

## GLASGOW: A MUNICIPAL STUDY.



HE people of Glasgow are accustomed to claim for their city the second place in the British Empire. If by the words "city," "burgh," or "borough" there is meant merely a populous place,—an aggregation of houses and people with a concentration of various commercial, industrial, and social interests,—then metropolitan London would assuredly rank first and without rival. But if by these words is meant a distinct and complete municipal organism, the people of Glasgow may claim not the second, but the first place among the communities of Great Britain. London as a municipal corporation is but a mile in extent and has only fifty thousand people; "larger London" having no unified corporate existence.<sup>1</sup> Glasgow in 1888 had a population of 560,000 within a compactly inhabited area of 6111 acres; and its vigorous development has caused so generous an overflow that the whole community, including the continuously built-up suburbs, now numbers little short of 800,000 souls. The annexation of 8000 additional acres is about to be accomplished by act of Parliament.

As a type of the modern city with highly developed and vigorous municipal life, and with complex, yet unified, industrial and social activities,—in short, as one of the most characteristic of the great urban communities in the English-speaking world of the nineteenth century,—Glasgow may well repay study. It combines in itself most remarkably all that is significant in the history of city government among peoples of British origin; that is to say, to study Glasgow is to study the progress of municipal institutions in every stage. Like all modern commercial cities Glasgow has exhibited the phenomenon of rapid growth, and has had to meet the various problems that rapid growth under new industrial and social conditions has forced upon the attention of all such cities. Indeed, Glasgow has grown quite as rapidly as the large towns of America. In 1750 the population was less than 25,000. In 1800 it was approximately 75,000. In 1811 it was 100,000; in 1831, 200,000; in 1851, 329,000; and in 1871 it was 478,000. In 1881 it had reached 488,000, with 186,000

more of overflow into the immediate suburbs, making a total of 674,000. And to bring the figures up to 1889, it is reasonably safe to estimate that within a district six or seven miles long and three or four miles wide, containing less than 15,000 acres, there is a population of 775,000.

Whether originally due in greater or less degree to the danger of raids from Highland clans and attacks from invading English armies, it has from a very early period been the custom of Scotch townfolk to build compactly and to house the population in tenement-flats. Aberdeen, Dundee, and Leith illustrate this custom quite as well as do Edinburgh and Glasgow. The rapid growth of the present century has given most serious reality to all the latent and lurking evils of a tenement-house system, and Glasgow has been compelled to study and apply modern remedies—indeed to be a leader in the invention and trial of remedies—for the ills that spring from the overcrowding of the poor. The regulation of house building and occupancy; provision for domestic cleanliness; schemes of street cleansing, of garbage removal, of epidemic disease prevention, of improved "watching and lighting" arrangements, with a view to the lessening of crime; provision of shelter for floating population; a differentiated and adequate system of sanitary inspection; the establishment of baths and various conveniences to improve the health, comfort, and moral condition of the people: all these features of recent municipal activity may be studied to special advantage in Glasgow.

Like Liverpool in England, or Chicago in America, Glasgow is an excellent instance of what I may call the "self-made," or rather self-located, modern commercial city, as contrasted with great urban communities like London and New York, which have assumed vast proportions and importance in spite of themselves and without the application of any organic municipal energy. Glasgow more than a hundred years ago entered deliberately upon the herculean task of making itself an important port by deepening its shallow river into a harbor and an ocean highway. Following the gradual improvement of the Clyde navigation came first a large American trade, in tobacco, cotton, and other staples. The development of the coal and iron mines of the Clyde valley in the immediate neighborhood followed; and when the day of iron ships had its dawning,

<sup>1</sup> Larger London's new county council may, however, be regarded as the beginning of a central metropolitan government.

Glasgow was prepared to make them for the nations. Meanwhile its textile and chemical manufactures had been growing in importance, and the community found that its courage and energy had resulted in its expansion to the rank of one of the greatest centers of industry and commerce in the entire world.

In all this expansion Glasgow's character as an integral community has been exceptionally well sustained. The people have been disposed to live inside the circle of their work, and that must obviously signify a high degree of centralization; by which I mean something more than mere density of population. The same families send workers to the ship-yards, or iron works, and to the textile factories where women and children are employed. All the great industries belong essentially to the one working community. It is peculiarly interesting to observe a city which, having made itself prosperous and mighty by well-directed, organized municipal energy, at a later time applies that same energy to the solution of the dark social problems which seem the inevitable concomitant of the new material progress of communities.

#### GENERAL ORGANIZATION.

THE present municipal organization of Glasgow is simple and easily understood in its main features, although somewhat anomalous and complex in certain minor respects. The whole government may be said to be exercised by a grand committee of fifty men chosen by the qualified electors. There are sixteen municipal wards, each of which elects three members of the town council. The election is for a term of three years, and one man from each ward retires annually. There are also two *ex-officio* members of the council, namely, the "Dean of Guild," who represents the venerable Merchants' House, and the "Deacon-Convener," or chairman of the associated trade guilds; these two functionaries representing the bodies which before the Scotch Municipal Reform Act of 1833 were in sole control of the municipal government. The perpetuation of this custom of allowing a small share in municipal government to the old-time trades' and crafts' corporations is not practically objectionable, and it unites the present with the past in a manner peculiarly British.

The municipal franchise before 1868 was, like the borough parliamentary franchise, in the hands only of rate-payers upon premises valued at £10 or more, and who, whether occupiers or owners, lived within seven miles of the borough. In 1868 the franchise was further extended to all occupiers of houses within the borough, however small their rent,

provided they paid their poor-rates. This is known as the household franchise, and comes short of universal suffrage only in excluding lodgers. There is a special lodgers' franchise for those occupying rooms worth £10 a year, unfurnished, but unmarried workingmen are practically excluded. For the entire city of Glasgow there are only about a thousand names registered upon the lodgers' list. The municipal franchise now differs from the parliamentary only in the particular that women householders are admitted to the one and excluded from the other. The present number of men entitled to vote is 75,000 and of women 14,750—a total municipal electorate of 89,750.

In considering the effect of the franchise upon city government, it is to be borne in mind that not only is the mass of unmarried workingmen excluded, but also all others who have failed to pay their rates. This is a point of enormous importance; for I have ascertained that in Glasgow last year no less than 25,000 householders were disfranchised by reason of non-payment of assessments. The total number of houses is 121,722, of which number 86,089 are valued at less than £10 a year. It is estimated that nearly 5000 persons who are registered as Glasgow voters, by reason of ownership or occupancy of premises, live outside the corporation, within the seven-mile limit. The difference between the actual voting registration—which is made by the assessor and is complete—and the number of houses exceeds 30,000; and after making due allowance for unoccupied premises and other considerations, the fact remains that about one-third of the householders enfranchised by the act of 1868 fail to pay the rates and never vote. If it were possible to secure reinstatement by payments of arrears, as an election approaches, there would be a tempting field of activity opened up to corrupt politicians. But this cannot be done. The better class of workingmen in Glasgow of course pay their rates, take an active interest in public affairs, and do not fail to vote. But there is a very large population of the degraded poor which does not in fact participate in elections, and is not of the slightest service to "ward politicians"; a genus which, by the way, is rarely found in British cities. What I may call the self-disfranchisement of the slums is an important consideration in Glasgow's municipal government.

The councilors of Glasgow come chiefly from the ranks of men of business, and are upright, respected, and successful citizens. No salaries attach to such offices anywhere in the United Kingdom, and it is deemed an honor to be selected to represent one's ward. Party lines are seldom very sharply drawn in municipal elections. An efficient councilor may, in

general, expect reëlection for several terms if he is willing to serve. The seat of a satisfactory man who asks reëlection is in a majority of cases not contested at all. No other candidate will appear, and he will be awarded the seat without the actual holding of an election. It may be said that in the sixteen wards of Glasgow it is unusual to have more than five or six contests for seats in any one year.

From their own number the councilors choose a "provost," usually called the "Lord Provost," and ten "bailies" or magistrates. The provost in Scotch towns corresponds to the mayor in English towns, while the bailies are in some respects analogous to the English aldermen. The provost presides over the council, serves on council committees, and personifies the pomp and dignity of the municipality; but except in his capacity as a member of the council he has no important executive responsibility. He has no appointments to make and has no veto upon enactments of the council. Like the bailies, he is, however, a magistrate, and has his share of judicial work to do, mostly in the exercise of ordinary police jurisdiction. The bailies sit as citizen magistrates in certain districts of the city upon a plan of rotation, each being assisted by a paid legal adviser technically called an "assessor." To relieve them somewhat, there is now employed a "stipendiary," or salaried police judge, who sits constantly in the central district. The provost and bailies are designated for three years. It is important to make clear to American readers that the provost is in no sense an administrative head as the American mayors are, and that there is not in British cities any disposition whatever to concentrate appointing power and executive control in the hands of one man as an effective way to secure responsible administration. There is nothing in British organization or experience to sustain the proposition of certain American municipal reformers that good city government can be secured only by making the mayor a dictator. American conditions differ considerably, however, from English conditions; and the success of administration by town councils in Great Britain is not a conclusive argument against the theories of the American reformers.

All appointments, as I have said, are made by the council itself. Heads of departments are selected with great care and their places are practically permanent. In the minor appointments the responsible heads are allowed to use large liberty of suggestion, the council ratifying such selections as are agreed upon by the departmental head and the supervising council committee. Although the number of persons in the employ of the Glasgow departments is large, there is no examination system

in use. The best men are selected from among the applicants, and there is little or no complaint of favoritism. Those conditions under which an examination system might be very desirable happily do not exist.

While the full government of the city is vested in the fifty members of town council constituting a body officially known as "the lord provost, magistrates, and council," they exercise their powers under various acts of Parliament which make them (1) water commissioners, (2) gas trustees, (3) market and slaughter-house commissioners, (4) parks and galleries trustees, (5) city improvement trustees, and (6) a board of police commissioners. These distinctions are chiefly matters of book-keeping. The essential fact is that the powers are all vested in the common council. Each of these departments is organized separately, and its work is carried on under the supervision of a standing committee of the council.

The town clerk is the most important standing officer of all British towns. He is expected to hold his position for life. He is much more than simply the keeper of the records of the council and its committees. He attends its meetings also as its constant legal adviser. He drafts measures desired from Parliament, and takes charge of them while pending. He is the city's conveyancer, the custodian of its title-deeds and charters, and its attorney in all civil actions. The Glasgow clerk, James D. Marwick, LL.D., is a high authority upon questions of municipal history and law.

The chamberlain, whose office, like that of the town clerk, is very ancient, is the treasurer of the corporation proper; and the present incumbent has been appointed as the treasurer of several of the newer departments or "trusts." He has also, in Glasgow, gradually assumed the function of a compiler of municipal statistics. He joins the provost and town clerk in arranging for special occasions and "doing the honors" of the city to distinguished guests. The nominal treasurer of the city is a member of the council; but the chamberlain is actual custodian of the funds, while the cashier is still a different official.

The assessor has devolving upon him the important work of valuing "lands and heritages" from year to year for rating purposes, and also that of making the registration lists of parliamentary and municipal voters. Of other officials enough will be said in the descriptions of the working departments.

#### THE SANITARY DEPARTMENT.

CONSIDERATIONS of the public health have been predominant in determining the most important lines of action entered upon within the

last quarter-century by municipal Glasgow. I shall find it convenient, therefore, to begin an account of the several departments with a sketch of the organization and work of the sanitary administration. These new municipal undertakings find their true center in the bureau of the medical officer of health, who furnishes the vital statistics — and the deductions from those statistics — which incite and direct municipal activity, and who gives constant advice and authoritative judgment as to general methods and particular cases. A council committee of eighteen supervises the entire sanitary administration of the city, with sub-committees on cleansing and on hospitals. The sanitary department is a model of good work and thorough organization. Its ultimate authority is the medical officer of health, while its executive head is the sanitary inspector. The department is in some sense double-headed; yet there is no conflict of authority, and the arrangement works admirably in practice. The medical officer is relieved from the details of administrative work. His office-room adjoins that of the sanitary inspector, and the two officials are in constant communication. The entire force of inspectors is at the service of the medical officer, yet he has no responsibility for their routine work.

The department was established in 1870 upon a broad and wise basis. It was at that time proposed by the new incumbent of the office of sanitary inspector: (1) that the city should be divided into five main districts for sanitary purposes; (2) that a sub-inspector should be appointed for each main district, having under him ordinary or "nuisance" inspectors, epidemic inspectors, a lodging-house inspector, and a lady visitor; and (3) that a central office should be established, with the necessary clerks. This plan was accepted by the council and went at once into operation. The population at that time was 450,000, and the average inhabitancy of the main districts was therefore 90,000. The work began with an out-of-door force of forty inspectors, of whom five were the district chiefs, five inspected lodging-houses, seven were occupied with the detection of infectious disease, eighteen were "nuisance" men, searching for ordinary unsanitary conditions in and about the houses of their districts, and five were "women house-to-house visitors." In essential features the organization is retained unaltered. There remain the five main districts in which sanitary inspection is carried on, although their boundary lines have been altered in order to make each one of them precisely inclusive of a certain number of the twenty-four areas into which, for purposes of vital statistics, the medical officer has divided the city. There are now employed eight epidemic in-

spectors, sixteen nuisance inspectors, and six female inspectors under the immediate supervision of five district inspectors. In addition to these there are six night inspectors, two food inspectors, a common lodging-house inspector, and a vaccinator. The sanitary wash-house and the fumigating staff, although a part of the health force, may be left for a separate description. There is also an indoor force of about twelve thoroughly competent men. All these officials are subject to the orders of the medical officer and the sanitary inspector, and are actively generated by the latter, who holds conferences every morning with the district chiefs and the individual inspectors of all the other branches of the service.

It must be remembered that the prime necessity for all this vigilance grows out of the density of population, which is not equaled by that of any other British city except Liverpool. The present city bounds contain an area of 6111 acres and a population of decidedly more than half a million. The density of London, according to the census of 1881, was 51 to the acre, while that of Glasgow was 84. The average density of sixteen of the twenty-four sanitary districts, moreover, is above 200, and the average density of five districts is 300. Localities are not few where single acres contain a thousand or more people. The tenement-house is almost universal. The best as well as the worst of the laboring class, and the large majority of the middle class, live in the "flats" of stone buildings three or four stories high. In some cases two or three hundred people use a common staircase, and much greater numbers may be found using common passage-ways, or "closes," as they are called in Scotland. For no other English-speaking city, so far as I am aware, are the statistics of house room and inhabitancy so complete as for Glasgow. To quote Dr. Russell, the distinguished medical officer of the city, "25 (24.7) per cent. [of the inhabitants of Glasgow] live in houses of one apartment; 45 (44.7) per cent. in houses of two apartments; 16 per cent. in houses of three apartments; 6 per cent. (6.1) in houses of four apartments; and only 8 per cent. in houses of five apartments and upwards." This simply means that 126,000 of the people of Glasgow live in single-room tenements and 228,000 in two-room tenements. (In Scotland, however, the word "tenement" is usually applied to the entire building, and the word "house" to the one or more apartments arranged for the occupancy of a family; thus the ordinary "tenement" contains many "houses.") These population figures are those of 1881, and Glasgow has grown in numbers materially since that date; so that the number of people living in houses of one or two rooms is actually greater,

although probably a little less relatively. A population thus housed might well give employment to an army of sanitary inspectors. Glasgow's extraordinary rapidity of growth filled the tenements with Irish and Highland laborers from the huts of the rural districts, where they had known nothing of the relations of cleanliness to health, and where, moreover, their unsanitary modes of life were not a menace to thousands of other people. Their uncleanliness in the great city of Glasgow tempts epidemics and keeps the death-rate terribly high.

Among these overcrowded tenements the epidemic inspectors are constantly at work ferreting out cases of contagious disease. Last year they discovered 3769. As yet the law does not make it obligatory upon medical practitioners in Scotland to report cases of such disease, but their voluntary coöperation with the Glasgow department is quite general, and 5230 cases were reported at the office in 1887, making a total of 9000 cases registered. The epidemic inspectors are trained men who have usually served in the higher ranks of the police force. The nuisance inspectors are practical men who understand plumbing and the building trades, and who reported last year 21,886 "nuisances," practically all of which were in consequence remedied. These had to do with defective drains, matters of water-supply, garbage accumulations, offensive ash-pits, and all sorts of structural defects, decays, and unwholesome conditions.

The work of the night inspectors is done under the authority of a clause in the Glasgow police act which provides for the measurement of all houses and the ticketing of those which have less than 2000 cubic feet of space. The tickets posted on the doors show the maximum number who may occupy the house, and the night inspection is to prevent overcrowding. For, small as these abodes are, great numbers of them take lodgers in addition to the regular family. Fourteen per cent. of the one-room houses and 27 per cent. of the two-room houses take lodgers. In a recent public address, entitled "Life in One Room," Dr. Russell, the medical officer, remarked, "Nor must I permit you in noting down the tame average of fully three inmates in each of these one-apartment houses to remain ignorant of the fact that there are thousands of these houses which contain five, six, and seven inmates, and hundreds which are inhabited by from eight even to thirteen." The last report of the department shows 16,413 ticketed one-room houses, and 6617 ticketed two-room houses; and the total number of inspections made last year (1887) for overcrowding was 52,996. Of these one-room houses, 3285 contain less than

900 cubic feet of space. The average rent of one-room houses throughout Glasgow is almost exactly \$2.00 per month, while that of two-room houses is about \$2.60. The average cubical space of the two-room houses as compared with that of the single apartments is somewhat greater than the relative excess of rent. The inspection of these houses is of immense public benefit; but the undeviating enforcement, by the use of pains and penalties, of the rules regulating overcrowding, is obviously impossible. The inspectors and the police magistrates are obliged to use discrimination, and to deal leniently in one case and severely in another.

It is the business of the common lodging-house inspector to secure the registration of all establishments of the sort everywhere known as lodging-houses, to visit them frequently, and to enforce public regulations which have wholly transformed these places in Glasgow. There are one hundred and one of them now on the inspector's list. But I shall have occasion on a later page to refer again to lodging-houses.

The work of "female visitation," as it is called, among the poor families is doubtless productive of great good. The lady inspectors made more than 45,000 visits last year, and their suggestions as to cleanliness and household reform seem to carry weight by virtue of their official position. It is hardly necessary to say that in the selection of ladies for this work care is taken to obtain the services of those who have tact, discretion, and sympathy.

#### EPIDEMIC HOSPITALS.

BUT I must pass on to a description of the means used by Glasgow for the isolation and treatment of infectious disease. For the health authorities long ago discovered, what some American cities seem so slow to learn, that epidemics are not inevitable visitations, but are preventable. Glasgow had suffered from typhus and small-pox and cholera and other plagues from time to time, and had depended upon the parochial authorities and the privately managed hospitals to make special provisions at such times for the epidemic cases. At length, in that series of health acts passed by Parliament, some for Scotland as a whole, and some for the local authorities of Glasgow, which began about 1855 and which is yet far from ideally complete, it was provided that the Privy Council might, by order, in special emergencies, confer upon the local authorities temporary powers for dealing with epidemics after their acknowledged outbreak; these powers including the right to provide "such medical aid and such accommodation as might be required." Serious prevalence of typhus in

1864 compelled the health officer to look to the authorities for accommodation; and a temporary pavilion hospital was accordingly opened. Its usefulness was so great that when, in 1866, the Glasgow police act was revised, a new clause compelled the local authorities to maintain the existing hospital and empowered them to open others for the reception of infectious cases and the protection of the public against epidemics. In 1869 typhus compelled the enlargement of the original hospital to 250 beds, and in the next year "relapsing" fever not only filled these quarters with patients, but forced the authorities to make additional provisions.

They acted with a most commendable wisdom. On the extreme eastern edge of the city was a private estate, called Belvidere, containing rather more than 30 acres, and sloping beautifully down to the Clyde. It was purchased, and the mansion-house was enlarged and transformed into quarters for the attendant physicians and nurses. Wards were hastily built of wood in the detached pavilion form. These have gradually been replaced by permanent pavilions of brick and stone, each containing two wards. The establishment is now the most attractive and complete in its appointments and in adaptation to its particular purposes, and the most satisfactorily administered, of any in the United Kingdom, if not in the world. As now used it has accommodations for from 500 to 600 patients, which can be increased to 1000 without any overcrowding of the spacious wards. A technical description of the arrangements of this establishment is not, however, compatible with the scope of my paper, and I must not digress in that direction. Thoroughly compatible, however, is a discussion of the policy of the Glasgow authorities in giving this place the semblance of a lovely village, with its trees and lawns, its playgrounds and beautiful flower-gardens, with its separate and home-like private apartments instead of common dormitories for the eighty nurses, and with convalescing-rooms and every convenience attached to each sick-ward — when it would have cost much less money to build a big, repulsive "pest-house" and inclose it with a grim wall, "a place for sick paupers to die."

I am not dealing with sentimental considerations when I commend this policy. The difference between popularity and unpopularity in a public hospital for infectious diseases may well mean all the difference between a terrible epidemic and its easy prevention. What, for instance, is the extra cost of a spacious and attractive hospital where it is actually a privilege for a poor child to be sick, compared with the frightful cost, direct and

indirect, entailed upon a city by the prejudices which so frequently lead to the secretion of epidemic patients by the ignorant poor? In a densely populated city everything depends upon the discovery and isolation of such forms of disease at the earliest possible moment. An epidemic destroys valuable lives, and it also paralyzes trade and industry and causes immense pecuniary loss. It is the endeavor of Glasgow to treat contagious cases with such care and tenderness and such affluence of all that modern invention and science can suggest, as to secure ready coöperation from all classes in the work of isolating infection. The plan is growingly successful. After the average sojourn of six weeks at Belvidere patients are reluctant to leave, and they carry wonderful tales back to the tenement-rows. The Belvidere nurses are ladies, and the city gives them such accommodations as, in their arduous and necessarily secluded work, they might reasonably desire. The small-pox wards are built separately, and in fact the small-pox hospital is entirely distinct in all its departments; but when, as at present, there are no small-pox patients, some of the wards are used for scarlet fever, measles, or other diseases, and the whole group of buildings is administered as one great fever hospital. It should be said that the rich as well as the poor may, and do, avail themselves freely of the privileges of this hospital, especially for scarlet fever and measles. The average daily number of patients in 1887 was 332, and the total number received in the year was about 3000. The city's capital outlay in epidemic hospitals is half a million dollars. Dr. Allan, the accomplished medical superintendent, agrees with Dr. Russell, the health officer, in regarding the establishments at Belvidere as large enough for the highest efficiency; and when the extension of the municipal bounds is accomplished — a thing most urgently desirable for sanitary administration — it will be the city's policy to develop another hospital at the opposite end of the town.

#### SANITARY WASH-HOUSE.

NOT the least important feature of the health department's work in Glasgow is the Sanitary Wash-house. A similar establishment should be a part of the municipal economy of every large town. In 1864 the authorities found it necessary to superintend the disinfection of dwellings, and a small temporary wash-house was opened, with a few tubs for the cleansing of apparel, etc., removed from infected houses. For a time after the acquisition of Belvidere a part of the laundry of the hospital was used for the purpose of a general sanitary wash-house. But larger quarters being needed, a

separate establishment was built and opened in 1883, its cost being about \$50,000. This place is so admirable in its system and its mechanical appointments that I am again tempted to digress with a technical description. The place is in constant communication with sanitary headquarters, and its collecting wagons are on the road early every morning. The larger part of the articles removed for disinfection and cleansing must be returned on the same day, to meet the necessities of poor families. I visited the house on a day when 1800 pieces, from 25 different families, had come in. In 1887, 6700 washings, aggregating 380,000 pieces, were done. The quantity, of course, varies from year to year with the amount of infectious disease in the city. The establishment has a crematory, to which all household articles whatsoever that are to be burned after a case of infectious disease must be brought by the vans of the sanitary department. The carpet-cleaning machinery and the arrangements for disinfection by steam, by chemicals, and by boiling I cannot here describe.

The department's disinfecting and white-washing staff is operated from the wash-house as headquarters. A patient being removed to the hospital, the authorities at once take possession of the house for cleansing and disinfection. It is a point of interest also that the city has provided a comfortable "house of reception" of some ten rooms, with two or three permanent servants, where families may be entertained for a day or more as the city's guests if it is desirable to remove them from their homes during the progress of the disinfecting and clothes-washing operations. The house is kept in constant use, and it is found a very convenient thing for the department to have at its disposal.

As net results of the sanitary work of the Glasgow authorities may be mentioned the almost entire extinction of some of the worst forms of contagious disease, and a mastery of the situation which leaves comparatively little fear of widespread epidemics in the future, in spite of the fact that Glasgow is a great seaport, has an unfavorable climate, and has an extraordinarily dense and badly housed working population. The steady decline of the total death-rate, and its remarkably rapid decline as regards those diseases at which sanitary science more especially aims its weapons, are achievements which are a proper source of gratification to the town council and the officers of the health department.

#### THE CLEANSING DEPARTMENT.

IN close affiliation with the sanitary department, and under the superintendence of the

same general committee of the common council, is the cleansing department. While for administrative purposes it is a distinct service, it seems to me important to make conspicuous the fact that the street-sweeping, garbage-disposal, street-watering, and other work of this important public department are a part of the sanitary government. Health considerations come first. It is the business of the superintendent of cleansing not merely to manage his department to the greatest possible economic advantage, but to manage it primarily in such a way as to satisfy a fastidious medical officer of health. Mr. John Young, for a number of years at the head of this department, has made it a model of efficiency. To use Mr. Young's own language, the work of the department "embraces (1) the scavenging of all courts and back yards forming a common access to lands and heritages separately occupied; (2) the scavenging and watering of all the streets and roads within the city; and (3) the collection, removal, and disposal of all night-soil, general domestic refuse, and detritus."

The propriety of cleansing private courts and passage-ways at public expense is better considered in the practical than in the theoretical aspects. Glasgow has a population of which more than 90 per cent. live in closely built "flatted" houses, and of which 70 per cent. live in houses of one or two rooms. Health demands that the common courts and stairs be kept clean. Experience shows that, if done properly, the owners would pay their private employees more than the small tax—one penny in the pound sterling of rental value—which is collected of them as a special rating for this purpose. There are 11,000 of these courts, etc. to be kept clean, some of which have to be cleansed two or even three times in a day, and all at least once a day. For this work the main cleansing districts are subdivided into sections, which are laid off into about 200 beats, each of which is cleansed by one man under the supervision of a section foreman.

The streets (181 miles) are swept nightly, most of the work being done by twenty-three horse machines which are followed by the department's removal carts. A good feature of this work are the iron boxes or bins, with hinged lids, sunk in the sidewalks next the curbing along the principal streets at intervals of forty yards. Men and boys are kept busy brushing up the day litter and depositing it in the boxes, the contents of which are removed by night with the sweepings.

The summer street sprinkling is also done by the cleansing department, and it is done with great economy, for the simple reason that the amount of the street cleansing work varies inversely to the amount of street sprinkling

required; and so the regular force of men and horses employed to keep the streets clean during the rest of the year is sufficient to do that work and the watering besides in the summer months. The sidewalks of Glasgow are left to be swept by owners and occupants, who are, of course, required to keep them clean. The system as a whole results in well-cleansed thoroughfares.

The third distinct portion of the work of the cleansing department is the collection and disposal of domestic refuse and night-soil; and this is more difficult and expensive than the other two portions combined. For this service the city is divided into several main districts, regard being had in this division to the points of outlet. The central or "business" part of the city is served by daily morning "dust-carts," each house being provided with a special form of covered bucket which facilitates collection. As regards the great bulk of the population, living in flatted tenement-houses, it has been found best to collect refuse, including such excrementitious matter as is not carried down the sewers, from improved "ash-bins" in the back courts. Each main district has a force of men engaged in emptying these bins and wheeling the contents out to meet the night-carts which ply between the district and the nearest "despatch station" of the department. It should be explained that each district is subdivided for this work into six sections, one section being cleansed every night, and the entire city being thus served once a week. As the use of the water-closet system is becoming more general, the amount of excrementitious matter to be collected by the department decreases. But many large factories, besides the numerous "public conveniences" on the streets, make use of the "pail-closet" system, the pails being very frequently exchanged and the removal to the despatch stations being in covered vans. This system of scavenging is as thorough in execution as it is methodical and complete in its plan.

There are two principal and three minor despatch stations. The most approved in its appointments is the one known as the "Crawford Street Works." Stated briefly, it is the policy of the department to send out as manure to the farms just as large a proportion, in bulk and weight, of the street sweepings and general refuse as can be made a marketable article. At Crawford street the carts drive across a weighing platform to a great dumping and sorting floor. Street sweepings, after a little raking to remove newspapers and large articles, are shoveled through hatchways, without further treatment, into railway wagons standing on the lowest floor. The contents of the ash-

riddles or separating machines. The larger cinders are sorted out and furnish fuel for the establishment's boilers. The finer ashes and cinders pass down to the floor below into the mixing machines, where they are met by the discharges from the tanks holding excrementa. The newspapers, old baskets, boots, bricks, broken furniture, etc. pass from the riddles to a sorting floor and thence down flumes to the crematory furnaces, where they burn furiously without the aid of any other fuel, a chimney two hundred and forty feet high making a strong air draught. The expense of a much closer cremation and of the drying and condensation of manure, which is necessary in the large English towns from lack of a market for bulky fertilizers, is avoided in Glasgow. The heavy, cold Scotch soil is improved by a coarse and ashy manure that could not be used in the Midland counties of England. The sweepings of the macadamized roads, which are not salable, are used by the city, on its own bog-redeemed farm of "Fulwood Moss," for filling, "top dressing," etc. The total quantity of material carted by the department last year was in excess of 231,000 tons, and the amount of manure sold was 195,000 tons; the difference being made up of snow, drainage of water from muddy sweepings, materials cremated, and macadam sweepings. This is a remarkable record. The manure is sold in fifteen counties, much of it going sixty or seventy miles. The city owns its railway wagons (seven hundred of them), and has an arrangement with all the roads by which the manure is carried for one halfpenny (one cent) per ton per mile, cars returned free. It would be for the obvious advantage of the city to send out the largest possible quantity even if nothing more than freight charges were received. The net proceeds are, however, from twenty-five to fifty cents a ton.

The operations of this department are a charge upon the general police rate (excepting the cleansing of private courts, which is paid for by the proprietors benefited by means of a special levy of one penny per pound of rental value). There were employed, on the average, throughout last year, 794 men—422 in domestic scavenging, 217 in private street and court cleaning, and 155 in public street scavenging and sprinkling. The city has invested nearly \$600,000 in works and plant, and a little further outlay will suffice for the enlarged area and population when annexation is accomplished. The total ordinary expenditure of the department last year, including interest, was \$370,000. Sales of manure brought in a revenue of \$130,000, and after deducting the cost of the private court scavenging met by special assessment, there remained only \$190,000 of general charge to be paid out of the rates for



an admirable and complete service of street-cleansing and watering and of domestic scavenging for a population of nearly 600,000—a net cost *per capita* of only about thirty-five cents. And this economy is the more noteworthy from the fact that the ruling motive of the department is that of the health officer and sanitary engineer rather than that of the contractor. I am tempted to go into some details of the method used by Superintendent Young in buying supplies (horse feed, etc.) for his large operations, but other departments must have their due space.

#### THE IMPROVEMENT TRUST.

SHORTLY after the extension of Glasgow's boundaries in 1846, and the consequent reorganization of the municipal government, public attention was forcibly drawn to the frightfully crowded and unsanitary condition of the central parts of the city. The success which had followed the city's brave efforts to enlarge and deepen the tiny Clyde into a great ocean highway had been attended with a most extraordinary development of industries in the Clyde valley, and growth of urban population. The more fortunate classes moved out of their old homes in the central district of the city to the handsome West End suburbs. The business core shifted somewhat also, and the old buildings were packed with an operative class which Glasgow's new prosperity had drawn by scores of thousands from the Highlands and from Ireland. The people lived for the most part in single-room apartments, and in unwholesome conditions which will not be readily comprehended by future generations. Epidemics, originating in these filthy and overcrowded quarters, invaded the homes of the better classes, and self-protection made some measures of reform a necessity. It was resolved by the town council to set aside \$150,000 for the acquisition of property in some of the worst neighborhoods; but while a considerable investment was made in condemned tenement structures, the work of building others on the same bad models was going on apace. At length a committee was appointed to make inquiry and report to the council upon the sanitary laws and arrangements of the large cities and towns of the kingdom. Mr. John Carrick, who was a member of that committee, and is now the efficient city architect and master of public works, after nearly half a century of inestimably valuable service in the municipal government of Glasgow, is the principal source of my information upon this subject. The report was made in 1859. It observes:

Originally the "closes" and lanes of the city were not at all objectionable. The houses were of

moderate height, and unbuilt spaces were attached to many of the dwellings, and promoted ventilation; now, however, in those localities almost every spare inch of ground has been built upon, until room cannot be found to lay down an ash-pit. Houses, too, which were only intended to accommodate single families have been increased in height and are found tenanted by separate families in every apartment, until they appear to teem with inhabitants. . . . A worse state was disclosed by an inspection of some of the more recently erected houses for the working classes. Tenements of great height are ranged on either side of narrow lanes with no back-yard space, and are divided from top to bottom into numberless small dwellings all crowded with occupants. . . . Occupation of cellars and sunk flats as dwelling-houses is largely in the increase.

These quotations will show the nature of the evil. As remedial measures the committee advised that new police powers be obtained from Parliament to deal with the height of buildings, the size of apartments, the area and back-yard spaces, the lighting and ventilation, the provision of water-closet and ash-pit accommodations, and ample water-supply, and so on. It was further advised that the new legislation for Glasgow should increase the powers conferred on local authorities by the general nuisance removal act (Scotland) of 1856, and that specific authority should be obtained for the appointment of a competent medical officer and staff of nuisance inspectors; for the prevention of overcrowding apartments by regulating the maximum number of inmates on the basis of their air space; for the prevention of the use of sunk floors as dwellings; for compelling owners to cleanse and whitewash house property; and to prevent the discharge of refuse from certain factories and works into the common drains. It was still further recommended that all ashes and night-soil be made the property of the city, and that all proceedings under the new police act be taken summarily before the city magistrates. Special suggestions were added, to the effect that powers be obtained from Parliament to acquire property for the sake of sanitary improvement, upon payment to the proprietors of sums to be fixed in the last resort by competent tribunals, and that public baths and wash-houses be built and opened for the benefit of the working classes.

I have enumerated these propositions at some length because at that time, almost thirty years ago, they were so novel and so far in advance of prevailing notions. With great difficulty the desired legislation was secured, in 1862, for the brief and experimental term of five years. To shorten the story, let it be said that in 1866 the "Glasgow police act" was renewed, with amendments, and made permanent; and under its wise provisions have been developed those

admirable sanitary and cleansing services which I have already described. But in 1866 those parts of the earlier act which related to the purchase and improvement of property were made parts of another famous enactment of the same year, by which the town council was constituted an "Improvement Trust" for the carrying out of certain definite objects specified in the act. It had become constantly more apparent that drastic measures must be taken with the old part of the city. Nothing short of very extensive demolitions could remedy the evil. There were practically no streets at all; but only a system of "wynds, vennels, and closes," permeating an almost solid mass of tenement-houses.

Other large British towns have followed the example set by Glasgow; and demolition, street-widening, and improved construction under public auspices is no longer a novelty. But Glasgow, it should be remembered, had the courage to lead the way; and the Glasgow city improvements act furnished Lord Cross with the model upon which his improved dwellings act was constructed. Glasgow's action was hastened by the fact that several railway companies were seeking access to the heart of the city for great terminal grounds and buildings, and the time seemed especially opportune for a rearrangement and improvement of streets. As laid before Parliament, in 1865, the scheme covered an area of 88 acres, which then contained a population of 51,294; the average mortality of the area for some years past being 38.64, with epidemic diseases the cause of 36 per cent. of the deaths. The average density was nearly 600 to the acre, and in various parts of the district it exceeded 1000 — the total inhabitaney of the city then being 423,723, covering an area of 5063 acres, and showing therefore an average density of 83 as contrasted with 583 in the area to be dealt with. The financial side of the scheme looked plausible. The initial outlay was estimated at about \$7,250,000, and it was expected that the re-sale of building-sites would pay back all but \$750,000. A new park was to be made at a cost of \$200,000, and the paving and sewerage of three or four miles of new-made streets was estimated at \$325,000. For all the advantages of improved streets, improved health, and improved general appearance of the town the rate-payers were not to be charged at all dearly.

The council committee which carried out the improvements acquired some further powers and did more than was originally contemplated. Besides purchasing the 88 acres and some other small areas in the crowded parts of the city, they acquired and laid out in streets and squares for workingmen's residences two

estates known as "Overnewton" and "Oatlands." They also formed an important open space, the "Cathedral Square," in a densely populated neighborhood, and carried out other large enterprises not at first in the list. Their operations were very vigorous from 1869 to 1876, and were coincident with, if not directly the cause of, much house-building and real-estate speculation in Glasgow. A considerable amount of the property acquired by the trustees was disposed of on good terms; but there came a general reaction,—due in part to idle ship-yards,—a marked decline in the price of land, and a cessation of sales. For the past decade the improvement trust has been obliged to hold a large amount of property, at a reduced valuation. The total cost of all its purchases and improvements, not including interest charges, has been about \$10,000,000. For lands sold there has been received approximately \$5,000,000; and the property still held by the trust is valued, at present reduced prices, at nearly \$3,400,000. The margin of shrinkage has, however, been practically covered by current taxation, so that the account now stands about even; *i. e.*, the assets and liabilities of the trust are at a balance. The act authorized an annual assessment of sixpence in the pound of rental valuation, but the trustees have steadily reduced the levy until it is now only a penny.

The principal improvement made is a system of modern streets in the center of the city that will be of advantage for centuries and will repay the cost hundreds of times over. Twenty-seven new streets have been formed and 24 old ones greatly widened and improved. The old unsanitary tenement property has not all been demolished. The plan was adopted of tearing out intermediate buildings, opening back courts, where none existed, and otherwise ameliorating such property as the new streets, and the wide swaths cut by the elevated tracks of the invading railways, left still inhabited. In fact the business depression which checked operations and discouraged and alarmed all Glasgow for the time being made the city improvement trust unpopular and obliged the council to proceed cautiously. The city is, therefore, to-day a landlord on a large scale, and is holding really unsanitary property for the sake of the rents, waiting for an opportunity to sell the sites before demolishing the buildings. Its rents now bring in annually about \$100,000, which sum goes far towards offsetting the interest charge on the property held for sale. The improvement trust has given the city, among other things, the handsome new Alexandra Park.

It remains for me to speak of the model tenements and of the important series of model

lodging-houses which this department has ventured to erect and maintain.

#### MODEL TENEMENTS AND LODGING-HOUSES.

IT was the original understanding that the city's work was to be that of demolition, and that private enterprise, regulated by the new sanitary rules and requirements, would suffice for proper reconstruction and would make due provision for the displaced population. Rather early in their operations, however, the committee found it advantageous to build one or two tenement-houses as a model and example of proper arrangements and construction; and it may be assumed that a good influence was thus exerted upon the character of the large amount of new house room that builders were at that time providing. These were, however, only incidental undertakings. Very recently the council committee has gone into improved tenement building on a larger scale, and, as it seems to me, with more doubtful propriety. On Saltmarket street, in a very central locality and on the site of old tenement-houses which have been removed, the improvements committee have just expended \$50,000 in building a row of solid tenement-houses, with a dozen shop rooms on the ground floor; and the row is to be at once extended to at least twice its present length. The twofold object is avowed of bringing back population to a neighborhood now comparatively empty, and of getting some return for valuable property that has been lying unproductive vainly awaiting purchasers. But it would seem a mistake to attempt to draw population back to the heart of the city. It is the peculiarity of Glasgow that the laboring people live on the inner circle of their work; and this has been so frequently deplored that it would seem decidedly a reactionary move for the authorities themselves to build tenements with the view to bring back the very people whose dispersion to the suburbs has always been regarded as so important a desideratum. It is, however, the best class of working people for whom the city is providing these new houses, and the real motive seems to be the promotion of a market for the adjacent property. Whether wise or unwise, this experiment is not upon a sufficiently large scale to have very significant results.

Much more important and interesting is the experience of Glasgow in providing common lodging-houses. Every large city has a transient and shifting element that finds accommodation in the cheap lodging-houses, and these places are too frequently the haunts of vice and crime. They had been particularly bad in Glasgow until brought under strict regula-

tion by the new police acts. There was also an almost irresistible tendency to overcrowd the smallest and most wretched tenement apartments with nightly lodgers of the abjectly poor class. Partly to relieve this pressure and to assist somewhat in the readjustments of population necessitated by the improvements scheme, and partly to institute a competition that would compel the private keepers of such houses to improve their establishments, the council committee in charge of the improvement works opened two model lodging-houses in 1870. So decidedly successful in every way were these institutions that another one, in temporary quarters, was opened in 1874, to be replaced by a large and permanent one in 1876. Three more large houses on the same plan were opened in 1878, and a seventh and last in 1879. They have continued to be an unqualified success. Their incidental advantages as a police measure, in promoting the good order of the city, can hardly be overestimated. The common lodging-house inspector has now 101 houses on his list, although the city's seven establishments provide about one-third of the total accommodation, having nearly 2000 beds out of a total 6273 reported by the inspector. It is a pleasure to visit these municipal hostleries and see for one's self how cleanly, comfortable, and decent they are. Every lodger is given a separate apartment, or stall, in one of the high and well-ventilated flats, and has the use of a large common sitting-room, of a locker for provisions, and of the long kitchen range for cooking his own food. The charge per night is  $3\frac{1}{2}d.$  or  $4\frac{1}{2}d.$  (7 or 9 cents), according to the lodger's choice of a bed with one sheet or with two. (In any case he rests on a woven-wire mattress.) Six of these houses are for men, and one is for women, the charge in the latter being only  $3d.$  The regulations require of all the common lodging-houses of Glasgow that they shall be exclusively for one sex or the other. The success of the corporation's houses has had the good effect of leading private enterprise to open a few similarly improved establishments, with the same scale of prices and conducted on the same strict rules as regards good order and cleanliness. I find that the city's six houses for men, during the year ending May 31, 1888, entertained 647,681 nightly lodgers, and that the house for women, which is smaller than the others, entertained 33,986. The returns for the preceding year are about the same. The cost of the houses, which are substantially built, was about \$450,000. After paying all running expenses and a due amount for deterioration of property, they yield a net return of from four to five per cent. on the investment. It costs about \$6000 a year to

"run" one of the houses, and the receipts are from \$8000 to \$9000. They are, therefore, a source of actual profit to the city, although of course designed primarily to promote good order and the welfare of the unfortunate classes. So far as I am aware no other city has made an experiment of this kind, at least upon so large a scale, and Glasgow's experience has peculiar interest.

#### PUBLIC BATHS AND WASH-HOUSES.

As a part of that large scheme of sanitary and social amelioration that I have thus far been describing are to be regarded the great public baths and wash-houses of Glasgow. Power to establish such places was obtained in the police acts of 1862-66; but it was not until 1878 that the first one was opened. Glasgow was not at that time at all well provided with baths; and if private capital had been disposed to embark extensively in the business, the common council would hardly have ventured to add this to its undertakings. But there was manifest need, and the authorities courageously proceeded to supply the facilities *pro bono publico*. They have now five large establishments in different parts of the city, the first of which was opened in 1878 and the last in 1884. Each includes under the same roof very capacious swimming-baths for men and for women and numerous small bath-rooms, every modern facility being provided; and also, as a distinct feature, an elaborate and extensive wash-house for the use of poor families that lack home conveniences for laundry-work. The substantial character of these institutions will appear when I state the fact that, although honestly and economically built, they have cost more than \$600,000.

The swimming-baths are kept open through the entire year, at a uniform temperature, and the pure and soft Loch Katrine water makes them particularly inviting. Their establishment was an inestimable boon to the working classes, who needed them as a common decency of life, and who enjoy them as a luxury. They are in charge of competent swimming-masters, and there are swimming-clubs and frequent contests in connection with each of them. Glasgow affords the masses so little healthful recreation comparatively that this feature of the baths is the more appreciated. The number of bathers exceeds 400,000 a year, and there is reason to believe that it will increase rapidly; although the present average of 1300 per day the entire year through would seem to justify the city's outlay. The charges are of course small—twopence for use of swimming-bath, and a little more for the private baths.

Hardly less useful in the cause of public

cleanliness and decency are the wash-houses. For the trifling sum of twopence an hour a woman is allowed the use of a stall containing an improved steam boiling arrangement and fixed tubs with hot and cold water faucets. The washing being quickly done, the clothes are deposited for two or three minutes in one of a row of centrifugal machine driers, after which they are hung on one of a series of sliding frames which retreat into a hot-air apartment. If she wishes, the housewife may then use a large roller mangle, operated, like all the rest of the machinery, by steam power; and she may at the end of the hour go home with her basket of clothes washed, dried, and ironed. To appreciate the convenience of all this, it must be remembered that the woman probably lives with her family in one small room of an upper tenement flat. The number of washings done in these houses increased from 76,718 in the year 1885-86 to 96,832 in the year 1887-88; and unquestionably this patronage is destined to have a very large future growth.

It would be a decided oversight not to mention the fact, in passing, for the sake of those interested in noting the advancing socialism of the day, that in each of these establishments the city also separately conducts a general laundry business, drawing its patronage from all classes of society. I observe by reference to one of the printed municipal wash-lists that its charges for shirts, skirts, etc. are at about the current Glasgow rates. This line of enterprise has doubtless been entered upon because the baths and wash-houses, while paying running expenses, do not as yet, at their low rates of charge, pay interest upon the investment. This rather undignified entrance of the municipal corporation into competition with the private laundries of the city can hardly find permanent favor; but this is merely incidental, and it detracts nothing from the praiseworthiness of the public services rendered by the baths and wash-houses.

#### THE CORPORATION GAS WORKS.

HAVING made the municipal water-supply, dating from 1860, a grand success, having next begun a corporation park system and then a consolidated market system, and having entered vigorously and hopefully upon the sanitary and city improvement schemes already described, Glasgow was prepared in 1869 to undertake another large municipal enterprise. In that year, after much difficulty in adjusting the details of the arrangement, the gas-supply of the city was transferred from private hands to the corporation, to be managed by the council as an ordinary department. The

original cost exceeded \$2,600,000. Twenty years of management by the authorities has given unmitigated satisfaction to all the citizens of Glasgow. The quantity of gas sold has increased from 1,026,000,000 feet in 1869-70, the corporation's first year, to 2,427,000,000 in 1887-88, an increase of 140 per cent., while the population has grown only 20 per cent. In 1869-70 the amount manufactured was 20 per cent. greater than the amount sold or accounted for. Careful management has reduced this amount of leakage to about 10 per cent. More than 130,000 meters are in use; and as it is not the policy of the corporation to charge its customers for more than they actually receive, it is inevitable that there should be a considerable percentage of loss in delivery. From \$1.14 per thousand feet, which was charged consumers in 1869-70, the corporation has been able to make reductions year by year until for 1888-89 the price was fixed at sixty-six cents. No one will claim that a private company would have made these reductions while continuing to supply a satisfactory quality of gas.

Yet the department has been able to construct new works,—it now owns three large establishments,—pays its interest charges and running expenses, write off large sums every year for depreciation of works, pipes, and meters, and accumulate a sinking fund which now exceeds \$1,000,000. Its total indebtedness was at the highest point in 1875, when it reached \$5,330,000. The net debt is now reduced to about \$2,400,000, which is very much more than covered, of course, by the value of the plant. Whatever competition gas as an illuminant may have to face in the future, the Glasgow corporation works have now reached a point of perfect financial security.

In the rather gloomy winter climate of Glasgow, which necessitates a large use of artificial light, cheap gas in all the tenements, however humble, and in every passage-way, is an inestimable blessing; and the more than doubling of the *per capita* use, under the city's management of the works, means a vast increase in comfort and happiness that defies statistical expression. Great wisdom and humanity has been shown, therefore, in the policy of smaller earnings and a less rapid debt-payment for the sake of a more rapid reduction of the charge to consumers and a more rapid growth of the total consumption. These considerations of the general good, which dominate the public control of such services as those of light and water, can have only small weight in the councils of a private money-making corporation; and herein lies perhaps the most fundamental reason for the municipal assumption of these functions.

It remains to speak of the recent experiment of the Glasgow gas department in supplying gas cooking-stoves, either selling them at about cost price, or renting them at a moderate charge by the year, half-year, or quarter. To understand the local application of this experiment, it is necessary to recur to the fact that fully 70 per cent. of the people of Glasgow live in houses of one or two rooms, using the same fire for cooking and heating, but spending as little as possible for mere heat during eight months of the year. All these houses are fitted with gas for illumination. An immense saving would be effected by the use of gas for cooking, besides the consideration of comfort in the summer months when fires for heating are not an object. And these same considerations apply to a majority of the families living in more than two rooms. The city recovers in rents a fair interest and depreciation charge on its investment in stoves, and is at the same time extending the market for its gas. For more than three years this business has gone on briskly, the city having from \$60,000 to \$70,000 invested in stoves. During the year 1887-88 there were sold 1193 heating and cooking appliances, and 1465 were rented. It can hardly be deemed a permanent feature of the gas department.

#### THE CORPORATION'S STREET RAILWAY SYSTEM.

IN all of Glasgow's municipal experiences I find nothing more likely to interest American city authorities than that which relates to street railways. It is an experience which may well make American cities blush for their own short-sightedness. Street railways, or "tram lines," as they are generally called in Great Britain, are an American invention, and the first ones in London and some other English towns were constructed by American companies. It was that enterprising American citizen George Francis Train who first proposed to build tram lines in Glasgow. Having laid a line in London and another in Birkenhead, Train undertook in 1861-62 to get parliamentary authority to begin operations in Glasgow. His bill was opposed by the city authorities, who "headed him off" by inserting in a bill, then pending for the increase of the city's powers in other directions, a clause giving the council power to lay tram lines. The new power was not utilized, however, and in 1869-70 two syndicates, one or both being of American origin, again promoted bills in Parliament for power to invade the Glasgow streets with a horse railway system. Again the authorities were aroused, and the result was a compromise all around. It was

agreed that the city should keep the control of its streets, any part of which it was so averse to surrendering; and that it should construct and own the tram lines, while the two syndicates were to unite in one company and work the lines on a lease. The first lines were opened in 1872, and the lease then made is to terminate in 1894. By its terms the company was required to pay to the corporation (1) the annual interest charge on the full amount of the city's investment; (2) a yearly sum for sinking fund large enough to clear the entire cost of the lines at the expiration of the lease; (3) a renewal fund of four per cent. per annum on the cost of the lines, out of which they were to be kept in condition and restored to the city, in perfect order and entirely as good as new, in 1894; and (4) a mileage rental of \$750 per street mile. Such were the money conditions of the lease; and certainly the city's interests were well looked after. But meanwhile the interests of the public as passengers were equally well secured. First, it was provided that in no case the charges should exceed a penny per mile. This, it should be remembered, was at a time when fares were nowhere less than 2*d*. Further, the parliamentary act described a number of important "runs,"—those most likely to be used by laboring men and large masses of population, and several of them considerably exceeding a mile,—and specified that one penny should be the charge for these, and that morning and evening cars should be run for workmen at half price, equal to one American cent.

The company which secured these remarkable terms took advantage of a passing mania for investment in tramways, and sold the lease to a new company of local capitalists for a premium of about \$750,000. This new company experienced hard times for two or three years; for besides running expenses, interest upon the capital invested in the business, and the heavy payments on the four accounts to the corporation, there was the burden of the enormous premium to carry. Not until 1875-76 did it begin to pay its stockholders dividends. Since 1880, however, the business has flourished, and dividends of from nine to eleven per cent. have been paid, after writing off each year a due proportion of the unfortunate premium charge.

The city is so compact—covering, as I have said, only 6111 acres of ground—that a large mileage of tramways was not to be expected. The present total of thirty-one miles serves the public very well, the system providing continuous lines across the city from north to south and from east to west, with convenient access from the center to almost every outlying neighborhood. In arranging the system originally, just

at the time when the great improvement scheme was fairly begun, the authorities had in mind a service that would help them to relieve the central congestion of population and would aid in the symmetrical development of the city. To this end they wished to build certain additional lines that did not seem to the operating company to promise immediate profits. The system, as scheduled by the act of Parliament, embraced about seventeen miles of lines, and the city found that it had no authority under its lease to compel the company to work additional lines on the same conditions. A compromise was made by which the company agreed to pay the interest and the renewal cost upon the new lines and was relieved from rental and sinking-fund charges. This was perfectly fair under the circumstances.

The total capital investment of the city has been a little more than \$1,700,000, interest charges upon which are paid by the company. On the 1st of June, 1894, the sinking fund provided by the company will have reached somewhat more than \$1,000,000, which will pay the full cost of the original system. There will remain the cost of the newer lines, some fourteen miles in extent. The renewal fund will have left the system in perfect repair, and the city will have received in rental money a sum amounting to about \$225,000. As for the company, it will have paid off its premium incubus, will have earned good dividends, and will have made due allowance for depreciation in the value of its working plant.

When the time comes for making a new arrangement the city will be in condition to demand still more favorable money terms. The mileage rental under the next lease will doubtless be much increased; and the moneys which under the present lease have gone to sinking-fund and interest charges will accrue to the corporation as clear revenue. After 1894, therefore, the tramways of Glasgow will yield the municipal treasury a large income and will not require a penny of public expenditure. It is expected that a new lease will be arranged with the present company, which has a large capital invested, is excellently managed, and has always been just and honorable in its dealings with the corporation. That the rentals may be arranged on a sliding scale, or in some manner to make them partly dependent upon results, is not improbable.

#### VARIOUS OTHER DEPARTMENTS.

It has been deemed best to dwell in detail upon those features of Glasgow's municipal government that are most distinctive and most likely to have interest for other communities. There are various other functions and under-

takings of this vigorous administration that I should discuss with some fullness but for the space limits necessarily assigned my article. Glasgow is not unique in having a good water-supply, but it was one of the first great cities in the world to construct water-works of an ideal and permanent character. It had been wretchedly supplied with unwholesome water at high rates by private companies pumping from the Clyde. More than thirty years ago the authorities bought out these companies, obtained exclusive control of Loch Katrine in the Highlands, and brought to the city through a great aqueduct a magnificent and inexhaustible supply of pure mountain water. The expense was great. No private company could have been induced to undertake such an enterprise. Yet the city has been able easily to make the works pay for their own maintenance and enlargement, and to accumulate large sinking funds for the liquidation of the original cost, while reducing the water-charges rapidly from year to year and providing the most bountiful quantities for everybody that any British city grants. Glasgow illustrates the indirect advantages that a city derives from a good municipal water-supply. The great pressure in the mains, due to the high sources whence the water comes, suffices to extinguish nearly all fires without the use of engines; and the annual saving in the fire department alone is more than enough to pay interest charges upon the cost of the water-works. Moreover, Glasgow statisticians have convinced me that the absence of mineral ingredients from the water effects a saving in the two items of tea and soap that more than meets the cost of the works. Further, the pure and soft water, cheaply furnished, has made it possible to develop in Glasgow various important lines of manufacture that otherwise would have been driven to rural districts.

Glasgow has had an interesting experience in the matter of public illumination. The municipal gas works have made it possible to light the streets well at a low cost. But the authorities were not satisfied with lighting the streets. I have explained the circumstances under which the population is massed in tenement buildings, and the frequency of private alleys and courts used by great numbers of people. The authorities some years ago entered upon the policy of lighting private courts and passages as well as public streets, and further undertook the lighting of all common stairs in tenement-houses. The stair-lighting alone costs the city more than the lighting of all the streets, counting wages and gas. But the measure is one of great humanity as well as a police precaution of the highest value. A light is equal to a constable. The illumination of the dark passages has had a most marked

effect in diminishing crime. The presence of public lights on the tenement staircases has added to the comfort and security of the population, while facilitating the work of the ordinary police, of the night inspectors, and of the health officers. No other large city in the world, so far as I am aware, lights the staircases. Edinburgh has, however, lately resolved to follow Glasgow's example in this respect. It should be said that the expense of stair-lighting is partly met by a special assessment.

The municipal council, under acts which constitute a "market trust," manages the city's important market properties. All the wholesale marts for produce, meat, animals, and fish are in the city's own hands, and are so managed as to yield net revenue while facilitating the work of the public food inspectors and contributing to the healthfulness of the city. Belonging to this department are the great municipal slaughter-houses, which for many years have entirely superseded all private establishments, and which are admirably appointed.

It would be easy to devote several pages to the department of public works, under the control of Mr. John Carrick, who, as City Architect and Master of Works for more than forty years, is a mine of information upon every topic pertaining to street-making, bridge-building, sewerage, and the construction of public buildings, and who knows more than any other man about the material and municipal development of Glasgow. Mr. Carrick's office is supplied with a corps of competent architects and engineers, and it supervises every kind of municipal construction. But the actual work in Glasgow, as in every other British city, is always done by private contractors. The sewerage of Glasgow is not to be commended. The mains empty at frequent intervals into the Clyde, with the most malodorous results. It is intended to construct intercepting sewers on each bank, which will carry the material to filtration works below the city, from which point the "sludge" will probably be barged out to sea.

Of parks, picture galleries, and libraries also much might be said; but summary statements may suffice. Within the period of the recent improvements that have been fully described a park system has been formed, and its cost has in large part been defrayed by the re-sale at advanced prices of portions of the tracts originally purchased for park purposes. Bequests of important collections of paintings, chiefly by the old masters, have given Glasgow a municipal gallery of importance, and it is expected that the early future will witness the completion of an adequate art building and the rapid accession of modern works of art. Although the Glasgow people have hitherto refused to

adopt the Free Libraries Act, which almost every other important town in Great Britain has availed itself of, bequests to the city have founded two libraries, which are open to all readers and are of considerable importance. The Mitchell Library, though but a few years old, will soon have a hundred thousand volumes. It has the best supplied periodical reading-room in Great Britain. Mr. Barrett, the accomplished librarian, with the help of the council committee on libraries, has performed wonders in building up this collection of books; and it is to be hoped that his ideal of a great central library with ten branches, each having reference, loan, news-room, and lecture-room departments, may be soon realized through the adoption of the Libraries Act with its penny rate.

Poor relief and public education are not in the United Kingdom made functions of municipal corporations, but are intrusted to distinct elective local bodies. None the less, but for the exigencies of space, it would be quite within the scope of this paper to state briefly how the people of Glasgow provide for these two extremely important objects. In a word let me say that Scotland, urban as well as rural, is divided into "parishes," each of which has an elective board that levies poor-rates, dispenses relief, and has entire charge of the indigent; while

elementary education in Scotland is now universal and compulsory under the management of elective school boards, school taxes being collected by the several parish authorities, although the jurisdiction of the Glasgow school board extends over the entire city. A magnificent array of public school buildings has appeared in Glasgow since 1873, and admirable provision is made for technical education.

All municipal taxation in British cities takes the form of rates levied upon the rental value of occupied lands and buildings. In Glasgow the rates are divided between owners and occupiers in a manner which could not be described without going into much detail. The general financial position of the municipality is excellent. Its debt is not formidably large, and most of it is potentially covered by the growing sinking funds of prosperous and productive departments. The numerous undertakings of the municipality, far from imposing heavier burdens upon the rate-payers, promise in the years to come to yield an aggregate net income of growing proportions, to the relief of direct taxation. Glasgow has shown that a broad, bold, and enlightened policy as regards all things pertaining to the health, comfort, and advancement of the masses of the citizens may be compatible with sound economy and perfect solvency.

*Albert Shaw.*



## ROBERT BROWNING.

(DECEMBER 12, 1889.)

SOFT falls the snow upon the fading year,  
 As death falls softly on the quiet face  
 By which we fain would stand a little space,  
 To drop the silent tribute of a tear,  
 And lay the laurel-wreath upon the bier,  
 Where sleeps in peace, as if in love's embrace,  
 He who so long hath held his lofty place,—  
 Our crownéd singer, our belovéd seer!  
 Who kept his faith undimmed in faithless days;  
 Whose witness for the *right* was stern and strong;  
 Whose life was true and earnest as his song;  
 Whose love was noble as his poet's bays.  
 What meed for him whose working-day is done?  
 Rest with his love,—and joy eternal won!

*Agnes Maule Machar.*