing the figure down to Rs. 15-8 in the tenth year, and Rs. 15 afterwards." It will be good for the Municipalities to frame a similar programme of reduction of cost per pupil while keeping quality the same. Their great opportunity lies in encouraging private endeavour, in which our Presidency is abnormally backward. Thus on p. 11 of Compulsory Education Committee's report we find:— "It is interesting to note, however, that whereas over 80% of the primary schools in the Bombay Presidency are managed by Government, District Local Boards, and Municipalities, less than 7% of the schools in Bengal are under similar management, and only 27% in Madras. While Bombay depends to a comparatively small extent on private enterprise, Bengal relies on it almost entirely. It is presumably for that reason that a pupil in Bengal primary school costs less than Rs. 3-8 in 1918-19. The corresponding figure for Bombay is Rs. 13, which has since increased to over Rs. 16 (if Bombay City be included.)" There is thus evidently a large margin available for reduction in this direction.

INCREASE THE ALLOTMENT FOR EDUCATION.

Not only the cost per pupils varies within

such wide limits, but the percentage of total expenditure allotted to education varies greatly in the different municipalities. The highest percentage on public instruction is as we have shown spent by the Southern Division, being 34'3% of the total expenditure. Next to that comes the Northern division with 24% appropriated for Public Instruction. The Central Division spends only 21% of its municipal budgets on instruction, and next comes Sind with only 13% allotted to education. Last of all comes Bombay City with only 7% of its vast expenditure devoted to education. The curious fact is that the cost per pupil is the highest in Bombay and Sind where the proportionate allotment for education is the lowest. These figures go to show as we have stated, *that the educational efforts of different municipalities do not expand with their revenues, but are as it were kept at a uniform level, namely the minimum required instead of the maximum possible under better resources.* In our opinion not less than 30% of its total expenditure should be spent by every municipality on this most important item of service, namely public instruction. If primary education is not able to absorb that, libraries, and laboratories, industrial instruction and local colleges, and even local universities may be run by rich municipalities.

QUALITATIVE TESTS.

Enough of these quantitative estimates. They simply show that the number reached leaves still 45% boys and 70% girls to be reached in the municipalities excluding Sindh, and in Sindh has still to reach 58% boys and 74% girls of school going age. We further find that the maximum attendance is not secured, that the cost per head need not be so high, and that in the richer municipalities greater percentage of the budget should be allotted to education. Let us now consider the question of education from the qualitative point of view. Qualitatively education appears here to have stuck in routine, just as it has done in most other parts of India. Habit seems to rule the Municipalities as well as the department rather than fresh or forward thinking. The result is that cities have not evolved systems of education suited to their individual needs, but just taken the line of least effort, in copying what the educational department has laid down for them, without any inclination to utilise even the latitude allowed. In our educational endeavours we have often adopted the form, but left out the life. To improve our educational endeavours we need to make our schooling a living reality rather than a mere dead form and routine. To improve the

quality of our education we have to improve the proficiency in the taught as well as to introduce certain new characteristics into our education, the characteristics towards which scientific endeavours in education seem to be tending. My reading and reflection lead me to group all modern tendencies under half a dozen principles which constitute I believe the very life of a sound educational system. I shall enunciate these and show what changes they suggest in our educational endeavour.

RELATIVITY OR ADAPTATION.

The first cardinal principle of sound education appears to me to be the principle of relativity or adaptation. The best type of education will be relative to the physical surroundings, relative to the aptitude of the individual and his age, and finally relative to the social needs of his times. One stereotyped system will not do for the city, as well as the country, for mountain side as well as sea side. Thus Ruskin, a great educationist of modern times, pleaded for coastal schools being different from rural schools, and rural schools teaching different subjects from urban schools. We have only developed the city type of education and have yet to develop the coastal type required for particular

surroundings in such cities as Bombay or Karachi. Education is for helping us to do well what needs to be done. Now fishing needs to be done by the fishermen, the original occupants of Bombay and Karachi. Shipping needs to be taught, at least management of country craft, yet Bombay and Karachi have done nothing in the direction of marine education. It seems to have been forgotten by these municipalities, that Bombay and Karachi are just fishing villages transformed into a harbour cities. The fishing section of the population seems to have been neglected by the educational department of the municipalities. A good starter in this line would be an aquarium, at the Backbay Bombay or on the Native Jetty Karachi, like the one we have at Madras, its upkeep being provided from a slight fee levied on visitors. The aquarium may be placed in charge of the professor of biology, or the curator of the museum, or one in charge of the zoological section of the museum.

Again this same principle of relativity requires that education should be suited to the age and aptitude of the individual child. Child education has to be different from adult education, and this again to differ with different types of minds. The child repeats the history of the race, and so educa-

tional methods differ with different age periods. William James thus talks of the transitoriness of instincts, and advises the teacher to seize the happy moment for imparting skill, to seize the wave of pupil's interest in each successive subject before the ebb has come. Stanley Hall another great educationist, describes the different educational periods and the methods to be followed. I shall take only one instance, the training of the child from 3-5 years of his age. Sense training is an essential before training in speech and letters. Let the thing and the word go together else clarity of ideas will not result. Most of our children are form-blind, and colour blind; their tactile, thermic and pressure senses are defectively developed. Their schooling thus becomes difficult for them. To remedy this we need Kindergarten and Montessori as regular features of our educational system. It has been found by American educationists that those trained by these methods go through their elementary course at least half a year quicker. I therefore plead that a more serious attempt be made to universalise Montessori, and Kindergarten, to start the foundation of child education aright. It is the right of the child to be "taught through his finger tips." My suggestions on this point are that Montessori is really a pre-

school course. In all municipalities we need childrens' homes in every city quarter. We need a Montessori set for each neighbourhood of about 500 people. Our municipalities should appoint travelling Kindergarten lady teachers, to hold demonstration lessons in different neighbourhoods, in the home of the most cultured lady, and train her up for this sort of volunteer effort two hours a day. A beginning may be made by having the travelling lady teacher spend a month at a time in each neighbourhood and plan for suitable volunteer effort along with her demonstrations. The girls in our girl schools taking up the domestic course should have Montessori as one of the subjects, so that they may be able to impart sense training to children in later life. Sets of apparatus may be lent out by the municipality to such trained girls. It is when the mother takes up the teaching function that we shall have the educational foundations well and truly laid.

ROTATION OR RHYTHM.

The second principle of education that needs to be widely used is the principle of rotation or rhythm. The great psychologist William James suggested that there should be half-time school and half-time workshops if we want to give an

efficient education. The day is gone when people pinned their faith on an education merely of the talking tongue and the listening ear. The cry is for an education of the seeing eye and the helping hand as well. Muscular movement will build the mind as much as mind concentration will build up the muscle. The education through sensory impression needs to be balanced by an education through motor expression, so that we may produce our best and utmost by alternating mental with manual work. Perhaps the best example in this direction is the Gary system of education. In the Gary system we have an alternation of work, play and study. This gives a longer school day with better work and less fatigue. With four school rooms one can manage eight classes for the rest are in the workshop, or on the playground, or in the auditorium. Mr. Wirt the talented school superintendent of Gary saw no reason why all the school equipment should not be used all the time. He therefore devised to use the playground, and the school room and the drawing room, and the auditorium all the time in happy alternation, so that work and play afforded relief from study, and sent the student more keenly to his study at the study hour. He made the school a centre of social attractions, so that it was utilis-

ed in the evenings and if possible at night as well. The principles of rotation and full time use of material and human equipment are of great use in increasing our efficiency.

VOCATIONAL TRAINING.

Next to that we may consider the principle of vocational training or the social service idea in education. Education should fit a man for some definite work required by his social surroundings. Nature gives us capacity which may be definitely trained for different purposes. Any one almost can be trained for half a dozen occupations. For which one particularly he should be trained should be determined with reference to the social needs of the time, so that we may not have too many lawyers, nor too many doctors nor too few business managers. Right education should not wean a man from his legitimate work but render him fitter to discharge the work he may probably have to do. The educated man is now often a drag upon society, instead of a help. Education should therefore have a vocational as well as a cultural aim. The common operations in kindred occupations have to be analysed and taught so that a student may be able to do one of half a dozen different things. It is highly necessary to intro-

Principles of Modern Education.

OUTER ADJUSTMENTS.

A. RELATIVITY OR ADAPTATION

To Place,
e. g. Ruskin's Rural, Urban, and Coastal Schools.

To Person,
e. g. James's Transitoriness of Instincts, Hall's Education Periods. Montessori's Sensory and Motor Training.

To Social Needs,
e. g. Manual Training in Operations common to local Occupations.

B. ROTATION OR RHYTHM

Alternation of Work and Rest periods as advocated by Efficiency Engineers.

Gary system of Study, Work, and Play in rotation.

James's-half time Study and half time Workshop programme.

C. VOCATION OR SOCIAL SERVICE

Establish equation between individual aptitude and Social need.

Link Learning to Life.

Distribute Talent according to Social Requirements.

Condon organised Apprenticeship in connection with existing Works in the Community.

In Cincinnati Students alternate between University and Shop, week by week.

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Principles of Modern Education.

INNER ADJUSTMENTS.

D. OBSERVATION AND COMMUNION

Bergson's first-hand, direct, continued contact, with Nature and with Man, and with Divinity.

Pestalozzi's Observation and Intuition being the basis of all Education.

E. FREEDOM AND CREATIVENESS

Montessori. Freedom for the Child. Let the Child lead.

Dalton Laboratory Plan. Each one free to follow his own organic time.

Bergson's helping the Child to create according to his inner urge.

Sanyasi method of meditation in Solitude, Silence, and Subdued Light.

Wanted not repressionists nor impressionists but expressionists.

F. FELLOWSHIP AND CO-OPERATION

Help in each other's creation. Participation in common projects.

Team work, organised games.

The Indian doctrine of *Satsang*. Character is caught, not taught.

Penn High School has a Social Workers' Club, which sends out twenty to fifty girls a week to Hospitals.

Los Angeles Boys constructing their own School Buildings.

New York Municipal University uses all its Factories, Water-works and all other Establishments for training Students.

duce manual training both for mental clarity, rotation, and vocational fitness. In Pittsburg, and Cleveland something of that sort has already been done and the Russel Sage Foundation Report on Educational Surveys conducted there would be of great service. A wider use should be made of the principle of apprenticeship. All the existing shops and work-shops, whether municipal or private, are possible educational institutions, and advantage should be taken of as many of them as possible. Existing industrial works are utilised in American cities for training students for local industries. Theory at the school, supplements the work at the shop. Similarly where people already go for hand-work, it will be an educational service to supply competent instructors for theory, for drawing etc. Workshops have thus a possibility of being transformed into technical institutes, when educational awakening has reached a certain stage.

COMMUNION OR OBSERVATION.

To the French philosopher Bergson we owe three more fruitful principles in education, recognised by great educators of all times but now mentioned by the French philosopher with a new emphasis. The first principle of sound education is that of communion. Communion he defines, as

direct and continuous contact with the phenomena to be studied. It is direct method in all things, not only direct method in language learning, but direct look-lore of nature, direct dealing with man and direct dealing with divinity. A very fruitful principle this, an amplified name for what Pestalozzi called, observation and intuition, as being the basis of all sound education. This will lead us to introduce a note of out-door education in our policies. Visits to the sea-side and excursions should be a regular feature of sound education. The pupils should be encouraged to cultivate familiarity with their surroundings to such an extent that they may find tongues in trees, sermons in stones and books in the running brooks. 'Till back to the land becomes possible back to the open air will be found highly helpful. Our hermetically sealed education, out of touch with the great outside is not very useful'. So we must encourage the observational note in our educational endeavours. There should be excursions at least once a week in every school.

CREATIVENESS OR FREEDOM.

The second note in the new education is the note of creativeness. All sound education is creative, and not merely communicative. But crea-

tiveness requires certain conditions. Creativeness is fostered in freedom. Our schools are fear ridden. The student is in fear of the teacher, the teacher in fear of the inspector and the inspector in fear of the director. We want a note of freedom all along the line. Then only can each create. Montessori started this new note of freedom in education. Let the little child lead the teacher instead of the teacher leading the child. Leave him free to choose his own activity. Free to sit, stand or lounge. The teacher must lead by loving provision of what the child mind requires, and not by imposing his adult standards on child mind. Perhaps the most notable further advance in this line is what is known as the Dalton plan of education. Under the Dalton plan we have no classes by standards but by subjects. Each student pursues and organises his own studies in his own way. Each student is free to progress at his own rate in every subject. He is free to continue, without interruption, his work on any subject in which he is absorbed. "No bells tear him away at the appointed hour, and chain him to another subject or another teacher." He works according to organic time not according to solar time. Here then we are learning the lesson of meditation. For one of the conditions of creation is meditation.

Bergson's contribution is still one step in advance. He wants that there should be rooms provided in every school where the pupil when he has the creative mood may retire. Because all creation is travail, a mental labour which needs certain isolation at the time. Every student is to be encouraged to create according to his inner urge. The value of silence, solitude and subdued light for purposes of mental illumination has been forgotten by the modern world and we need to restore that feature which made the thinkers take to caves to open their inward iris in relaxation. Our temples should be used oftener for creative and meditative purposes.

CO-OPERATION OR FELLOWSHIP.

The final principle of new education which I shall consider is the principle of co-operation, sometimes worded the principle of fellowship, also named the principle of association. A sound system of education would not only induce every one to create according to his inner urge, but utilise to the full the principle that union is strength, and that co-operation multiplies capacity. The ancient principle of Satsang is education through fellowship. Education through association with those who excel in a particular line, as well as

co-workers in the same line, or through division of labour and combination of efforts, is a necessary discipline for social life. So each one should be led to take increasing interest in the creations of his companions, and there should be certain objects of co-operative endeavour, in which team work should display itself, such as staging a drama, dramatising history, literature etc. Co-operative games, choral songs, concerts, dancing together and such other features would be helpful. Thus in the Dalton plan the child is assigned his annual or monthly work, he signs his contract and sets about doing it. He plans to complete it in his own way, discusses out with the teacher how he may do it better, and sees how others do it, and through social co-operation finds the best way of adjusting means to ends. In some of the schools the principle of co-operation is employed so far that the students constitute a self-governing body. They hold their own disciplinary councils, they discuss curricula and suggest what would better suit their inclination. In fact teaching is a partnership between the child learner and his friendly helper the teacher. The teacher should co-operate with the pupil, and seek the co-operation of the educated men in the neighbourhood for general lectures. The municipal board should co-opt educationalists for council.

The college should interact with the school and for the city organised for education, all should find an appropriate place for their effort. There should be in short an educational association for each city. There should be interborrowing between libraries of different schools, there should be co-operation with the museum, and exhibits may be borrowed or sent round to different schools. And in a thousand ways the principle of co-operation may be employed to improve educational effort.

RECOMMENDATIONS.

What then are my recommendations for increasing educational efficiency of municipalities: My first recommendation is that the goal of educational endeavour be clearly conceived as the effort to *reach all the citizens* with what they require in the matter of education. The municipality should try to enlarge the scope of their educational policy till it includes all men and women in a process of increasing enlightenment. We are now reaching only 6% of the total population and so we have to reach the remaining 94%

The education so conceived should be *adjusted to local needs* and requirements, should be related to the physical, and social surroundings. This means that for cities like Karachi and Bom-

bay, for example, there should be marine type of education developed, besides the commercial type and the industrial. It means the establishment of an aquarium and fishing and shipping school.

Similarly another immediate step seems to be laying the foundation of our educational system on sound sense training, *by universalising Montessori*. For a city like Karachi we need 400 Montessori sets, a set for every neighbourhood of 100 families, at least two travelling lady teachers to teach mothers to train children in each neighbourhood. We need inclusion of this as a subject in the domestic course and as an optional for any girl who wants training in that direction.

Then we need greater efforts in the direction of *industrial education*. A list of local industries and how far they will accept apprentices, and allow an hour's daily teaching among their workers would be a good feeler in that direction. At any rate all the municipal workshops should be places for teaching as well. The workers in the Railway workshops may likewise be aided through evening classes and books in Urdu and Gujerati on technical subjects likely to help them in their work. I consider as an immediate necessity a corres-

pondence course library, for all industries that are prevalent in any city. If the Municipality can do nothing for this subject, let it build an industrial section to the local library, where second hand correspondence courses may be kept for reference by those interested in different industries. The co-operation of the engineering colleges should be sought in this connection.

ADULT EDUCATION.

Then with regard to adult education, the municipality ought to promote this by a regular system of volunteer lectures or discussions in every primary school. The lectures and courses may be on personal hygiene, or on other subjects which interest the citizens, for which lecturers of approved educational qualifications are forthcoming. The college, highschool, and school resources ought to be freely drawn upon. Authors, editors, and sound thinkers should be freely utilised. In fact the volunteer educational resources of the community should be mobilised.

Outdoor education should be encouraged. There should be excursions at least once a week in all our schools and colleges. Batches of students should be guided through the gardens and the museum. We should have more of scouting

activities, and open air education by day and night sometimes.

Temples should be more utilised *for meditation* and creative endeavour, and for moral instruction purposes, the best ethical teachings of each religion being put before the adherents, through the effort of the best representatives of each sect. Temples are really adult education institutions, and it should be the duty of citizens to see that they are utilised for that purpose. Of course each community will have to be stimulated to do its best in this direction being helped only by the knowledge of the best actual example that may be discovered.

And finally there should be an *educational association*, of all interested in education, to view the problem comprehensively and keep in touch with latest thought on the point and circulate it among the teachers and those interested. Such an association may list all the books on teaching in different educational institutions, and establish interborrowing rights among them, and invite teachers and professors and municipal workers in education to conferences for solving the educational problem of the city. Papers on education received in the different institutions may be

exchanged for mutual profit. We have very few resources and are enormously backward and we must mobilise and utilise all our resources, if we want to do the first duty of a civilised people, namely to socialise education and put it within the reach of every one.

Of course as a last demand I would like that 30% of the revenues be devoted to educational purposes, and that these be spent very economically, that is the cost per pupil be kept reasonably low. Thus the cost per pupil in aided schools is only Rs. 6 to the municipality and therefore such schools should be encouraged, rather than municipal schools which cost Rs. 40 per pupil in a place like Karachi. And even in the case of municipal schools the cost should be brought down say to 25 without ofcourse bringing down the quality. This can be done by finding how other cities in the same region say Shikarpur and Sukkur in Sindh are able to have that low cost, and seeing how far a similar procedure can be adopted.

Much needs to be done, may the public workers have the courage to combine to do it, to discharge this primary duty of a civilised people—socialising education.

LITERATURE ON THE SUBJECT.

Besides the Compulsory Education Committee's valuable report, and the annual report of the Director of Public Instruction, which should both be very carefully studied by those who want to see where their city or municipality stands in the matter of education, a very good book on the subject of modern advance is that by Dr. Jhon Adams entitled, *Modern Developments in Educational Practice*, published by the University of London Press. That should be in every municipal library, to start interest in modern improvements in this direction.

BACHMAN'S SUGGESTIONS.

The chapter on "Attaining Efficiency in City School System" contributed by Dr. Bachman to Vol XII of the *Annals of the American Academy of Political and Social science*, p 158-175, contains valuable graphic presentment of school facts and should be studied by all who want to improve city school systems. In the words of Dr. Bachman "The main points in the method of attaining efficiency in a school system may be readily inferred. There is involved, first, the collection of data on the number of children the school should reach, on the number of children the

school is reaching, on the amount of schooling the children are actually receiving, on the quality of instruction given and on the cost; there is involved, second, the interpretation of these facts and their use in fixing upon new administrative plans, in providing new kinds of schools and new courses of instruction, and in devising new methods of teaching, and, third, there is involved the measurement of the results attained through the new plans, the new schools, the new courses, and the new methods to the end that the data thus derived may be used in judging of their worth and in providing for the further improvement of of their system."

XXIV. THE PUBLIC SAFETY TEST.

In the statement of expenditure of the municipalities in the Bombay Presidency, under the heading Public Safety are included four items, namely fire, lighting, police, and destruction of wild animals. The expenditure under these headings amounts to about ten lakhs in the municipalities excluding the Bombay City and forms about one seventeenth of the total budget or nearly six per cent. In the different divisions the expenditure varies between 4.5% in the Southern division to about 8% in the Northern.

POLICE.

As police functions here are not directly municipal functions, and as the destruction of wild animals, forms only a small part of municipal activities, the two main items to be considered by us are safety against fire, and provision of adequate lighting.

FIRE FIGHTING.

We shall take up safety against fire first, for though the expenditure under that heading is less

than that on lighting, the total loss to the citizens is a heavy item, which municipal and citizen effort should constantly aim at reducing. An easy gauge of municipal efficiency in this direction is the comparative annual per capita loss in different municipalities and in the same municipality from year to year. The total absence of comparative statement of per capita loss even for a decade, shows that municipalities have not awakened to the importance of having standards wherewith to measure their performance. Similarly while we find statement of efforts to put out fires that actually occur, there is little mention of preventive effort. Prevention is better than relief here as well as elsewhere, and we need awakening in this direction.

The annual per capita losses show, even in the few cases for which the figures are available, that they vary a good deal from municipality to municipality, and therefore show that human mismanagement counts for more than natural calamity in the case of fire losses. Thus, in the few cities for which I have been able to collect figures, I find that the per capita losses through fire, vary from Rs. 3/3 in Bombay city to 3 per head in Karachi, to 1½ per head in Ahmedabad, to ¼ per head in Poona,

and 1/24 per head in Hyderabad Sindh. These facts show how largely fire losses are due to human mismanagement and are therefore avoidable and preventable.

CAUSES OF FIRE.

Among the causes of fire are *individual negligence*, careless disposition of burning materials, or accumulation of inflammables. Over half the total number of fires are due to carelessness, against which the remedy obviously is education of citizen opinion and improvement of their habits. Recovery of damages in case of proved carelessness would act as a deterrent. In big cities we have besides the fires due to carelessness, the fires due to *malice*. Thus the Bombay Municipal report mentions 71 malicious fires having occurred in the course of a single year 1920-21. During the recent strikes, and during riots and disturbances we have frequent cases of incendiarism. To prevent such fires we should work towards industrial and communal peace. Lastly there are fires due to *greed*. A failing business, or unsaleable stock may be heavily insured and the temptation to recover insurance money may lead to setting it on fire. In Karachi municipal reports, the sudden increase in

fires in certain years of business depression, almost leaves on one the impression that the fires were due to greed. Some precautions against overinsurance would be a safeguard against such cases. A keen public disapproval of such courses of conduct, and a strict dealing with cases actually detected, would in some measure decrease the number of fires due to greed.

FIRE PRECAUTION TESTS.

The extent and thoroughness of fire prevention work may be gauged by trying to find out answer to the following questions with regard to ones own municipality: Bruere in his "New City Government" facing page 300 has the following suggestive questionnaire which may be used for the purpose. We append our comments below each question.

"1. Are the buildings inspected to prevent accumulation of inflammable material?" Fire departments may here enlist the aid of school children or Boy Scouts, and thus educate young citizens in detection and prevention work.

"2 What special regulations are there for trades in which fire hazard is large?" Generally no such regulations exist. The provision of water

buckets or fire extinguishers in dangerous trades would be a great desideratum.

“3. Are industries of this character isolated e. g. manufacture of matches, gas, storage of oil, manufacture of nitro-glycerine etc?”

“4. Are dry goods stores, workshops and factories required to instal sprinkler system?”

“5. By what department are fire escape regulations enforced?”

“6. How frequently are fire escapes inspected to ensure proper construction, freedom from encumbrance, proper maintenance and repairs?”

“7. What requirements are laid down for fire proofing of buildings?”

“8. What special provision is made, for the protection, from fire, of employes of factories?”

“9. Is a record kept of every building used for a workshop or other congregate purposes, showing condition with respect to fire safety?”

“10. Are fire drills required in schools, in workshops, in factories?”

These are very necessary and may be introduced in all schools so that orderly help may be rendered by citizens in fire fighting. At Visva Bharati, the poet has introduced this feature

of training for social helpfulness and with marked success in fighting village fires. Why should not this feature be added to school training as an optional to sports?

“ 11. Are fire extinguishers required? ”

“ 12. Who is responsible for knowing that they are installed and kept in a state of efficiency? ”

EDUCATE IN FIRE-PREVENTION.

Towards organization of fire-prevention in every municipality, the following extract from James', 'Municipal Functions' p 55 would be found suggestive. " The fire-prevention authority of a city, should devote a large amount of energy, to a campaign of education calculated to dispel the ignorance that exists with regard to possible fire origin, and to bring home by repeated emphasis the need of reasonable care in dealing with possible sources of fire. (For helpful pictorial publicity in this connection see p 222 Community Life and Civic Problems) The best place to begin such a campaign of education and publicity is, of course, in the schools, where illustrated lectures and moving pictures can be used to advantage. But the present generation of adults is quite as much in need of enlightenment as is the coming generation,

and these same methods should be employed to reach the grown up men and women of the city. Leaflets or cards containing a comprehensive list of fundamental don'ts, would have considerable value if widely distributed. This educational work may be effectively supplemented and vitalised by prohibiting some of the most obvious and avoidable acts of carelessness and making their commission punishable."

FIRE FIGHTING.

Next to the problem of fire prevention through education of the citizens, through building regulations, citizen preparedness, and provision of fire extinguishers in all places and trades where there is great danger of fire, we still have to provide for fire fighting, since some fires will occur even with the best of precautions and preparedness. To meet this contingency of fire fighting we need an organised fire fighting force and up to date fire fighting appliances. Besides a regularly paid, and permanently manned fire brigade, in constant readiness day and night, in the smaller cities we should have the practice of having the help of volunteer fire brigades, from trained boy scouts or other young citizens whose enthusiasm lies that way. Each small municipality and even big ones

may have thus fire defence volunteers regularly trained by the paid fire brigade staff. This will contribute to better citizenship, by showing how the duties of citizenship must be shouldered by each one according to his capacity. In the fire fighting forces we need strict discipline and concentration of authority, a quasi-military type of organization. The fire brigade must be available night and day, and at all points and must therefore except in the case of very small cities be evenly distributed.

AMPLE WATER SUPPLY.

Next to sound organization we need ample water supply, the best pumping engines, hose and ladders. In the words of Zueblin "The chief agents for efficiency in the fire service in American cities are superior apparatus, superior organization of the department, a superior water system, the assessment of damages where they belong, better building laws and fire prevention propaganda. The noteworthy improvements in fire apparatus are in the substitution of motor for horse-drawn vehicles, in automatic fire protection and fire alarm devices, and in fire boats. The value of fire apparatus is determined largely by the speed with which it reaches the fire. In this respect the horse is unable to compete with the motor vehicle."

TEST THE APPARATUS.

As noted by Bruere, cities should test their apparatus from time to time. Thus under tests for hose Bruere writes "Untrustworthy hose which breaks under pressure often cripples fire fighting at the most crucial moments. Protection against such a contingency is afforded in the first instance by the use and enforcement of adequate specifications in the purchase of hose and, second, by frequent tests of its condition. A majority of the cities use the same brand of hose and purchase it practically without specifications."

INDIVIDUAL FIRE FIGHTING.

Lastly let me draw attention to an encouraging instance how businessmen and citizen organizations help fire prevention and fire fighting in advanced countries. Thus the Rochester N. Y. chamber of commerce carried on a vigorous and telling campaign for fire prevention in 1911. Bruere writes "The chamber's pamphlets," The Prevention of Fire, and "Individual fire fighting" are worthy of reproduction by every commercial organization in the country. Especially helpful were suggestions made to owners of buildings on how to study the problem of fire prevention.

Three steps in planning the elimination of fire hazards were recommended.

Study your place alone to study every fire breeding condition.

Call in the fire marshall to make similar study and report his observations.

Call in the man who places your insurance and ask him to investigate and report.

Then concentrate first on the sources of danger noted in all the three inspections and eliminate them.

For the guidance of everyone the chamber summarized the philosophy of fire prevention in the following axioms;

Do not put your trust in a fireproof building—your responsibility is just as great as in a wooden structure.

Risks are dangerous or not as the owners make them so. It is not wholly the nature of the business. It is the nature of the men.

Study to prevent fires in your house and place of business.

Be prepared to put out fires before they become dangerous.

Be prepared to save every person in your employ if your place burns—plan before the fire occurs.

It is none of my business does not apply to fires. Every fire is your business—it hits your pocket book.

Insurance will cover only a part of the loss if you have a fire. Insurance is only a partial repayment not an absolution.

Fire prevention is largely a matter of cleanliness and carefulness in the individual—in you.”

LIGHTING TEST.

It is rather curious that even in a function so common to all the municipalities, such as street lighting, there are no known standards for different municipalities to gauge and compare their varying unit costs for service rendered. Thus the most comprehensive statement of cost that I find in any municipal report in the Bombay Presidency is that given on pp 170-171 of the municipal administration report Karachi for the year 1920-21. There I find it stated that a Kitson lamp cost the municipality Rs. 26-9-4 per month, a petrol lamp Rs. 9-9-1 per lamp per month, an ordinary lamp Rs. 5-5-6 per month of 316 hours, and a hundred candle power electric lamp cost the municipality

Rs. 8-6-6 per month of 316 hours. It is very strange that even in this statement, the best of its kind, one does not find the candle power of Kitson, Petrol and ordinary lamps stated, nor the hours per month, nor the candle-distance-hour cost of lighting. The service rendered has thus not been put in comparable units. Lighting efficiency of the different systems cannot therefore be satisfactorily measured. The distance between lamp posts, the area lit up, the candle-power and hours of service are essential factors in any such comparison. These factors could be satisfactorily worked out if the local colleges, lent the aid of their Physics department for standardising investigation. Lighting costs in big cities could be saved a good deal if there be regular investigation and inspection, along these lines, to present a factual basis for sound judgment.

PROF. MERRIAM'S INVESTIGATIONS.

The following experiences of some American Municipalities are helpfully suggestive. In Prof. Merriam's paper on "Investigations for Administrative Efficiency" on p. 287, of the book "Efficiency in City Government" we find it stated "In the street lighting contract providing for 6000 gasoline lamps, the difficulty was with inspection. The city

did not possess even the "portable photometer" necessary to make the tests and allowed the contractor a free hand. Our tests showed that instead of a guaranteed candle power of 60 the average was 19 as shown by one set of tests and 26 by an other. No deduction was made for failure to furnish the light guaranteed and the loss incurred from this cause was estimated at \$85000."

CHICAGO'S RECORD.

In the same publication on page 291 we have the following statement of what Chicago found by inspection and investigation. "In the Department of Electricity, the gas lighting service maintained by the city was found to be in a poor condition. Of 956 mantle gas lamps inspected, only 62% were in condition which could be called passable.

The following table indicates the results found.

Inspection of Gas lamps in Chicago.

Good.....	173	20.2%
Fair.....	350	50.7%
Bad.....	229	26.7%
Very bad.....	82	9.69%
Out.....	24	2.8%
No Chimney.....	62	7.2%
Broken glass.....	36	4.2%

"The expert reported that 'It is highly probable that the light in case of mantle and open flame lights could be increased fifty percent should the proper care, for which the city is paying, be given to the lamps.'"

CINCINNATI'S STORY.

Here are experiences of the Cincinnati Bureau of Municipal Research, given on p 266 of the above publication. "Street lighting:—In connection with the new ten year street lighting contract, the bureau, in co-operation with several other civic organizations, was directly responsible, for the revision of the specifications so as to include, especially provisions for checking up the service rendered by the contractor, and the provisions enabling the city to take advantage of any improvements in lighting methods, as well as provisions reserving to the city power to continue the use of gas if desired. It is believed that the public discussion of the terms of the contract was largely instrumental in reducing the prices, which based on the approximate existing number of lamps, represents a decreased payment by the city of over \$ 60000 a year."

REDUCE THE UNIT COST.

Had we similar investigative and citizen

effort, the unit cost per service rendered so far as lighting is concerned could be considerably reduced. We require several Bureaus of Municipal Research to scientifically work out costs per unit service for different municipal functions and that would aid every where the promotion of public welfare. This is a highly desirable direction for charitable and volunteer effort.

CHAPTER XXV. PUBLIC MORALITY TEST.

Under the public morality test, those interested in the welfare of their city should try to answer the following questions. How far is public morality guarded? How far are drunkenness, prostitution, gambling, and rowdyism checked? Have the slums been improved or reduced? The improvement of public morality through citizen effort will therefore be considered by me very briefly under these headings, of drink, prostitution, gambling, and slums.

THE DRINK EVIL.

Judging from the figures of excise revenue, the position of the Bombay Presidency is the worst, so far as drink, and intoxicating drugs are concerned. Thus on p. 227 of 'India in 1922-23' we find "The excise revenue per head, which includes what the state derives both from drink and drugs, varies in different parts of India, from just over four annas in the United Provinces, to one rupee fourteen annas in Bombay. Between these two extremes come five annas in Behar, eight annas in the Punjab, eleven annas in the Central Provinces,

thirteen annas in Assam and Burma and one rupee two annas in Madras." It will thus be seen that active and intelligent citizen effort, individual and associated, is required to combat this evil in our Bombay Presidency.

WORST IN CITY AREAS.

The drink evil is the worst in urban areas. Thus in the excise report for Bombay Presidency for 1922-23 on p. 33, we find the consumption of country spirits per head in drams. L. P. is 15.9 in urban areas as against 2.7 in rural areas. This means that the conditions of our cities increase drinking habits sixfolds. What a sad commentary on city culture is this single fact! Taken by districts the worst districts in this respect in the Bombay Presidency excluding Sind, are Colaba, Thana, Bombay where the consumption per head is 40.9, 28.1, 25.4 drams respectively, while the best districts are Satara, Bijapur, Sholapur with a consumption per head of only 2.6, 4.7, and 5.7 respectively. Among the individual towns and cities for which figures are given in the excise reports, the worst are Bassien, Alibag, and Bandra, with a consumption per head of 51.4, 40.9, and 36.9 drams respectively. Will the citizens of these towns wake to the sad fact and redeem their towns

from this sad predicament? It is a sad commentary on the backwardness of our notion of citizenship that the municipal reports of each town do not give these facts bearing on the welfare of the citizens. The reports of each city should find out and dwell on these facts, and evoke citizen effort to counteract the prevailing urban disease of drunkenness.

DRINK IN SIND.

For Sind, the urban consumption per head in drams London Proof was for the year 1922-23 11.06, while the rural consumption is only 0.57. The worst districts are Hyderabad and Nawabshah, and the worst individual cities and towns are Hyderabad and Karachi.

DR. MATHAI'S REMARKS.

Those interested in the drink problem, would find a very lucid and simple statement of the outlines of the problem of drink, and the pros and cons of different government policies with regard to it, in the able paper by Dr. John Mathai, on "Excise Policy in South India" embodied in pp. 107-112, of the Report of the Seventh Indian Economic Conference. In the words of the writer "The real charge against the excise policy of the

Government is not that it has increased consumption, but that it has failed to reduce consumption. The declared policy of the Government with regard to excise is that of maximum revenue and minimum consumption. The actual results, however, show that while the revenue has pursued an ever increasing maximum, the consumption has stood at a steady and unchanging minimum." He then goes on to show the advantages and disadvantages of the licensing method followed in the Madras Presidency, and compares it with the surcharge method as practised in Bombay. This last is described by him as follows; "The amount of spirit issued to each shop from the distilleries every month is limited to a fixed maximum quantity. The quantity issued is based on the issue of the corresponding month in a selected previous year. A deduction of a fixed percentage is made in the current year, on the corresponding month of the previous year. The system aims at a direct reduction by Government of the quantity consumed, instead of leaving the reduction of consumption to the operation of high prices of the auction method. The chief objection urged against this method is that the quantity issued in the corresponding month of the previous year, offers no reliable guidance at all with regard to

probable consumption during the given month in the current year. The consumption of liquor depends upon various uncertain factors, specially in a country exposed to the fluctuations of the seasons and the accidents of epidemics. If there happens, therefore, to be a greater demand in the current year during the particular month, the supply issued gets exhausted before the month is out, and people either resort to illicit practices, or in large cities to the purchase of cheap foreign spirits."

Dr Mathai then goes on to discuss, other policies for the reduction of drink, such as the Monopoly method, Prohibition, and Local option. He sums up his discussion by saying "The licensing method has failed to bring about a perceptible reduction in the consumption of alcohol the more drastic remedies such as prohibition are obviously impracticable; and therefore if success can be achieved it is to local option that we must look for it." We are told "Two conditions may be regarded as necessary for the effective introduction of local option; first a sufficient degree of intelligence and understanding among the electorate, and secondly the inclusion among the electorate not necessarily of every adult individual,

in the area, but of every important class and interest in it."

RECOMMENDATIONS.

What then are the different municipalities to do to combat the drink evil in their midst? In the first place it is obvious that they should *get interested in the facts* of the condition of their city. Next recognising how much the elimination of the drink habit has to do with the welfare of the community, they would certainly have in their city as many well-organised *Temperance Associations* as may be required looking to its size and composition. They would put life into existing Temperance Associations. They should prepare the ground and agitate for local option. Till that be obtained they should see that the advisory committees which we have in our Presidency, are kept alive and well informed, of the steps necessary for their city. Vigorous temperance campaigns should go side by side with *improvement of living conditions and working conditions*, and public provision of playgrounds and innocent recreation opportunities which would render the resort to drink unnecessary. Enlightenment as regards the manifold evils of drink, substitution of innocent joys and healthy living and working conditions,

and thus cutting off the root causes that drive people to drink and the reduction of temptations to it, all these efforts should go hand in hand. Picketting against drink must go on at the heart and hearth of the drunkard, rather than at the drinking booth, and should thus strike at the root of the evil.

PROSTITUTION.

The next heading to be considered under the public morality test. is that of prostitution. Prostitution may be defined as promiscuous unchastity for gain. Prostitution may be either open or clandestine. It should not be imagined that in our cities the figures for open prostitution are an index to the total prostitution. There is a good deal of clandestine prostitution but since we have no figures for that we may best gauge secret prostitution by the figures available for open and public prostitution. From the census for the Bombay Presidency, Volume VIII page 360 para 2 we find that the number of procurers and prostitutes in the British Districts is 24638 for a total population of 19 millions i. e. roughly 5 for every four thousand of the population. Bombay City is thus worst in this respect as it has 4000 in this group for a total population of over a million i. e.

nearly 4 per 1000 of the population. The Southern Division of the Presidency, Belgaum, Bijapur and the rest is a division which shows the greatest number of procurers and prostitutes. It has 15000 prostitutes for a population of nearly five millions i. e. roughly 3 per thousand. A vigorous campaign needs to be started in this Division including Ahmedabad, Poona, Sholapur and the rest showing 2 prostitutes per 1000 of the population. Next comes Sind with the figures of 2168 for over three millions of the population i. e. nearly 2 for every 3000 of the population and the last is the Northern Division with only 138 registered under this head i. e. 1 for every every 3000. These figures are a rough test of the prevalence of this evil in our cities.

REVEREND GOODIER'S CLASSIFICATION.

In attacking the evil of prostitution we must proceed by classifying the kinds of prostitutes and the causes of recruitment and lastly distinguish between different lines of remedial effort. With regard to the kinds of prostitutes we have the excellent classification of Reverend Goodier, Archbishop of Bombay on page 2 of his Paper on "Social Evil" contributed to the All India Social Workers' Conference held at Bombay in 1923. He

writes "Majority of our unfortunates is drawn from the following classes.

(1) Already ruined or depressed children who from the infancy have known nothing better or have contracted unconquerable vicious habits.

(2) Mental deficient, *i. e.* not so much the wholly deficient, as those who are incapable of defending or protecting themselves, this class is far larger than might at first be supposed.

(3) Girl mothers, who, once fallen, may be easily led to submit to what seems to them inevitable.

(4) Temperamental subjects who from their nature are disposed to vice, and will have it at any cost.

(5) Victims of hunger and poverty, who are driven to the trade as a last resort, but this class, let me add, in spite of the pathetic use made of it by platform speakers, is by far the smallest in number.

(6) Persons of normal mentality, who, deliberately and with their eyes wide open, settle down to the profession without any physical or moral weakness to excuse them. This is the growing class of our time, the curse against which society needs to be defended. It is the class against

which, more than any other, the powers of the law and the police may be most profitably let loose. Social and charitable workers may be permitted to deal with the first five divisions, with this one, directly at least, they can do little or nothing, seeing that it contains the cool-headed and deliberate enemies of both charity and society."

The same authority considers that half the total number of the prostitutes are decoyed to brothels by hawkers, a quarter are imported old hands from abroad and eighth are bought into trade practically as slaves leaving only eighth who adopt the profession of their own free will (page 70 of ' Social Service Quarterly ' of October 1922).

CAUSES OF PROSTITUTION.

As for the causes of prostitution we have a very good statement given by Pollock and Morgan in "Modern Cities" in Chapter 15 entitled "Social Evil." In brief according to them prostitution arises primarily from satisfaction of individual at the cost of species and is due to (1) Lack of ethical training. (2) Inability to maintain wife and child. (3) Low wages to women. (4) Bad housing conditions. With reference to this the authors observe "the huddling of females together in insanitary localities surrounded by innumerable

temptations, living in rooms without sufficient space, light and air, and under such general conditions as to render privacy impossible and easily cause the sexual irregularities and prostitution." (page 319) (5) Social arrangements and forced celibacy of soldiers and sailors—and let us also observe the semi-enforced celibacy of the army of industrial workers. (6) Drink traffic becomes an important contributory element, so also dance halls. (7) Young women kept in idleness, take to this kind of life by desire for excitement and entertainment of fuller life experience. Though subjected to life of drudgery they wish to escape it by embracing a life of ease. (8) Poverty is one of the main causes of prostitution. To these we should add in the case of India, so far as secret prostitution is concerned, the category of enforced widowhood. The remedies suggested by these authors may be briefly summarised as follows: (1) The owner or agent who rents any property for any immoral purposes should be very heavily fined. (2) An effort should be made to separate liquor traffic from prostitution. (3) Segregate the prostitutes and let there be no liquor shops in that locality. (4) Establish a moral police of citizens of character to supervise and see that the law is

carried out, for the regular police are often bribed.
(5) Educate and train individuals in the hygiene of sexual relationship and the general development of their moral nature.

REMEDIAL MEASURES.

Regarding the remedial measures we must distinguish between preventive work, rescue work, after care, segregation, regulation, and effort at abolition of this evil.

PREVENTION.

With regard to prevention, we should quote the words of Father Goodier " Provide homes for children, who in their own surroundings must almost inevitably be ruined. Homes for the weaker minded who cannot take care of themselves. Homes for girl mothers that they may recover their self respect.

RESCUE WORK.

With regard to rescue work it must be observed that rescue work can not be conducted with any success by legislation, by committees, or by organizations. They may support the workers and protect them. They may furnish the means for providing houses and caring for the rescued, but

the actual work must be done by individual men and women of character prepared for great sacrifice, willing to go down into most revolting conditions of human existence to take each case one by one, to expect failures as often as success and to look for no reward beyond the satisfaction of having saved a fellow creature from ruin. They must be men and women of understanding and sympathy, able to detect the underlying good beneath a mass of evil, and to seize and work upon it, quick to distinguish the agony of conscience that is often concealed by the apparently coarse and callous laugh, sympathetic to the least glimmer of hope buried under a heap of despair, energetic, so as to follow up every advantage gained, even when the victim itself insists on pulling the other way. They must know how to use the methods of kindness more than those of severity, of true compassion more than of mere pity, much less of condescension; in so far as they can prove themselves the friends, the brothers and sisters of the down trodden and social outcast, may they hope for success."

AFTER CARE.

In after care according to Reverend Goodier we must aim at as complete a removal as possible

from the previous surroundings. (2) We must provide lodging and maintenance while the subject is being fitted to re-enter social life. (3) The period for this training cannot be fixed, but it should be prolonged as long as possible, in very many cases the only hope is that the victim should never leave. (4) The training should include habits of self-restraint, industrial occupation, religious teaching, all in a healthy and happy atmosphere. With regard to the remaining measures namely segregation or regulation, and abolition I would like to refer those interested in the subject to the pages of the "Social Service Quarterly" Bombay, Vol. VIII no. 2 of October 1922, where the case for abolition is set forth by Revd. R. M. Gray, and the case for regulation, i. e. licensing and inspection is set forth by Prof. K. T. Shah. In the words of Rev. Gray "The available literature on the subject shows that in both Europe and America opinion is moving, as the result of experience, away from regulation of any sort, and towards abolition. The proof that state regulation does not, among the civic population, have any effect on reducing disease or lessening clandestine prostitution, is overwhelming. And, on the other hand, no proof is forthcoming that any of the evils which the opponents of abolition believe will

result from it, do, as a matter of fact, ensue. The committee believe, that by far the greater volume of expert opinion, and the general teaching of experience, will be found to lend force to the proposals which they have made. "The proposals that they have made for Bombay are, that " this Government should follow the example of the Government of Burma and make the following acts illegal. The keeping of brothels; the procuring of women and the letting of houses for purposes of prostitution." Prof. Shah tries to make out that we must distinguish between traffic in prostitutes and traffic in prostitution which is quite a different thing. "The former," he says "need not be regulated for we are all agreed that it must be totally suppressed. The latter cannot but be regulated for we cannot avoid it, cannot eliminate it, cannot suppress it, while our other social and economic institutions endure, while the absence of adequate education in sex questions renders the danger to the innocents much greater than that to the perpetrators of the distinct act of prostitution." He recommends a greater use of prophylactic and preventive methods, a greater use of rubber goods, and the abolition of the traffic in prostitutes or keeping of private brothels by the keeping of public brothels.

DISPROPORTION BETWEEN SEXES.

All these thoughtful contributions fail to emphasise the simple fact that enforced celibacy of the fighting army of soldiers and the industrial army of workers, the great disproportion between the sexes in towns, due ultimately to housing shortage, are a good deal responsible for the increase of prostitution; and that, therefore, an important method of preventing and checking the spread of this evil is the provision of adequate housing accomodation in every growing town. The employer whether it be the state or the industrial magnate should be held responsible for housing the employes, he needs, decently so that it may be possible for the employes to lead an honest home life. In India where marriage is universal, if adequate facilities for housing families of employes are made by employers, the evil will be checked in a natural way in the big towns where it assumes such a terrible form. The injustice of drawing men from the country side and not providing sufficient housing accomodation for them, leads to this social disease. The law requires provision of sufficient accomodation for every buffalo and every horse kept in a big town, but for human beings imported it does not render the employer liable for provision of

adequate human accomodation to render possible normal home life. The radical remedy for prevention of the evil is such adequate provision of housing facilities. Action may be taken along all these lines for combating, reducing, and ultimately effectively abolishing this great evil, from the cities. The moral tone of the cities can be thus greatly improved.

GAMBLING.

Next to drink and debauchery, we may consider the evil of gambling, which in various forms saps the vitality of cities. The race course, the stock exchange, speculative transctions of all sorts provide the vent for this lower gambling tendency in human beings, which wants to get wealth without work. This living on ones wits is becoming so increasingly common in our cities and the present state of public sentiment against it is so low, that wide awake citizenship should guard against the spread of this evil in its midst by preventive and morally regenerative methods. Social pressure alone can combat this tendency of our times. Organised disapproval of such modes of life on the part of people of quickened conscience, would put the unwary on their guard against entering lightly on these shady ways of

getting rich at others' expense. (Read Mahatma Gandhi on Betting etc).

CONGESTION OR SLUM CONDITIONS.

In the improvement of public morality through citizens' efforts we have next to consider the question of congestion and evolution of slum conditions. The easy way to find out the degree of congestion in any locality is to walk along the line of houses for about 270 paces or 666 ft. along the building line and taking half the width of the street plus the depth of housing to make up 66 feet we have an acre plot. Let us next consider the number of families living in this acre plot. Taking 5 persons to a family we can approximately find out the number of persons per acre and measure the degree of congestion. We have measured the degree of congestion in several quarters in Bombay and Karachi and conditions there are so bad that sometimes there are about five to seven hundred persons per acre *i. e.* 10 to 14 times the normal number of persons. The walled towns of the past, due to the prevailing unsafe conditions, concentrated the population on a narrow area and thus led to slum conditions. The commercial and floating population of outsiders left to the tender mercies of the capitalists and rack-renting landlords

give us at present the evil conditions of slumdom. In our times of comparative safety, slum conditions come about and continue mostly through citizen, neglect and inertia. Congestion can be avoided by civic foresight, by municipal effort at providing housing on the basis of normal increase as judged by a few 10 years intervals of successive censuses. By buying up land all round the city and leasing it for citizens' homes and doing away with land speculation, we would in many a case prevent slum conditions. Reserving a special area for industrial and factory development and making it compulsory for the employer to provide housing for his employes, would also prevent a good deal of congestion and save unnecessary to and fro motion on the part of labourers.

Thus around every busy growing city may be planned industrial villages, market centres, providing homes and parks and playgrounds for workers and the probable number of residents connected with different industries or with commercial operations. The example of German cities, proves beyond doubt that by planning ahead for 50 years or more, cities can do away with congestion and creation of slums.

HOWE'S HOPE OF DEMOCRACY.

The ideal of the future has been very well brought out by Howe in his 'British City—The Hope of Democracy.' He writes 'Far more fundamental to the problem of city building is the ownership of the land and means of the transportation. The city of tomorrow is not to be a tenement city. It will be spread over a wide area. It will be ruralized in a way not now thought to be possible. Homes will be offered to the workers, miles from the city centres, for cheap and rapid communication would be available. For it is only the limitation of the means of transit that confines the city to its present restricted area. Restrictions may be imposed not only by the difficulties of the transportation problem, but by the cupidity of private enterprise. With the changes now taking place in the use of electric traction it will be possible to live fifty or hundred miles from the city centres as conveniently as it is now possible to live at one tenth of that distance. When the city devotes as much concern to the homes of its people as it now devotes to the erection of docks and development of its commercial conditions, the housing problem will be open to ready solution, for the slum and tenement are the product of land

monopoly which in turn is traceable to a faulty system of taxation and the inadequacy of means of transportation" and may we not add citizens' neglect.

REDUCTION OF SLUM CONDITIONS.

Short of abolition of slum conditions, citizens are faced with the problem of reduction of slum conditions. It will be a desirable thing for those interested in their cities to study different neighbourhoods from the point of view of congestion and growth of slum conditions and encourage rapid removal of dirty surroundings at least. If every city had a vigorous Anti-Slum Association, having its branches for every ward, closely studying the conditions around them and trying to improve them by removal of dirt, planting of trees and keeping clean of open spaces wherever they exist, the slum conditions will be so far combated and reduced. The ideal is to relieve congestion so as to have not more than 50 or 60 persons per acre and to provide a park, or playground or an open space within five minutes walk of every home. The city that looks after the living conditions and comfortable homes for every citizen will be a city that will be blessed; otherwise the higher urban death-rate, lower urban vitality, the

great infant and maternity death-rate all reveal the neglect and mismanagement of the cities of the present. May the citizens awake to this great need of collective effort to meet the essential needs of human life.

CHAPTER XXVI. MATERNITY AND INFANT WELFARE TEST.

SAVE MOTHERS AND BABIES.

Save the mothers. Save the babies. And they can be saved. Cities may test and grade themselves according to their achievement in this direction. Out of every thousand babies born, New Zealand loses only 37 in the first year of their life, while in our cities we lose anywhere between ten to fifteen times as many, i. e. 400 or 600 out of every thousand babies born. What a great loss of infant life! What wasted pangs, and heart rendings! The margin of avoidable maternity and infant mortality is indeed very great. To be wide awake in this direction is the duty of every city. Hence the following and similar questions which every citizen should press home to his heart repeatedly, especially the civic fathers. Has anything been done towards child and woman welfare in my city? Have their claims been considered in housing plans? Houses over three storeys high tell upon expectant mothers. Has that been considered? Have arrangements been made for providing pure milk to babies and

mothers? Is mothercraft being taught in girl schools or in infant welfare centres? Is there playground provision for children in every school neighbourhood? Let us consider some of these items in detail.

MATERNITY & INFANT WELFARE ASSOCIATIONS.

To help the mothers and save the babies, shall we not have in every city a maternity and child welfare association? Is it not our duty to see a maternity home established in every ward, as well as a child welfare centre? Here at least all citizens can unite on a common platform. If it be so desired, let each community have a maternity home for its own members and reduce maternity mortality among them. Instead of the infant welfare exhibitions being held only once a year, should we not have them permanently, atleast the exhibits exhibited on the walls of girls schools by rotation. Education in this direction would yield a rich dividend in lives saved and miseries curtailed.

TRAIN THE DAIS.

In the words of Sir G. Gifford, Surgeon General with Government of Madras "Midwifery

in India is still in an awfully unsatisfactory condition. It is the common habit and custom in almost all districts to hand over the women in labour to the care of one of the dirtiest, most backward, illiterate, ignorant and superstitious classes, the barber-midwife (Dai). The result of this custom is that untold misery and unnumbered, unnecessary deaths are meted out to the parturient women of the country, by these untrained and unclean practitioners." To meet this situation, Dr. M. R. Samey, who has contributed an excellent paper on the training and provision of Dais and midwives, to the All India Social Workers' Conference Bombay, makes the following among other suggestions. To combat these deficiencies he "wants a liberal provision of lying-in hospitals, the house to house visits of specially trained midwives, the establishment of homes for infants, the sale of milk at cheap rates for poor parents. A spirit of earnest endeavour and a sufficiency of public spirit on the part of those that are called upon to administer civic affairs are the virtues most in request to meet the situation."

We have it from the same authority that "With a view to ensure that no mother or child

need die a preventable death from lack of adequate maternity aid at or about the time of confinement, a public midwifery service on the lines of the Women's Medical Service should be instituted.

DR. SAMEY'S SUGGESTIONS.

With regard to the training of Dais, Dr. Samey is of opinion "The Dais must be instructed perfectly by women doctors or specialists in midwifery, how to deal with normal cases and to recognise early symptoms. In complications they should send for competent skilled help. Lectures and demonstrations must be given on nation-wide scale impressing on them the necessity for :—

- (1) the cleanliness of the hand, and persons and surroundings,
- (2) the use of antiseptics,
- (3) the abolition of the crude and primitive methods in vogue and unnecessary interference with labour,
- (4) calling in trained aid, and,
- (5) reporting every case they attend.

Side by side with this mending, we have to go on increasing the output of qualified midwives, so

that we will be able in course of time to circumvent and supplant the barber-midwives altogether."

DR. MISTRI'S VIEWS.

Dr. Miss. J. Mistri, of Bombay who has also contributed a paper on the same subject to the same social workers' conference, makes the following among other suggestions for the training of midwives. She writes on (p. 61) "In India those in authority are too apt to lay blame for lack of results on the material they get for training, or the much abused ignorance of the public; while the fault really lies in their own lack of organization and administrative measures.

Instead of the training of nurses keeping pace with the Medical Science, it still generally consists of a certain period's course in the Medical, Surgical and Midwifery wards. It does not include such subjects as Infant Welfare, etc.

One of the chief objects for the training of midwives being to lower the Infant Mortality, the following should be included in their curriculum:-

1. Ante-Natal Clinics. This is essential to enable them to give advice to expectant mothers, and also because the highest

death-rate is during the first 4 weeks of life. This is generally due to prematurity, congenital defects, venereal diseases, etc.

2. Care of infants, i e. care of premature babies, breast feeding, scientific principles of artificial feeding elementary knowledge of common infectious diseases.
3. Nursing of sick children.
4. Home economics and cooking.
5. After care of mothers and babies.
6. General and personal hygiene, as these operate disastrously upon the welfare of mother and child.

Her scheme for the training of Dais is as follows :—

“The course should be short, simple and practical; books being eliminated. Lectures are of no use. Practical instructions at their own cases would be the best thing, because conditions in patients' houses are quite different from those in hospitals. What they need is cleanly practice of normal midwifery cases.

It must be made worth while for the Dais to go for the training by offering scholarships during the

course and a reward after qualifying. If successful results are to be assured, there should be continuous supervision over them after they are qualified, otherwise they gradually go back to their own old ways. Training should be given, if possible, by Doctors, failing that qualified nurses with extensive experience of work among the Indians so that they are familiar with the languages, customs, etc, and can alter their methods to suit the local needs (2) It should be given in Hospitals possessing well equipped and well managed midwifery departments dealing with sufficiently large number of cases to afford clinical materials. (3) It should be either continuous, in which case residential quarters attached to Hospitals should be provided, and during the course they should receive a scholarship of about Rs. 20 (4) Or they may continue their occupation while under tuition when they should get Rs. 3 to 5 for attendance. (5) After they have conducted about 50 cases they should be examined. (6) On qualifying they should be allowed to practice under supervision for a time and should be compelled to report each case they attend. (7) For each case reported there should be a small reward, say of 8 annas, deductions being made for carelessness or neglect. (8) They should also be given, say rupee one, for calling the doctor in time

for difficult cases or for taking them to the hospital. This is to compensate them for the loss of their own fees. (9) Midwife Inspectors should be engaged to supervise the cases as soon as possible after the report. They should be experienced Indian Doctors familiar with Indian conditions. The Midwifery Supervisors should maintain a book in which should be entered the name, address, and full particulars of each case attended by Dais. They should also render assistance whenever called by Dais in difficult cases. (10) Their kits consisting of a blunt pair of scissors, clean ligature material with a small dish for boiling them in, soap and some lotion should be provided either free or at a very nominal cost, and should be replenished from time to time whenever required. (11) They should also be provided with accouchment outfits because of the patients' inability to buy them on account of the prohibitive cost. Depôts for the sale of the latter should be started in each town. (12) Side by side, efforts should be made to educate the Dai's daughters and daughters-in-law as they are the future inheritors of the profession.

The expenses of the scheme should be met by the Municipality, the Victoria Memorial Scholarship Fund, and the Dufferin Fund. No

expenses should be grudged for such a noble cause, and it will be amply rewarded by the improvement in the health of women and the reduction of infant mortality.

Efforts may be made by the Provincial Governments to empower the Municipalities to introduce compulsory training and registration of Dais.

Finally I cannot emphasise too strongly the fact that no scheme will bear fruits until it is (a) adapted to the needs of India (b) organised by those familiar with local conditions and (c) made to consist of two duties, viz. training and continued subsequent supervision."

DR. DADABHOY ON REDUCTION OF INFANT MORTALITY.

With regard to Infant Mortality, its causes and how to reduce it, we refer the reader to the excellent papers of Dr. Miss. J. Dadabhoy, Bombay, appearing on p. 65 of papers submitted to the All India Social Workers' Conference, Bombay.

Her scheme for reduction of Infant Mortality is as follows:

A complete scheme would comprise the following elements each of which in this connection should be organised in its direct bearing on infantile health. Thus:—

1. Notification of Birth-Act.
2. Arrangements for local supervision of midwives Act.
3. Arrangements for (Ante-Natal).
 - A. Ante Natal Clinics for expectant mothers.
 - B. Home-visiting of expectant mothers.
 - C. Maternity Hospital where complicated cases of pregnancy can receive prompt treatment.
4. Arrangements for (Natal):—
 - A. Such assistance as may be needed to insure the mother having skilled and prompt attendance during confinement at home.
 - B. Confinement at a hospital of sick women or of women suffering from a condition involving danger to the mother or child.
5. Arrangements for (Post-Natal);—
 - A. Treatment in a hospital of complications arising after delivery, whether in a mother or in the infant.

- B. Provision of systematic advice and treatment of infants at a Baby-Clinic or infant Dispensary.
- C. The continuance of these clinics and dispensaries so as to be available for children up to school age when they are entered at a Nursery School, Creche or Day Nursery.
- 6. The systematic home visiting of infants and of children not going to any institution as above.

As to further literature upon the subject we recommend the book on 'Feeding and Care of Baby' by Dr. Truby King, issued by the Society for the health of women and children published by Macmillan 1918. The book deserves the widest publicity. (2) Edith Eckhard's Book 'The Mother and the Infant' published by Bell & Sons 1921, is also highly useful. (a) Publications of the London Association for Infant Welfare (b) of the American Children's Bureau, (c) and other similar associations specially those of the Society of Women and Children of New Zealand may also be consulted.

CHAPTER XXVII. PUBLIC CHARITIES TEST.

NEED OF CHARITY ORGANIZATION.

Charity and specially charity organization have not yet become with us Municipal functions. Sound citizenship would include attention to charity among its list of community services. Cities may therefore test the degree of intelligent citizenship by the state of their charities. The condition of public charities is one of the tests of citizens' advance or backwardness. The public charities test can be applied to our cities by finding answer to the following questions.

1. Is there a register of all public charities ?
2. Is there a co-ordinating and investigating agency like a committee of public charity organization.
3. How far is the city advanced in charity administration.
4. is charity discriminative, preventive and and well organized ?

MUNICIPAL SUPERVISION OF CHARITY.

Cheap grain shops we have, in Karachi and

several municipalities, but beyond that and other similar occasional relief, the municipalities as a body do not take interest in the ministration of charity in their own cities. Why should not every Municipality have a sub-committee for supervision of public charities? Why should not every Municipality maintain a Register of Public Charities and endowments? Why should not the funds of different public charities and endowments relating to the city be held in trust and managed, by the municipality, instead of, by the Registrar of Bombay as at present proposed?

THOUGHTFUL HELP.

The fact is that this is a neglected side of our citizenship. The principles of true charity are not rigorously observed, and plenty of well-meaning sympathy only leads to aggravating the evil it is out to cure. Our charities being out of tune with the needs of the time, forgetful of the peculiar needs of the place and the circumstances of the persons, help to increase pauperism instead of eliminating it. The gift without the giver is bare. We need personal investigation and giving of our services and our time along with the material means if we want our charities to be really helpful instead of harmful.

HAYES ON WISE CHARITY.

What are the underlying principles of intelligent charity? In the words of Dr. Hayes (Introduction to Sociology, Chapter XII, Charity Organization) :—

“ To abate the causes which continually recruit the standing army of the miserable is the first duty of society. But since that army exists there is an obligation, which every civilized nation admits, to meet by charity the necessities of those who under existing conditions are unable to maintain themselves. Upon this subject experience has rendered clear certain principles.

1. *Charity must be guided by a particular knowledge of cases.* Society, as we have seen, can have about as many beggars as it chooses to feed. The indiscriminate distribution of dimes and quarters on the street and of food at the back of door makes pauperism instead of curing it, and should be stopped. Distribution of groceries, coal and clothing by public or private agencies not seldom causes more evil than it cures.

2. Mere *almsgiving* when it does no positive harm is usually a miserable *substitute* for the higher charity of *personal service*. Temporary

material relief is frequently necessary, but often more necessary still is the co-operation of some wise and experienced individual who will assist the distressed to form a practical plan for permanent support and for restoration to economic independence. This may be accomplished by seeing that the earning power of the partially incapacitated is restored, by securing the formation or restoration of social relationships between the impoverished and relatives, employers, church and school, by preventing the physical or moral ruin of children and the other constructive measures. Well-meant alms giving often perpetuates pauperism where highly competent personal philanthropy would cure it. Such service requires that someone be ready to give much time. And it must be the time of a person gifted with first rate abilities. No one who is unable to make his or her own life successful need expect to do this work, for here success must be wrested from much harder conditions. The probability of success is greatly increased if the charity worker has had special training and opportunity to observe methods by which many cases of baffling poverty have been successfully met.

3. *There is more need of justice than of*

charity. Indiscriminate public charity has sometimes helped to depress wages, acting as a partial effort at justice between employer and employed. There is at present little or no imminent danger that charity will slacken the struggle for justice on the part of the poor. The struggle of organized labour to raise wages is intense and there is no reason to think that it is at present made less so by properly administered private charity. The only danger in this respect is that interest in charity will satisfy the conscience of the well-disposed and well-to-do and direct their attention from the more fundamental problem of justice. On the other hand the study of the problem of poverty by the various agents of charity has been one of the chief means of securing for the laborers the interest, understanding, and sympathetic co-operation of the well-to-do which appear to be indispensable to the success of the necessary reforms.

4. The cessation of charity would invite untold needless suffering, would outrage or deaden the generous sentiments of man, and set at naught the principle of Christianity, "*Bear ye one another's burdens* and so fulfill the law of Christ." The refusal of charity may result from ignorance

of the conditions of the unfortunate poor, such that their suffering has no chance to make its appeal to sympathy, or it may result from caste folly which refuses to acknowledge our common humanity, or it may result from pure selfishness. In multitudes of cases charity has been pitifully inadequate and misdirected when it might have wrought great benefits. It is not enough, however, for charity to be abundant and well meaning. It must also be wise."

ORGANISE CHARITY.

What is generally needed in our cities is that there should be charity organization societies, and social service leagues, interesting themselves in these matters in every city. That such bodies should proceed by preparing a register of charities in the city and see how far the intentions of the donors are being carried out. They should appoint intelligent citizens as agents to investigate cases requiring help and send them on to the proper charitable institutions in the city. They should act as co-ordinating agencies and bring about co-operation between the different charitable institutions and prevent overlapping, and as far as possible get charity along the lines most necessary according to the changing needs of the times.

The best example of charity organizations that can be found is what is known as the Hamburg Elberfeld System. Blackmar and Gillen in their outlines of Sociology, Pages 465 to 468 have summarised the inception, plan, and results of this model system of charity organization. Looking to the importance of the subject we quote in extenso:

HAMBURG'S METHODS.

“In striking contrast with the comparative failure especially of out-relief in England is an experiment first tried in the Prussian city. About 1765 there arose in Hamburg a new method of dealing with paupers and poverty stricken people. During the middle of the eighteenth century and towards its close the number of helpless and wretched people had increased greatly throughout Europe. A movement for the assistance of these people arose. A general wave of benevolence and charity spread over Europe. While it caused the relief of the helpless, it was so lacking in intelligence and system as to be a detriment rather than a help to society. Hamburg was a rich city having been engaged in trade with East and West for many years. It was cosmopolitan in nature and attracted thousands to the city, either for

work or for a living without work. The streets were lined with beggars, thousands of the people receiving help from all sources. Finally, a society was organized in Hamburg among citizens, whose chief aim was to promote a better system of government. To this society a certain Professor Busch presented a novel plan for the care of the poor, which was finally put into operation. He organized a central bureau, and divided the city into districts, appointing an overseer in each district. The helpless were taught to help themselves, work being supplied where they could not find it, people were forbidden to give alms at the door, and an industrial school was provided for the children, hospitals for the sick and infact a general system was established for the care of every one according to his needs and desires. It worked a complete revolution in Hamburg. It drove out the paupers or put them to industry and self-suppbrt. It cared for the sick and repressed begging on the streets. The transformation was quite complete. Thirteen successful years were followed by a decline for a time. The system was revived, however, and the idea spread to Elberfeld, a small German town, which applied the system with some modifications in 1852 so that the Elberfeld system, so well known among charitable

workers, was in reality the original Hamburg system slightly improved." On pages 158-160 we have already given a summary of this system.

CONSTRUCTION PHILANTHROPY.

"Constructive philanthropy is possible not only because the system supplies personal treatment for those who have already fallen into poverty, but because it makes the almoner an instrument of prevention. He is a father to the fatherless, and advisor to the foolish, and serves as the connecting link between the inefficient individual and society which so often is only a lifeless abstraction or a heartless automation to the poor.

ENCOURAGING RESULTS.

The value of the system, however, is indicated in these figures; In spite of the fact that the population of Elberfeld increased from fifty thousand in 1852 to one hundred sixty-two thousand in 1904, the number of those receiving either temporary or permanent help increased from 4000 to only 7689 or a decrease from 8% of the population to 4.7%. The cost of relief per capita of population in 1852 was 89 cents; in 1904 it was 68 cents including expenses of supporting the almshouse, orphanage, and kindred institutions."

CHAPTER XXVIII. CITY PLANNING TEST

CITY PLANNING LITTLE KNOWN.

As with charity organization, so with City Planning, our cities have not yet even made a decent beginning. As we have already seen, very few cities (only 57 in Bombay Presidency) have as yet been land surveyed, and the rest have not yet been surveyed even. In city planning we do not need simply the land survey, but surveys of commerce and industry, of economic conditions of wealth and poverty, of social conditions in general, and above all determination of the *purposes* for which and the *directions in* which foresight is necessary. There are as yet only few cities where something has been attempted and even there we have only schemes for better layout of new areas developed for residential or industrial purposes but no comprehensive unitary town planning or replanning schemes. The idea of planning and foresight and readjustment continually required for every city to bring it up to better health, business and convenience standards and discharging functions of adequate housing, recreation and industry has not yet been grasped

by many. A great deal of publicity is therefore needed to popularize the real import and importance of the idea, aims, and methods of city planning. Under these circumstances I think it best to put before municipalities the simplest explanation of the idea, that I have come across and the notes I have gathered regarding methods procedure and standards sought to be attained in advanced countries and refer to further literature for richer municipalities.

American City Bureau, (87 Nassaw, New York) has issued the simplest exposition of the system of city planning, its import and importance.

City planning its import and problems.
American City Bureau N. Y. What City planning Means. City planning is good sense and forethought applied to the building of cities.

2. *Purpose.* City planning aims to make a city convenient, economical and healthful and pleasant, for work, business, home life, social life.

3. *Scope.* City planning is the science of designing cities. It is not the organization of administrative departments.

It is not efficiency in the civil service, or economy in the pure base of supplies.

It is concerned with construction rather than with operation and maintenance.

It tells how to do things which if done wrongly, either could not be changed or changed only at great expense.

It prevents mistakes which make inevitable mistakes which cannot be corrected.

It determines the lay out of a city, the location of things, and the type and character of permanent structures so far as these are matters of interest.

4. *Methods.* Spread of idea. Public opinion, Expert advice. Constructive public opinion. Voluntary co-operation. Control of private property when necessary and helpful.

Some Problems of City Planning. The site. II. Communication with the outside world. III. Sanitation and health. IV. Guarding against disaster. V. Public convenience. VI. Recreation, Education and Culture. VII. Encouragement of Industry. VIII. Suburban development. IX. Public control of private activity. X. City planning procedure. XI. Financial aspects of City planning.

The Site. The site always presents certain

obstacles to the city plan. A *river* to be strengthened, deepened, diked, tunnelled, bridged. A *water front* to be preserved for public use, and improved with piers and approaches, railroad tracks, terminals, and when possible beautified so as to make it esthetic as well as useful. A *lake* to be grown round, kept clean and equipped with ferries. A *marsh or swamp*, to be filled or drained. A *ravine* to be bridged or parked. A *hill* to be mounted, cut down, terraced, tunnelled or preserved. The lay out of streets, the location of transportation lines and terminals, park developments, water front protection and improvement matters must be treated differently in different cities, according to the peculiarities of the site, and its topography, configuration and relation to the outside world.

City planning would preserve all natural advantages of the site for use and beauty and overcome the disadvantages in the cheapest and most effective manner.

EVERY CITY HAS ITS OWN SITE

AND

EVERY CITY MUST HAVE ITS OWN PLAN.

II. *Communication with the outside world.*
The first thing to do in planning a city is to put it

in communication with the outside world. No city can grow or live by itself. It gets its food from the country, its fuel from the forests or mines, its raw materials from the ends of the earth, its people from everywhere. Cities are like ducks. They live by water. If they have any chance they strive for water ways. Cities are like ducks. They forage on the land. Some of them may not have waterways but all of them can have good roads. Road in every direction, *level* roads, *direct* roads, if possible, *broad* roads within the city, *solid* roads well maintained. Make it easy for every one to come to town and do business. Railroads now a days are the greatest thoroughfares. Every city wants them. Therefore a wise city plan must provide railroad rights of way into and through the city, location of depôts and terminals, facilities of collection and distribution of freight within and near the city.

Unless properly located with reference to each other and with reference to the city plan, the railroads may choke the city's growth.

III. *Sanitation and Health.* When the city has established communication with the outside world it is confronted with the problem how shall we maintain life and health under urban conditions?

City planning answers by, (a) Plentiful supply of pure water, (b) Adequate sewage and drainage.

City planning points out how to get water into the city and to the top floors of the tallest buildings. 2. How to keep it pure, or make it pure. 3. How to get sewage and waste water out of the city. 4. How to use sewage, or purify it, or dispose of it so that it will not be a menace to health.

City planning solves other problems of sanitation. How to dispose of garbage and refuse? what to do with the dead? how to prevent epidemics?

If the garbage is to be burned, where shall the incinerators be located? If utilised, where shall the cemeteries be? Where is the best house to find a place for itself? Where shall the T. B. Sanatorium be? City planning even takes flies, mosquitoes, and rodents into consideration. It abolishes stagnant pools and builds the wharves and water front warehouses as to keep out the rats from across the sea.

IV. *Guarding Against Disaster.* Forethought would have cost 5,000,000 for earthquake-proof and fire-proof arrangements in San

Francisco. After-thought cost 350 million loss plus five million expenditure. Cities are liable to terrible disasters to life and property. It is the business of city planning to guard against these disasters as far as humanly possible. All cities are in danger of fire, many in danger of floods, some in danger of earthquakes and tidal waves. Cyclones and blizzards may come almost every where, and city planning takes these into consideration in connection with rules for the construction of buildings, the erection of bill boards, the planting of trees, the character and arrangement of poles and overhead wires, and the placing of wires under ground.

V. *Public Convenience.* After prevention of disasters comes the question of conveniences. The fundamental factor in the convenience of a city is the street layout. City planning provides, the system of streets, the grades and widths of streets, the paving of streets, the lighting and shading of streets, the regulation of poles and wires, the economical use of underground spaces, the separation of traffic routes, the construction and extension of local transit lines, the establishment and location of drinking fountains, comfort at stations, baths and shelters, the location and

grouping of public buildings. Although city planning aims at grouping public buildings so as to create an imposing and beautiful civic centre, convenience for use is not subordinated to merely esthetic considerations, nor does a good city planning provide for a street railway loop or a cobble stone pavement under the windows of a court house or a school building.

VI. *Recreation and Education and Culture.* City planning reserves spaces throughout the city for play-grounds, small parks, school gardens, and athletic fields. The children must have room. An ordinary unplanned city, a group of houses, factories, stores and office buildings hastily thrown together tends to abnormal development of children.

The children of larger growth also need recreation. So city planning provides parks, boulevards, bathing houses, dancing pavilions, social centres, concert halls, river front promenades, golf rinks, and tennis courts for them. City planning is directly concerned with things physical. It does not determine a city's policy as to the quality of recreation, education and culture, to be supplied. That is the function of administration. But city planning provides for the places

for such activities, and in that way it influences indirectly the scope of recreation, education, and culture. If we leave out playgrounds for children, we shall have stunted children. The child needs play as the flowers need the sun. So plan better or there will be stunted children.

VII. *Encouragement of Industry.* Industrial prosperity is essential to civic greatness. City planning provides cheap sites for factories, convenient locations, good switching facilities, railroads and water competition. City Planning aims to promote conditions which are favorable to industrial development, and at the same time to prevent the abuses that are so from mere material prosperity. It provides an industrial district, reclaimed lowlands convenient to water ways, improved harbours and deeper channels, railroad connections' and switching facilities without discrimination.

It reaches out for cheap water, light and power and makes the town pleasant for laborers' homes.

VIII. *Suburban Developments.* The planning of undeveloped and suburban areas may have one or more of several objects. To keep outlying districts in harmony with the central

area already well planned, as for instance in Washington.

To make the new development superior to wrongly planned central areas.

To provide beautiful homes for the rich and well to do.

To depopulate the slums and provide healthful environment for the poor.

To house the employees of particular factories or works.

Cities are growing rapidly. The outlying districts offer the chief opportunity for city planning, other than the costly tearing down and reconstruction of old areas, when the city as a whole is too shortsighted, impecunious or helpless to apply city planning to the suburbs, the task sometimes is undertaken by private corporations or associations, with or without the sanction of public authorities.

'Garden Cities', Industrial Villages, Restricted Residential Districts, and even the Model Housing for the poor are being fostered by private enterprise and initiative, sometimes for philanthropic and sometimes for business reasons.

IX. *Public Control of Private Activity.* Private property rights and individual welfare are conserved, by wise community restrictions.

City planning seeks the voluntary co-operation of private interests in the making of a convenient, healthful and beautiful city. City planning is persuasive. It works out in ideal. It points out the proper paths of development. It calls aloud to the citizens to respect the public interests. But if knowledge and persuasions fail to enlist the co-operation of private interest, city planning does not hesitate to set up community standards and enforce them.

Consequently city planning, 1. limits heights of buildings and the proportion of lot areas to be built on, 2. regulates construction of buildings, 3. establishes zones of districts to be built upon in the different ways, 4. Supervises the houses of the people. 5. Encourages the platting of suburban areas in harmony with the general plan of the city. 6. Controls the development of privately owned public utilities, and the location of their works.

With proper city planning no one owning property is permitted to develop it as he pleases, unless his pleasure respects the general welfare. In

yielding a given degree of control to the community, the individual citizen is more than repaid by the benefits that come from the harmonious development of his town and by the protection from the possible whims of the neighbours.

X. City Planning Procedure. Talk it over at home. Mention it to your neighbour.

Write letters to the newspapers about it. Take it up with your chamber of commerce, board of trade, or other civic betterment association.

Get. A Law if necessary giving jurisdiction over suburban areas, and semi-municipal activities.

A CITY PLAN COMMISSION.

Make. A Topographical survey of the city and its environs.

A social and industrial survey.

A forecast of the city's future growth.

A comprehensive plan.

Seek. The support of all civil bodies

The co-operation of all public authorities including those of adjoining districts.

The approval of the people.

EXECUTE THE PLAN.

Do it gradually along the lines of least resistance, always taking advantage of the right time and the right event to make improvements economically and without undue disturbance of private interests. But strike while the iron is hot and never let slip an opportunity to bring the city's development actually into harmony with the city's dream, ever promoting such development through the experience of experienced city planners.

Financial Aspects of the City Planning.

Does city planning pay? It saves in time, motion, power, health, happiness. It saves children cost of waste and haste. It benefits all the people. It creates value. It benefits property owners.

With intelligent city planning it is possible to have a convenient, healthful, pleasant city at a reasonable cost, the kind of city which without city planning cannot be had at any cost. City planning pays unless you prefer the penny wise pound foolish policy of living and doing business in slovenly, unhealthful and inconvenient town.

How are the Bills to be Paid. City planning does not necessarily involve large expenditure at

the beginning. It pays for itself in the long run and if wisely run may even pay its way as it goes. In any event, no city which looks to the future can afford not to have intelligent city planning.

GET THE MONEY FROM.

Special assessment for special benefits. By this an improvement is made to pay for itself, in whole or part.

Excess condemnation. Under this more is allowed to be condemned than required for street widening and the unused fraction is resold at a profit.

Increased taxable values. From the new sections opened up.

BONDS IF NECESSARY.

But bonds should never run beyond the probable life of the improvement.

Bonds never should be issued without definite provision for their payment when due. Bonds should not be issued against the general credit of the city, in excess of the improvement benefit to the city at large.

NOLEN-ON TOWN PLANNING.

Another helpful booklet in this connection is

that of Nolen entitled "New ideals in the planning of cities and towns and villages" According to him city planning, may either be in advance of settlement, for government, industrial, or residential purposes, or it may be replanning of old cities to meet new requirements. City planning does not aim at beauty only, but at utility first and finds that utility and beauty are inseparable. City planning does not standardise, but individualize. The first step in replanning, is to begin with a careful study of underlying conditions, physical, business, and social conditions. This city survey may be carried out by private individuals or organisations. It will be necessary to have a topographical map on a suitable scale, and with a contour interval not very wide. Such a contour map giving physical conditions and controlling data is essential. Next we must secure data about the business, social and economic conditions, past and present, and form a view of the future. We must find out the activities on which the city depends for its existence, whether industrial, commercial, educational, governmental or residential. We must next determine the controlling purpose of the proposed city plan, whether it is for preservation or restoration of the individuality of the city or for a wide spread regard for common welfare, such as making

ample provision for physical exercise and recreation for transport, for good homes, for increasing the elements of beauty and wonder and joy.

THE UNDERLYING PRINCIPLES.

According to the Nolen the principles underlying town and city planning are (1) to secure economy and saving of waste, in an endeavour to have desired results at a minimum cost (2) in so doing to have a reasonable regard for property owners, tax payers and the public, (3) to anticipate the future needs of the city and make timely provision for them. The scope of city planning is the organization of the physical city to fit it better to its complex uses, or in other words, an intelligent control and guidance of the physical conformation, growth and alteration of cities, considered in their entirety.

LOCAL DATA.

Local data must form the basis of the city plan. The local survey means collection, compilation, presentation and interpretation of facts and information bearing upon the city's physical, social, economic and financial conditions. The four divisions of the work of city development are

1. A survey of existing conditions and tendencies,

2. the making of general plans and recommendations, 3. the making of detailed and construction plans, 4. maintenance and administration of the work of city development.

Nolen suggests that the local data may best be collected under the following headings :—

I. *Physical Condition* :—A. Topography. (a) All available surveys. (b) Government surveys of the district. (c) Surveys of adjacent towns. (d) Detailed surveys by the city itself.

B. Resources and Climate. (a) Range of temperature, (b) Rainfall, (c) Direction of winds, (d) Natural resources, (e) Open lands available for various purposes.

C. Areas and Zones. (a) Present occupation of land, (b) Wooded areas, (c) City owned land, (d) Field map with notes on existing conditions.

II. *Social Conditions* :—A. Housing. 1. Typical lot and block plans. 2. Typical house plans, 3. Examples of good, bad and average housing, 4. Over built-upon land.

B. Occupation. 1. Business distribution, 2. Factory distribution.

C. Health. 1. Vital statistics. 2. Density.

D. Education. 1. School distribution. 2. Density of school population. 3. School statistics.

E. Recreation. 1. Parks and playgrounds.

F. Welfare. 1. Special schools. 2. Social centres. 3. Charities and corrections.

G. Safety. 1. Fire hazard. 2. Grade crossings. 3. Police and traffic.

III. *Economic Conditions.* A. Streets. 1. Accepted and proposed streets. 2. Actually laid out streets. 3. Street widths. 4. Street sections. 5. Street grades.

B. Transportation. 1. Railroad map. 2. Water transport. 3. Measurement of cars, vehicles, and vessels. 4. Traffic census at selected points.

C. Public Utilities. 1. Water supply. 2. Disposal of waste. 3. Slaughter houses. 4. Other utilities, lighting and telephone.

D. Food supply. 1. Wholesale, and retail. 2. Distribution.

E. Real Estate. 1. Land values assessed and actual. 2. Building values. 3. Building heights. 4. Building growth. 5. General tendency.

F. Nuisances. 1. Smoke. 2. Noise. 3. Dust. 4. Bill boards. 5. Overhead wires.

G. Administration. 1. Diagram showing responsibility of various officials.

IV. *Financial and Legal Conditions* :—

A. Financial. 1. Budget items. 2. Cost per capita. 3. Comparison with other cities. 4. Methods and rates of taxation.

B. Legal. 1. Building Bye-laws. 2. City planning law. 3. Building lines. 4. Regulation and restrictions. 5. Unused powers. 6. City planning board.

There are four steps in the preparation of a civic surveys. 1. The drafting of a questionnaire. 2. Collection of data and maps and surveys. 3. Interpretation of data, maps and surveys. 4. Presentation of results preferably in a graphic form.

AMERICAN HOUSING STANDARDS.

Before suggesting further standard literature on the new subject of town planning, I quote below the new standards for new towns, as laid down by American writers. Their standards are far in advance of ours, but we too should have progressive standards for ourselves. The slogan they have is, *you cannot man the works unless you house the man*. According to them a town of about 50,000 should have an area of about 2000 acres, having an average density or 25 persons per acre. Next standards for permanent housing of different types should be determined. Thus nine types of housing are suggested. 1. Single family house. 2. Two

family houses. 0. Single family with lodgers.
4. Hotel for men. 5. Lodging house for women
6. Lodging house for men. 7. Hotel for women.
8. Tenement house. 9. Boarding house.

The most important standards are. 1. That a row or group of houses is not to be normally more than two rooms deep. 2. That side yard space between adjacent buildings is to be at least 16 feet, preferably 20 feet. 3. That tenement and apartment houses are considered generally undesirable, and will be accepted only in cities where the land values are very high, and where single or two family houses cannot be provided, and there is demand for multiple housing.

The house itself should have, 1. Not more than two-room depth, 2. Cross ventilation for all rooms. 3. No living quarters in basements, 4. Eight inches clear space between ceiling and roof and adequate ventilation, 5. That there should be five rooms atleast for higher paid residents and four roomed quarters at least for the poor, 6. That every house should have one large bedroom, and a parlour or living room from 10 into 12 feet to 12 into 14 feet in size.

The following town planning standards have also been suggested. 1. Side yard space between

buildings to be 20 feet, in no case less than 16 feet. 2. Group houses to be used where side yard space cannot be had. 3. Rear yard depth should be not less than the height of the building, and not less than 20 feet, and the distance between houses to be not less than fifty feet. 4. Similary front yards should not be less than twenty feet. 5. Private alleys for rear not to be less than 12 feet paved, curbed, drained and lighted. 6. Tenement and apartment houses to be discouraged as undesirable.

LITERATURE ON THE SUBJECT.

For municipal libraries and those interested the following literature will be found useful.

1. Ebenezer Howard. 'Garden cities of tomorrow.' A very cheap and inspiring publication, by the pioneer of the garden city movement.

2. Lanchester. 'Town planning in Madras.' A moderately priced illuminating book showing how he proceeded with the work of town planning in the city of Madras.

3. Unwin. 'Town planning in Theory and Practice.' A good standard book on the subject. Rather costly, but fit to find a place in all libraries for municipal workers.

CHAPTER XXIX. THE BUDGET TEST.

THREE CLASSES OF FUNDS.

As Dr. Cleveland has pointed out in his excellent book entitled "Chapters on Municipal Administration and Accounting" "for the purpose of financial management of cities, there are essentially three classes of funds, viz: *Current Funds*...or those to be used for current purposes of a municipality; *Capital funds*...or those intended for investment or permanent improvement, and *Trust Funds* ... or those in which the city is interested as trustee or agent, for the benefit of of another" The citizen interested in the financial management of his city, must know with regard to these different funds, "(1) The methods of acquiring funds to be administered; (2) The administration of revenue and expenses; (3) The management of capital funds; (4) The management of trust funds; (5) the administration of cash receipts and cash payments, and (6) methods of financial and administrative control."

CURRENT FUNDS.

"The underlying purpose of acquiring current

funds is to repair waste, to prevent depreciation, and to meet the costs of municipal services. Such funds are in the nature of temporary financial supplies ... they are to be currently consumed. They are obtained from tax levies etc. Capital funds are for the purchase of properties and equipment; their primary end is to acquire something which may be permanently retained or continuously employed by the city...something in the nature of property and equipment, or of an investment which is to be protected, repaired, or replaced at current expense. The capital funds are for buying property or equipment which shall not be permitted to become impaired. Except for temporary financial relief, as a matter of policy, a city should not long rely on municipal borrowing for current funds. While this is true of current funds, the opposite is true of capital funds. For acquiring capital, municipal borrowing is usually better adapted, than the making of extraordinary revenue levies. Generally speaking there are four sources from which a city may obtain its capital funds, viz.: (1) From sale of annuities; (2) from sale of corporate stock (or bonds) (3) from appropriations of revenue surplus (or extraordinary revenue levies); (4) from gifts or bequests of private individuals or corporations." For borrowing it is

safe to follow "the established policy of a city like Chicago, which has been, not only to provide a sinking fund at the time that the loan is made, but also to make the tax levy and the appropriation by the same ordinance that authorises the loan."

"The management of the revenues and expenses of the city must have reference to three administrative problems: (1) A question of surplus or deficit in current funds to meet the expenses of the city; (2) availability of the income at the time that it may be needed, and (3) the question of economy in every branch of the municipal service for which funds are provided."

CAPITAL FUNDS.

"All capital funds should be segregated, and should not be confused with "current funds" or "trust funds", not only for the reason that such confusion in accounts and in public thought is the most frequent cause for misappropriation and official default, but such an accounting tends to distort official vision and thwart intelligent judgment. All capital should be protected, to this end completely segregated from current items. Capital assets are not for realization; they are for continued and permanent use. The only manner in which an enterprise can realize on capital assets

is partially or wholly to wind up its affairs. The valuation represented on the capital balance sheet is not based on realization or salability, but rather on reproduction or capital cost."

"A proper regard for the financial management of capital funds and for the administration of properties and equipments of a municipality should have in mind their protection. Funds must be safely kept and invested to protect them against loss of principal. The properties must be protected against wear, waste, and depreciation. Equipment must be replaced and the proper capital funds set aside out of current revenues for such replacement. An accounting which will lay the foundation for correct judgment must have respect to such problems as these, must have regard to this underlying distinction to lay a proper basis for financial management."

TRUST FUNDS.

Similarly trust funds should be segregated. Lastly it may be observed that cash accounts or receipts and payment accounts are quite as necessary as revenue accounts. "The revenue accounts are necessary to economy of management. The cash accounts are necessary to the

protection of official fidelity. A correlation of the two must be made the basis of the budget."

FIVE KINDS OF CONTROL.

"Effective control is essential to efficient financial management. Under a system of popular government, there are five distinct controlling relations to be noted. (1) Revenue Control is secured through a representative house or council, in which all revenue measures must originate and whose action and approval is necessary to appropriation. (2) Administrative Discretionary Control is attained through the executive and through the various administrative discretionary heads subject to whose motion or discretion appropriations are disbursed. (3) Accounting Control has more recently been added by the institution of a department or office, at the head of which is a comptroller, and in aid of which is devised a system of financial accounts. (4) Judicial control is found in an independently organized system of courts, which may at all times be appealed to, to enforce the performance of official duty and to enforce corporate rights. (5) Popular Control over council, executive and financial officers is secured through elections and appointments."

BUDGET CONTROL.

To the above ideas culled from Cleveland's observations on the financial management of cities, let us add a few remarks of his, on the budget as an instrument of control. Conditions precedent to the effective exercise of control are that the controlling agents must act on information if they are to act wisely and efficiently. Without the protection afforded by full knowledge of facts prior to a decision made or a responsibility executed, reputation for honesty and efficiency is at all times in a jeopardy. Efficiency, economy, and fidelity—these have come to be the criteria of official acts. The development of such qualities in a government is not so much a matter of men and measures as it is a matter of method; not so much men as methods by means of which full and accurate information may be given to those upon whom fall the duties of exercising control. Given the methods by which the full situation may be known and by means of which the full responsibility for every act may be located and efficient men and measures will necessarily follow."

"The needed information must of necessity come from those who are in direct contact with the business of the corporation. The method has

to do with the recording, classifying, and reporting of this information; as well as with the means of directing affairs after such information has been recorded, classified, and reported. The method itself must, therefore, be administrative. It must relate to the collection and preservation of the evidence of efficiency, economy and fidelity and to the locating of responsibility for inefficiency, waste, and infidelity. If the budget-making body is to exercise financial control intelligently and effectively, it must consider (1) whether each function or activity which has been supported should receive further support; (2) the relative public importance of each function and activity to the general administrative scheme; (3) what amount of financial support is necessary to maintain this relative importance, from the point of view of the public and its interest. And no process should be considered as too laborious to make each of these considerations effective." To determine the financial support for each item, estimates are generally invited. In checking the estimates see whether (1) the expenses shown pertain to the operations during the period. (2) cost of operations during the period is set out in sufficient detail (3) whether it is classified by functions and activities (4) whether it is shown in unit amounts of service

rendered proportionate to the cost of performing the same, (5) whether the functions and activities require to be developed in certain directions to promote public welfare. (6) whether the relative importance of the performance of services has been ascertained from the heads of all departments, (7) whether these subjective estimates of importance of services have been checked by an independent collateral enquiry. Care must next be taken to publish the estimates and allow their examination under different heads. Preliminary estimates and statements of departmental needs must be made public in order that the press and the people and the citizen organizations may discuss each of the issues presented. The tentative budget must then be framed and the tax-payers heard. The gross amount for each service being settled in this way the heads of departments may be consulted for apportionment.

DR. BREURE ON MUNICIPAL ACCOUNTING.

Along with the above remarks based mainly on Dr. Cleveland's opinions expressed in "Municipal Administration and Accounting" those interested in accounting and reporting and budget efficiency of their municipality would do well to consult chapters V and VI on "Accounting and Reporting

Methods" and "Budget Making" in Breures excellent book the "New City Government." Writes Breure "Whatever may be the differences between public and private business they share in common the need of accurate and informing accounts. Certainly in matters of accounts and record keeping, and in establishing record evidence of business transactions, if at all, the city government may look to private business with assurance of help."

"However much a community may desire good government, and however sensitive it may be to government, it can not act wisely day in and day out on governmental matters without information on government acts and results. Accurate information can be only obtained from accurate accounts. Accurate accounts must mean more than accounts which show the details and the sum total of receipts and disbursements of any given period and which acquit the city treasurer of defalcation."

"City business before it can be intelligently considered by the citizen, must be broken up into its component elements. City business to the citizen means definite, appreciable governmental services performed in his behalf, and it is on these services and their cost that the alert citizen desires information. Whether the government is efficient

or inefficient can only be shown both by the quantity and quality of service performed and its cost to the tax payer in terms of public funds expended. "Facts are the foundation of efficient administration, but they are useless unless they are so recorded as to be available promptly for summary and review.

Dr. Breure thinks "the following schedule of accounts and records suggested for cities, though not intended to be complete, is regarded as the minimum requirement of a well managed city. Every city will have special needs governed by law or local conditions which must be taken into consideration in planning at least the details of the accounting system.. The general structure of the accounts and their major elements, however, may be uniform in every city, irrespective of size. Below is a summary of reports essential to efficient administration, as recommended by the Metz fund, with certain of the underlying accounts.

1. *Summary consolidated balance sheet*:—
 Purpose. To give a complete view of the city's financial conditions. It shows the assets, liabilities, appropriations and reserves of the General account, Capital account, Sinking Fund, Special and Trust accounts.

2. *Balance Sheet General Account*:—

Purpose: To show the assets growing out of the raising of revenue, and the liabilities growing out of the incurrence of liabilities for the operating and maintenance expenses of cities.

Assets. Cash from revenues or temporary loans. Uncollected taxes. Other accounts due the city. Stores on hand. Prepaid expenses.

Liabilities. Invoices and payrolls payable. Loans in anticipation of taxes. Other liabilities of a current nature.

Surplus. Excess of assets over liabilities.

3. *Balance Sheet Capital Account*:—

Purpose: To show, (a) assets of a permanent character, including cash held available for their purchase, and uncollected assessments, (b) the liabilities incurred in acquiring such assets.

Assets. Cash from sale of bonds. Uncollected assessments, lands, structures, equipment and other permanent improvements.

Liabilities. Invoices and payrolls on account of permanent properties. Bonded debt, less sinking fund cash.

Surplus. Excess of assets over liabilities,

being the amount of permanent properties provided from revenue and assessment.

Balance Sheet Sinking Fund:—Purpose: To show (a) assets of the sinking fund; (b) the liabilities thereof, including the reserve, being the amount that should be in the sinking fund.

Assets. Cash, Investments.

Liabilities and reserves. Unclaimed interest. Sinking fund reserve amount that should be in the sinking fund based on actuarial tables.

5. *Balance Sheet Special and Trust Accounts*:—Purpose: To show (a) the assets held in trust by the city or for special purposes; (b) liabilities and reserves.

Assets. Cash. Investments.

Liabilities and reserves.—Invoices and payrolls. Reserves for trusts and special purposes.

6. *Fund Balance Sheet General Account*:—Purpose to show (a) the unencumbered balance of appropriations; (b) contingent liability on contracts and open orders; (c) the resources, actual and prospective, for financing them.

Debits.....Cash in excess of immediate

requirements. Uncollected taxes and accounts.
Anticipated revenue not yet accrued.

Credits.....Unencumbered appropriations.
Reserves for outstanding contracts. Reserves
for outstanding open orders. Reserves for retire-
ment of temporary loans.

7. *Fund Balance Sheet Capital Account* :—

Purpose: To show (a) unencumbered balance of bond funds; (b) contingent liability on contracts and open orders of capital account, (c) the resources for financing them.

Debits. Bonds authorized and unissued.
Cash in excess of immediate requirements.

Credits. Unencumbered balances of bond fund authorizations. Reserves for outstanding contracts. Reserves for orders. Reserves for retirement of assessment bonds.

Revenue and Expense Statement :—Purpose: To show the income of the city and the cost of Government for each fiscal period; income being not only the amount received in cash, but also the amount accrued, but not received, cost being not merely the amount paid in cash, but also the amount incurred but not paid.

Books, reports and forms necessary :

(a) Revenue. (1) Controlled financial stationery. (2) Reports from collectors of revenue accrued and collected. (3) Registers of revenue accrued. (4) Accounts receivable ledgers. (b) Expense. (1) Registers of orders, payrolls, invoices, vouchers and contracts (2) Contracts and claimants' ledgers. (3) Classified expense ledger, functional accounts, posted from payrolls, invoices, or vouchers (4) Monthly reports of stores issued for consumption.

9. *Treasury Statement* :—Purpose: To show by funds, cash on hand and cash transactions, including cash received and disbursed.

10. *Stores Accounts Report*. Purpose to control the use and custody of all supplies and materials on hand pending consumption.

Books, documents and reports necessary:

a. Stores ledger to show inventory of each article at beginning of period. Goods received during the period. Goods dispensed during the period. Goods on hand at the end of the period. b. Requisition on storekeeper. Monthly reports of stores dispensed, showing expense and construction accounts to be charged d. Inventory of goods on hand.

11. *Cost Account.* Purpose: To show the cost of each job, or each kind of public service performed a. Work and job assignments b. Time reports c. Reports of material used d. Reports showing quantity of work or service performed.

12. *Operations statistics, records and reports* Purpose: To show for administrative guidance the character and amount of work done a. Classified by character of work b. Summarized and compared with preceding periods c. percentage of increase or decrease shown d. Total expense and unit cost shown if possible.

13. *Miscellaneous Statistical Reports Containing Nonfinancial Facts.* Purpose: To raise danger signals, and to provide a basis of administrative policy designed to meet the special requirements of the various branches of municipal activity.

BREURE ON BUDGETS, THEIR THREEFOLD PURPOSE.

Next to accounting methods let us now consider some of the observations of Dr. Breure with regard to the budget. Writing about the functions of a budget, Dr. Breure states "In theory and increasingly in fact in well governed cities, budgets serve a threefold purpose. These are:

Statements of programmes of public service and proposed expenditure of public funds, projected by administrative officials, and sanctioned by legislative authority.

Authorization by the legislative body to administrators to spend public moneys to execute the programme of service. Mandates prepared by the representatives of the public, sitting in boards of financial control, directed to administrative officers requiring them to perform in a specific period definite work for the public good."

BUDGETS AS SERVICE PROGRAMMES.

How can a budget be made to function as a work programme—a declaration of intended services to be rendered? Clearly to obtain this result budget preparation must have reference not merely to the kinds of things to be purchased with funds appropriated, namely personal services through salaries and wages, or supplies, but to the kinds of work to be done, yards of street to be paved, feet or miles of sewers to be cleaned, number of patients to be cared for in hospitals, number of premises to be inspected for sanitary conditions, and so on through all the varied details of work which the municipal corporation conducts."

FUNCTIONALIZING APPROPRIATIONS.

As yet budgets are usually framed with reference to spending possibilities rather than work plans, expressed in kinds and quantity of service to be rendered, "By functionalizing appropriations, that is stating separately the amounts provided for each kind of work, New York city and half-a-dozen other American cities, have already laid the basis for future voting of funds, with reference to work plans. A properly functionalized or segregated budget should reflect all the distinct and severable processes, which city government forms having specific aims in view. Scientific budget making does not permit voting lump sum appropriations for a dozen different kinds of work. It does not allow appropriations for two or three different kinds of work, when each of the kinds is independently performed, is constituted of different processes, has its distinct service objectives, and is susceptible of separate accounting. This first principle of scientific budget making, is the basis of intelligent determination of the amounts of money to be appropriated. How else can a decision be reached or expressed as to amounts of different kinds of service it is desirable to obtain? Segregation is the first necessary step in converting a budget from a license for misexpenditure,

into a service programme, because it breaks the multifold activities of the city into their integral parts, each one of which can be thought about and planned about as a separate entity." Next to segregation according to function, budget making prompts attention to accounting methods which will produce information, enabling officials to measure past expenditure on the basis of the work planned. If any loss occurs because departments are held rigidly to specific appropriations, it is more than set off by the gain resulting from the necessity, first of making definite plan of working in advance of expenditure and second, of having to adhere to this plan once it is determined and agreed upon. Modern budget making practice goes beyond segregation by function. It includes the separation or itemization of the appropriation for a function to indicate and control the amounts to be spent for different kinds of services or materials which are to be utilized in discharging the function. Till cost records are established and standards of cost developed, the practice of itemizing budgets by objects of expenditure, will probably assist in preventing unwise or deliberately wasteful use of public funds. The form of segregated budget now in use in New York illustrates the principle of specific allowance for specific

functions, and the subdivision of such allowances into the general classes of objects of expenditure by means of which the functions are to be performed. Here it is.

Department of Health. (Functional classification.) General administration. Administration and inspection. Child hygiene. Contagious disease control. Communicable disease control. Food inspection. Milk inspection. Laboratories. Hospitals etc.

For each of the foregoing functions appropriations may be made for any or all of the items of the following standard classification of the objects of expenditures :—

1. Personal service. (a) Salaries and wages. (b) Fees. (c) Commission. (d) Other.

2. Supplies and Materials. (a) Fuel. (b) Forage. (c) Provisions. (d) Materials. (e) Other.

3. Purchase of equipment. (a) Furniture and fittings. (b) Motor vehicles. (c) Vehicles other than motor vehicles. (d) Live stock. (e) Other.

4. Transportation service. (a) Hire of

horses and vehicles with and without drivers. (b) Storage of vehicles. (c) Shoeing and boarding horses, including veterinary service. (d) Other.

5 Special contractual service. (a) Repairs and replacements. (b) Inspection. (c) Other.

6. Communication service. (a) Telephone. (b) Postage, telegraph and messenger.

7. Miscellaneous expenses. "In preparing a properly segregated budget it is important to have in mind that appropriations are not made to units of organization but to the functions performed by these units."

CITIZENS SHOULD PARTICIPATE.

"If it is important that citizens have intimate knowledge of the plans and transactions of government, then every effort should be made to encourage their participation in budget making. In so far as they seek to give a business administration, and to govern in accordance with popular desire, municipalities should invoke the co-operation of citizen agencies, such as boards of trade, chambers of commerce, and philanthropic organizations in considering budget and estimates. Before the budget is finally adopted the tentative

conclusions, should be stated succinctly and in some way through publication or filing made available to tax payers and other interested citizens. After a lapse of a reasonable period opportunity should be given at a formal hearing for tax-payers and others to appear with recommendations regarding the proposed allowances. Clearly for a legislative body it is futile to grant hearings unless effort is made to encourage and invoke suggestions from citizens."

BUDGET EXHIBITS.

"Through the instrumentality of the budget much can be done in the way of developing an intelligent citizenship, and citizen co-operation with boards of commissioners. An effective means of bringing about this co-operation is to make the budget comprehensive and interesting to citizens through an exhibit which graphically presents the city government's service programme and illustrates organization and working methods. Budget exhibits help to transform the dry-as-dust figures of budget estimates into live matter for newspaper stories. Money spent for a carefully planned exhibit would bring back a large return in public enlightenment."

EFFECTIVE ADMINISTRATION.

“After a budget is made it must be effectively administered. Power to appropriate generally carries with it power to impose conditions under which funds appropriated may be used. Among these may be put the requirement that all payrolls should be based upon properly certified time reports or records of service performed. Similarly, appropriations for supplies may be made under the condition that just as fast as the board of estimates prescribes standard specifications to apply to particular supplies, purchase should be made in conformance with the specifications so established. As a part of the constructive programme of budget making every city should conduct a study of its sources of revenue and ascertain the possibilities of extending them. Business methods in respect of the control of revenues are quite as important and generally as deficient as business methods in respect of control of expenditure. Where individuals hold franchises or concessions from the public and acquire profits by use of public property or special privileges, the city should receive an adequate money return as well as the indirect benefit derived from the services rendered by the privilege or concession holder.”

METZ FUND PUBLICATIONS & SUGGESTIONS

Our budget making and budget publicity, as well as accounting has much to learn from the remarks that I have culled from the above writers. The subject is deserving of the utmost attention and those interested should get the publications of the Metz Fund from the Bureau of Municipal Research, 261 Broadway New York. The titles of some of the publications are "Making a municipal budget" "Hand book on Municipal Budget Making" etc. According to them the steps involved in improving the New York city's methods of budget making were "Uniform questions to all the departments.

Facts for several six month periods to show tendencies.

Whether pay roll increases are for additional employes or to increase salaries of present employes.

The cost of each kind of work in schedulized estimates.

Estimates printed and distributed in advance.

Estimates explained in detail by the budget

publicity committee, through press notices, budget-exhibit and circulars to taxpayers' organizations.

Nearly two million visits to the official budget-exhibits, 1910-11.

The 1911 budget-exhibit is continued at City College.

Independent examination of estimates by the board of estimates examiners, particularly the bureau of municipal investigation and statistics, department of finance

Public hearings for department heads to explain estimates. Taxpayers' organizations, social workers, ministers give advance consideration to budget estimates, invited to prepare for and attend public tax payers' hearings on estimates.

Tentative budget prepared enough in advance of the final budget to permit of analysis and discussion.

Accounting methods show whether or not the before budget plans are carried out.

Public hearing on the tentative budget in time to consider final budget.

Budget appropriations schedulized item for item to facilitate audit.

Budget appropriations as schedulized are segregated. Money may not be transferred from the purpose voted to another purpose without permission of the board of estimate.

If the budget plans are not carried out, it is for the board of estimate to decide whether parts of appropriations not used shall revert to the city or be otherwise expended by department heads.

CHAPTER XXX. PUBLIC WORKS TEST.

A considerable portion of the total budget of a municipality is devoted to what are known as public works and conveniences. Yet efficient methods have not still been introduced in our municipalities with regard to this prime spending department. To realise this state of affairs one has only to put himself and his municipality such questions as the following :—

1. Are there standard specifications and schedules for public works and stores purchased ?

2. Is there a standard testing laboratory to carry on physical and chemical tests of stores and materials ?

3. Is the cost per mile of road making of different widths and specifications, being noted, and gradually reduced ?

4. Has the same procedure been adopted for other important items of public work such as street lighting, street watering, street cleaning etc. ?

STANDARDIZE SPECIFICATIONS.

The question of standardization of specifications for public works has been carefully dealt with by William. H. Connell of Philadelphia, in his article of that title, contributed to May 1912 number of the Annals of the American Academy of Political and Social Science. A few quotations will bring out the procedure necessary and the great importance of this item of reform. Thus as a preliminary consideration it may be pointed out that "before a specification is so drawn that it can be considered even to approach what might be termed a standard specification, it is not only important, but necessary, that each clause be thoroughly discussed by engineers, contractors and material manufacturers from different parts of the country, in order that points of view based on practical experience in different sections of the country may be given due consideration, as local and climatic conditions are important factors in specifications for public works. A specification for a particular class of work that may be ideal in one section of the country would, in all probability, not fulfil the requirements in other sections of the country, for the same class of work. It is only by a thorough and comprehensive study of the existing conditions, based on the practical experi-

ence of experts trained in the various classes of public works, carried on in different sections through out the country, that any definite principles can be determined upon to govern the drawing of standard specifications."

"Every step towards standardization of materials and workmanship reduces costs and puts public works on a more thorough business basis. A concerted and concentrated efforts towards the standardization of specifications would result in a more comprehensive study of materials in use, the quality required, the work to be performed, than has heretofore been conducted. The importance of standardizing specifications for public works would be self-evident, if a comparison of the unit costs of specific classes of work performed under similar conditions were to be made. Unit cost records and the standardization of specifications go hand in hand, as a scientific and systematic investigation of the unit cost of works performed, methods of construction, workmanship, and materials used, must necessarily be made before any conclusions can be arrived at with a view to standardizing a specification for the particular class of work under investigation. Therefore such records should be installed in all public works departments."

“Standard specifications, resulting from scientific investigation and practical experience of technical experts, would be both equitable and safe, and it is quite evident that the standardization of materials would cheapen the products and act as a dominating regulator in the industries affected. The standardization of screw threads, steel rail sections and of structural steel shapes are notable examples of this. It is also interesting to note that the agencies instrumental in establishing these standards were the United States Government, an engineering society, and a rolling mill association. This goes to show the importance of co-operation of radically different agencies representing all phases of the situation in work of this character.”

“Of course there is a danger of a fixed standard becoming unprogressive and falling behind the demand of the time, but, on the other hand any changes made or suggestions relative to changes, should be the result of scientific investigations and practical demonstrations. Continuous and progressive change is unavoidable in specifications of materials owing to the development of manufacturing arts and the advancement of science. A specification must necessarily follow these developments if it is to maintain its value.”

“If we consider the broad field as to materials and workmanship, covered by specifications for public works, it is quite apparent that the benefit to be derived through the standardization of specifications in general are unquestionably of sufficient importance to justify a concerted effort on the part of department of public works throughout the country. The department of public works has been suggested as medium through which this can best be accomplished, because they can make it their business to delegate engineers, to meet at an appointed time and place, probably once a year, for this specific purpose. The results of an analysis of many methods of workmanship, and dimensions of materials, called for in specifications for different classes of work, carried on under similar conditions would be surprising, and would emphasise the importance of determining upon standard specifications for public works from a purely economic point of view ”

“ The highest plan of economy and efficiency in public works can only be attained through the standardization of specifications. Methods of construction, workmanship, and materials are constantly undergoing changes. A permanent association for the standardization of specifications

would enable all the public works departments throughout the country to keep abreast of the times and avail themselves of the most modern and up-to-date specifications based upon scientific investigations of trained experts in the various branches of the engineering profession."

HAVE STANDARD TESTING LABORATORIES.

We would next consider the purpose of providing standard testing laboratories. "In the very initial steps taken by the commission on standardization" so writes Otto. H. Klien, Director, Standard Testing Laboratory, City of New York, in his paper on Securing Efficiency Through a Standard Testing Laboratory, in Efficiency in City Government, "to modernise the specifications for supplies, and especially to incorporate reasonable physical and chemical requirements by which the quality and components of these materials could be described and deliveries controlled, the co-operation and advice of the city owned chemical and physical laboratory was found to be an unavoidable necessity. This led to the creation of the Standard Testing Laboratory by the board of Estimates and Apportionment, in the spring of 1911, for the following purposes :

1. The testing of samples of all kinds of

general supplies purchased by the city of New York for the use of the various departments and for the purposes of securing a proper audit of all claims therefor.

2. The testing of all materials used in construction in the laying and resurfacing of pavements, roadways, side walks, in the five boroughs of the greater city.

3. The carrying on, concurrently with the routine of general testing and along specific lines of the city's needs, of such research work as will give the various city departments the benefit of the best available scientific knowledge, worked out practically along definite lines, suggested by the routine of general testing as indicated herein.

4. The simplification of the work of auditing and inspecting of claims for supplies and materials furnished to the city under properly drawn specifications, prepared by the commission on standardization and promulgated by the board of Estimates and Apportionment, for use by all the city departments. Co-operation in preparing specifications and in auditing and inspecting claims for work done and supplies furnished thereunder, so that the city shall, by the faithful carrying out of all

specifications, receive full value for money expended.

5. The gradual evolution of uniform methods and standard tests of all supplies and materials purchased for city purposes, and the promulgation to all city departments, by means of monthly bulletins or otherwise, of the results of such tests and the research work based thereon. The object of the dissemination of this information would be to enable city departments interested to know fully and accurately the results in efficiency and economy of the general practices prevailing and the experiments made by every other department. This would prevent mistakes made by one department from being repeated in others, as at present and make methods by which valuable results are obtained in one department available to all others. Under the present system each department is permitted to work independently, in comparative ignorance of what is being done in other departments.

6. The maintenance of records showing the relative life and relative good or bad qualities of all materials used by city departments in construction work, specially of materials used in the laying of pavements and side walks, and in the making

and surfacing of streets and roadways with macadam, and roadoils, wood blocks, asphalt, granite set or other materials. These records to be so kept as to inform departments in charge of such work, not only as to the best and most suitable material to be used, but to demonstrate from actual tests of such roadways and side walks during a course of years the reasons of their durability or lack of durability; information of this character to be disseminated from time to time in monthly bulletins, or otherwise, for the information of all city departments.

7. The furnishing to the corporation counsel's office of such technical data, taken from the results of such tests and the official records of such tests, as might be required from time to time, to protect the city's interest in legal actions for damages involving materials and supplies furnished to, and work done for any city department. At the present time large amounts of money are annually expended for expert services and testimony in such action for damages. It is submitted that such testimony and services could be furnished by the staff and official records or a standard testing laboratory, in a manner and with a completeness which would more efficiently and far more

economically protect the city's interests, than they are at present protected in all such legal actions.

8. "In summarising the various duties to be performed by a standard testing laboratory to secure efficiency, the following results are to be achieved:—

Preparing efficient specifications.

Assisting in efficient inspection of goods delivered. Ascertaining the most efficient materials for use in construction or supplies for consumption.

Observing and experimenting by research or otherwise, the servicability of materials; as for example, oils, asphalts, paints, etc.

Collating, filing, and having available for reference precise information regarding the physical and chemical characteristics of materials and supplies, with a view to determining the most suitable articles of each kind for the purpose required.

Arming the city with expert testimony and expert information to defend the various suits brought by disgruntled constructors in the way of construction work or general supplies.

STANDARDIZE UNIT COSTS FOR DIFFERENT SERVICES.

Taking next such common items of service as road making, we find that adequate and reliable data are not worked out by different municipalities, nor where they are so ascertained howsoever imperfectly, is there an adequate exchange of such experience on the part of municipalities. Here too we can learn a good deal from foreign experience, especially from experience of advanced America.

In the excellent article by Goodrich and Holton, on efficiency in high way administration with special reference to pavements, in *Efficiency in City Government*, we find it stated "Recently, attempts have been made by the government and by associations of engineers to unify and codify the experience of all highway engineers through-out the country and make it available for others in the form of standard specifications. It is indeed a weakminded and narrow administrator who will rely solely upon his personal experience or the experience of his own city, in such matters; for by taking advantage of the mistakes and the successes of other municipalities, every city can be kept at the forefront. This is more nearly true

in regard to the specifications than to any other side of the pavement problem. Specifications prepared by associations of engineers whose integrity cannot be questioned should be at the disposal of every highway department in the country." How far are we yet from such a desideratum!

GUARANTEE CLAUSES IN PAVEMENT CONTRACTS.

One more item of experience in this direction appears to me to be suggestive, since we are just entering the era of patent pavements. We are told "When patent pavements first came into general use owing to the uncertainty in the minds of every one as to their reliability, the cities in nearly every case required a long term guarantee from the contractor—a term which in some of the larger cities was longer than the average life of the pavement. Of course, this was absurd, and, in consequence, numberless abandoned contracts were thrown back on the municipality, and many paving companies went into bankruptcy. Then for a time the attitude seemed to be that there should be no guarantee. This was probably a reaction too far in the opposite direction. Ideal specifications, and inspection and the assurance of

unquestioned integrity on the part of both the contractor and the contracting party would eliminate all necessity for any guarantee, but such ideal conditions are not yet attainable and, for that reason, it does not seem advisable at the present time to eliminate guarantees entirely. Five years is long enough ; probably a shorter guarantee period would be better."

ROAD INSPECTION.

As regards road inspection we have it from the same authority " There is no reason why the preliminary or patrol inspection of the streets should not be amalgamated with the patrol inspection of the other departments of the public works. By decreasing the milage which an inspector is forced to cover in a given period of time, at the same time increasing the scope of his duties by requiring not only reports on the condition of the streets but also on encumbrances, street signs, defective lights etc.,—it will be possible to obtain more work per mile without additional effort and without imposing any hardships on the inspector. Great diversity of reports will produce greater interest in his work and result in high efficiency."

"In connection with the training of a competent inspection force, efficiency talks by the

engineers of the department, explanations of specifications, the preparation of a comprehensive book of instructions prepared in such a manner that it can be easily understood by inspectors, and all other such helps, are invaluable. Owing to the peculiar nature of the work, specifications for paving materials are of necessity complicated, and those for workmanship are broad and comprehensive, but lacking in detail. It is not possible to avoid entirely this complexity, but by proper instruction and by careful supervision it is quite possible to overcome the uncertainty in the non-technical minds of the usual kinds of inspectors, and foremen of paving gangs as to just what is required of them."

REPORTS AS TO AREAS RESTORED.

"Reports of areas restored can be made very simple. All that is necessary is the location of the patch and the statement of the dimensions. Patches are often irregular, of course, and these dimensions must be taken from the nearest measurable figure. It is not advisable to have the extensions of the areas calculated in the field. Greater accuracy at less expense can be obtained from the clerks in the main office who know how to add and subtract and multiply, but who do not

know the difference between good asphalt and poor concrete. Here again adequate supervision is imperative. The marking out of the areas to be restored and the reporting of the areas as restored, should be made by the inspector who is with the gang. Adequate inspection of material and workmanship and honest measurement really avoid the necessity of any guarantee period in a strictly maintenance contract."

"The installation of a procedure in highway departments which will develop efficiency in the administration is a problem which involves to a considerable extent the local conditions. But the general outline and underlying principles are the same throughout the country, controlled inspection, standard specifications and contracts, proper use of assessment, tax levy and bond funds; traffic records and their interpretation; comprehensive report and intelligent summaries; efficiency and cost record; and finally, the selection of an administrator technically trained, not as an engineer alone but an efficiency engineer."

"Technically speaking, highway engineering is not complex, but add to the engineering difficulties the great amount of detail involved, and the difficulties in the way of definite organization and

control are quite apparent. They are not so great, however, but that any municipality by making the necessary changes in the organisation both as to procedure and personnel, could obtain definite results in period short enough to be well within the term of one administration. By taking advantage of the results obtained in other cities this can be accomplished."

WELTON ON LABOUR EFFICIENCY.

Another item of importance in connection with improving efficiency of municipalities in public works is to raise the efficiency of the labour employed by them. This question has been carefully dealt with by Benjamin. F. Welton in his article on "The problem securing efficiency in municipal labour" pp. 103-114 of *Efficiency in City Government*. He lays down the purpose and procedure of his investigations. "These investigations he writes" contemplated only relative determination of efficiency in a conclusive form. The procedure was extremely simple in theory and consisted in arranging in the accurate measurement of self demonstrated inefficiency. First a series of secret observations of the labour forces was conducted. Later a duplicate series of observations made openly. Careful records

were kept in both cases. Performance under the first series obviously represents normal efficiency, whereas the critical inspection of the second series might be expected to develop that degree of efficiency easily possible of attainment. Thus by comparison it was ascertained that these municipalities normally suffered losses of efficiency in the forces examined varying from 40 % to 70 %. This of course represented virtually nothing except wasted time. While these investigations covered only a relatively small portion of the total labour employed in all departments of the city, it may be stated with the utmost assurance that the average efficiency of labour in any large municipality will not at the present time exceed 50%."

KINDS OF LABOUR INEFFICIENCIES.

"Inefficiency of labour employed by a municipality may be divided into two general classes. First, inefficiency due to the circumstances over which the administrative head of a department bureau has no control, and secondly the inefficiency due solely to his action or inaction.

Under the first class the principal items are inefficiency due to :

(1) Procedure required by civil service laws and regulations.

(2) Procedure required by fiscal authorities.

(3) Conditions imposed by other legislation or regulation either state or local.

(4) Influence exerted by political interests.

These are some of the extraneous difficulties which face the official who is honestly anxious to secure efficiency from his labour forces.

CAUSES OF LABOUR INEFFICIENCY.

With regard to the causes of inefficiency which fall within the control of an administrative head, a complete enumeration would produce a lengthy catalogue. Confining attention to a somewhat general classification, it may suffice to mention:

1. Inefficiency in the supply, distribution and use of materials, plant or equipment.

2. Inefficiency due to lack of knowledge concerning work conditions and requirements.

3. Inefficiency due to lack of predetermination in the assignment of work.

4. Inefficiency due to improper organization of force.

5. Inefficiency due to improper methods and unsystematic procedure.

6. Inefficiency due to lack of discipline.

7. Inefficiency due to lack of standards by which performance may be judged.

8. Inefficiency due to inadequate and inaccurate records of performance and conduct.

REMEDIES OF LABOUR INEFFICIENCY.

“The remedies” we are told by the same authority “are obvious at least in their general statement if not in the actual method of application.

1. Provide a practical and effective method of selecting competent personal service in every grade.

2. Establish a jurisdiction that will facilitate the performance of all interrelated functions.

3. Define individual responsibility clearly and insist on strict accountability.

4. Institute strict disciplinary measures.

5. Establish the standards to be attained.

6. Permit great latitude of administrative discretion.

7. Improve individual performance by educational methods.
8. Provide an accurate record of individual accomplishment.
9. Measure ability by results of performance.
10. Make the punishment of failure severe.
11. Make the reward of success attractive.
12. Publish the comparison of actual results with established standards."

It will be remembered that in our earlier chapters stating the general principles of efficiency we have already emphasised these principles here stated in detail for this single function. Improvement in Municipal efficiency will result when these principles of scientific management are employed for all items of service rendered by municipalities.

"So far as integrity, worthy intentions and high ability of officials can ensure good government, the confidence of citizens is (in most cases) doubtless well placed. The fallacy lies in the assumption that official integrity, purpose and ability alone are a guarantee of efficient city management; that citizens have no part in government between election times; that officials

can and will work to the best advantage, without the stimulus and support of an informed, alert and exacting citizenship."

CITIZENS MUST INVESTIGATE.

If the citizens are to discharge their duty properly they must start citizen agencies of independent investigation of work done by their municipality. "The steady work of these agencies of investigation is slowly raising the standards of service in American municipalities. They are educating the tax-payer and citizen to watch where his dollar goes. They are turning the spotlight on graft; they are making political favouritism unprofitable politically; they are directing public officials to the task of overhauling antiquated, lax and wasteful methods; they are helping to make city government an efficient instrument of service to the community." Let us learn to do likewise.

CHAPTER XXXI. PUBLIC UTILITIES TEST.

An important test to keep in mind and apply at the present stage, for our bigger municipalities at any rate, is the public utilities test. A right policy with regard to public utilities will result in increase of welfare at lower cost. The questions that need to be answered in this connection may be worded as follows: Are the public utilities, power, light, tram and telephone acquired and managed by the Municipality? This is the test we shall now proceed to consider.

PUBLIC UTILITIES ARE MONOPOLIES.

As shewn by Henry Wright, in his booklet, "The American City" public utility is essentially a monopoly. Herein lies the cause of many problems of Public Utilities, which are at first allowed to be managed by private corporations as they are being done in our presidency. But as Wright observes "Public Service Corporations" are seldom at a loss to find ways of inflating their capital charges, and such over-capitalisation is made a claim for charging of higher rates." It is at this point that the publicly owned plants present the greatest contrast. In almost every case their

rates are lower, while if they are at all high, the profits are used for the benefits of the tax payers,, (p. 123).

PUBLIC OWNERSHIP OF PUBLIC UTILITIES.

“In European cities” write Pollock and Morgan “public ownership of public utilities is the rule and private ownership of public utilities an exception. One can take a trip through Italy, Switzerland, Germany, France, without riding any but public owned railways. And in most of the towns through which the traveller passes he will find the street car service as well as gas and electric service entirely owned and managed by public, and also find the telegraph and telephone service in the hands of the people. The success of public ownership in the cities of continental Europe is no longer questioned.”

THE EXAMPLE OF GERMANY.

“Germany leads the world in the management of its public utilities and it is not improbable that public ownership has had much to do with the splendid development that is taking place in the recent years in German cities. Germans have organised the habit of working out all problems upon scientific principles. They study the methods, devices and plans and do not hesitate to adopt

those that prove most worthy. They are imbued with the high ideal of civilisation and place public good above all private advantages. The Scholar, the Engineer, or Superintendent is willing to serve his state at a reasonable salary and finds his reward in the satisfaction derived from promoting public good." (Modern Cities p. 247).

FAIRLIE-ON MUNICIPAL MANAGEMENT.

Fairlie in his excellent book "Municipal Administration" points out that the municipal undertakings have a social aspect. Municipal control means greater attention to social aspects, that is, better facilities to the consuming public and better compensation to the employees. This amelioration of social conditions can not be balanced in figures against diminished profits. In his opinion the question for or against the municipalisation of commercial undertakings must be decided largely on social grounds. The most important consideration is that of social advantages to be derived from the municipal control, and the strength of this argument positively or negatively will depend on public sentiments as to how far improved conditions should be furnished at the expense of general taxation. From a purely business point of view there are certain advantages

in favour of either municipality or private control. Municipalities have the advantage of lower rates of interest on capital than private companies, and further more they issue no watered stock on which interest must be paid. On the other hand the private companies are in general willing to pay much higher wages of superintendance than municipalities thus securing the most intelligent management, usually a board of directors, is more permanent and is more likely to pursue a continued policy. Other arguments against municipalisation are the spoils system and municipal corruption, but these are gradually on the wane. Sometimes there is a constitutional debt limit which comes in the way of municipalities.

HIS CONCLUSIONS.

His conclusions in this respect are noteworthy. They are :—(1) Where a private company has shown itself well-managed and active in the public interests, it seems doubtful policy to run a risk of a less able management under Municipal control, but agreement even with such a company should be carefully drawn to safe-guard the interests of the public. (2) In the case of franchise granted without proper provisions, the first step to be taken is to compel the reduction of rates or making

improvements and facilities so that the company may receive only a fair income from its property. If this is not done, little will be gained by Municipal purchase of the plant, due to the high rates charged. After such reduction of rates or upon the expiration of a franchise, in the city which has managed other public works with success, and is not already involved in as many undertakings as it can manage, municipal ownership is advisable.

Our municipalities generally on account of lack of initiative, and confidence in their managing capacity, give away lighting, power, tram and telephone services in the hands of private companies, who taking advantage of the monopoly tax the resources of the city. Even in such cases the best terms of the lease are not standardised and uniformly enforced. Thus the Tramway and Electric companies at Bombay and Karachi operate on different terms. The public control at Bombay is far greater than the control at Karachi. In Sindh the instance of Shikarpur, Sukkur, and Hyderabad so far as electric lighting plants are concerned is in point. It will be useful to observe in ones own division, the comparative cost and unit rate of service rendered, by private and municipal managed utilities. The time is come for municipalities to

frame policies in the light of the best municipal experience of advanced countries, viz, Europe and America, and not to press the future generations with monopolistic burdens. If citizen opinion be educated along these lines, much good is bound to result, either in the way of better terms from private companies or public and municipal management from the start. I am disposed to consider that public utilities should as far as possible be publicly owned.

CHAPTER XXXII. PUBLIC OWNERSHIP TEST.

Just as the stability and prosperity of an individual, family or corporation, is judged by ownership of home, office, or workshop so one of the ways of judging the stability, prosperity and advance of a municipality is through the extent of its ownership of the buildings, offices, workshops it requires for the discharge of its various functions, and specially by the ownership of its spare land for healthy homes of the citizens it attracts, ample recreation grounds and areas foreplanned for its industrial and commercial development. Hence emerges the public ownership test which may be phrased as follows: 1. How far does the municipality own the buildings required for its institutions? 2. How far does it own the land required for its further development? Has land speculation been eliminated? and is economical and healthy housing being provided by municipal efforts?

ASCERTAIN EXTENT OF MUNICIPAL OWNERSHIP.

The first thing to ascertain is whether workshops, offices, schools and hospitals etc are municipal owned or not. The buildings used by a municipality for carrying on its work should surely be

municipal owned. The existence of rented schools and hospitals shows so far a lack of foresight for provision of the necessary services of education and health. Similarly ample recreation grounds and areas for expansion of residential and industrial functions of the city argues its foresight and wisdom.

ASCERTAIN HOME OWNING CITIZENS.

The way to proceed with this test is to ascertain whether the particular town is a growing, stationary, or declining town. If it is a declining one, the municipality should awaken to the fact and find out how by further facilities to maintain the attractiveness of the town. If it is a stationary one its growth must be stimulated to make it a progressive one, in ideas if not in population as well. If a growing one, its orderly growth must be preplanned, so that the human beings attracted may not suffer in health and education, and civic spirit. Housing conditions are apt to be neglected in such growing towns, and housing provision left to the tender mercies of the capitalist with the result that monopolistic rackrenting reduce accommodation and enhances rentals till the citizens suffer in health and the city suffers from speculation. Home ownership gradually decreases and is replaced by capitalistic ownership instead of

municipal ownership. Capitalistic ownership closes the door for home ownership and opens the door for speculative gambling; while municipal ownership of housing does away with cupidity and leaves the door open for new comers, who settle to acquire their own homes.

HOUSING EFFORTS AT ROME.

“ One of the most successful attempts to improve housing conditions has been made in the city of Rome. When the capital of Italy was moved from Turin to Rome, in 1870, a rapid increase in population in the imperial city followed. Although extensive building operations were carried on, the new houses did not keep pace with the increasing population, and as a consequence much overcrowding took place. Families were compelled to live in single rooms, and to occupy unsafe and insanitary buildings. Conditions became so bad that the city administration was aroused and an effort was made to secure better homes for the poor.

“ The municipal council passed an ordinance remitting the taxes of new tenements for two years. It also provided for the formation of a corporation to undertake the building of model tenements as a philanthropic enterprise. The directors of this municipal tenement corporation are appointed by the municipal council and serve without salary. The

funds to be used in building the tenements are loaned to the corporation by the city, under an arrangement whereby the money is to be returned to the city in 50 years. The directors provide for the building, maintenance and renting of the tenements. From the income received they pay to the city 3 % net on the amount loaned and make small annual payments on the principal."

"Senator Franchetti, one of the leading statesmen of Italy (1914) is president of the municipal company, and is unselfishly devoting much of his time to promoting its interests. The company has already built several groups of tenements, and the scheme is proving successful both from a social and financial stand point.

"The genius of Rome's new tenements however, is Engineer Edoardo Talamo, Superintendent of the Institute of Good Homes, a building corporation that has recently constructed a large number of tenements. Talamo is man of unusual ability and has made a thorough study of housing conditions. His genius bids fair to revolutionise housing conditions in his city.

"The houses built by Talamo's company are as a rule five storied tenements, so arranged in groups as to enclose a common yard. The

tenements are built in three grades, the lowest grade for families of the ordinary unskilled workmen, the second grade for families of skilled workmen, and the highest grade for people with good incomes. A care taker, who is continually on duty is provided for each group of the tenements."

"Talamo's aim has been to foster a community life in each group so that a genuine home spirit might prevail. To this end he has set apart several rooms for the common use of tenants. One of these rooms is fitted up as a library and reading room, and furnished with books and magazines. It is maintained at the expense of the company and the tenants are free to use it at will. Another room is fitted up as a sewing room. In this room the company provides sewing machines run by electricity. The house-wives bring in their sewings, and are able to mix with their neighbours while providing clothes for the family. A trifling fee is charged for the use of the machines. Cold baths are free to tenants and warm baths are provided at a small fee.

HOUSING EFFORTS OF ULM.

In this connection the example in Germany will also be found of interest. Pollock and Morgan in their excellent book "Modern Cities "

from which I have quoted the example of Italy, tell us "Ulm in Germany, has probably gone farther in the matter of constructing municipal tenements, than any other city in the continent of Europe. It has purchased large tracts of suburban land, and after improving them has resold a portion of the sites and has erected cottages and cottage flats on the other parts. From 1881 to 1909 this city purchased over twelve hundred acres of land for \$ 1,390,000 and resold 404 acres of land under full restriction for \$ 1,633,000. In this way a portion of the unearned increment has come into the treasury of the city where it rightfully belongs, and the people have been able to secure building sites at reasonable prices. Ulm erects cottages to sell to workmen on easy terms or the workmen may rent if they prefer. It is generally conceded that the real state ventures of Ulm have proved beneficial to the city as a whole and specially to the working people. It is worth noting that his city by its farsighted policy owns 80% of all the land in and around the city, and has been able to keep down the prices for both industrial and residential purposes and greatly limit land speculation. (page 170 'European Cities at work,' Howe.) Here are examples for municipalities to emulate.

CHAPTER XXXIII. PARKS AND PLAYGROUNDS TEST.

PROVIDE HEALTHY RECREATION.

Man is essentially a play built animal. His regeneration as well as degeneration is more or less the result of his having opportunities at hand for providing himself with proper or improper outlets for his play instincts. Hunger starts his activity but leads him but a little way. He gets his perfection through play—self-chosen, self-gratifying modes of activity. Recreation has been well said to be a cathartic for the soul, purging it of impurities. To provide recreation for would-be citizens of all ages, is a good way of serving and improving the city. It is through parks and playgrounds that a city can minister to the healthy recreation of the citizens. Hence one of the tests of municipal efficiency is the park and playground test. It may be embodied in such questions as the following:—What percentage of the total residential area is reserved for open squares, parks and playgrounds in each ward? Is there an open space within five minutes walk of every home? Is the tree census taken? Is the plantation of trees being steadily increased through institution of

labour day etc? Are there supervised playgrounds for children of all ages in all quarters of the city?

DON'T FORGET THE CHILD.

In the last i.e. 4th session of the All India Social Workers' Conference held at Bombay, there were no less than four papers contributed on the subject of open spaces, playgrounds, and directed games for children. What Professor Gidwani observes in his paper is true of most of our cities. In our cities "there is a large number of children who attend neither a school, nor a factory nor a workshop. They either remain idle at home, or what is more probable; loaf about in the streets, where they abuse, fight, and gamble. Even the school going children are not much better, for the obvious reason that even in their case there is no provision for leisure hours. It would be useful to know the total number of our juvenile idlers whose energies are running to waste through the folly of the nation. Incredible as it may seem, there are children in Bombay who have never seen the sea, a fact which should speak for itself. We manufacture criminals and invalids, both juvenile and adult. Alas for our folly! If we only built more schools and those of the right sort, and tried to make our childhood free and happy by organised play, we should not need any."

THE PLAY CENTRE MOVEMENT, ENGLAND.

From Prof. Gidwani's paper we quote the origin and development of a kindred movement known as the play centre movement in England. He writes "The play centre movement had its origin in the year 1895 in a certain dingy room known as Marchmont Hall, in the East End of London. The enthusiastic response of the population of that locality to this experiment led to the foundation of Passmore Edwards Settlement two years later.

The meetings held at the settlement were at first weekly. The children assembled on Saturday evenings for games and music. This however was not enough.

"The condition of the slum boys needed a daily evening session at the play centre. The children used to wander forth into the streets, play in the gutter, loaf, gamble and fight. This was the result of bad housing conditions and lack of provision for the leisure hours of children. The Passmore Edwards Settlement took these factors into account and provided counter attractions in the shape of musical drill, drawing and painting, story-telling basket-making and clay-modelling. Periodical expeditions to places of interest in

London, the Zoo, the houses of Parliament, were also undertaken."

"An entertainment consisting of dance and drill and scenes from *Midsummer Night's Dream*, was held during Christmas and was a great success. The response of voluntary workers, parents and teachers was encouraging, and led to the foundation of eight new centres in the year 1905. The average attendance at each of these was 100—150 children per evening. It was soon found that the settlement had found out a sore need of modern town life. The workers' families were badly housed. Father, mother and children were huddled up in one single room, which was ill-lighted and ill-ventilated. On return from the factory, the father and frequently the mother too, went to the public house. In other cases the parents did not return from the factory till eight or nine P. M. The children in all the cases were obliged to wander in the streets, where they learnt to fight. It was found that the smaller ones were even compelled by the older boy to steal from the shops. All that the growing children needed was a healthy outlet for their animal spirits, and this the play centre supplied. The children were given something to make and there was an end to their

mischief. Society came forward to make them happy and there was an end to their anti-social tendencies. They took to useful occupations like basket work, wood work and cobbling with great delight.

It was not long before the parliament came forward to help the play centres. It realized the immense national importance of these institutions, which supplemented the work of the school. An Education bill known as the administrative provision bill was passed in the year 1907. This may rightly be termed the children's charter in the matter of organized recreation after school hours. The board of education issued a memorandum that they were prepared to pay a grant for the maintenance of evening play centres at the rate of 50% of the approved expenditure. They admitted that there was a serious increase of juvenile offences owing to war conditions. The boys were exposed to serious risk owing to want of proper care and discipline. Hence the importance of play centres. They hoped that the local education authorities would co-operate with the voluntary organizations. They rightly urged that a spirit of genuine play should prevail at the play centre. A list of suitable occupation was also suggested,

Soon after the above memorandum was issued, a large number of play centres were started in provincial towns like Manchester, Bradford and Dublin. All of these were highly successful. The parents appreciated the work and some of them offered to become voluntary workers. Healthy games, dancing, handwork in many forms conducted in an atmosphere of happiness, could not but serve as an influence for the betterment of children. It was largely due to the inspiration of Mrs. Humphrey Ward the founder, and to the zeal and devoted service of the Superintendants and voluntary workers that the atmosphere and spirit of the centres was one of a happy well-ordered home."

THE PLAY-GROUND ASSOCIATION NEW YORK.

The play-ground movement had its origin in America. When Mrs. Ward visited that country in 1608 she saw admirable work being done in New York by the Play Ground Association. The department of education of New York also had organised some of the school play grounds and the public parks for the children's amusement and with marvellous results. An official of the play-ground association described a child's play as his safety valve. " Sit on that, hold it down hard and

you will have trouble. Give him the gutter for a playground and crime will come as a matter of course. On her return to London Mrs. Ward succeeded in raising a fund for fifty playgrounds which the London County Council readily accepted. The playgrounds were an immediate success. Crowds of boys and girls played in the shade of the school buildings and showed real loyalty and good manners. The popularity of the playgrounds may be judged from the fact that the attendances in the first week were 106000. The cost of providing each child with suitable work and play amounted to about half a penny per attendance. Besides the voluntary workers, paid organizing inspectors and nurses were engaged to superintend the work and to teach cleanliness to children."

HOW TO MAKE THE PLAYGROUND A SUCCESS?

Let us now look to instance nearer home. "Experience in other countries," writes Dr. Noehren "and particularly in India, has taught us certain fundamental conditions that have to be met to ensure the outstanding success of such a playground."

"First, the playground must be located in the heart of a congested area. Indian children will

not go to a distant place for their recreation, the playground must be brought to them."

"Secondly the playground should be enclosed by a pucca fence. So that it may be completely closed during those parts of the day when the supervisor is absent."

"Thirdly the equipment should be designed to attract children of all ages, boys and girls, and should be arranged so as to leave the maximum amount of space for the playing of games. For the younger children, swings and sea-saws arranged in a row parallel to one of the long sides of the playground, interfere least with the use of the ground. For the older children a composite apparatus embodying flying and travelling rings, ladders, sliding poles, horizontal bar and possibly a spiral slide should be placed near the fence along one the short sides. One or more giant strides may be placed in convenient corners. A small sandbox, preferably under a tree, offers great attraction to the wee youngsters. The ground should be marked for the playing of various group games, such as playground ball, volley ball, basket ball and the like. A godown which can be locked should be provided where the supervisor can keep

all movable apparatus such as balls, bats, nets, jump standards etc.

Lastly and most important of all, no such playground should be without a well trained, responsible supervisor, in fact the whole success of the venture depends on his character, resourcefulness and general personality. The supervisor will lead the groups in the playing of their games, encourage the backward children to get into the fun, promote informal tournaments and athletic contests, will see that a few of the children do not monopolise the swings, control any badmashes that might otherwise make the playground unfit for respectable children and in general keep the activities going at a lively pace. He should organise a voluntary leaders' corps to assist him, give special attention to the very young, reserve an hour a day for the exclusive use of girls who may be accompanied by their mothers. Nor is the supervisor's service limited to the ground itself. He will probably develop into a leader of the community, visit the children in their homes, give advice to the parents of weak or backward children, visit schools in the neighbourhood, where school teams might be formed to compete in a playground tournament. The supervisor of the model George town playground Madras is called by the

Tamil word meaning father; such is the vital relationship he has established with the children of the community. On moonlit nights the parents might be invited to the playground for a programme of Indian Music or the like. As for young men, eager to engage in a rewarding branch of social service, the playground offers opportunities that are unique, for it is a well known fact that informal atmosphere of play brings you very close to the impressionable heart of a child. Take caste for instance. When the George town playground was projected a well known gentleman in Madras asked whether Panchamas would be allowed on the ground. In answer to our response that there would be no distinction of caste, creed or colour, he replied: "That is all very well in theory, but you will find that no caste children will come to the playground." As a matter of fact play has broken down these artificial barriers, and at a recent visit to the playground we found Mahomedan girls in the swings, a volley ball game in which one side composed exclusively of Panchamas, was competing against a Brahmin team, and any number of Anglo-Indians on the giant strides. This playground only 200 feet long and 175 feet wide, maintains an average attendance of 500 boys and girls of every community."

HAPPY PLAY LIFE.

Should not every municipality provide a happy play life for the children in congested areas? Should not every ward be provided with such life and happiness enhancing playgrounds? Decent open areas should be promoted and preserved in every quarter, and facilities for supervised games for children and adults created. Great will be the improvements in the health, character, manliness and self control of the citizens.

CHAPTER XXXIV. RESUME & FINAL SUGGESTIONS.

CITIZENS IMPROVE YOUR CITIES.

If the vast human and material resources available in every municipality were utilized for human welfare in the ways we have suggested throughout this volume, India would be soon marching forward to her goal of freedom. The quality of the human capital of the country needs to be improved considerably if any sure advance is to be made. This necessarily means systematic and sustained effort on the part of citizens of all cities to improve their own city and region. Municipal resources are an immediately available resource for such work of citizen welfare and uplift. That they should be utilized in the best way for such purposes has been the aim of this endeavour.

STUDY SCIENTIFIC MANAGEMENT.

The first part of the work shows the principles of scientific management which should be constantly kept in view in every municipal effort in order to make it yield the best return. It starts off with giving an introductory idea of efficiency, and then shows how it may be applied to municipal work,

and organising a city. It is a plea for building up the science of every operation, for selection and training of all men, for securing cordial co-operation, for a due sharing of responsibility, for organizing the working forces, for rewarding by results, for being fair to the villages around the city.

APPLY SIX GENERAL TESTS TO YOUR OWN CITY.

The second part deals with the six general tests of municipal efficiency and shows by analysing the reports of the several municipalities in the Bombay presidency, how comprehensive social and civic surveys are still wanting in many a city, shows how the service programmes are therefore defective as not resting on careful and comprehensive surveys. Standard methods are wanting in almost all the branches of our municipal administration. We need, too, efficient organization, trained personnel, and active citizenship. What these requirements mean is duly explained.

APPLY SPECIFIC TESTS TO YOUR OWN CITY.

The third part deals with twelve specific tests of municipal efficiency- They are in due order the public health test, the public education test, public safety, and public morality, maternity and infant welfare test, organization of public charities,

the proper planning and replanning of cities, municipal budget and what it means and the way to improve it, scientific management of public works, the due care of public utilities, the policy of public ownership, the real importance of parks and playgrounds. All these show what a lot can be done by the municipalities.

ADOPT SOCIAL SERVICE TYPE ORGANIZATION.

The hundred and sixty municipalities of the Bombay Presidency have an annual budget of between five to six crores of rupees. Such also is the case with other presidencies. If these can be wisely used for human uplift our regenerative speed can be greatly advanced. As a result of all my study and reflection one supreme suggestion, which occurs to me to be the greatest single step towards improvement of municipal administration, is the adoption of the social service type of organization for working our municipalities. The possibilities of the social service type of organization, may be gauged from the fact that it is possible to secure under that type, the services of men like Dr. Paranjpye on Rupees 150/- a month, while in the commercial, self-aggrandising government way, one would have to pay Rs. 5000/- a month for similar services.

HUMANLY POSSIBLE AND ACTUALLY WORKABLE.

The social service type of organization is quite a humanly possible way of utilising and developing the highest talent and character of the land and securing continuous, satisfactory and efficient service. The working of the various institutions of the Arya Samaj, specially the Gurukula College at Kangri for a number of years, the working of the several education societies at Poona, the working of the Servants of India society, the working of several missionary societies, shows clearly, how the best character and highest human talent can be enlisted in the cause of social service, on proper provision of residence, maintenance, and insurance of the most modest type and how the commercial motive of self-aggrandisement can be eliminated from people of the best talents. If all the municipalities have proper housing arrangements for their staff, and recruited their staff either through these missionary agencies or Servants of India society or on the same terms and with the same training and pledges, I do not see why our municipalities will not become the best social service agencies for the citizens and tend to raise the level of administrative efficiency a great deal. A good deal of money would

be available for crying improvements, and the cities and their citizens would benefit. I therefore plead with those who have the power, to study and substitute the missionary or social service type of training, recruitment and organisation for all municipal posts over 50 Rs. a month, and limit the pay of the highest post say even of the chief officer to the level of the Principal Fergusson College, or the highest workers of the Servants of India Society. If the municipal councillors are not able to train and recruit such capable persons, they may request the Servants of India Society or other education or missionary societies to supply them with such. What we want is the substitution of the social service motive for the commercial or private profit motive in municipal administration. Under such an organization there is every hope that the vital values of health, and education, industry and beauty, justice and righteousness would be better conserved and promoted than at present.

ENLIST VOLUNTEER EFFORT.

For such a socially minded personnel, it will be quite possible to enlist local volunteer effort for carrying on an exhaustive and careful social survey and frame a comprehensive service programme in

co-operation with all other existing agencies of social service. For such a personnel it would be easy to secure the needed co-operation of college laboratories for determining the science of every operation and the standard methods. This will provide the efficient organisation and will react on citizenship, making it active for public good. Infact as Babu Bhagwandas has pointed out self government means government by the better self of the community, and for realising that, we need such recruitment of workers with a social service motive instead of with a private profit motive. The enlisting of the best self of the city on reasonable provision of residence, maintenance, insurance, and public honour would solve the problem of city government in a manner that nothing else will do.

SOCIALLY TRAIN EXPERT TALENT.

The engineer required as chief officer should be a socially minded local L. C. E. trained if required by the Servants of India Society or a similar organization, the health officer should be a doctor similarly trained and the educational inspector may well be one got or trained in one of the several education societies, and so on all throughout the staff, the university training being supplemented by training in social outlook, and due

curbing of the commercial motive and strengthening of the social service or religious motive.

CONSECRATE TRAINED COUNCILLORS.

The councillors selected should be from among those most qualified by training to discharge the several municipal functions aright and not from those who get into service through private or party interests. It would be a good plan if in choosing a municipal councillor, only that candidate be supported who takes the following or some suitably modified seven vows, such as are taken by every member of the Servants of India Society :—

(1) That the city and the country will always be the first in his thoughts, and he will give to her service the best that is in him.

(2) That in serving the city and the country he will seek no personal advantage for himself.

(3) That he will regard all Indians as brothers, and will work for the advancement of all, without distinction of caste or creed.

(4) That he will be content with a moderate provision for himself and his family (such for instance as the Servants of India Society make for their members). That he will devote no part of

his energies to earning money for himself and his family beyond that standard.

(5) That he will lead a pure personal life.

(6) That he will engage in no personal quarrel with any one.

(7) That he will try to study the science and art of municipal and civic welfare, and watch over and promote the welfare of the city with the utmost zeal, and that he will never do anything that is inconsistent with the greatest all round welfare of all the citizens.

IMPROVE SELECTION PROCESS.

If the above or other reasonable selective process is adopted by the citizens, the councillors elected will be most probably from among the best selves available within the society. If the best educated in every line are sought and selected for municipal service, the municipalities will set an example in good local government which will ensure the right sort of swaraj, the rule by the best, that we are all anxious to have. The struggle for righteous freedom will thus be helped effectively.

MAKE SOCIAL SERVICE MOTIVE PREDOMINANT.

With such social service motive predominant

in the workers and councillors it will not be difficult to carry out the suggestions put forward for maximising health and education in every municipality, for securing public safety and public morality, for making due provision for maternity and infant welfare, for increasing parks and supervised playgrounds, for organizing public charities, for improving the physical set up of the city, and making the best of its actual or reasonably available budget, for carrying on its public works economically instead of making them examples of public waste as in several instances they now are, for conserving and promoting its public utilities, and promoting wise public ownership for the due discharge of all services which the city reasonably requires from its municipality.

DO IT AND BE BLESSED.

May something be done in this direction is the desire and prayer that has prompted the writing of this work. It is my earnest request to all readers to help forward the work of organizing all municipalities as agencies of true welfare for the citizens of every city. And rich will surely be the reward of every right effort.

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(M=Municipal. E=Efficiency. Org.=Organization. Soc.=Social.)

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Some Press Opinions.

THE THEOSOPHIST, FEBRUARY, 1924. Page 692.

Social Efficiency—India's Greatest Need, by Prof. S. N. Pherwani. With an Introduction by Prof. Patrick Geddes. (The Modern Publishing Co., Bombay. Price Rs. 2-8).

This is an extremely good book which we recommend to everybody. It gives a detailed outline of an Ideal State, ideal in every way, in social affairs, in art, in education, in religion. Yet it is the most practical book we have ever seen on this subject. There is nothing in it which cannot be immediately introduced into any state. Its key-note is efficiency, in every department of life, in industry, in housing, food, clothing, art, religion, education, etc. We like especially the chapters on Education, and we are glad to find that the aim of education is the development of love and good character, by the modern methods of Montessori, Dalton, etc. We like the chapters on Art, and on Religious Efficiency. The whole book is most practical, containing a complete outline of the organisation of a perfect community, which can be easily evolved from the existing towns. We are so glad that this book is written by an Indian, as showing that at last the Indians are turning their spirituality and intellect to practical purposes on the physical plane. When they begin to do this in earnest they will do it exceeding well.

L. E. T.

EXTRACT FROM *THE SURVEY*, NEW YORK, U. S. A.

Social Efficiency—India's Greatest Need, by S. N. Pherwani. Introduction by Patrick Geddes. Modern Publishing Co., Bombay.

MANY influences, English and American, all of the best, are discernible in this interesting restatement of the elements of Social Efficiency and the elaboration of its meaning in terms of social progress in India. To Professor Geddes, with whom he is associated in the Department of Sociology and Civics in the University of Bombay, the author evidently owes his effective use of the diagrammatic method and also the inclusiveness of his interest in social facts and tendencies, which goes far beyond that of the efficiency engineers who suggested to him his special field of study. In the more detailed working out of the author's theory, the place given to education is especially large—and this notwithstanding the fact that, as he shows by many telling facts and illustrations, in India the problem of social efficiency is necessarily still so largely one of the satisfaction of elementary wants. His approach to problems such as these, free as it is from political or economic party bias, is helpful and educational. He stresses, as most vital for India in particular, the need for effective co-operation and assimilation of different elements in the population. He suggests "a revival of the ancient Ashrama of Vanaprastha, the dedication of the third quarter of one's life to civic and social effort."

B. L.

THE MAHRATTA. January 27th, 1924.

REVIEW SOCIAL EFFICIENCY.

Prof. Pherwani whose book on Social Efficiency is under review, seems to have taken an immense amount of pains in assimilating the upto-date ideals and solutions of the burning problems of social reconstruction and reform in Western countries and has not forgotten to study the actual conditions obtaining in India at close quarters before embodying his suggestions in the form of this useful and important book.

It is a well-written book and contains many constructive and thought-provoking suggestions which are well-worth the attention of earnest and serious-minded social reformers.

Prof. Patrick Geddes, the world-famous sociologist writes in the Introduction :—

“Combines freshness of observation, freedom of speculative thought and range of social knowledge with the technical efficiency of the engineer as well as of the man of science.....here is a good general statement of the needs and possibilities of increased efficiency, and not only for society in general but for India in particular. It is by a keen student of affairs, a direct critic and an emphatic writer.”

The Modern Review :—

“The author discusses how the Indian people can, at less cost of human and material resources than at present, get better food, clothing and shelter (i. e. reduce or eradicate poverty), stop national decay, reduce death-rate all

round, eradicate preventible diseases, obtain wider and better education, develop their civic, political, artistic and religious life, stop friction and harmonize human relationships, break down caste barriers, discover men of genius etc. IT IS A THOUGHT-COMPELLING BOOK, and in these days when we have at last come to recognise the urgency of increasing our efficiency both as individuals and as a nation in order to take our proper place in the world, a book like the one under review should be of great help. ALL SOCIAL AND NATIONAL WORKERS WILL FIND IT FULL OF VALUABLE SUGGESTIONS."

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Indian Journal of Economics, Allahabad April 1924 :—

“This book on social Efficiency should be of service alike to the studious reader and to the practically minded citizen” is the opinion of Prof. Geddes. Our reading of its pages leads us to declare unhesitatingly that what is said above is a well deserved tribute.....The book gives us some very suggestive hints as to the possible lines of socio-economic regeneration of India
