

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 expences.

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 pay-rolls. 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. (a) 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 specifications⁴ 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 employees or to increase salaries of present employees.

The cost of each kind of work in scheduled 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 employes. 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 superintendence 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 one's 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 this 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

arbour 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 playcentre supplied. The children were given something to make and there was an end to their

mischievous. 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 1908 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.

INDEX TO AUTHORS.

(Roman letters refer to chapters ; f means pages following.)

- | | |
|--|--|
| <p>Adams, J., 217
 Aronovici, 115
 Bachman, 194
 Bacon, 2f
 Bergson, 207, 217
 Blackmar, 158
 Bruere, 37f, 223f, 143, 227,
 304, 311
 Busch, 274
 Chalmers, 24
 Chelmsford, 181
 Church, 145
 Comte, 5f
 Connell, 323
 Dadabhoy, Dr. 264
 Dawson, J., 189
 Descartes, 4f
 Drewer, 367
 Eckhard, 266
 Elmer, 115
 Emerson, N., 13, 67
 Fairlie, 345
 Ford, 33, 53, 125
 Fowell, W., 92
 Galton, 181</p> | <p>Gandhi, 17
 Geddes, 186
 Gidwani, 356
 Gifford, 257
 Gillen, 158
 Goodier, 241, 245
 Gray, 247
 Hall, S., 203
 Hayes, 149, 269
 Howard, 296
 Howe, 253
 James, 171, 224
 James, Wm., 203
 Kemble, 37
 King, T., 266
 Klien, 327
 Knoepfel, 65, 76f
 Lanchester, 296, 375f
 Mathai, J., 236
 Mc Lenahan, 113, 115
 Merriam, 230
 Metz fund, 319
 Mistri, 260
 Montessori, 203
 Morgan, 177f, 243, 345, 354</p> |
|--|--|

Newman, 172, 178, 182	Talamo, 352
Noehren, 361	Taylor, 10f, 35, 70
Nolen, 289f	Unwin, 296
Osler, 181	Ward, 161
Paranjpye, 368	Ward, Mrs. 361
Pestalozzi, 208	Welton, 337
Pollock, 177f, 243, 345,	Wilson, 91
354	Wirt, 205
Reinhiemer, 86	Woods, 161
Ruskin, 163, 201	Wright, 342
Samey, 259	Yoakum, 37
Shah, 247	Yerkes, 37
Spiller, 3	Zeublin, 71, 226

INDEX TO SUBJECTS.

(M=Municipal. E=Efficiency. Org.=Organisation. Soc.=Social.)

In other cases the first letter of a topical heading or dash stands for the heading in its subsections.

- ACTIVE CITIZENSHIP TEST
XX
Administration, effective,
318 ; reports, variations,
327
Adopt Soc. Service Org.,
368
Adult Education, 214
Ample Water Supply, 226
Apply Tests, 367
Appropriations Functional,
313f
Associated Opinion, 155
Autocratic Org. of Execu-
tive, 140
BALANCE SHEETS 306f
Best towns Health, 174
Bombay City, extravagance,
116 ; presidency, 96 ;
should lead, 92
Budget Control, 302 ; exhi-
bits, 313 ; gauge, 123 ;
as service program, 312 ;
test, XXIX
CAPITAL FUNDS, 296, 299
Changes in Manufacture, 77
Charity Org., 267f XXVII
Child, remember the, 356
Cities, growth of, 22 ; as
death traps, 120
City Planning XXVIII, 27f
Citizenship, call to, 23 ;
active, XX ; participa-
tion, 316
Citizen's part, 50, 146 ; and
councillors, 43, 50, 52 ;
Org. of, 139
Code M. Study of, 31
Communion, 207
Comparative Death-rates,
184
Complaints, 81
Comprehensive Survey, 113
Congestion, 251
Consecrate Councillors, 372
Continuous Survey, 114
Control, five kinds of, 301
Control Budget, 302

- Co-operation, 210 ; between city and university, 131 ; centralized, 136; cordial, VI ; lack of, 82
- Creativeness, 208
- Current Funds, 296
- Current Misconceptions, 175
- DALTON PLAN, 209
- Death-rate, causes of, 175f ; test, 173 ; varying, 373
- Delayed deliveries, 80
- Delays, 76
- Demographic features, 376
- Disaster, 281
- Disease Prevention, 179
- Drink Evil, 235f
- ECONOMIC CONDITIONS, 293
- Education-Increase facilities, 192 ; increase allotments for, 198; improve quality; maximise attendance, 196 ; reach all 195 reduce cost, 197 ; in fire prevention, 224; association 215-force, 93
- Efficient Administration, 318 ; labour, 337 ; org. test, XVIII
- Effort of Citizens, 156
- Equipment, idle time, 77
- Establishing Standards, 32
- FAIR DEAL, 84
- Fairness to villages, XI
- Farmer-helping the, 87
- Financial condition, 294
- Fire brigades-volunteer, 118
- Fire-causes of, 221
- Fire fighting, 219-229
- Fire preventing, 223f
- Franchise-Deepen civic, XII
- Functionalising Appropriations, 313
- Functional Management, 58
- Fund Balance, 319
- Funds Classes of, 296
- GAMBLING, 250
- Garden Cities, 285
- Gary System, 205
- General Account, 307
- General Survey, 113
- Graphic Publicity, 156
- G. P. of death-rates, 183
- Graphic reporting, 190
- G. Study of cities XXXV
- HAMBERG'S METHODS, 273
- Happy Play Life, 365
- Health co-ordinate agencies, 185; education 184; Increasing budget, 184; student effort, 187 ; training citizens, 186
- Help, thoughtful, 286
- Hints, A mayor's, 45
- Home-owning citizens, 350

- Housing at Rome, 351**
Housing at Ulm, 353
Housing Standards, 294f
IDLE EQUIPMENT TIME, 77
Improvements attainable, 19
Improve Selection Process, 373
Improving Organisation, 143
Industrial encouragement, 284
Inefficiencies X of labour, 339, Management 78 Men 79
Infant Mortality Reduction, 464
Informal Survey, 113
Information & Enterprise, 1
Interlocking Survey, 113
KARACHI'S EXTRAVAGANCE, 118
LABOUR EFFICIENCY, 337
Labour Inefficiency, 339f; kinds, 338; causes, 339; remedies, 340
Legal Conditions, 294
Lighting Contracts Wastes, 128; Costs, 119, 129; Tests 229
Local Data, 291
MACHINES, CONGESTION AT, 83
Management Inefficiency, 78
Maternity & Infant Welfare, XXVI
Mayor's Hints, 45
Method & Management, 1; 103
Misconceptions, current, 175
Misfits, avoid, 35
Mosquito Brigades, 188
Motion and Motive Studies, 28
Motive Social Service, 373
Movement of Material, 80
Municipalities, Bombay, 96
Municipal Efficiency, 104
Ownership, XXII, 349f
Supervision of Charity, 267
NEIGHBOURHOODS, 23 ; to be organised, 24
Nine qualities, 35
OBSERVATION, 207
Occupational features 376
Operations, Changes in, 79; List and seriate, 29; statistics, 311
Opinion Associated, 155
Organisation, as arrangement, 55 : Auto-cratie, 140; Brahman, 61; Efficient XVIII

- Organisation, Emerson's**
 view, 67 ; improvement
 of, 143 ; functional, 58 ;
 kshatriya, 62 ; line or mil-
 litary, 57 ; panchayat, 63 ;
 scientific, 67 ; soc. service,
 369 ; test, 103 ; vaishya, 63
Organising, a city, III ; a
 working force, VIII
Outdoor education, 214
Ownership, municipal, 349 ;
 public, 349
PARKS AND PLAYGROUND
TEST, XXXIII
Passmore Edwards Settle-
 ment, 357
Pavement guarantees, 333
Personnel trained, 103 ; XIX
Philanthropy, Construc-
 tive, 275
Physical conditions, 292
Physical features 375
Planning of Programmes,
 41, 45f
Play Centre Movement, 357
Playground Association,
 360 ; success, 361
Police, 219
Planning faculty, 82
Procedure, City Planning,
 287
Promotion of health, 180
Prevention of disease, 179
Prostitution 240f ; causes,
 243 ; remedies, 245
Public charities, XXVII
Public Convenience, 282
Public Health, 121=163,
 XXII
Public Instruction, 122 ;
 XXIII
Public Morality, XXV
Public Ownership, XXXII ;
 of public utilities, 344
Public Utilities Test, XXXI
Public Utilities are Mono-
 polies, 344 ; XXX
Public Works Test, 12
Publicity Graphic, 156
REACH ALL WITH EDUCA-
 TION, 195
Recreation, 283 ; provision
 of, 355
Regeneration Soc. 7, 10
Rejection, 77
Relativity, 201
Responsibility, sharing of,
 VII
Rescue work, 245
Restored areas, 335
Resume, 105
Revenue and Expense, 309
Reward by Results, IX ; 71
Reward for councillors, 73
Right, Do the, 85
Road Inspection, 334

- Rotation or Rhythm, 30
 SANITARY POLICE, 189
 Sanitation and Health, 280
 Save Mothers and Babies, 256
 Science, Build up the, 27f
 Scientific Management, 6f, 47, 125
 Scientific Method, 2, 6
 Scientific Spirit, 2
 Secure Attendance, 196
 Selection and training of men, V
 Selective process, improve, 373
 Service based on science, 19
 Service programmes, 313
 Service programme test, XVI
 Settlements, 25
 Sexes, disproportion, 249
 Sinking Fund, 308
 Site, for a city, 279
 Slum Conditions, 251
 Slum reductions, 254
 Soc. Centre idea. 91; an educational force, 93, 147, 160
 Soc. Conditions, 292
 Soc. Service Org., 369; humanly possible, 369
 Social service motive, 373
 Soc. Survey Comprehensive, 110
 Staff Superior, 53
 Staff and Line, 65
 Standard, 100; established, 32, 41, 126; housing, 294; Methods, 28; test, 124, XVII; testing, 327
 Standardise Specifications, 323; unit costs, 332
 Steps in survey, 111
 Stores Account, 310
 Suburban development, 284
 Surveys City, 109
 Survey to serve, 18, 89, 101, XV; syllabus a suggestive, 149
 TASK AND BONUS, 69
 Temperance associations, 239
 Test Budget Publicity, 170
 Test, Charity Org. 166; child & woman's welfare, 166; city planning, 167, XVIII; education, 164; fire apparatus, 227; general and specific, 98, XIV, XXI; park and playground, 168; physical and mental, 36; public education, XXIII; public health, 163, XXII; public

- morality, 165, XXV;
 public ownership, 169,
 XXXII; public safety,
 165, XXIV; public utility
 169, XXXI; public
 works, 168, XXX
 Testing Laboratories, 327
 Town Planning, XXVIII;
 Town Planning principles,
 291
 Training the citizens, 38;
 councillors, 148, 39; dais,
 257; for welfare work,
 97; syllabus, 149; Working
 force, 151
 Treasury Statements, 310
 Trust Funds, 296, 300
 UNFAIRNESS OF CITIES, 84
 Unit Cost Standard, 332
 Unit Survey, 113
 Villages, Fairness to, X
 Villages, forgotten, 85
 Villager, Housing the, 86
 Visiting the, 88
 Vocational training, 206
 Voters, duty of, 74; efficient,
 137
 WARD MEETING, 74
 Wastes in, lighting, 128;
 public health, 132; public
 instructions, 134; public
 works, 130
 Welfare agencies, 95; human,
 16; programmes, 42; weeks,
 147
 Working force training, 151
 Work to be done, 25
 Worst Towns, 174

Companion Volume

by the same author.

Social Efficiency: India's Greatest Need.

CONTENTS.

	PAGE.
INTRODUCTION BY PROF. PATRICK GEDDES ...	V
Preface by the author	IX
CHAPTER.	
I. What is Society	1
II. Definitions of Efficiency	8
III. Emerson's Principles of Efficiency	14
IV. Social Aims	22
V. The Concept of Social Efficiency	32
VI. Social Survey	37
VII. The Problem of Poverty	70
VIII. The Conquest of Bread	79
IX. Conquest of Shelter	94
X. Conquest of Clothing	101
XI. National Welfare and National Decay	106
XII. Economics of Education I	128
XIV. Economics of Education II	
Best of Education in shortest of time	166
XV. Primary Education	194
XVI. Conquest of Ignorance High School stage	203
XVII. Educational Efficiency. Scientific and Technical Education	209
XVIII. Every City a University	219
XIX. Temples and Mosques and how to use them.	226
XX. The Problem of Assimilation	231
XXI. Harmonising Human Relationships or Conquest of Discord	245
XXII. Art Efficiency	253
XXIII. Religious Efficiency or Conservation of Character	257
XXIV. Efficiencies	263
XXV. A Programme of Social Efficiency. Discovery and development of men of genius...	277

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."

Welfare :—

"In this little book Prof. Pherwani gives us a survey of various efficiency standards for society with their possible application to Indian conditions, and suggests a certain programme for the advancement of social efficiency in our country. Mr. Pherwani approaches THE RIGHT DIAGNOSIS OF THE SOCIO-ECONOMIC PROBLEMS OF INDIA, and unlike so many negative critics, makes attempts at concrete proposals for remedies, deduced mainly from the philosophy of scientific management.....
.....Some of the chapters *e. g.* those on Vital Efficiency and Economics of Education are REALLY IMPRESSIVE."

To-morrow :—

"The book will always be useful to social workersMr. Pherwani makes useful suggestions for India's educational advance."

The Bombay Chronicle :—

“The materials it contains may be utilized for scientific purposes.”

The Sind Observer, Karachi :—

“Prof. S. N. Pherwani has unerringly laid his finger on the root cause of the sorry state of India..... The author's treatment of the problems of India's poverty and unemployment is fresh and supported by a phalanx of authorities.”

Journal of the Young Men's Parsi Association :—

“Throughout the book are interspersed the practical suggestions of highest importance based on personal observation, reflection and scholarship.”

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