ON THE IMMEDIATE RESULTS

OF THE

OPERATIONS OF THE GLASGOW IMPROVEMENT TRUST

AT

LAST MAY TERM,

AS REGARDS THE INHABITANTS DISPLACED,

WITH

REMARKS ON THE QUESTION OF PREVENTING THE RECURRENCE OF THE EVILS WHICH THE TRUST SEEKS TO REMEDY.

BY

JAMES B. RUSSELL, M.D.,

MEDICAL OFFICER OF HEALTH, GLASGOW.

GLASGOW:

BELL & BAIN, PRINTERS, 41 MITCHELL STREET.

1875.

ON THE

IMMEDIATE RESULTS OF THE OPERATIONS OF THE GLASGOW IMPROVEMENT TRUST AT LAST MAY TERM,

AS REGARDS THE INHABITANTS DISPLACED,

WITH

REMARKS ON THE QUESTION OF PREVENTING THE RECURRENCE OF THE EVILS WHICH THE TRUST SEEKS TO REMEDY.

BY

JAMES B. RUSSELL, M.D.,

MEDICAL OFFICER OF HEALTH, GLASGOW.

[Read before the Sanitary Section of the Philosophical Society of Glasgow, December 14, 1874.]

THE results which the Glasgow City Improvement Trust desires to attain by its proceedings are clearly set forth in the Preamble of the Act by which that Trust was constituted, in these terms :—

"*Whereas various portions of the City of Glasgow are so built, and the buildings thereon are so densely inhabited as to be highly injurious to the moral and physical welfare of the inhabitants*, and many of the thoroughfares are narrow, circuitous, and inconvenient, and it would be of public and local advantage if various houses and buildings were taken down, and those portions of the said City reconstituted, and new streets were constructed in and through various parts of said City," &c.

The first part of this preamble is that with which this paper is chiefly concerned. The Trust obtained power to turn out the inhabitants of certain buildings, with the intention of improving their "moral and physical welfare," in so far as it was injured by those buildings or houses. No one will expect a simple transference from one house to another to produce an effect which can be fully estimated, whether it be good or bad, at the very time of the transference. Moral and physical injury grows into the moral and physical constitution of the individual in the course of his life, and is cumulative in the constitution of successive generations of his descendants. A gutter-child from the Bridgegate is a very complicated production. More forces have contributed to the pitiable result than those which have operated within the short span of his own life, or even passed into his body from the parents who begot him. The evil which the

Improvement Trust sets itself to remedy was worked in successive generations, and the good which it desires to effect cannot be exhausted in a period short of the life of one generation, if not of several.

I make those prefatory remarks, and wish in the title of my paper to emphasize the adjective "immediate," in order to indicate the only part of the "results" of the proceedings of the Improvement Trust regarding which I intend to contribute a little precise information, and in order to prevent you from estimating the value and scope of my paper, either in excess or in defect of its real importance. What I mean by "immediate results" is nothing vague or speculative, nothing sensational or sentimental, but simply such exact facts as are capable of numerical statement—viz., the size, monthly rental, number of inmates per house, distance of the house from the centre of the city, and manner of the excrement disposal of the inhabitants, before the proceedings of the Improvement Trust at last May Term and after.

Since 1870 the Improvement Trust has, from time to time, demolished the houses of some 15,425 persons. At last May Term some 351 houses were pulled down. The districts operated upon were St. Andrew's Square, Calton, and Main Street, Gorbals. Although 351 families were thus expelled, I propose, partly from necessity and partly from choice, for the sake of purity of result, to confine my data, as to size, rent, and inmates, to 243 houses. The remaining 108 are accounted for thus:—In many cases we failed to trace the subsequent residences from not catching the families before they removed. In other cases, from the combination of dwelling-houses with shops, the rental and general character of the occupancy were such as to remove them from the category to which the great majority of the houses belonged; while in the case of a large new tenement in Great Hamilton Street, which was involved in the operations necessary for the formation of a new street, the houses were really of a superior kind, and would not have been interfered with but for this accident of position. A similar remark applies to some of the houses in St. Andrew's Square. Having excluded those houses, the remaining 243 are on the whole fair samples of the utterly insanitary house, and their 990 inhabitants fair specimens of the miserable population whose "moral and physical welfare" are alleged in the Preamble of the Improvement Act to be injured by the houses which they inhabited.

The three areas operated upon present some differences, more

particularly as to the rental of the houses demolished, which is highest in the Central District, lowest in the Southern District, and intermediate in the Eastern District. Still, the facts regarding these demolitions may best be considered in the aggregate.

1st. *Size of House.—Before* the operations, of the 243 families whose subsequent history has been traced, 118 lived in houses of one apartment, 96 in houses of two apartments, 23 in houses of three apartments, and 6 in houses of four apartments. *After* the operations those 243 families were housed as follows—viz., 96 in houses of one apartment, 116 in houses of two apartments, 16 in houses of three apartments, and 3 in houses of four apartments; this accounts for 231 families. The remaining 12 were distributed thus:—5 to the suburbs, 2 to the country, 3 to lodgings, and 2 to Ireland. For the sake of comparison these whole numbers may be reduced to percentages, when we find that *before* the intervention of the Improvement Trust 48½ per cent. of the families lived in houses of one apartment, *after* 39½ per cent.; that *before* 39½ per cent. of the families lived in houses of two apartments, *after* 48½ per cent.; that *before* 9½ per cent. lived in houses of three apartments, *after* 6½ per cent.; that *before* 2½ per cent. lived in houses of four apartments, *after* 1 per cent.; leaving 5 per cent. who *after* these operations settled in the suburbs, in lodgings, or removed to the country districts of Scotland or to Ireland. The same facts may be stated in another way, thus:—Of 118 families living in houses of one apartment, when expelled by the Improvement Trust, 76 removed to houses of the same size, 39 to larger houses, 2 to lodgings, and 1 to the country in Scotland; of 96 families living in houses of two apartments, 66 removed to houses of the same size, 10 to larger houses, 17 to smaller houses, 1 to the country, and 2 to Ireland; of 23 families living in houses of three apartments, 4 removed to houses of the same size, 18 to smaller houses, and 1 to lodgings; of 6 families living in houses of four apartments all removed to smaller houses.

2nd. *Rental of House.*—The monthly rental was ascertained in each case, both of the house which was left and the house to be occupied. The average rental, according to the number of apartments, has been calculated in both cases. It is evident that some differences existed in the value of the property demolished in the different districts of the city. It seems to have been lowest in the Gorbals, and highest in St. Andrew's Square area; thus in Gorbals,

the average monthly rental of one apartment in the property demolished was 6s. 3¼d.; in Calton, 6s. 7½d.; and in St. Andrew's Square, 8s. 7½d. In Gorbals, the average monthly rental of two apartments was 8s. 10¼d.; in Calton, 10s. 1½d.; and in St. Andrew's Square, 10s. 3½d. Throwing all these districts together, and calculating the average rental paid for each size of house by the families ejected, in the houses abandoned, and in the houses into which they removed, we find it stands thus:—In the *old* buildings, a house of one apartment cost on an average 6s. 7¾d. per month; in the *new*, 7s. 11½d. per month. In the *old* buildings, a house of two apartments cost on an average 9s. 7¼d. per month; in the *new*, 11s. 6¼d. In the *old* buildings, a house of three apartments cost 11s. 5¾d. per month; in the *new*, 18s. 1½d. In the *old* buildings, a house of four apartments cost 13s. 4¼d. per month; in the *new*, 17s. 2d. In all cases, therefore, the operations of the Improvement Trust brought an increased expenditure in the shape of rental to the families involved. Stated as a percentage upon their former rent, this increase amounted to 20 per cent. on the rental of a house of one apartment, to 20 per cent. on a house of two apartments, to 58 per cent. on a house of three apartments, and to 28 per cent. on a house of four apartments.

I must pause here to make a few remarks on these comparisons between the sizes and rental of the houses demolished, and the houses into which the families occupying them removed. The number of apartments in the houses demolished is for the most part an entirely delusive method of estimating the accommodation afforded, whether calculated according to the cubic space of those apartments or as to the sufficiency of the structure; but especially as to the cubic space. To speak of three or four apartments in the old houses is generally a mere fiction, and a fiction of a very tragic kind. Thus, what could a house of one apartment be at 2s. 6d. or 3s. 6d. per month, or a house of two apartments at 5s. per month, or a house of three apartments at 5s. 10d. per month, or a house of four apartments at 7s. 10d. or 8s. 6d. per month? Yet these are all actual quotations of rents paid for such houses in the property lately demolished. It is therefore evident that a very great part of the contrast between the average rental of the old and new houses, especially of those of three and four apartments, arises from the fictitious nature of the accommodation afforded by the old houses. The case of a tenant paying more rent in those circumstances is precisely that of one who ceases to buy a cheap but bad and adulterated article, and buys instead a more expensive but good and pure article.

3rd. *Number of Inmates in House.*—Overcrowding of individuals in the family is more serious than overcrowding of families on the soil; hence it is important to ascertain whether the number of inmates per house was greater before or after the operations as regards the families involved. This is all the more important owing to the great increase in house rent, which we have just seen was an immediate result of the change to the families displaced. I find, then, that in the *old* houses of one apartment the average number of inmates was 3·6, and in the *new* houses of one apartment 3·3; in the *old* houses of two apartments the average number of inmates was 4·6, in the *new* houses of two apartments also 4·6; in the *old* houses of three apartments 4·3, in the *new* houses of three apartments 4·9; in the *old* houses of four apartments 3·6, and in the *new* houses of four apartments 6·3. Still further reducing the comparison to the number of inmates per apartment in the old and new houses, I find that in the *old* houses 990 individuals were accommodated in 403 apartments, giving an average of 2·4 inmates for each apartment, and that in the *new* houses 949 individuals were accommodated in 388 apartments, giving still the same average of 2·4 inmates for each apartment. Returning to my remark as to the fictitious nature of the old house accommodation, it is quite certain that the same number of inmates per house or apartment in the old and new houses really means an increased cubic space in the new houses—this is especially true of the houses of three and four apartments. In the old houses these apartments are merely nominal, in the new they are real.

4th. *Distance from the Centre of the City.*—The operations of the Improvement Trust at last May Term were confined to three areas—the Calton, St. Andrew's Square, and Gorbals. The Cross may be taken as the centre of the city, as almost equi-distant from all points of the circumference, and certainly as the nucleus round which the city has grown—the oldest part of it, and the most densely inhabited and most unhealthy. Taking the Cross, therefore, as the centre, I have determined the relative distance, before and after those operations of the Trust, of the houses occupied by 263 families displaced, by marking their position on a map in relation to circles described, with a radius increasing by quarters of a mile in distance from this centre. *In their original habitations,* of these 263 families, 29 were within a quarter of a mile of the Cross, 162 within half a mile, and 72 within three quarters of a mile. *In their new habitations,* 26 were within a quarter of a mile of the Cross, 79 within

half a mile, 108 within three quarters of a mile, 29 within one mile, 13 within one mile and a quarter, 3 within one mile and a half, and 5 beyond the municipal boundaries. Reducing these numbers to percentages of the whole number of families displaced, we get this comparative result: In their original habitations 11 per cent., in their new 10 per cent. were within a quarter of a mile of the Cross; in their original habitations 62 per cent., in their new 30 per cent. were within half a mile of the Cross; in their original 27 per cent., in their new habitations 41 per cent. were within three quarters of a mile of the Cross; in their original, within one mile of the Cross, none; in their new habitations, 11 per cent.; in their original, within one mile and a quarter of the Cross, none; in their new habitations, 5 per cent.; in their original, within one mile and a half of the Cross, none; in their new habitations, 1 per cent.; in their original, beyond the municipal bounds, none; in their new habitations, 2 per cent. The change may be summed up in the statement, that *before* these operations only 27 per cent. of the families displaced lived beyond half a mile from the Cross; but that *afterwards* in their new houses, no less than 60 per cent. found themselves beyond that distance. Or taking a wider circle as the limit, none of the families were over three quarters of a mile from the centre of the city in their original homes, but now 19 per cent. are outside that circle.

5th. The only remaining point in the immediate change in the circumstances of the families evicted which can be exhibited in this form, is *the method of excrement disposal.* Including for this purpose also the total 263 families whose future residence was traced, I find that only 12 of these had water-closet accommodation originally, but 35 have such accommodation in their new houses—that is, whereas only 4½ per cent. of the families whose houses were demolished sent their excreta into the sewers before the demolitions, nearly 13½ per cent. did so afterwards.

This indicates a very decided tendency to increase the proportion of the total excreta of the population which is sent into the sewers, and so to add to the pollution of the Clyde at a rate increasing beyond the mere increase of the population. As to the immediate effects of the change from privies and ashpits, as the method of excrement disposal, upon the families themselves, two things must be taken into consideration: *First,* That from the close occupation of the ground in the old localities, for the most part no site was to be had where a privy or midden could be placed so as not

to be a nuisance, and even a source of injury to the health of the inhabitants. *Second*, That of the 35 families who found themselves supplied with water-closets after these operations, only 13 found them in their houses. The remaining 22 found them on the stair. The change from a midden reeking in a confined court, possibly right under your window, or at the foot of the stair, to a water-closet on a stair well ventilated and cleanly kept, must be admitted to be for the better.

On the whole, then, the result of the intervention of the Improvement Trust, as regards those families, has been at once to cause their redistribution into houses better suited to their requirements as to size, and situated much farther from the centre of the city, to compel them to incur some 20 per cent. more expenditure for rental on one and two apartment houses, and considerably more for houses above that size, and in some cases to improve the method of their excrement disposal.*

I have now placed before you all that seems to me to be involved in the title of my paper; but as a supplement, you will allow me to add a few general remarks on the conditions necessary to ensure the success of the Improvement Act, and particularly on the prevention of the return of the evils it is intended to remove.

When a scientific surgeon has removed a tumor from the human body, his first impulse is to submit it to microscopic examination, and to determine from the results of this examination what is its exact nature, and above all whether it has a tendency to recur. In like manner, no physician worthy of the name is satisfied with simply treating his patient, or even curing the disease. He also inquires into the origin of the disease, observes its habits and characteristics, and if possible gives such advice as will prevent its recurrence. The ailment of which the Improvement Trust desires to relieve us is a very serious one, and the cure of it very costly, and with this, as with our own personal diseases, prevention is not only better but cheaper than cure. I propose, therefore, to glance at the nature, history, and mode of prevention of the civic disease against which the operations of the Improvement Trust are directed.

The disease is overcrowding of various kinds—

1. Overcrowding of tenements on the soil, or over-building.

* I wish to avoid stating mere impressions; but it is quite fair to add that the impressions conveyed to the minds of the large and intelligent sanitary staff, whose daily duties have brought the entire operations of the Trust under observation, as well as to my own, are in harmony with the facts stated concerning that section of the operations which was carried out at last May Term.

2. Overcrowding of dwelling-houses in the tenement, and internal defects of structure.

3. Overcrowding of inhabitants in the dwelling-house, or overcrowding proper.

Each of these three forms of overcrowding is an evil in itself, and may exist independently of the other; but in fact they are cognate, and are generally found together, each intensifying the evil effects of the other, and all together producing that state of chronic ill-health, with acute exacerbations, which is a feature of the life of Glasgow. Let us run rapidly over each form separately, touching on these three points,—the injury which each causes, especially to the "*physical* welfare" of the inhabitants, the natural history of each (which will guide us to the prevention of each), and lastly, how far we have succeeded in adopting the measures necessary for prevention.

1. *Overcrowding of Tenements on the Soil, or Over-building.*

Every stone deposited on the surface of the earth displaces so much air, and therefore every tenement added to a city removes further from its inhabitants the great store of outer atmosphere from which alone the air vitiated by the functions of their lives, and the processes of manufacture, can be renewed. Hence there must be broad passages left for the entrance of air from the open country, and spaces preserved, which not only are reservoirs of fresh air, but the soil of which will provide playgrounds, places for rest or exercise, and sites for ashpits, washing-houses, and other conveniences necessary for comfort and even for health. A study of extant maps of Glasgow throws considerable light on the natural history of this form of overcrowding in old Glasgow. The idea of the city was, central thoroughfares east and west, and north and south. End-on to the building line of these streets we see long narrow strips, extending in what was the natural direction of the growth of a house placed endwise to the street—*backwards*, looking on the maps like sections of geological stratification, with cracks or flaws between. These were the closes or wynds—parallel intervals left between tenements simply for convenience of access, only wide enough to permit two persons to pass, or perhaps a barrow or a cart. Each proprietor was bent on covering every inch of his grounds with his building, and the only function exercised by the Dean of Guild Court was that expressed in the phrase, which is still in use, "to grant a lining"—that is, to see that if he *built up to*, he should

not *build over* the line of his holding. What the result was in process of time has been graphically described by Sir James Watson, and so recently quoted by Bailie Morrison that I need not dwell further on the picture. At the end of last century, in the first extensions of the city in the feuing of Tradeston, Hutchesontown, Laurieston, Cowcaddens, &c., a different principle was adopted, which gave a new direction to this form of overcrowding, although at the same time it increased the number of streets in proportion to the surface occupied. We may call this the hollow-block plan, appearing on the map as the outlines of squares or parallelograms. These were not happy designs for the free circulation of air, but year by year you find black squares planted in the middle of those hollow squares, and long lines budding out from the sides, or running parallel within a short distance of the sides. This was the new development of overcrowding or over-building. Just as a mason erects the solid shell of his wall and then fills up the interval with packing, so the proprietor first built his block like a box, and then packed it with other houses, in many cases placed back to back. Hence those ominous black squares on the Post-Office Map of the present day. The operations of the Improvement Trust are almost entirely confined to the product of the older form of over-building, but they are scarcely less needed in the localities which have been spoiled by this more recent development.

The next question is, How far have we profited by the lessons of the past, and succeeded in preventing the continuance of this over-building? My answer is, Not so much as we ought to have profited and prevented it. When the Trust has finished its work, our streets will be the finest in the world. We are also getting squares and parks and other breathing spaces. We have got entirely rid of the old way of development of buildings parallel to each other, and vertical to the line of the street; but if you look at our Post-Office Map you will find it studded year by year with more of those squares, like the block plan of boxes; and if you go and inspect those squares *in situ*, you find that boxes they are to all intents and purposes, containing stagnant air. If the process of over-building is developed to its next stage, by packing those boxes to any degree with buildings of any kind, whether intended for dwellings or not, then you reproduce to the full the old evils. I admit, of course, that there is no chance of this being done in the present day to the extent to which it has been done in the past; but I think I am quite safe in asserting that the principle that a

building of any kind displaces vital air, and impedes its circulation, is not sufficiently acknowledged in the powers of the Dean of Guild Court for preventing over-building. It is barely worth consideration whether a tenement which darkens my windows and impedes the access of fresh air to my house is a warehouse, or a singing saloon, or a four-storied land of dwelling-houses. But apart altogether from the aggravation of packing those hollow blocks with further erections, I venture to suggest that they are in themselves faulty, and that some other principle of ground plan should be adopted which would permit a free current of air along the back as well as the front of every tenement.

2. *Overcrowding of Dwelling-houses in the Tenement, with Internal Defects of Structure.*

The aggregation of dwellings in the tenement is an essential feature of the Scotch system of flats with common stairs, as contrasted with the English system of self-contained houses with common courts. The attendant evils, to the mitigation of which special attention ought to be paid, are the vertical accumulation of houses by the imposition of successive flats, and the horizontal or lateral accumulation of houses in the flats, involving the removal of the house still farther from the air and light, which possibly are already greatly debarred by over-building; the vitiation of the air with animal excreta which inevitably follows, and the tangible dirt which is always associated with darkness. The Scotch system also necessitates a much greater degree of personal contact and communion than the English. The result of this in a tenement overcrowded with houses, and defective in internal structure to boot, is that the inhabitants actually breathe and swallow each other as well as come into bodily contact. The stairs and lobbies have that curious indescribable sour smell which can be perceived the moment you enter a close in the overbuilt part of our city. This co-operates with internal overcrowding in producing a low state of vitality and that constant irritation and defective discharge of the functions of the lungs which issues in bronchitis and consumption, and makes the city, so to speak, asthmatic. Then consider the circumstances of poor children in such tenements. Raised above the street level to such a height, and separated from such scant and dangerous room for play and exercise as those streets and courts afford, by dark lobbies and steep dark stairs, what can the poor things do? The playground of most of

the children of Glasgow below five years of age is the lobby and the stairhead. It is a sorry thing to hear their voices, and to feel them, for often you cannot see them, running about or sitting in groups in such places. No wonder that they are deformed with rickets and prematurely aged; and as to the mortality which prevails among them, the marvel is that so large a proportion of them ever reach adult years. As for stamping out epidemic diseases, such as scarlet fever, measles, and hooping cough in such circumstances, it is impossible; and it is only by the rigid enforcement of hospital treatment that their parents and the adults who live in these localities can be saved from decimation with typhus—that scourge of overcrowding and dirt.

This then is a broad and hurried sketch of the evils to which the system of flats, especially when accompanied with undue vertical extension and overcrowding of dwelling-houses in the flats, tends. What can we do, and what have we done to reduce them to a minimum? The chief structural defects are in our *common stairs* and our *lobbies*.

The common stair of a Scotch flatted tenement is the analogue of the English court, not only as the means of access to the houses, but especially in old buildings, in respect that it contains the common jaw-box—the representative of the English gully-hole—and the common water-tap for the supply of water; and in modern buildings in respect that it contains the common water-closet, the representative of the privy or trough water-closet which stands at the head of the English court. Yet with all this similarity of function, the English court is at the worst a box open above to the free air, while the Scotch common stair is *at best* a longer, narrower box, fully open only at the lower end, with or without certain mockeries of ventilators at the upper end, and with windows at intervals, which may admit light, but are never opened, and serve no useful purpose for ventilation until by a providential accident, or a merciful exhibition of malice, the panes of glass are smashed. In their *worst* form it is hard to say what the Scotch common stair is, but a dark noisome tunnel buried in the centre of the tenement, and impervious both to light and air, excepting the fetid air which is continuous and undiluted from the house along the lobbies and down to the close, from which you start on your perilous and tedious ascent.

Now, I confess to you, I do not think we have made much progress in recent times in the structure of our common stairs. In the oldest houses the best form probably was the turnpike

standing outside the main wall, like a huge round chimney stalk; the worst was the same turnpike running up through the heart of the tenement; but there were also good broad stairs with roomy landings, having windows in the main wall, and so making ventilation from the outer air possible. The more recent introduction of the hanging stair, in place of the turnpike in the centre of the tenement, ensures a passage of air right up to the roof, instead of only along the length of the stair. This with ventilation at the top is an improvement, but it still falls very far short of what ought to be.

Rather than dwell on those architectural details, of the terminology of which I know little, I shall endeavour to give my notion of the principles which it is the business of the architect to carry out in the structure of a common stair.

1. It should touch the open air at every flat or landing between the flats. I have been told this is impossible in corner tenements, and I know it is seldom done in such situations; but it is just there that the greatest need of ventilation exists, because of the number of dwelling-houses having access to the stair in a corner tenement. I do not believe in impossibilites of this kind, and there is no doubt this condition would be complied with even there, if made compulsory.

2. A common stair should not only touch the open air, but the air should have free access independent of the control of any tenant. Fresh air is as essential as fresh water, and should be brought to each individual door. The individual householders may please themselves on the matter of admitting the fresh air further, but it should not be possible by closing a window to deprive all the neighbours of this necessary of life. In Mr. Carrick's model houses in Drygate, and in a tenement in the Northern District, there is a free space in the main wall at each landing, protected by a railing, while in Dr. Hill's property, recently erected on Garngad Hill, the common stair is a turnpike outside the main wall, and the air blows freely across each landing by an equally perfect arrangement of structure.

3. Such a thing as a common stair which requires to be lighted artificially in the day time, should not exist, and of course would not exist if the previous conditions were fulfilled.

4. The last defect in our common stairs to which I shall allude, is the universal want of proper ventilation at the top of the staircase. This is a most important matter when there are windows and water-closets on the stair — these windows, as already re-

marked, when a harmony of opinion among a dozen house-wives has to be obtained before they are allowed to remain open, being good for nothing as an access for air. There should always be some equivalence between the area of apertures admitting fresh air and those giving egress to foul air. Yet, as a rule, the top of those stairs is hermetically sealed with a glazed skylight, and perhaps there is a hole entering beneath the roof, or an aperture in the skylight about six inches square, or even less.

So much for common stairs. Let us now turn to the lobbies which give access to the stair, and ought to lead the fresh air to the very doors of the dwellings.

If we inquire into the natural history of the lobbies of the buildings within the area of the operations of the Improvement Trust—those T lobbies and L lobbies, and infinite long lobbies, of which you have heard so much—we find that the immense majority of them have arisen in this way, by throwing open the front door of a large house and letting each several apartment to a separate tenant, a process technically known as "sub-dividing" or "making down" a house. You will remember to what use for rhetorical effect Dr. Guthrie puts this practice in his sermon, *The City: its Sins and Sorrows,* when he compares the lower parts of Edinburgh to a submerged forest: "In their economical, educational, moral, and religious aspect, certain parts of this city bear palpable evidence of a corresponding subsidence. Not a single house, nor a block of houses, but whole streets, once from end to end the homes of decency and industry, and wealth, and rank, and piety have been engulfed. A flood of ignorance and misery and sin now breaks and roars above the top of their highest tenements." This is the poetry of facts; but we have at present to deal with the effect of such a change on what was once the lobby of a private house, but what is now the lobby by which access is obtained to six, eight, or more distinct houses occupied by as many families. It is hardly necessary for me to enter into details. Let any one of you imagine what would be the state of matters if your own private residences were suddenly to suffer such a change; then bethink yourselves of the condition of a common stair in the Saltmarket, which gave access in olden times to four or five houses, of say six apartments, but which now accommodates from four-and-twenty to thirty families. If any of you wish to see easily recognisable illustrations of a more modern kind, you will find them in St. Andrew's Square.

Although the immense majority of those lobbies were, as I have said, originated in this way, a few were primarily planned as we

find them; begotten, let us suppose, in the minds of young architects under the evil influence of the examples furnished by the made-down houses.

Now arises the question, Have we profited by the lessons which experience ought to teach us in reference to this practice of "sub-dividing" or "making down" houses? I am sorry to say not in the least. The plan of a house is the elaboration of an idea, the consistency and general correctness of which, in a sanitary point of view, rests upon the fitness of the design to the mode of occupancy. Disturb this relation in any way and you land at once in a condition which was never anticipated or provided for by the architect. If a man takes a house which was originally designed as a segment or fraction of a house, he is somewhat like one who buys one article of what was to him who possessed the whole a complete suit, and fancies that he is fully clothed. Yet to this day there is no check on this sub-division of houses, and the City Assessor will tell you that year by year, where formerly he had but one tenant on his roll, he finds that there are several. There have been no structural alterations, no authority has been asked from the Dean of Guild Court, no one is consulted in the public interest. A landlord finds that a demand for one or two apartment houses has arisen in the locality where he has three or six apartment houses that will not let. Like his predecessors in the area of the Improvement Trust, he merely throws open the front door and makes down his three or six apartment houses to meet the demand. This is in effect the erection of a new tenement, and a considerable proportion of our smaller-sized houses are produced in this way. If at the end of a lobby running in a straight line from the landing you have two houses of three apartments, and these are made down into single apartment houses, you have at once a T lobby of the worst description. If you have two front doors on a landing, opening into houses of four to six apartments, and these are made down, you will probably have two L lobbies. No matter with what intelligence and care the original plan may have been drawn, and however healthy and unobjectionable the houses may have been, no sooner is the mode of occupancy altered than the whole plan becomes disorganised.

In the present state of the law this process cannot be prevented, and can be remedied only *after the fact* by the certificate of the Medical Officer, that there are in such a tenement lobbies defective in light and ventilation, so as to be a nuisance and injurious to health. This ends in a reference by the sheriff to an architect or

an architect and a doctor, and perhaps in a tedious legal process which may or may not lead to the remedy of an evil which ought never to have been allowed to come into existence. Obviously there ought to be no alteration in the mode of occupancy of a tenement until authority has been obtained from the Dean of Guild Court. The result of such an enactment would be that the alterations requisite to ensure the necessary light and ventilation would be enforced before the change, and before any injury was done to public health. We see daily how far proprietors can look before them in the erection of houses on the street level, which may ultimately be more profitable if let as shops. Any hardship involved in such a rule as I have mentioned would probably be obviated by a similar prevision in the drafting of the original plans. However this may be, I have no doubt that your more modern tenements of working and middle-class houses, built on the box plan, will, if subjected to this process of making down, become in a few years little better than the rookeries which you are now demolishing, and which were produced by the same process.*

As in the case of the common stair, the principal points to be remembered in the construction of a lobby are these :—

1. It ought to lead fresh air to the very doors of the dwellings to which it gives access. The ventilation should be such that no stagnation can be possible, making the air of the lobby and of all the houses opening into it continuous and common. A tenant ought not to be able to send his aerial sewage into his neighbour's house along the lobby any more than to cut off the fresh air by keeping a stair window shut. In the case of long lobbies with many small apartments, or in the case of lobbies with angles and tortuosities, nothing but through-and-through ventilation from the stair at one end to the open air in the main wall at the other will be effective. Yet it is not uncommon to find the lobby door in a house which has been made down still in use and shut at night, producing inside a condition something like that of the Black Hole of Calcutta.

2. Darkness in a lobby is most objectionable—it nearly always means dirt, and can never be consistent with ventilation.

* The abuse in English houses, corresponding to that of "making-down" in Scotch flats, is "sub-letting," which would require to be regulated by special legislation.

3. *Overcrowding of the Inhabitants in the Dwelling-House, or Overcrowding Proper.*

The last of the evils with which the Improvement Trust contends is *overcrowding of the inhabitants* in the house, or overcrowding proper.

Overcrowding of the house has no direct relation to the structure of the tenement, and consequently any effect which the operations of the Trust may have upon it is not so direct as in the case of over-building and overcrowding of houses in tenements. I believe that in and of itself the overcrowding of houses is worse in its moral and physical effects than either of the other forms of overcrowding to which I have alluded. No tenement of flatted houses, however well planned and however surrounded by free space, can be over-populated without becoming a hotbed of disease and (especially if lodgers are the extra inhabitants) of immorality. As to the history of this vice of our cities (for it is, in fact, a vice inherent in a great part of our population, not a necessity of structure or even of circumstances), I believe it came to us with the Irish, or at least attained its fullest development with their advent. There can be no doubt that it is the Irish and the Scoto-Irish who are at this moment the most obstinate overcrowders. There is very little of it among the Lowland Scotch. That worst form of overcrowding—the introduction of lodgers within the family circle—is almost confined to the Irish.

As to the prevention of overcrowding, I believe that it is a vice which will, probably, never be eradicated from a large mass of our population. I mean that, suppose you had every family in a duly proportioned house to-morrow, if you simply let them alone for six months, you would find them living like pigs again. It is a vice closely related to intemperance, both as a cause and as an effect. In 1865, in his Report to the Privy Council on the "Housing of the Poor in Towns," Dr. Hunter said—"From one point of view crowding in Glasgow means the diversion of income from rent to supply whisky." This still holds true of those habitual overcrowders; but I am afraid it must be said that many of our respectable Scotch artisans have a great deal to learn in the distribution of their outlay between house, food, and dress. They fancy every shilling which can be pinched off the rent is a clear saving, while on food and dress they spend freely, if not extravagantly.

Glasgow was the first city to grapple with this evil in the Police

Act of 1862, which gives power to measure the cubic contents of any house consisting of "not more than three apartments," and if the cubic contents are found to be under 2,000 feet, to affix a ticket on the door on which the cubic space and the number of inmates proportioned thereto is stated. All such houses may thereafter be visited at night, and a fine may be imposed for an excess of inmates or overcrowding. These were extraordinary powers; but no one who knows anything of the habits of the people affected by them (who are not the working classes as we see them pouring from our shipbuilding yards and engine works, in short, not the artisan, but the unskilled labourer and the grade still lower, our criminal classes) can have any doubt of their necessity; nor, I am glad to say, can any one who knew Glasgow as it was then, and knows what it is now, have any doubt as to their efficacy and usefulness. Still, if you relaxed your repressive efforts, the old state of matters would return in a few weeks. The transference of those people from the Bridgegate to new tenements, let us say, in Nuneaton Street or Hopehill Road, will not at once divest them of their habits, though possibly by keeping them forcibly during one generation in circumstances of decency and health, new habits may grow up and become stable in their descendants. But we must not be restrained by any squeamishness about ticketing new property, and so giving it an ill name, if we find overcrowding has been transferred with the old tenants of our demolished houses. If a landlord finds that such a process deteriorates the value of his property, then he must prevent the overcrowding, otherwise ticketed it must be.

Only two remarks occur to me with reference to the enforcement of the law against overcrowding, which of course rests with the magistrates.

1. I think no mercy ought to be extended to overcrowding which is caused by the introduction of lodgers into the family, cases which are subjected to heavier penalties when the house has been scheduled as "let in lodgings." There can be nothing more abominable and vicious in its results than this habit of taking strangers, generally young unmarried men, into a house which is already straitened to accommodate its legitimate occupants. Admonitions will not remedy such cases—only fines, which will make the violation of the law a losing game, will put them down.

2. In cases where the overcrowding arises from a family having grown beyond the dimensions of the house, or where only the members proper to the family are found in it, I think there is room for the exercise of a discretion based upon a broad con-

sideration of the entire circumstances of the family, which would be paternal if not exactly judicial. These circumstances are, the income of the family, and whether there is any vicious source of outlay, such as intemperance. Where you find a husband or a wife expending in drink what should go to the additional rent of a larger house, it would be not only just but kind, to compel them to go to a larger house, and so perhaps convert an evil into a good. Also where members of the family are working as well as the parents, a large sum of money is frequently coming in, while the inmates are living in a way which is not only injurious to health but indecent. Again, it is not uncommon to have daughters bringing husbands into a crowded house, and sons bringing wives, a violation of all decorum, at best a false economy, and very often associated with improvidence, if not intemperance. In all cases even of family overcrowding, a dirty house should be visited with a penalty. Dirt intensifies the dangers of overcrowding, and is an indication of the social degeneration to which it tends. By the introduction of such considerations as those, the legislation against overcrowding might be made a powerful lever for the elevation of the population to a higher ideal of the domestic life, and to habits of self-denial, for the purpose of maintaining that ideal.

In conclusion, the operations of the Improvement Trust must in themselves be productive of good, inasmuch as they expel, from circumstances than which none worse could be found or imagined, a body of morally debased and physically deteriorated inhabitants, and make straight and spacious thoroughfares, in place of cramped and inconvenient wynds and closes. But, as in war, a body of troops may be well equipped and act effectively and successfully against the enemy, and yet the ultimate success of their arms may depend upon the co-operation of other bodies of troops who ought to be moving towards the same point at the same time, so the operations of the Improvement Trust against the "moral and physical" evils alluded to in the preamble to the Act, depend for their thorough success on support from other parts of the field. My statistics shew, I think, that the Trust is doing its part well, and that the *immediate* results are good; but we must see to it, that we are not building up with the one hand houses which may, for want of sufficient restrictive and regulative power, become as bad in process of time as those which we are pulling down with the other. We must also continue to look to the habits in the new localities of the people who have been expelled from the old, and by a constant pressure

compel them to distribute themselves, and endeavour to divert from intemperance and improvidence towards house-rent a larger proportion of their earnings.

I am no alarmist; but no one can comprehend the importance of this matter of house construction to the future of Glasgow, unless by placing clearly before his mind two facts:—(1.) The enormous number of dwelling houses being erected from year to year—since 1866 no less than 26,794; and (2.) above all, the small size of those houses. Actually, of those 26,794 built since 1866, 25 per cent. were houses of one apartment, and 50 per cent. houses of two apartments, leaving only 25 per cent. for all sizes above two apartments, and of that, 18 per cent. were houses of three apartments. One cannot be too anxious or exacting concerning the ventilation and general arrangements of such clusters of small houses. Mr. Chadwick has said somewhere that towns might be built by contract guaranteed to produce an average death-rate, according to the honesty and completeness of the sanitary provisions. I do not believe this statement without qualifications; but I doubt very much, if specifications were issued for a town of 26,000 houses, to be erected in hollow blocks containing 200 a piece or thereby, piled up in four flats and a "sunk" entering from the court behind, with inside staircases at the corner tenements, the size of house over all to average 25 per cent. one apartment, 50 per cent. two apartments, 18 per cent. three apartments, and the remainder in larger sizes, whether any contractor would be found willing to guarantee, on such conditions, an average death-rate below 25 per 1000 per annum, and even that only with the proviso that not one of these houses should ever be "made down."