

**Report on an investigation as to the housing conditions, with a discussion on their correlation with the chief vital statistics and some notes on town planning / A. G. Anderson.**

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COUNTY BOROUGH OF ROCHDALE.

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# REPORT



ON AN INVESTIGATION AS TO

## The Housing Conditions

WITH A DISCUSSION ON THEIR

### Correlation with the Chief Vital Statistics

AND

SOME NOTES ON TOWN PLANNING.

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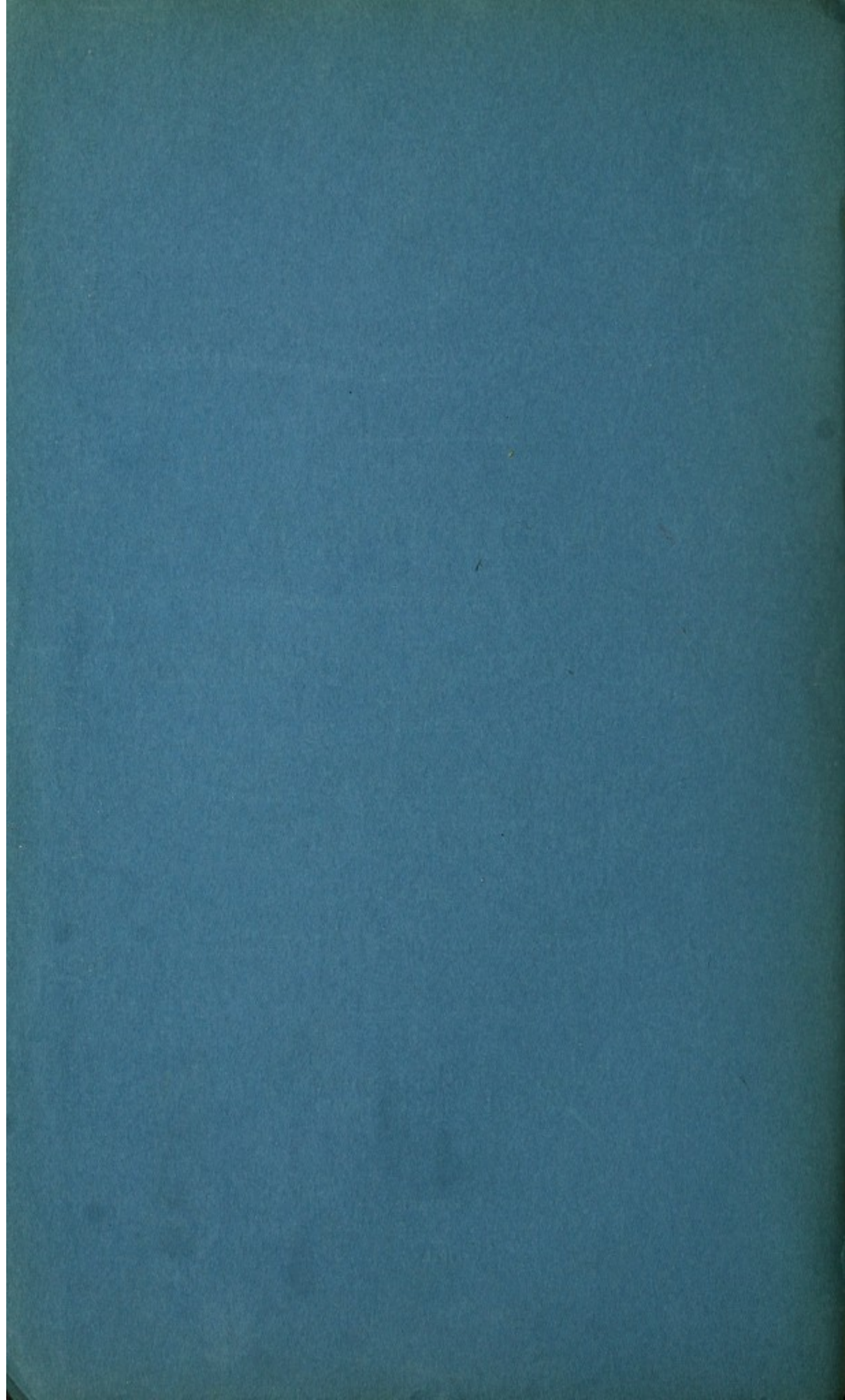
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Medical Officer of Health.

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COUNTY BOROUGH OF ROCHDALE.

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## Preface.

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*To the Chairman and Members of the Health Committee of the County Borough of Rochdale.*

GENTLEMEN,

I have the honour to submit for your consideration the Report of an Investigation as to the housing, social and other environmental conditions in this Borough, with a discussion on the correlations of such conditions with the more important Vital Statistics.

This Report was commenced fourteen months ago, and its completion long delayed; but I venture to think that on a perusal of its pages the explanation of this delay will be self-evident.

In recent years the more serious and deeper study of vital statistics, as expressing not only numerical birth and death-rates, but as an index to the Health Conditions of any community, has likewise evolved in the public and civic mind a more rational attitude of thought; and we are now beginning to realize that it is essential for wise and efficient Public Health administration to have due regard to the inevitable operation of the law of cause and effect, and consequently, in the study of vital statistics, it is just as necessary, as in the material universe, to recognise that every effect must have an efficient cause. Hence, if death and infantile mortality rates are high; while infants, who just escape the death register, remain stunted and dwarfed and bearing the signs of race decay, these are visible and measurable effects; and, if they are to be mitigated or prevented, it can only be achieved in proportion as the causes are removed, by the well-directed, sustained, and co-ordinated measures of a wise but resolute Municipal Government.

In this respect no one can fail to recognise the significance and increasing importance now attributed to the social and housing conditions of the people, not only as powerful environmental factors, which profoundly affect the vital statistics of every community, but equally affect the character of the inhabitants. For it is inconceivable that a vigorous, patriotic and strongly imperial race can be reared in an unfavourable environment. Consequently in both the Continents of Europe and America the national conscience is becoming quickened to a more profound study and appreciation of the truth—*salus populi suprema lex*—that the health of the people is one of the greatest national assets; and that the cause of the fall and decay of some of the greatest nations of the past, who have played a great part in the making of the world's history, has more frequently come from deterioration and decay of the people from within, than from any combination of external forces; or more from the lack of men than from the lack of dread-noughts.

The problem then, which to-day stands paramount, and which presents itself to Health Councils for solution, is, what are the social and environmental conditions which are calculated not only to conserve but to evolve to higher levels the best qualities of the race, while safeguarding the public health in so far as disease is preventible.

With this ideal in view, there has been during the past half-century a considerable volume of legislative measures, which have for their objective the improvement of conditions of labour and living, and thereby the general health of the people. Amongst others we may cite the Factory and Workshops Acts, Acts for the provision of pure water and food supplies, and the Housing of the Working Classes Acts, and more recently the Housing and Town Planning Act of 1909.



That the sanitary housing of the people is a matter of national importance and too frequently neglected in the past, all I think are now agreed. It is fundamental in all matters that concern the health and well-being of the people.

This universal beneficence of sanitation, the human mind, impeded by the ignorance and prejudices of the past, has been slow to learn and acknowledge. But to-day, with our perceptions untrammelled by the impediments of the past, it is now interesting to contemplate the modern conception of sanitary science and sanitation, and this has been tersely and crisply expounded in the following extract from an able American writer.

"Sanitation is humanitarianism. Sanitary science of to-day is the inevitable result of a most remarkable evolution. As it has developed and its principles have become firmly established, it has been more and more clearly perceived that its art and philosophy extended beyond the individual, beyond groups or classes, over all artificial limitations and included in its wide domain all that made for the betterment of humanity. It is concerned with the moral and ethical as well as the material, for the highest and most significant expression of sanitation points directly to the highest plane of living.

"Sanitation meets with life at every angle. Throughout the tangled web of our civilization the threads of sanitary science run in increasing numbers. No serious problem affecting society, whether it be social, economic or political, can now be considered without reference to the sanitary relationships existing."

That the Health Authority of this Borough are devoting much earnest consideration to all such important health problems as they affect this town, this Report will be sufficient evidence. They recognise that accurate knowledge of the housing conditions prevailing in this district is the initial and necessary step for establishing a reasonable basis of procedure in attempting to remedy the defects of the past and to prevent them in future. Accordingly we have endeavoured to make this investigation and Report as exhaustive and complete as circumstances would permit. It has not been made from the arm-chair, the work has now extended over one year and been carried on concurrently with the general work of the department; and we have every reason to believe that the statements and figures contained therein, provide a fair and just representation of the housing and other environmental conditions considered, and as they exist in this Borough to-day; while the discussion on correlations made and the conclusions expressed are the product of much thought and deliberation.

At the same time, to avoid any misconception, it has to be clearly understood that it was not within the purpose of this report to institute any comparisons between the Housing Conditions in this Borough, with those in other Manufacturing Towns. I have neither sufficient knowledge nor is data available for such a purpose. But I have no reason to believe that the Housing Conditions in this Borough would stand in unfavourable contrast with other Manufacturing Towns, and in some respects they may be superior. Still we admit it is expedient that consciously or unconsciously in our daily lives we should learn and measure of ourselves by the institution of comparisons with our neighbours and by making reasonable deductions, for therein lies true wisdom; but this knowledge is only useful in so far as it is applied in adopting what is best of our neighbours and avoiding their mistakes, while we keep in view the greater ideal of that practical application of modern sanitary science, which secures for the community concerned the greatest good for the greatest number, as our ultimate standard in public health administration.

In conclusion, it is again my pleasant duty, as in previous reports, to acknowledge the generous encouragement and support invariably received from the Chairman and Members of the Health Committee. Also to the Members of the Health Staff more especially engaged on this Report during the past fourteen months acknowledgment is merited. To Mr. Whiteley, Chief Sanitary Inspector, for facilitating arrangements for carrying on the work of inspection. To Mr. Schofield, Chief Clerk, and to Mr. Duncan, Assistant Sanitary Inspector, for the great amount of extra time and labour which they have so ungrudgingly given; and, while the former

has prepared the Chief Vital Statistics, to the latter was allotted the work of inspecting and collecting nearly all the data on which this report is based. This course was adopted in order to ensure one standard of inspection throughout ; and the zeal and ability which Mr. Duncan has shown not only in carrying out this work, but in the preparation of the work for the press and in the execution of all the charts and sketches, merits very high commendation. To Dr. Mc.Master, Assistant Medical Officer, I acknowledge many useful suggestions and the assistance he has given in the work of preparation and revision.

I have the honour to be,

Gentlemen,

Your obedient Servant,

*A. Anderson*

TOWN HALL,

ROCHDALE,

*January, 1911.*



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# The Scope of the Report.

## Division of the Borough into Sub-districts.

For the purposes of this report, and in order to create and facilitate reasonable comparisons, it was necessary to deal with areas as nearly alike in extent as possible, as small in extent as possible, and as distinctive in character and conditions as might be reasonably expected and convenient in dealing with a County Borough, which presents so many varied conditions in housing as Rochdale.

As no such sub-divisions were immediately available, it was decided after due consideration to adopt the divisions used by the Registrar-General in the Census-taking of 1901, as the readiest and most convenient; and, although these sub-districts, of which there are 73, vary to some extent in size and population and are consequently not ideal for the general purpose in view in this enquiry, yet they have been made to serve this purpose by adopting a scheme of percentages and averages, which eliminates to a great extent the possibility of fallacious results.

## Distribution of Sub-districts.

Of the 73 sub-districts mentioned Wardleworth West Ward contains 5, Wardleworth South Ward 8, Wardleworth East Ward 5, Spotland East Ward 8, Spotland West Ward 7, Wuerdle Ward 7, Castleton North Ward 5, Castleton South Ward 8, Castleton East Ward 6, Castleton West Ward 8, and Castleton Moor Ward 6, and the respective positions and distinguishing letter and number of each may be seen by reference to the key map in the appendix. One of the sub-districts is not inhabited, and this leaves 72 districts to be considered in this Report.

## Information contained in Sections I, II, III, and IV.

Section I. forms the General Borough Report, while Section II. contains the detailed reports of the eleven separate wards of the Borough; and as Section I. is compiled from Section II. the same system of working and representation has been adopted in both. Again, in each of the detailed reports on the eleven wards the same system is observed, and as similar information had to be recorded for each ward a definite order of recording was observed; and, in order to avoid repetition as much as possible, it was found to be more expedient to resort to comparative tables of percentages, which are largely self-explanatory; and to curtail descriptions which would apply to more than one ward, while keeping in view the more complete and summary treatment of the ward reports, both in the General Report, which thus forms Section I., and in Section III, in which there is attempted a discussion on the correlation of the housing and other environmental conditions with the accompanying and relative vital statistics. Section IV. concludes the Report with some general considerations and notes on Housing and Town Planning.

The inspection of each ward included the following items of information:—

- (1) Situation of the Ward.
- (2) Size and Population of Ward at last Census, with comparative tables for each sub-district.
- (3) Brief general description of Ward.
- (4) Particulars regarding Streets, Yards and Arrangement of Houses, with comparative tables concerning the Paving of Street and Yard surfaces and the types of Yards in each sub-district.



- (5) Particulars of Closet Accommodation, with comparative tables of the Types of Closets, and the nature of the accommodation—whether joint or separate—in each sub-district.
- (6) Brief description of predominant types of dwellings, their condition, accommodation and rents, with comparative tables showing the type of house, room accommodation and convenient ranges of rent in each sub-district.
- (7) Particulars of the occupation of two-roomed and four-roomed dwellings, and of overcrowding, with comparative tables showing the average number of persons to each house and room, together with the rate of overcrowding in each sub-district.
- (8) Brief notes on the circumstances and class of inhabitants of the Ward, with comparative tables showing a calculated index number of means based on the size of family and usual occupation of the workers.

### **Graphical representation of Information.**

For purposes of closer and more extended analysis and comparison, all the information which it was found possible to deal with graphically has been represented by means of Charts I. and II.; in this manner any sub-district may be compared with any other sub-district in the same ward and in any other ward, with the ward itself, and with the Borough average, under any head; and one ward may be compared with another or with the Borough. For the purposes of correlation with vital statistics, such curves of death-rates as are closely relevant have been included in the charts.

### **Method of collecting information.**

In making the examinations of the various sub-districts, the first feature to receive attention was the paving of the streets, and this was considered exclusively in relation to the number of dwellings abutting on the street and not in relation to the number of streets, while at the same time as these particulars were being obtained a general idea of the character of the district was also in formation and notes were made accordingly. Each street or curtilage was then separately considered; the number of dwellings ascertained; the type of house—through or not through—and the number of rooms; the type of yard, if a private or common yard, and whether paved or not; the type of closet and if separate accommodation, were all entered under suitable headings in a note book.

Enquiries were then made with regard to the rents, and as many of the houses as could be conveniently entered were examined as to their sanitary condition, and classified under the headings, Good, Passable and Poor. This examination took into consideration such points as general structure, state of repair externally, condition as regards dampness, drainage arrangements, paved surfaces around dwelling, condition of closet, facilities for circulation of air around premises, and yard space; also the position of dwellings as regards the entrance of sunlight, direct and indirect; window space and means of ventilation inside; condition of walls, ceilings, floors, woodwork and fittings.

When the above particulars for each sub-district had been ascertained and noted, all the figures were transferred to summary sheets, where the percentages were at once worked out, and the predominant types of dwelling ascertained. These were generally found to be the two-roomed and four-roomed type of house.

Then in order to ascertain the conditions regarding overcrowding and average means, a house-to-house visit was made to approximately 30 per cent., and never to less than 20 per cent. of the two prevailing types of house.

Enquiries were made, and further investigation when considered necessary, by the Lady Health Visitors, as regards the number of persons living in each house. From these figures the average number of persons to each house and to each room was ascertained, and the rate of overcrowding calculated on the basis adopted by the Registrar-General of allowing two persons to each room.



At the same time the workers' occupation was entered in one of four groups, whose average earning power differed in stages of 20 per cent. of a maximum, and the approximate average means of the families in two-roomed and four-roomed houses in each district were calculated (see sub-section Circumstances of Inhabitants).

When the figures for the whole of the sub-districts in a Ward were recorded and the percentages and rates calculated, these percentage rates were then summarised in the tables which accompany each ward report; and the ward reports in turn summarised to form the tables presented in the General Borough Report, which forms Section I.

Thus, most of the tables contained in the Borough Report are of an identical character to those in the Ward Reports, but instead of being comparative for the sub-districts, are comparative for the Wards of the Borough.

#### Extent of correctness of information.

As it was impossible in the circumstances and not within the purpose of this report to make a complete house-to-house inspection, it has to be clearly understood that the above classification of houses into three groups is based on the present inspection of a very large percentage of the houses, combined with an estimate of the whole from frequent previous inspections and experience of the dwellings in the Borough, while at the same time great care was taken to adhere to the same standard of inspection and classification for each sub-district. The degree of completeness of this examination will be learned from the subjoined table.

Table I.

| WARD                  | No. of Houses<br>classified in<br>Enquiry<br>1909-1910 | No. of Houses<br>inhabited<br>and in occupation<br>1901 Census |
|-----------------------|--------------------------------------------------------|----------------------------------------------------------------|
| Wardleworth West ...  | 1,660                                                  | 1,503                                                          |
| Wardleworth South ... | 2,126                                                  | 2,258                                                          |
| Wardleworth East ...  | 1,469                                                  | 1,455                                                          |
| Spotland East ...     | 1,812                                                  | 1,859                                                          |
| Spotland West ...     | 2,265                                                  | 2,034                                                          |
| Wuerdle ...           | 1,870                                                  | 1,751                                                          |
| Castleton North ...   | 1,087                                                  | 1,249                                                          |
| Castleton South ...   | 2,872                                                  | 2,581                                                          |
| Castleton East ...    | 2,817                                                  | 2,529                                                          |
| Castleton West ...    | 2,408                                                  | 2,134                                                          |
| Castleton Moor ...    | 2,025                                                  | 1,661                                                          |
| WHOLE BOROUGH ...     | 22,411                                                 | 21,104                                                         |

From the above table it will be seen that in the Census year 1901, there were 21,104 houses inhabited and in occupation in Rochdale; and that for the purpose of this report, there have been no less than 22,411 houses counted and classified.

Hence we may reasonably assume that the data accumulated from this exhaustive review of the Housing conditions of this Borough, and on which the statistical tables are founded, will be considered sufficient to reduce the chances of error in any deductions which may be made to a minimum, and further, to ensure that there can be no material error when percentages are given.

In some of the percentage tables it will be noted that every condition as far as possible has been stated as a percentage of the dwellings affected. This was considered the fairest and most correct method of recording the information for purposes of comparison. Taking for example, the facts relating to closet accommodation; in very many cases only one closet exists for several dwellings, and if the number of closets only had been considered the comparison between the prevalence of that type of accommodation and any other would have been vitiated. The same anomaly would have arisen in regard to types of yards, one common yard affecting several dwellings, as against one private yard and one dwelling.



**Census Work.**

Not only, however, did this exhaustive collection of data appear necessary ; but early in the enquiry it was found expedient to undertake a considerable amount of enumeration of population, or Census work, and to use these figures as a check on the figures given in the Census returns of 1901. As an example :—Sub-district W.4, in Wardleworth West Ward, was found to contain about 190 inhabited houses, yet the Census population figure for this district was only 239 persons, or an average of 1.2 persons per house. No new houses had been built in this district since the Census ; and as it was considered to be a crowded district, a complete census was made, and the population figure was found to be 811, or 572 more than stated by the Registrar-General.

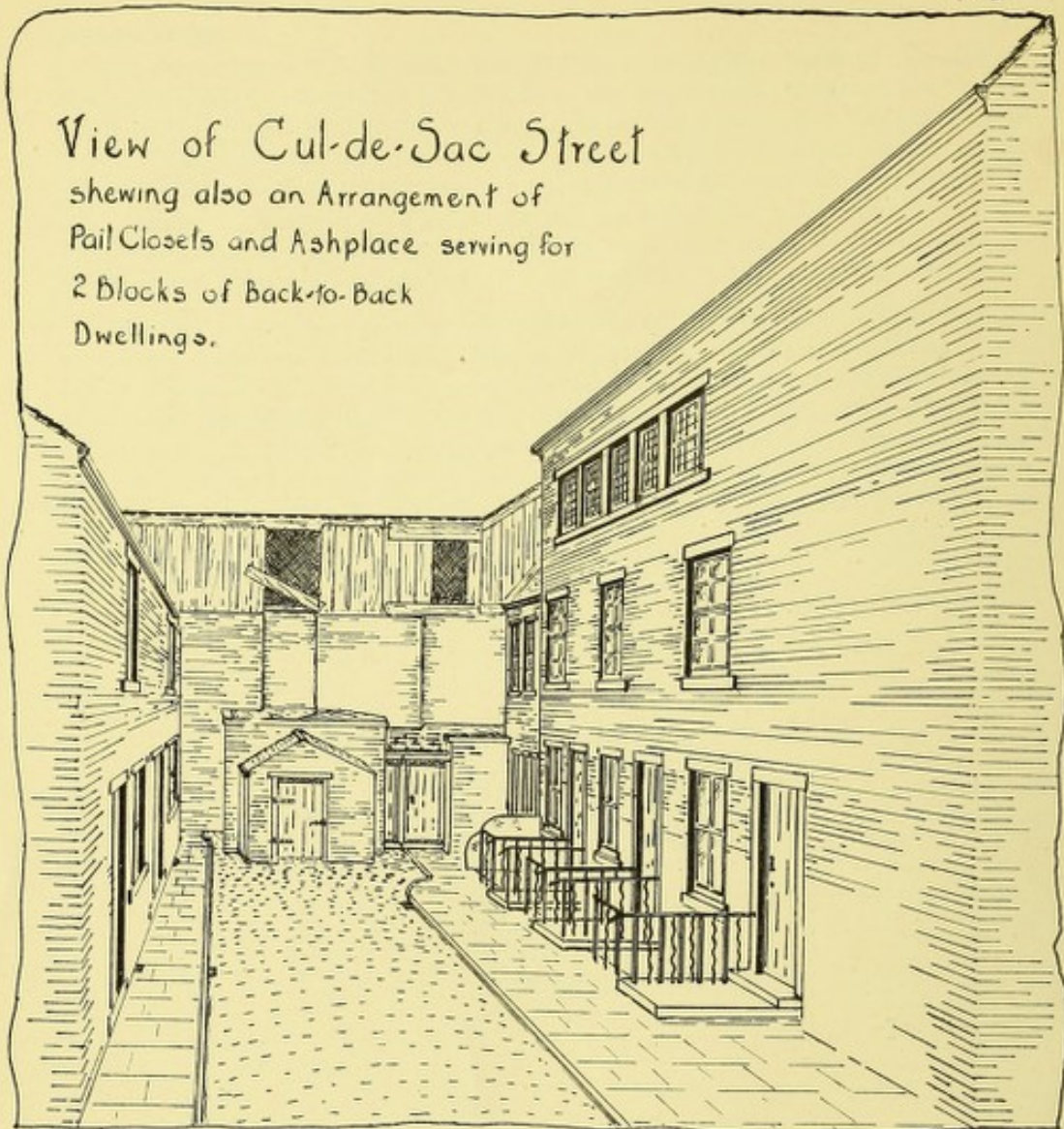
Enquiries from the Census authorities revealed the fact that the figures of population for this district should have been stated as 817, or 578 more than the original number given, and that the whole of this 578 had been wrongly allocated to another sub-district in another ward—W.14, in Wardleworth East Ward. The effect of the necessary re-calculation of the vital statistics for the two districts concerned was, naturally, to reduce the rates per 1,000 in one case, and to increase them in the other case ; thus, in W.4 the original rate of deaths from All Causes fell from 107.2 per 1,000 to 31.4 per 1,000, and in W. 14 it rose from 17.4 per 1,000 to 25.5 per 1,000.



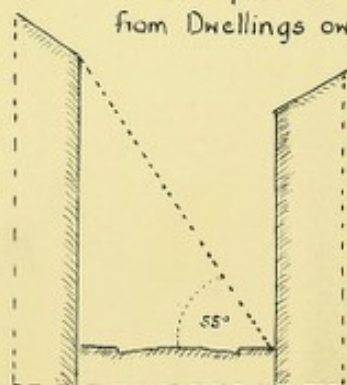


## View of Cul-de-Sac Street

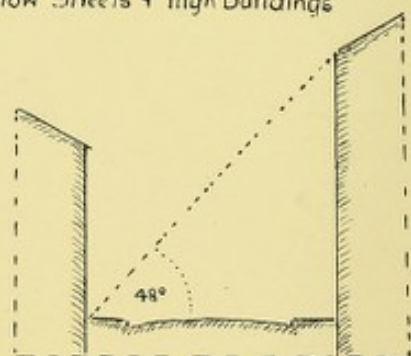
shewing also an Arrangement of  
Pail Closets and Ashplace serving for  
2 Blocks of Back-to-Back  
Dwellings.



Examples of Obstruction of Sunlight  
from Dwellings owing to Narrow Streets + High Buildings



South Lane.



Mary Street ( See Sketch above)

## **SECTION I.**

# **General Borough Report.**

### **Situation and Altitude.**

Rochdale Borough is situated in south-east Lancashire, and has the line of its greatest length extending from north-east to south-west. The line of average length lies due north and south, while that of average width is due east and west.

The altitude ranges from 375 feet to 775 feet above ordinance datum at Liverpool. At the Town Hall the altitude is almost 400 feet.

### **Size and Population.**

The whole Borough of Rochdale covers an area of 6,446 acres, and at the last census had a population of 83,114, which represents a general average of 12.9 persons per acre. Of the eleven wards into which the Borough is divided, Castleton Moor Ward covers the largest acreage and has the lowest density of persons per acre, and Wardleworth South covers the smallest acreage and has the highest density of persons per acre. The density of persons per acre in these two wards varies from 4.7 in Castleton Moor to 71.2 in Wardleworth South, and in the remaining nine wards from 10.4 in Spotland East to 23.2 in Castleton South. Wardleworth South is the only ward in the Borough not having a sub-district whose density per acre is less than the general average for the Borough, and is the most generally built-up ward.

Since the taking of the 1901 census all the wards have increased in regard to population, but to a strikingly varying extent, those on the south or Castleton side of the town having apparently increased at a much quicker rate than those on the north or Wardleworth side. This is, no doubt partly due to a recognition of the prevailing south-west wind in this district, and has resulted in the more rapid development of residential areas lying to the south and south-west of the Borough. This same feature has been observed in other manufacturing towns where advantage has been taken of the prevailing winds to carry away the smoke from the residential areas.

The following table shows the size and population of each ward at the last census :—

**Table II.**

| WARD                  | Acreage | Population | Density per Acre |
|-----------------------|---------|------------|------------------|
| Wardleworth West ...  | 296     | 6,296      | 21.3             |
| Wardleworth South ... | 117     | 8,336      | 71.2             |
| Wardleworth East ...  | 354     | 5,640      | 15.9             |
| Spotland East ...     | 676     | 7,067      | 10.4             |
| Spotland West ...     | 746     | 8,163      | 10.9             |
| Wuerdle ...           | 429     | 6,913      | 16.1             |
| Castleton North ...   | 263     | 4,897      | 18.6             |
| Castleton South ...   | 439     | 10,164     | 23.2             |
| Castleton East ...    | 471     | 10,343     | 21.9             |
| Castleton West ...    | 394     | 8,305      | 21.1             |
| Castleton Moor ...    | 2,261   | 6,990      | 3.1              |
| WHOLE BOROUGH ...     | 6,446   | 83,114     | 12.9             |



### Street and Passage Paving.

A reference to the table appended shows that about 31 per cent. of all the dwellings considered in the Borough are affected by or abut on unpaved streets. This percentage is made up of dwellings abutting on ordinary and private streets, but not on private narrow cul-de-sac streets, which form the common yards for back-to-back and other houses, and which contain the sanitary accommodation for such dwellings. These yards or curtilages have been separately considered in connection with the paving of common yards. Allowing for streets with recently-erected dwellings, the paving of which will probably be at present under consideration, the enquiry has shown that there are serious arrears in the matter of street paving; many streets entirely built up with dwellings of from five to ten years of age are still lacking any other paved surface than the temporary flagged footpath laid down at the time of building. This deficiency is very noticeable in Wardleworth West Ward, Wuerdle Ward, and some parts of Castleton South Ward.

The back passages to these houses are, generally, in a still worse condition, and, except in the more central districts, the percentage of paved passages is exceedingly low. An example of this may be seen in one sub-district of Wardleworth South, where all the significant streets are paved, while the back passages, almost without exception are unpaved or insufficiently paved.

The following table compares the wards in respect of street paving:—

**Table III.**

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| WARD                                            | Sett Paving | Macadam Paving | Insufficient or No Paving |
| Wardleworth West ...                            | 43          | 15             | 42                        |
| Wardleworth South ...                           | 85          | ...            | 15                        |
| Wardleworth East ...                            | 68          | 9              | 23                        |
| Spotland East ...                               | 58          | 17             | 25                        |
| Spotland West ...                               | 69          | 3              | 28                        |
| Wuerdle .....                                   | 55          | 2              | 43                        |
| Castleton North ...                             | 81          | ...            | 19                        |
| Castleton South ...                             | 57          | 5              | 38                        |
| Castleton East ...                              | 57          | 8              | 35                        |
| Castleton West ...                              | 68          | 3              | 29                        |
| Castleton Moor ...                              | 42          | 22             | 36                        |
| WHOLE BOROUGH ...                               | 61          | 8              | 31                        |

The relation of street paving to public health will be adverted to after discussing yard accommodation and paving.

### Yard Accommodation.

In an old Borough such as this, it is not surprising to find a large number of the houses lacking private and separate yard accommodation, and the enquiry shows that 45 per cent. of the dwellings are of this class. Further, it has to be noted that owing to certain arrangements of dwellings, particularly that of the "inset" cottage, shown on Sketch No. 3, it would be difficult, even with a good width of space at the rear to provide adequate separate yard accommodation for each house in a block built on this system.

### Common Yards.

The common yard, if of reasonable dimensions has advantages, in some respects, and especially for certain classes of tenants. In such a yard there is often very little obstruction to the direct purifying influences of sun and rain; there are fewer corners for the accumulation of rubbish, and there is less tendency towards the erection of sheds and outhouses in such positions as would obstruct light from the dwellings. Furthermore, the space provided is useful as a drying ground



for clothes, as it is equally the holding of each tenant, and is more extensive than is usually the case with private yards. On the other hand, the want of privacy and isolation is seriously felt by tenants of the class who wish to observe a certain degree of privacy, and who to a great extent are at the mercy of any disreputable persons living in a cottage fronting on to the same yard. The common yard, too, is largely responsible for the great prevalence of that form of social intercourse termed "neighbouring"—it is so easy to slip out of one house into another; and again, under such conditions as these the risks of infection from one family to another in case of an occurrence or outbreak of infectious disease are great, and the provision of proper isolation at home is rendered very doubtful.

Many of the common yards are of quite large dimensions, and in some cases they cover quite as large an area as would be occupied by two sets of private yards with a passage between, as arranged under our present bye-laws. But there are many others which are little better than fairly wide back passages, in which considerable obstruction is offered to the free circulation of air and admission of sunlight.

Some dwellings in the oldest parts of the town have no yards whatever, the closet and ash-place accommodation being at the end of the street.

The paving of these common yards is on the whole unsatisfactory; 37 per cent. of the dwellings having common yards, are affected by unpaved or badly paved surfaces. This defect appears to be most prevalent in Castleton Moor Ward, which, however, has the lowest percentage of the type of yard under consideration.

The following table is comparative for the wards in respect of the types of yards and paving of common yards:—

**Table IV.**

| WARD                  | PERCENTAGE OF HOUSES AFFECTED BY |                 |              |         |
|-----------------------|----------------------------------|-----------------|--------------|---------|
|                       | Common<br>Yards or<br>No Yard    | Private<br>Yard | Common Yards |         |
|                       |                                  |                 | Paved        | Unpaved |
| Wardleworth West ...  | 57                               | 43              | 73           | 27      |
| Wardleworth South ... | 48                               | 52              | 76           | 24      |
| Wardleworth East ...  | 68                               | 32              | 55           | 45      |
| Spotland East ...     | 58                               | 42              | 72           | 28      |
| Spotland West ...     | 48                               | 52              | 57           | 43      |
| Wuerdle ...           | 42                               | 58              | 73           | 27      |
| Castleton North ...   | 66                               | 34              | 66           | 34      |
| Castleton South ...   | 31                               | 69              | 64           | 36      |
| Castleton East ...    | 35                               | 65              | 54           | 46      |
| Castleton West ...    | 38                               | 62              | 68.5         | 31.5    |
| Castleton Moor ...    | 31                               | 69              | 18           | 82      |
| WHOLE BOROUGH ...     | 45                               | 55              | 63           | 37      |

#### **Private Yards.**

One of the chief features in regard to the private and separate yards is their limited extent, and even those attached to many of the new dwellings are much smaller than ought to be considered the minimum. This is directly the result of the rather low standard allowed by our Building Bye-laws; the superficial content there laid down as a minimum being only 140 square feet, as compared with 150 square feet suggested by the Model Bye-laws of the Local Government Board. Many of these yards are flagged, but many others are either badly flagged, insufficiently paved, or unpaved, and the worst part of the Borough in this respect is apparently in the Castleton area.



The importance of plenty of yard space and good width of street in the prevention of house-crowding is obvious ; and it is unsatisfactory to find that under present arrangements it is evidently possible to build so many dwellings on a given space as to seriously interfere with the construction of streets of suitable dimensions and in symmetrical order.

#### **Unpaved Surfaces and Public Health.**

Whatever may be the cause of these great arrears in street paving, and the want of adequate yard space, which is also greatly in arrears in respect of proper flagging or paving, nothing is more certain than that this defective condition of surfaces is inimical to public health. In crowded communities a certain amount of street pollution is inevitable ; but where this is accentuated and aggravated by surfaces incapable of being properly cleansed, either artificially or naturally, and which allows of penetration and soaking of liquid filth, the danger of air and food pollution is undoubtedly real. For it is such conditions, with the aid of warmth and low rainfall, that provide the readiest means for the multiplication and growth of pathogenic bacteria, which through the medium of wind and flies and other accidental agencies get abroad to pollute and poison milk and other foodstuffs.

But on the other hand it may be said that Rochdale when compared with many other manufacturing towns has enjoyed a comparative degree of immunity from such filth diseases as Zymotic Enteritis and Enteric Fever ; and it is so. But in this district we have to keep in view, that there are certain climatic and topographical conditions, which are inhibitory to these diseases ; and of which probably the most important is our high rainfall, combined with the sloping gradients and the impervious clayey subsoil, on which the greater part of this town is built. These conditions tend to prevent retention of filth on surfaces and in the soil by facilitating self cleansing by natural means ; and hence it is difficult to assess the true value of either set of conditions in determining our comparatively low Zymotic death-rate.

#### **Sanitary Accommodation.**

This is a special feature inseparably associated with the Housing and sanitation of this Borough, and it is very gratifying to be able to state, that at the present moment, it is receiving from this sanitary authority that special consideration which its importance demands. Consequently, it will be consistent with this report to generally review this system, and to advert to some of the more interesting features and figures which have been noted and obtained during this enquiry.

#### **Pail Closets.**

It is just over 40 years since Rochdale was the pioneer, and gave its name to a system for the removal of sewage, when at the same period Health Authorities in many parts of England were devising more sanitary methods with the view of the abolition of the old and insanitary midden privy. This is known as the Rochdale tub and pail system, and in very many respects was considered at the time as a distinct advance in sanitary reform. This it undoubtedly was, but experience has proved, that in its working and more especially in crowded communities, such a system is frequently, and cannot be otherwise than, a frequent source of annoyance and nuisance.

At the time of its installation the essentials of this system were a removable galvanized iron pail placed in position under a closet seat, and a wooden tub of fairly good capacity placed in some convenient sheltered position for the reception of ashes and domestic refuse.

The iron pail gave place at a later date to the hard-wood tub or pail, as the latter receptacle, with which Rochdallians have now been long familiar, was considered to be more durable and less expensive in up-keep.

Under present arrangements the closet pails are removed from the out houses once each week, and at the same time replaced by fresh cleansed pails. All pails are fitted with lids and these are always closely adjusted when the pails are being transferred from the outhouse to the covered van for removal to the depôt.

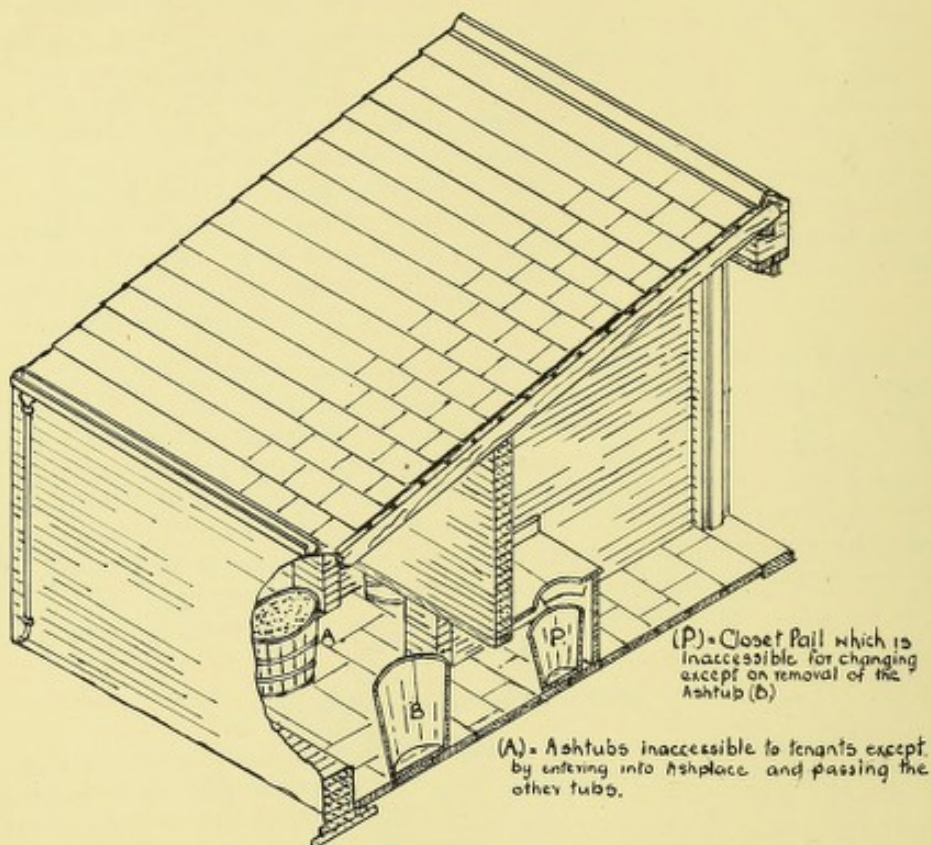




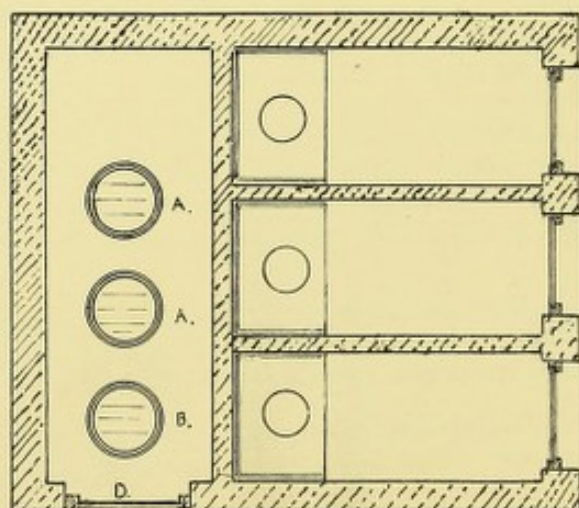
No. 2.

PAIL CLOSET AND ASHPHASE BUILDING , SHEWING ONE OF THE  
MOST USUAL DEFECTS WHERE ACCOMMODATION IS JOINT.

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Isometric Section.



(B) is the only Ashtub found to be used by tenants. The tub is of insufficient capacity for all refuse and frequently overflows. When the closet pails are changed the refuse is dragged outwards, and proper closing of door (D) is thus made difficult.

Sketch Plan.



In accordance with this method, the vans thus convey cleansed tubs on the outward journey, and used tubs on the inward journey ; and for this purpose the vans should be, and were originally intended to be, hermetically sealed. That such is not the case, however, is evident from the many complaints of nuisance, and expressions of opinion made, regarding these vans.

#### **Prevalence of Pail System.**

Considering Rochdale's early connection with the system, it is not surprising to find that about 79 per cent. of our dwellings have pail closet accommodation ; and that, with the exception of the more recently incorporated district—Castleton Moor, the percentages for the wards do not vary to any great extent. They range from a percentage of 71 in Castleton West Ward to a percentage of about 91 in Spotland East and Wuerdle Wards ; while in Castleton Moor Ward there is only 28 per cent.

#### **Structural Arrangement of Closet and Ashplace Buildings.**

In connection with the construction of pail closet and ashplace buildings several defects have frequently been noticed, particularly in the older parts of the Borough.

The most common defect is illustrated in Sketch No. 2. The building here shown contains joint closet and ashplace accommodation for a block of buildings, and is situated in the common yard. In the planning of this structure, the passage behind the pails, to which an entrance is gained by the end door indicated on the sketch, was not designed to be used exclusively for the removal and exchange of the closet pails, but to serve the dual purpose of a passage and an ashplace, where the ashtubs A and B are accommodated. Then as the removal of closet pails is not carried out by the same gang of workmen as those who remove the ashtubs, and as these ashtubs have to be displaced before the pails can be removed, there is consequently an additional handling of these ashtubs which, owing to the prevalence of this arrangement, must cause considerable inconvenience and expenditure of men's time.

Further, experience has shown that there is little use in providing more than one ashtub in such places. Because, as the nearest tub is generally filled first and quickly, so in these instances, no attempt is usually made by the tenants to utilize the tubs further from the ashplace door, and hence they remain empty. Accordingly, the first tub overflows with refuse and continues to do so until the ashes prevent the proper closing of the door, when such garbage and refuse is now left exposed to the visitations of cats and dogs and at the mercy of the wind and weather.

This cause of nuisance and of yard and street pollution is very evident in the neighbourhood of sanitary conveniences in the older parts of the Borough ; but one must admit that such pollution is just as much due to the defective structural arrangements as to the thoughtlessness and carelessness of the people.

Another common defect is the unnecessarily large dimensions of some of these buildings, which often monopolise valuable space near the dwellinghouses ; and the ashplaces, which are on the one hand unreasonably large, are at the same time only partly accessible.

These structural defects are no doubt in some measure due to the utilization of the old midden-privy buildings ; and in extenuation of their existence it may be presumed that the exigencies of the period of conversion rendered the enforcement of a high standard inexpedient or difficult to obtain.

#### **Position of Old Pail Closets.**

In further considering this system as it is seen in the older parts of the Borough, one feature is strikingly prominent—the close proximity of the sanitary conveniences to many of the dwelling-houses ; and it is evident that in the house planning of earlier times, suitably situated sanitary conveniences were the last considered and least important, and left to fit in with the chances of circumstances. It is quite common to find, on account of all available space being occupied by buildings, groups of closets and ashplaces erected in such close proximity to the doors and windows of dwellings as to be a constant nuisance. In one case, while enquiries were being made regarding rents, it was learned that one dwelling in a block was let at a lower rent than the others, because,



as the tenant explained, "it is opposite the closets." These were actually within three feet of the door and window of a two-roomed back-to-back house, and extended along its whole frontage, forming a narrow blind passage which, as thus formed, abutted on the end wall of the yard and became a cul-de-sac.

That the pollution and nuisance around such houses is extensive and constant must be admitted; and more so, when it is considered that such a group of closets may sometimes be used by as many as 20 families.

In sharp contrast to such dwellings where the closets are in too close proximity, are those with sanitary conveniences so situated that some of the tenants have an unreasonably long distance to travel before they can reach them. In the case of the ordinary blocks of back-to-back houses with joint sanitary arrangements grouped in the common yard, it is very evident that all the front cottages must be considered in this category.

In some of the worst districts with long unbroken rows of back-to-back houses the distance is excessive, and the results are equally marked. For with persons of careless and indifferent habits, the easiest substitute, and first resorted to as an alternative, to conveniently placed closet accommodation is a bucket, pail, or other receptacle for use inside the house. This receptacle is kept in the house until such time as a suitable opportunity occurs for its removal. This usually presents itself when the shadows of night supervene; and then the contents of the receptacle are either poured over a convenient gully-trap in the street or taken round to the closet used in common and transferred to the pail; this last process being frequently accompanied by extensive pollution of the wooden fixtures. The extent to which such practices prevail in certain portions of the Borough is only realised by those familiar with the districts and the people.

#### **Joint Closet Accommodation.**

Joint closet accommodation is almost entirely concerned with the pail and privy midden systems, and its prevalence in this Borough is probably a heritage from the period of the conversion of the old privies to the pail system; when it appears to have been agreed, that if one pail closet was provided to every three dwellings the necessary requirements would be satisfied. This apparent arrangement leads to many abuses and is inconsistent with many of the self-evident principles and practice of Hygiene. Such a system facilitates the spread of infection from members of families suffering from various infectious diseases to members of healthy and unwary families.

Then there is the frequent misuse of the joint closet by careless people, to whom it is often extremely difficult to bring home the offence; and the consequent discouragement it gives to clean and respectable families with regard to the exercise of proper cleanliness. Further, there is the lack of privacy in the use of such closets, and the extremely undesirable intermingling of the sexes of different families, which in the case of factories and workshops is strictly condemned by Statute, but in our housing conditions is inevitable and irremediable in so far as the joint accommodation system prevails.

Of the other and minor objections which might be urged against this system, they may be considered superfluous, and sufficient reasons are already adduced to strongly support the progressive policy of this Council in their resolution to abolish all such systems in favour of the water-carriage system.

#### **Prevalence of Joint Closet Accommodation.**

From the figures compiled during the enquiry, it is calculated that about 9,000 dwellings—or 41 per cent. of the total number considered, are on the system of joint accommodation. The number of families to one closet varies: in the majority of cases it is 3, in many it is 2, and rarely 4. The same arrangements prevail over the whole Borough, but are more prevalent in Wardleworth East and Wardleworth West, Castleton North and Spotland East Wards; and least prevalent in Castleton Moor Ward.

Before passing to discuss the other sanitary systems a study of the following table will show to what extent each type of convenience prevails in all the wards and in the Borough, together with the prevalence of joint and separate closet accommodation



Table V.

| WARD                  | PERCENTAGE OF HOUSES AFFECTED BY |                     |                     |                |                              |                     |
|-----------------------|----------------------------------|---------------------|---------------------|----------------|------------------------------|---------------------|
|                       | Pail Closets                     | Fresh-Water Closets | Waste-Water Closets | Midden-Privies | Private and separate Accom'n | Joint Accommodation |
| Wardleworth West ...  | 86                               | 7.9                 | 9                   | 0.1            | 44                           | 56                  |
| Wardleworth South ... | 88                               | 8                   | 3.5                 | 0.5            | 53                           | 47                  |
| Wardleworth East ...  | 88                               | 6                   | 6                   | ...            | 41                           | 59                  |
| Spotland East ...     | 90.8                             | 7                   | 2                   | 0.2            | 49                           | 51                  |
| Spotland West ...     | 85                               | 6                   | 8.9                 | 0.1            | 55                           | 45                  |
| Wuerdle ...           | 91                               | 5                   | 3                   | 1              | 63                           | 37                  |
| Castleton North ...   | 88                               | 9                   | 2.99                | 0.01           | 42                           | 58                  |
| Castleton South ...   | 79.8                             | 5                   | 15.1                | 0.1            | 71                           | 29                  |
| Castleton East ...    | 83                               | 6.9                 | 10                  | 0.1            | 69                           | 31                  |
| Castleton West ...    | 71.22                            | 18.93               | 9.8                 | 0.05           | 64                           | 36                  |
| Castleton Moor ...    | 28                               | 15                  | 40                  | 17             | 74                           | 26                  |
| WHOLE BOROUGH ...     | 79                               | 9                   | 11                  | 1              | 59                           | 41                  |

#### Fresh Water Carriage System.

It is not the purpose of this report to revert in any detail to the many advantages of water-carriage; as this subject has been already so frequently discussed, and included in my Annual and other Reports. Suffice it to say that the discussion of all other systems only lends further support to justify the action of this Corporation in their adoption of a system which is in accordance with modern sanitary science, and in the highest interests of public health.

#### Prevalence of Fresh Water Carriage System.

This system has been adopted in about 2,000, or only about 9 per cent. of the houses in this Borough, and these houses are generally, although not always, the higher rented houses. Castleton West Ward possesses the highest percentage, 18.93, while Wuerdle Ward and Wardleworth East Ward are at the bottom of the list with 5 per cent. each.

#### Waste-Water Carriage System.

It is now many years since the Council of the time, and public opinion, recognised the defects and disadvantages of the tub and pail system, as compared with water carriage; and measures were adopted which had for their purpose the exclusion of the former in favour of the latter in all new property, where a sewer was available. But, for reasons connected with water supply, the option was given to builders to instal either the fresh-water, or the waste or slop-water carriage systems. The giving of this option, however, has unfortunately resulted in the adoption of the waste-water closet to a much greater extent than the fresh-water closet; although even then, as now, in the opinion of many it was considered to be an unwise, unhygienic and non-economical policy.

The system is of two types, but both embrace the same principle; that is, the substitution of slop-water from kitchen sinks for fresh water for the purpose of flushing the closet basin. In one type, usually called the "Climax," and least objectionable of the two, the tipper placed in position to receive slop-water and balanced so as to work automatically is above ground, in sight, and easily accessible for cleansing purposes, and the basin connected to the tipper box, although usually too large, is also accessible; but the connecting pipe and flushing box are themselves not readily accessible. In the other, or "deep shaft" system, the tipper is underground, is inaccessible to the ordinary householder, and may be a source of much trouble and nuisance. Perhaps the purpose of this description will be best served by quoting from a pamphlet issued some years ago by the Association of Plumbers of this Town, as a protest against the adoption of the system, and which seems to be a reasonable representation of the truth. It is as follows:—



"The objections to the Tipper are as follow:—The great fouling surface in all classes of Tipper, the fouling surface in a Climax Tipper and Box being not less than 15 square feet besides the basin. And the fouling surface of a six foot long shaft Tipper being at least 20 square feet, this large amount of fouling surface in either case must be a standing danger to health; further, it is impossible to wash away filth with filth in a cleanly and sanitary manner. Another objection to this system is the excessive amount of fresh water used in this so-called waste-water system, as it no doubt does waste more clean water than would work a fresh-water closet. The long shaft system is particularly objectionable on account of its lending itself so readily to blocking up by miscellaneous articles being dropped down and a considerable accumulation taking place before the stoppage is noticed and notified."

#### **Prevalence of Waste-Water Closets.**

This system is prevalent in the whole Borough to the extent of about 11 per cent. on the average, but Castleton Moor Ward contains relatively both the largest number and the highest percentage of such closets, many of which were in existence before the urban district was incorporated with Rochdale. In the other wards the percentage is dependent to some extent on the number of recently erected dwellings, Castleton South Ward being most affected.

Before passing from the waste-water carriage system to consider the remaining one—the midden-privy, there is one matter, which may not have received that serious consideration which its importance demands, both from the point of view of public health policy and economy. While it has been decided, and rightly so, by this Council, that the fresh-water carriage system shall replace the pail system by a scheme of conversion; and, while it has been demonstrated that the waste-water closets in some of their forms are even more objectionable by reason of their structural defects than the pail closets, yet, such waste-water closets have been introduced in considerable numbers. But as the problem of their conversion and abolition at some future day may provide a similar battle-ground for such arguments as have been used against the conversion of the pail system to-day; one, in reason, cannot resist the conclusion that the introduction of these should have been altogether prevented. There are now nearly 2,500 of these in the Borough, but their introduction has now ceased by resolution of the Council, October, 1909.

#### **Midden-Privy System.**

It is estimated that about 370 dwellings—about 1½ per cent.—in this Borough are affected by this old and primitive system of closet accommodation, and of these, 336 are situated in Castleton Moor Ward. With the exception of this ward, the few remaining privies existing in this Borough are with few exceptions in outlying areas and connected with farms. These privies vary greatly, and are often strangely reminiscent of earlier times and modes of construction. Some consist merely of a large open pit having an unpaved floor, and with a number of closet openings for the common or joint use of the tenants occupying large blocks of property. Some, on the other hand, of the private, separate, and the "dual" privies are of better construction. But, nevertheless, all are objectionable; and this matter is further amplified in the Castleton Moor Ward Report.

### **Consideration of Dwelling-houses.**

#### **Types of Houses.**

There are few districts which exhibit more varied features in the matter of housing than Rochdale. Many of the types of houses found in this Borough embrace some of the characteristic architecture of earlier periods of history; and often have indelibly impressed on them some of the traditional idiosyncracies of the people and builders of these earlier times.

Such features are more especially seen in their love of freedom and individuality, and evident disregard of conventionalities, and the orderly disposition and requirements of modern Town Planning.



Consequently, in attempting a complete and reasonable classification of the dwellings of this Borough, no little difficulty has been experienced as the enquiry proceeded. For instance, the standard or criteria of what constituted a "Back-to-back" or "Through" house had to be established, and, as it was well within our knowledge that, scattered over the Borough there were many dwellings, closely related to back-to-back houses, yet so modified as not to stand back-to-back with any other dwelling, but yet in no sense through houses, the task was not so easy as might have been supposed.

It was finally decided to include the "Back-to-back" house and all modifications of it in one group as "Houses Not Through."

Another question to be decided was in regard to the number of rooms, which the dwellings might be considered to possess—a point on which it has to be said there exists some difference of opinion. For instance, in a recent Government publication a back-to-back house having a large living room and a small scullery on the ground floor, with upstairs rooms corresponding in dimensions, was referred to as a three-roomed house; the small bedroom being recognised whilst the scullery of equal size was ignored.

For the purpose of calculating the extent of overcrowding on the standard of two persons to a room the method is undoubtedly reasonable; but to classify dwellings according to their structural accommodation is not always to be recommended without modifications to meet special local conditions. In Rochdale such a system would be misleading, because in many of the smaller types of house the sculleries are often as large or nearly as large as those found in many of the old or even in the more recently erected dwellings which are classed as four-roomed houses.

The question of considering a "room" to mean a living room with a fire-place was also discarded, as calculated to give a misleading conception of the room-accommodation provided in the average home of the working classes in this district. Accordingly, having due regard to the various types of house in this Borough and their correct presentation the following classification has been adopted.

#### **Classification of Number of Rooms.**

- |                     |                                                                                                                                                                                                                                                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| One roomed...       | (a) When there is one room only—see Sketch No. 4.                                                                                                                                                                                                          |
|                     | (b) When there is a very small scullery in addition.                                                                                                                                                                                                       |
| Two-roomed          | (a) When there is one living room and one sleeping room.                                                                                                                                                                                                   |
|                     | (b) When there is in addition a small scullery not allowing for an extra bedroom over it.                                                                                                                                                                  |
| Three-roomed        | (a) When there is one living room and two sleeping rooms owing to an extension over a passage or part of another building.                                                                                                                                 |
| Four-roomed         | (a) When there are two living rooms on the ground floor and two sleeping rooms of approximately equal size, whether containing fire-places or not, on the first floor.                                                                                     |
|                     | (b) When there are two living rooms of unequal size, the smaller of which has a sleeping room of similar size over it on the first floor and of sufficient size to accommodate two persons. The second bedroom is equal in size to the larger living room. |
| Five-roomed         | (a) All dwellings which have four rooms as above, and another bedroom of sufficient size to accommodate two persons.                                                                                                                                       |
| Six-roomed and over | (a) When there is a parlour, kitchen and scullery with at least one sleeping room corresponding to each in size, on the first floor.                                                                                                                       |



**Table VI.**

Showing percentages of houses in each ward classified according to the number of rooms in each house.

| WARD                  | PERCENTAGE OF HOUSES HAVING |      |     |      |      |            |
|-----------------------|-----------------------------|------|-----|------|------|------------|
|                       | Number of Rooms             |      |     |      |      |            |
|                       | 1                           | 2    | 3   | 4    | 5    | 6 and over |
| Wardleworth West ...  | 0.4                         | 27   | 2.8 | 56   | 4.6  | 9.2        |
| Wardleworth South ... | 0.2                         | 21.6 | 1.0 | 48   | 11   | 18.2       |
| Wardleworth East ...  | 0.07                        | 28   | 4.9 | 50   | 2.03 | 15         |
| Spotland East ...     | 0.6                         | 18   | 4   | 48   | 9    | 20.4       |
| Spotland West ...     | 2.0                         | 14   | 4   | 55   | 8    | 17         |
| Wuerdle ...           | 0.3                         | 17   | 2   | 54   | 15   | 11.7       |
| Castleton North ...   | 0.3                         | 26   | 4   | 44   | 6    | 19.7       |
| Castleton South ...   | 0.2                         | 13   | 0.8 | 58   | 12   | 16         |
| Castleton East ...    | ...                         | 10   | 1   | 66   | 11   | 12         |
| Castleton West ...    | 0.2                         | 8.8  | 1   | 53   | 9    | 28         |
| Castleton Moor ...    | ...                         | 2    | 0.2 | 52.3 | 19   | 26.5       |
| WHOLE BOROUGH ...     | 0.4                         | 15.6 | 2   | 54   | 10   | 18         |

It may be here noted that in arriving at the figures for overcrowding, due care was taken to consider only such dwellings as could be classified without hesitation as two-roomed or four-roomed houses ; or as houses having one or two bedrooms respectively.

#### **Classification of the Types of Houses.**

For the purposes of general description the houses of the Borough may be grouped as follows :—

##### **GROUP I.—Through Houses.**

- A.—Two and three-roomed.
- B.—Four-roomed.
- C.—Five-roomed.
- D.—Six-roomed and over.

##### **GROUP II.—Houses Not Through.**

- A.—True Back-to-back Houses. Types i., ii., iii., and iv.
- B.—Modifications of the Back-to-back House :—
  - i. Houses without back or side doors and windows.
  - ii. Houses without back or side door and windows downstairs, but with back windows upstairs.
  - iii. Houses without back doors, but with back windows upstairs and down, but only where such windows are either out of use, not easily used, or incapable of being used for ventilation purposes.
  - iv. Houses without back doors, and with side and front windows only ; and generally, all houses which could not be termed " through " or where reasonable means of through ventilation could not easily be provided.

NOTE.—(B). includes one-roomed dwellings.

The following table shows to what extent these two main groups of houses exist in the Borough :—

Table VII.

| WARD :—                                    | Wardleworth<br>West | Wardleworth<br>South | Wardleworth<br>East | Spotland<br>East | Spotland<br>West | Wuerdle | Castleton<br>North | Castleton<br>South | Castleton<br>East | Castleton<br>West | Castleton<br>Moor | Whole<br>Borough |
|--------------------------------------------|---------------------|----------------------|---------------------|------------------|------------------|---------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|
| Percentage of Through<br>Houses ... ..     | 62                  | 69                   | 57                  | 70               | 72               | 72      | 65                 | 82                 | 84                | 84                | 94                | 76               |
| Percentage of Houses<br>Not Through ... .. | 38                  | 31                   | 43                  | 30               | 28               | 28      | 35                 | 18                 | 16                | 16                | 6                 | 24               |

Of back-to-back houses and the modifications thereof, all grouped together under the heading "Houses Not Through" there are, it is estimated, about 5,482 in the Borough, or roughly about 24 per cent. of all the dwellings counted. About 3,470 of these are true two-roomed back-to-back houses, and the majority of the remainder are three or four-roomed back-to-back or "not through," with most of the 89 one-roomed dwellings to be described. The predominant ranges of rents have been found to be 1/3 to 2/6 for the one-roomed; 2/3 to 3/3 for the two-roomed; and 3/6 to 4/9 for the three or four-roomed houses.

#### GROUP I.—Through Houses.

##### A.—Two and three-roomed houses.

Practically all the two-roomed houses are back-to-back, as also are most of the three-roomed, hence they are described in Group II.

##### B.—Four-roomed Houses—the predominant type.

From Table VI given above regarding the percentage of one, two, three, four, five and six-roomed houses in the Borough, it is seen that the four-roomed through house is predominant. This, indeed, is the type of house occupied by the bulk of the Rochdale working-class people, and forms one-half of the total number of dwellings.

The four-roomed houses are of two main types, presenting few variations except in the size of the rooms. The first and more numerous type is that which possesses on the ground floor a living room at front and a fairly large scullery at the back, and on the 1st floor two bedrooms of corresponding dimensions. The second type contains a parlour or sitting room at the front, and a kitchen or living room at the back, with two bedrooms on the first floor. In both types of house the back room on the ground floor is usually fitted with a boiler for laundry purposes, and frequently has a half-cellar for the keeping of coal. Private yards and separate sanitary accommodation are also usual features of these dwellings, and generally the buildings are in good or fair condition. The weekly rent of these houses ranges from 4/6 to 5/3, although the older and more dilapidated ones can be obtained at a cheaper rent, depending on the neighbourhood in which they are situated. It cannot be said that the dwellings are commodious, or well designed, but it can assuredly be said that the most economical use of the building space has been made, for one rarely finds an entrance hall or lobby to such dwellings, although in the better class there is frequently a vestibule at the front door, and occasionally there is a separate scullery. The want of good accommodation downstairs is equalled by the limited number of bedrooms, and a significant and striking fact may be stated here, namely, that of all the dwellings counted in this enquiry, nearly 70 per cent. have less than three bedrooms, and at least 17 per cent. included in that figure have only one bedroom. When it is considered that the bulk of our population inhabit these dwellings it is difficult to surmise what arrangements can be made in large households for the adequate accommodation of the adult members of different sexes. The lack of adequate sleeping accommodation is presumed to be frequently overcome by dividing one room into two compartments by means of a curtain.



### C.—Five-roomed Houses.

About 10 per cent. of the total number of houses come under this heading. These houses, while possessing downstairs accommodation similar to the four-roomed houses, with perhaps a little more space, or a small out-built scullery, differ from them essentially in having three bedrooms. In many cases, however, this class of house does not provide the accommodation which it appears to possess, and it is unsatisfactory to find that in the majority of cases the third bedroom is only a make-shift and often in the design of the house one good-sized bedroom has been spoiled in order to provide two very indifferent ones. These houses usually let at from 5/6 to 6/6 weekly, and are generally in fair condition.

### D.—Houses with Six rooms and over.

All dwellings having six or more rooms have been grouped together under the last heading of the table. Houses with less than six rooms are as a rule occupied by people of working-class means, whereas houses with six or more rooms are considered to be the dwellings of those with better means. No useful purpose at all commensurate with the extra labour involved would have been served by making further classification. But it should be mentioned that this heading includes such houses as have three good rooms downstairs and three good bedrooms, with perhaps a bathroom upstairs, as well as detached and semi-detached residences with many more living and sleeping rooms than six. The rents, of course, vary greatly according to the accommodation and situation, and as a general rule such houses are in good condition.

## GROUP II.—Houses Not Through.

### A.—True Back-to-back Houses.

The outstanding and characteristic feature of this group of dwellings is the number of true back-to-back houses which are included therein. According to the age of these, they can be separated into two divisions; those erected prior to 1860, and those erected between 1860 and 1872. Four types of houses were built during these periods, the first and fourth in the former, the second and third in the latter. The first type is the most numerous, and the fourth the least so, while the other two occupy an intermediate position.

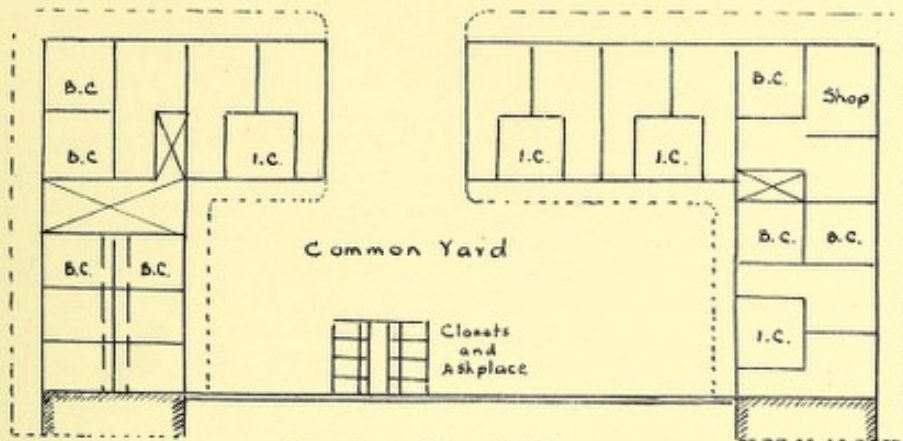
Type i.—The oldest type. These houses were constructed in long rows, those on one side of the block opening on to a street and those on the other side on to the common yard or back passage. Each of these old houses has one room downstairs and one room upstairs. The downstairs room is the living kitchen and usually contains all the domestic conveniences, such as water-supply, slopstone, wash-boiler attached to fire-range—often insufficient—food-keeping cupboard and coal place; and in some cases there is provided a small scullery, which contains the water supply and slopstone, and also the stairs leading to the one bedroom above. A very serious objection to some of these small sculleries is their position, with consequent bad lighting. They are often placed at the back of the house in the darkest portion, and along the wall which divides the two houses. This means that the slopstone is in a dark unventilated corner; that the waste-pipe must be trapped with a "siphon" trap; and that the branch drain into which the waste-pipe discharges must run under the floor of the living kitchen, and cannot be disconnected over or into a trap until the drain reaches the outside wall 4 or 5 yards distant. In such of the dwellings as have had their drains examined by the Inspectors, and whose full length of drain has been laid in concrete or carried through in iron pipes, the only objection is the want of light and ventilation referred to; but in dwellings not so overhauled the possible leakages of sewage into the soil on which the floor flags are laid is an additional danger, the seriousness of which cannot be over-estimated.

Type ii.—Sketch No. 3. This type of back-to-back house was built between 1860 and 1872, and consists of an "inset" two-roomed cottage built between the back rooms of two partly contiguous four-roomed through houses. All share in the common yard and joint sanitary accommodation provided. Many of these cottages are in good condition and have good tenants, and generally speaking they are the least objectionable type of back-to-back houses because the diminished possibility of erecting too many houses on a given space lessens overcrowding of the area.

# ARRANGEMENT OF BACK-TO-BACK AND INSET COTTAGES

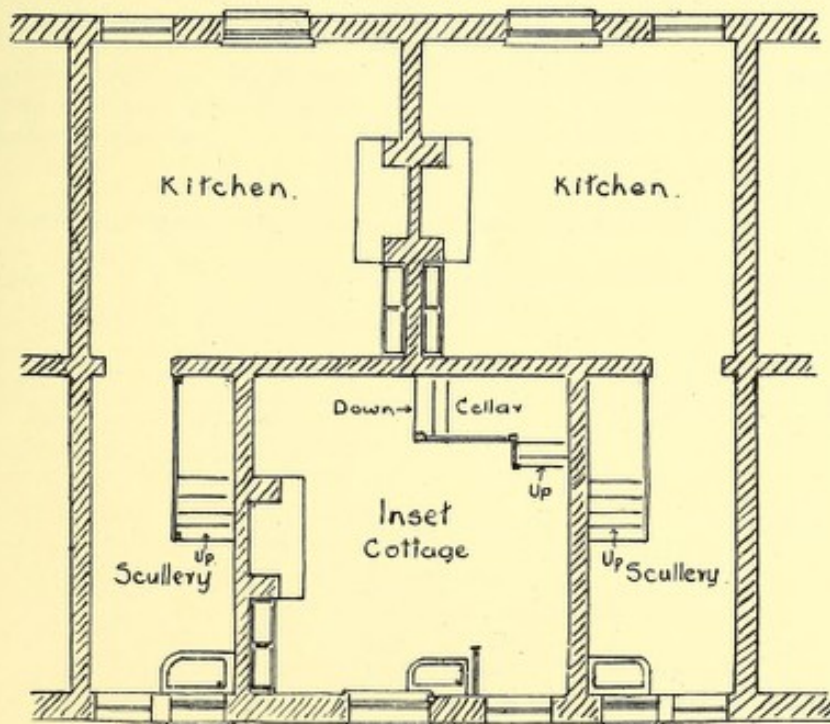
(B.C.) = Back to back Cottages. (I.C.) = Inset Cottages.

Street.



Sketch Block Plan.

Front Street.



Yard  
common to whole block.

Sketch Plan shewing usual arrangement  
of 'Inset' Cottages.





Type iii. Erected about the same time as Type ii., this back-to-back house is sometimes classed as a three-roomed and sometimes as a four-roomed dwelling, according to the relative sizes of the rooms. It differs from the house described under Type i. in having, first, the scullery of larger dimensions and placed at the front rather than the back of the house; second, usually cellars, which are used for the storage of coal; and thirdly, in having two bedrooms instead of one. It is also of more modern construction and in better condition than the house of the first type.

Type iv. In addition to the preceding types of back-to-back houses, which are the more numerous, there is still another, chiefly characteristic of the Wardleworth Wards, and contemporary with the oldest types. This is the combined cottage and workshop, reminiscent of the period when hand-loom were in use, and weaving was carried on at the homes of the work-people instead of at large factories as is now the case. The buildings are not numerous, and their usual arrangement is:—On the ground floor a living kitchen; on the first floor a bedroom; and on the second floor a workshop. In the basement there is a separate one-roomed cellar dwelling approached by area steps. The workshops are now generally in a dilapidated condition, but in some instances are used as second bedrooms; in the majority of cases, however, they are neither in use nor fit for use. Of these old houses it may be said that the rooms have more floor area, although not so lofty as those belonging to other types of dwellings. But on the other hand, the height of these buildings necessitated by the extra storey, is a serious factor in the obstruction of light to other dwellings in the narrow streets where they are usually situated (see Sketch No. 1). The cellar dwellings are of course not in use, except in some instances as wash-cellars; and many of them have been built up and the areas have either been filled in or covered in and flagged over.

#### B.—Modifications of Back-to-back Houses—One-roomed dwellings.

The one-roomed dwellings are not so numerous in Rochdale as in many other English manufacturing towns; as there has always been a continuity of policy by the Council of the day to close all such houses when unfit for human habitation, and on principle as undesirable dwellings.

Recently, on an instruction from the Health Committee we have made an investigation and Report on all the one-roomed houses in this Borough, as also of the social conditions and means of their inhabitants; from which report we make the following extract.

#### Extract from Report on One-roomed Dwellings.

There are at present 89 such dwellings, and they can be readily classified into four groups, on the basis of their main structural arrangements, as follows:—

Table VIII.

| CLASSIFICATION OF ONE-ROOMED DWELLINGS      |                                                                                                     |                  |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------|
| Group                                       | Main Structural Feature of Group                                                                    | No. of Dwellings |
| A                                           | One-roomed Cellars or part cellars (underground to varying extent) ... ..                           | 16               |
| B                                           | One-roomed Dwellings underground or partly underground at back, but on ground level at front ... .. | 48               |
| C                                           | One-roomed Dwellings situated at ground or street level ...                                         | 18               |
| D                                           | One-roomed Tenement Dwellings on second floor ... ..                                                | 7                |
| TOTAL NUMBER OF ONE-ROOMED DWELLINGS ... .. |                                                                                                     | 89               |



Of the total 89, 41 one-roomed dwellings are situated in Spotland West Ward, and of these 41, 24 are found in one centrally placed sub-district (S.N.2), which includes within its boundaries the Holland-street, Dunkirk, Paddock, Mitchell Hey, and Rothwell-place areas. Nearly all the 24 one-roomed dwellings in this central sub-district belong to the predominant Group B., and are situated below the rooms of other houses, which are either (a) two-roomed and back-to-back with houses on a higher street level; or (b) are four-roomed and have a frontage to a street on a higher level. In type (a) the one-roomed dwelling is below the living room of the rearmost back-to-back house; and in type (b) below the back kitchen of the four-roomed house. The back wall of the one-roomed dwelling is thus usually entirely underground, while the floor is level with the lower street or common yard. This arrangement is illustrated in Sketch No. 4, from which it will be seen that when the houses above the one-roomed dwellings happen to be back-to-back, an entrance landing and steps are necessary—a structural arrangement which explains the exclusion of a great deal of light and sunshine from the one-roomed dwellings. When the uppermost houses are not back-to-back there is never an entrance landing, because there are no back doors.

From the preceding table it will be seen that of the total 89, 48 (or over 50 per cent.) of the one-roomed dwellings belong to Group B., of which the structural features have been just described, and of which the one-roomed dwellings in S.N.2 are a typical example. The remaining 41 dwellings, Groups A., C., and D., are distinct from these in character, and with the exception of Group A., and a sub-division of Group C., can also be called typical of certain districts. For instance, the true one-roomed back-to-back dwelling is almost entirely confined to a sub-district adjoining S.N.2, and in the same ward, while the only other part of the town which contains such dwellings is an outlying sub-district of Wuerdle Ward. These back-to-back one-roomed houses are at the street level, are one storey high, and except in a few instances the room is small and the accommodation poor. Again, all the seven dwellings in Group D. are found in a particular block of buildings fronting on to Falinge-road. These are tenement rooms on the second floor of the building, approachable by outside steps, from the top of which a corridor or passage forms an entrance common to all the dwellings.

The cellar dwellings (Group A.) are found in six different localities, and are not typical of or numerous in any particular district. 14 of the total 16 cellar dwellings do not meet the requirements of the Public Health Act, 1875, Section 72, in every respect, and the remaining two are not in good condition.

#### Occupation of One-roomed Dwellings.

The total number of persons occupying the 89 one-roomed dwellings is 153, giving an average of 1.7 persons per house. Of the 153 persons only 15 are under 10 years of age.

These particulars are summarised in the following table:—

Table IX.

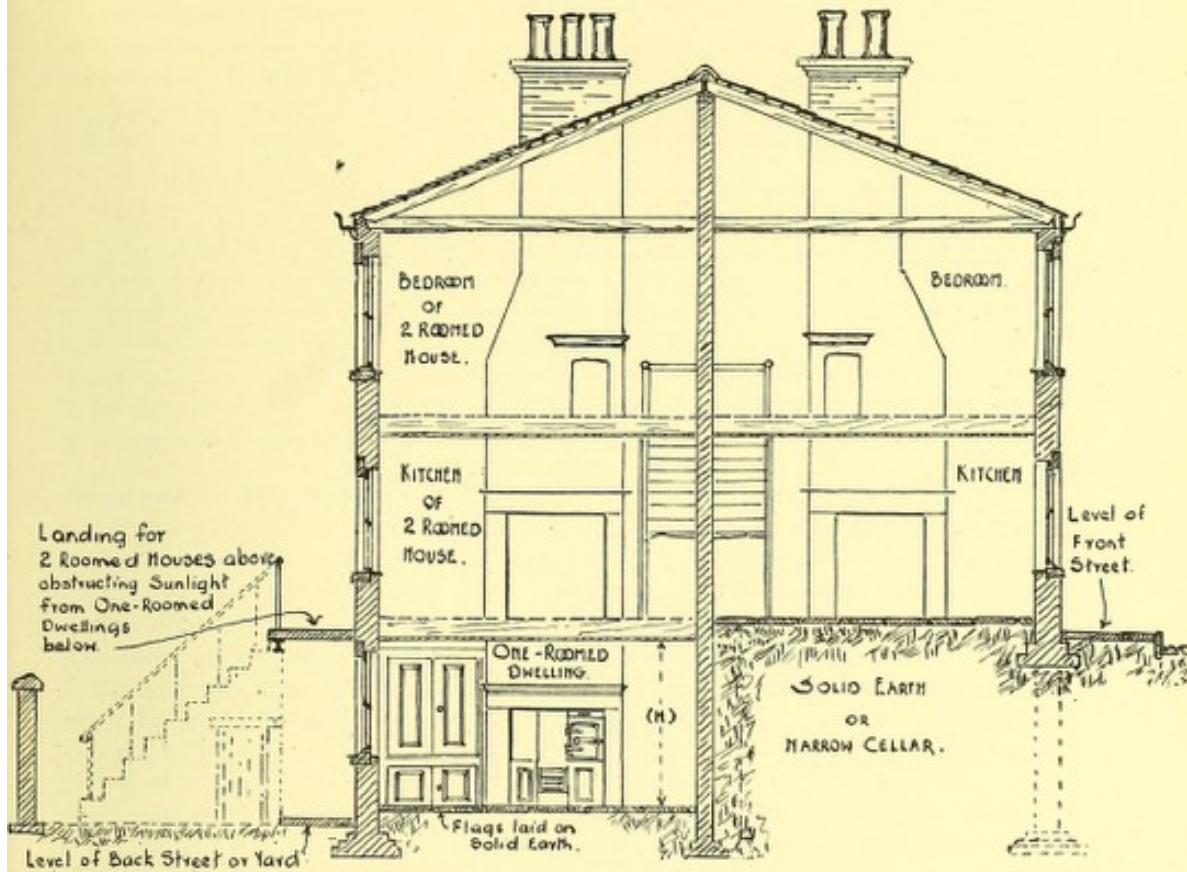
| OCCUPATION OF ONE-ROOMED DWELLINGS. |                             |                             |                              |                           |
|-------------------------------------|-----------------------------|-----------------------------|------------------------------|---------------------------|
| Number of Dwellings                 | Number of Persons per house | Total Persons over 10 years | Total Persons under 10 years | Total Persons at All Ages |
| 40                                  | 1                           | 40                          | ...                          | 40                        |
| 37                                  | 2                           | 74                          | ...                          | 74                        |
| 7                                   | 3                           | 15                          | 6                            | 21                        |
| 2                                   | 4                           | 4                           | 4                            | 8                         |
| 2                                   | 5                           | 5                           | 5                            | 10                        |
| 1                                   | Not occupied                | ...                         | ...                          | ...                       |
| 89                                  | ...                         | 138                         | 15                           | 153                       |

Average No. of Persons per house 1.7.

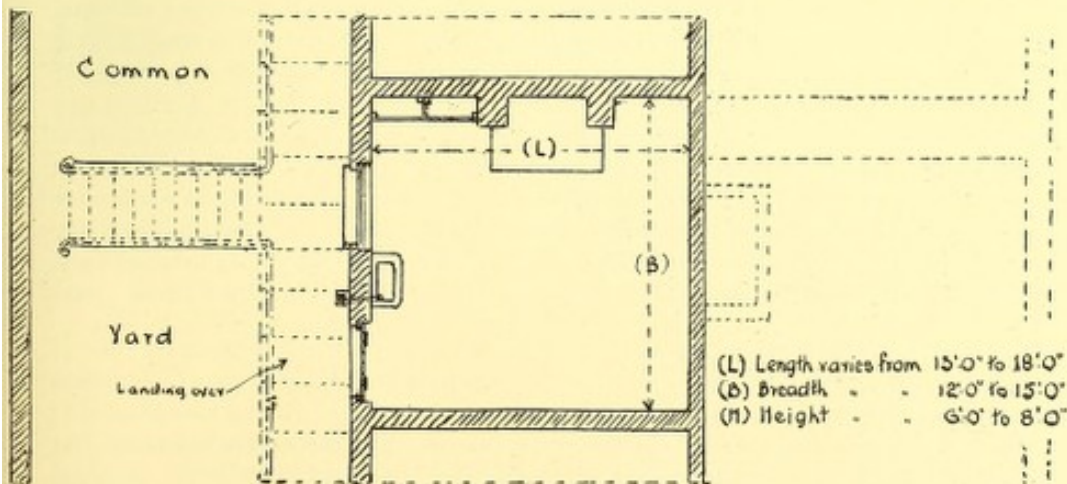
# Sketch showing Prevailing Arrangement of One-Roomed Dwellings

Nº 4

AND AN ARRANGEMENT OF TWO-ROOMED BACK TO BACK HOUSES.



Section.



Plan.

(L) Length varies from 15'0" to 18'0"  
(B) Breadth - - 12'0" to 15'0"  
(H) Height - - 6'0" to 8'0"





It is seen that 40 of the 88 occupied one-roomed dwellings are occupied by one person each only, and 37 others by two persons each only. Only 11 of the houses are occupied by more than two persons each, and these 11 are overcrowded on the standard which has been adopted in this report of two persons to a room. This condition of overcrowding is seen to affect 39 of the total 153 inhabitants of one-roomed dwellings, so that the percentage of houses overcrowded is only 12½, yet the percentage of persons affected by overcrowding is 25.

Exactly the same result is obtained if the other method cited in the section dealing with overcrowding is taken as applicable; that is to say, if 300 cubic feet of air space be allowed for each adult, and 250 feet of air space for each person under 10 years of age, and if the single room be considered as one half a living room and one half a sleeping room. If, however, the room be considered as a sleeping room only, then only one of the dwellings can be called "overcrowded."

That overcrowding is not more extensive is no doubt due to the continued representations of this Health Authority to the owners of such property, that discretion should be used as to the age, conditions, and number of occupants of such dwellings. For, it must be stated, that in consideration of their defective construction and general poor condition with lack of sleeping and other accommodation, the only reasonable justification of the continued tolerance of such habitations is the shortage of suitable sanitary houses for the present occupants, many of whom are elderly poor people who can only afford a small rent.

#### **Dampness in Old Houses.**

In the majority of all the old dwellings which are in poor condition, there is one striking feature, and that is the extent to which both walls and floors are permanently damp. By "permanent" dampness is meant a condition not attributable to immediately remediable defects; such as a leaking roof or a defective eaves-gutter or rain-water pipe, but to defects which arise from faulty construction. Practically all the lower floors of these dwellings are of stone flags, and it is evident from this inspection and from our general knowledge that, where no cellar exists the flags have been laid down directly on the ground without any adequate drainage of the site, and without any provision by means of proper damp-proof courses or otherwise, for the prevention of damp. Further, the walls have in most cases apparently been built solid, and no precautions taken to preserve the interior from the effects of the absorption by the brickwork of the rain and outside moisture. An examination of some of these inside walls shows how wet portions of the wall plaster may become, and to what extent it has consequently perished and fallen away.

#### **Dampness in New Houses.**

During this enquiry and while occasionally observing building in operation we could not resist the impression that due consideration in making proper and reasonable precautions to prevent damp in houses, is not always evident; and the usual consequence of this omission is the presence of dampness in so many of the houses erected even in recent years. During the past winter so frequent were the complaints of dampness made by occupiers of new dwellings, that, at the beginning of the present year an investigation was made as to the condition of certain new dwellings, and a brief report submitted to the Health Committee. In this Report it was pointed out that the causes were of two kinds and both remedial. First: omissions of proper precautions in building, as well as considerations of material and workmanship; and secondly: other causes which could be more effectively prevented by the provision of new or revised Bye-laws. Both causes are remediable, if at the same time due respect of the Bye-laws is enforced.

In reviewing much of the building of this town one regrets to see so much evidence in the past of the jerryman and the building speculator, who, evidently little controlled by bye-laws or conscientious appreciation of the health and happiness of the home, have, in their haste to turn bricks and mortar into gold, left this town a heritage of slums which are costly to remove; while, the effects on the health and well-being of the people, although evident, is not so readily assessable. But, while we recognise that many of the present generation are suffering from housing defects which we further recognise to be due to the lack of municipal pre-science in the past, are we



sure that to-day we are adopting such measures and taking such precautions as will at least prevent the very prevalent and serious defect of dampness in the houses which are being built to-day, and which in the future must either add to, or detract from, the amenities of the town and the well-being of the citizens? For, dampness of houses not only exercises a slow insidious and debilitating effect on general health, which may cause the occupants of such houses to become more susceptible to disease, but is itself often the direct cause of disease; and more especially in localities where the climate is naturally humid and where many of the houses are built on a naturally damp subsoil.

### **Sewerage and Drainage of Houses.**

Under this head we will only consider the matter of house drainage; as matters relating to street sewers, and the disposal and treatment of sewage do not come within the scope of this Report.

During recent years there appears to have been much valuable work accomplished in this Borough in connection with drainage; and old and obsolete drainage systems have been largely superseded by drains on more modern sanitary principles. All such drainage of old property, as has been considered or proved by the Sanitary Inspectors to be defective, has been dealt with in the usual way by notification to the owner of the property; who in most of these cases has repaired, relaid or reconstructed the drains in accordance with the regulations enforced by, and under the superintendence of the Drainage Inspectors who act under the Borough Surveyor.

In the reconstruction of such drains, the most approved sanitary principles are stipulated, and include the interception of house drainage systems from public sewers; the separate ventilation of drainage systems; the provision of means of access to drains; the proper trapping of branch drains; the disconnection of rain-water pipes; the proper trapping where necessary and the disconnection of waste-water pipes; and the provision of good material.

But it is very regrettable that, while sound principles are laid down and good material demanded, there is under the present arrangements no definite provision made for the adequate testing of either new or reconstructed drains on their completion and before being covered in. In accordance with my own experience, I must state, that, from a review of a line of pipes or from an examination of one or two of the pipe joints, I could not by any stretch of imagination consider myself warranted in giving any guarantee as to the presence or absence of leakage in any drainage system.

Further, the absence of this test removes a valuable incentive for the execution of good workmanship. For without efficient workmanship, especially in all matters pertaining to drainage, the mere specification of good material and the adoption of approved principles, while causing greater expenditure, provides no guarantee of efficiency nor safety from leaking drains.

The importance of this is now widely recognised. For it is found, that even in sanitary districts, where the owners and contractors are aware that all drains will be subjected to a test before passed and allowed to be covered in, a large proportion are found to be defective on the first application of the test.

After due consideration, I venture to think that the present system of dual supervision of drainage work in old property in this Borough by two separate administrative departments, is a bad one, and is neither conducive to efficiency nor economy. This is more especially applicable to the work of reconstruction of old drains. All such drains inspected either by request, or in various other ways, as through the notification of some infectious disease, come under the notice of the Inspector of Nuisances, whose practice at present is to invariably apply the smoke or other adequate test to the drainage system of every house when a case of Diphtheria or Typhoid Fever has been notified; and in all other cases where such test appears advisable or necessary. When such drains are found defective the usual statutory notice, which states the defects, and gives a general specification of the remedial work to be adopted, is served on the owner by the Inspector. But the administrative control of the Inspector of Nuisances now ceases, and he has no further concern as to when or in what manner this work, which by statute he initiates, is carried out.



As the owner has now to give notice to the Borough Surveyor when he intends to proceed with the work, and not to the Inspector of Nuisances, it frequently so happens that periodical visits have to be made extending over many weeks by the Sanitary Inspectors to properties under notice, to ascertain if the work has begun, or when it is likely to begin. Because it so frequently happens that other work than drainage has to be done at the same property, it is not unusual to find an Inspector from each of the two departments superintending separate small pieces of work on the same property at the same time—all of which work, I venture to suggest, could be more efficiently and more economically superintended by one man—the Qualified Sanitary Inspector.

It is only reasonable to suppose that the District Sanitary Inspector must have a closer intimate acquaintance with the sanitation and drainage of his own district than any one from another department; and further, as he is the one who has to carry on the preliminary smoke tests and to give notice and specify regarding any defects found, he is the one who should see the work completed, and is best fitted to carry out the tests before the drains are passed and allowed to be covered in; for, if reason and experience indicates that a scientific test is necessary in order to discover the presence or absence of any leakage defects in any drainage system, the same reason and experience equally indicates that a no less scientific test is necessary to prove that any such defects have been removed.

This re-organisation and adequate testing of all drains appears more necessary when one contemplates the early introduction of the fresh-water carriage system, when the drainage system of this Borough will be put to a severer test than heretofore.

### Rents.

A great deal has been written and spoken concerning the high rents of houses in Rochdale, but it is nevertheless true that the result of a Government enquiry made from 1905 to 1907 shows that the rents of dwellings in our Borough are not as high as the average for the principal industrial towns of England.

The following table, compiled from the Government Report, indicates the extent of the existing differences:—

Table X.

| AREA              | PREDOMINANT RANGE OF WEEKLY RENTS (including all Rates) |             |             |             |              |
|-------------------|---------------------------------------------------------|-------------|-------------|-------------|--------------|
|                   | Two Rooms                                               | Three Rooms | Four Rooms  | Five Rooms  | Six Rooms    |
| LONDON ... ..     | 4/6 to 7/6                                              | 6/- to 9/-  | 7/6 to 10/6 | 9/- to 13/- | 10/6 to 15/6 |
| PROVINCIAL TOWNS. | 3/- to 3/6                                              | 3/9 to 4/6  | 4/6 to 5/6  | 5/6 to 6/6  | 6/6 to 7/9   |
| ROCHDALE ... ..   | 2/3 to 3/3                                              | 3/6 to 4/9  | 4/6 to 5/3  | 5/6 to 6/6  | Not given    |

It will be seen that the mean rent for two rooms in London is 6/-, in the Provinces 3/3, and in Rochdale it is only 2/9. For three rooms in London the mean rent is 7/6, compared with 4/1½ in the Provinces, and 4/1½ also in Rochdale. The corresponding figures for four rooms are 9/-, 5/-, and 4/10½ respectively; and for five rooms, 11/-, 6/-, and 6/- respectively. The figures for two rooms and four rooms, chiefly occupied by working people, allow a fair margin for recent increases of rent before Rochdale even reaches the average.

A further interesting comparison giving similar results and obtained from the same source, shows Rochdale to be below the rent level of 48, and above the rent level of 24 only of 73 English and Welsh towns. In the table which follows an index number is shown for each town, representing the relative rent as compared with London, the predominant rents of this City being taken as the base (= 100).



Table XI.

RENT INDEX NUMBERS IN DESCENDING ORDER.

| TOWN                       | Index No. | TOWN                 | Index No. | TOWN                       | Index No. |
|----------------------------|-----------|----------------------|-----------|----------------------------|-----------|
| London ...                 | 100       | Carlisle ...         | 58        | Derby ...                  | 51        |
| Croyden ...                | 81        | Darlington ...       | 58        | Hanley ...                 | 51        |
| Plymouth and Devonport ... | 81        | Grimsby ...          | 58        | Stockport ...              | 51        |
| Newcastle-on-Tyne ...      | 76        | Reading ...          | 58        | Blackburn ...              | 50        |
| Birkenhead ...             | 70        | Keighley ...         | 57        | Chester ...                | 50        |
| Jarrow ...                 | 68        | Normanton ...        | 57        | Merthyr Tydvil ...         | 50        |
| Swansea ...                | 68        | Portsmouth ...       | 57        | Warrington ...             | 50        |
| Gateshead ...              | 66        | Dover ...            | 56        | Wigan ...                  | 50        |
| Liverpool & Bootle ...     | 65        | Leeds ...            | 56        | Bedford ...                | 49        |
| Southampton ...            | 65        | Nottingham ...       | 56        | Chatham and Gillingham ... | 49        |
| Huddersfield ...           | 64        | St. Helens ...       | 56        | Coventry ...               | 49        |
| Barrow-in-Furness ...      | 63        | Worcester ...        | 56        | Northampton ...            | 49        |
| Newport (Mon.) ...         | 63        | Halifax ...          | 55        | Crewe ...                  | 48        |
| Manchester & Salford ...   | 62        | Sheffield ...        | 55        | Gloucester ...             | 48        |
| Luton ...                  | 61        | Lincoln ...          | 54        | Hull ...                   | 48        |
| South Shields ...          | 61        | Stockton-on-Tees ... | 54        | Leicester ...              | 48        |
| Oldham ...                 | 60        | Stoke-on-Trent ...   | 54        | Norwich ...                | 48        |
| Birmingham ...             | 59        | Bolton ...           | 53        | Preston ...                | 48        |
| Bradford ...               | 59        | Bristol ...          | 53        | Taunton ...                | 47        |
| Cardiff ...                | 59        | Burnley ...          | 53        | Ipswich ...                | 44        |
| Middlesbrough ...          | 59        | Castleford ...       | 53        | Kidderminster ...          | 43        |
| Sheerness ...              | 59        | Wolverhampton ...    | 53        | Walsall ...                | 43        |
| Sunderland ...             | 59        | York ...             | 53        | Peterborough ...           | 39        |
| Swindon ...                | 59        | Burton-on-Trent ...  | 52        | Macclesfield ...           | 32        |
|                            |           | ROCHDALE ...         | 52        |                            |           |

**Accommodation and Rents: Comparison of Wards.**

The following table shows the percentages of houses in each ward of the Borough classified according to the number of rooms and the percentages of houses having certain ranges of rent :

Table XII.

| WARD                  | PERCENTAGE OF HOUSES HAVING |      |     |      |      |      |                |            |            |            |             |              |
|-----------------------|-----------------------------|------|-----|------|------|------|----------------|------------|------------|------------|-------------|--------------|
|                       | Number of Rooms             |      |     |      |      |      | Ranges of Rent |            |            |            |             |              |
|                       | 1                           | 2    | 3   | 4    | 5    | 6    | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| Wardleworth West ...  | 0.4                         | 27   | 2.8 | 56   | 4.6  | 9.2  | 0.7            | 20         | 23.2       | 24.6       | 20          | 11.5         |
| Wardleworth South ... | 0.2                         | 21.6 | 1   | 48   | 11   | 18.2 | 0.5            | 12.2       | 19         | 29.3       | 14          | 25           |
| Wardleworth East ...  | 0.07                        | 28   | 4.9 | 50   | 2.03 | 15   | 0.8            | 16         | 26.2       | 26         | 14          | 17           |
| Spotland East ...     | 0.6                         | 18   | 4   | 48   | 9    | 20.4 | 0.4            | 11.6       | 24         | 27         | 11          | 26           |
| Spotland West ...     | 2                           | 14   | 4   | 55   | 8    | 17   | 2              | 11         | 17         | 27         | 21          | 22           |
| Wuerdle ...           | 0.3                         | 17   | 2   | 54   | 15   | 11.7 | 0.5            | 14.5       | 17         | 32         | 20          | 16           |
| Castleton North ...   | 0.3                         | 26   | 4   | 44   | 6    | 19.7 | 0.01           | 10.6       | 27.4       | 24.7       | 9.29        | 28           |
| Castleton South ...   | 0.2                         | 13   | 0.8 | 58   | 12   | 16   | 0.5            | 8.8        | 11.3       | 28.7       | 30.5        | 20.2         |
| Castleton East ...    | ...                         | 10   | 1   | 66   | 11   | 12   | 0.1            | 6.9        | 20         | 35         | 22          | 16           |
| Castleton West ...    | 0.2                         | 8.8  | 1   | 53   | 9    | 28   | ...            | 3          | 17         | 27         | 19          | 34           |
| Castleton Moor ...    | ...                         | 2    | 0.2 | 52.3 | 19   | 26.5 | 0.05           | 4.7        | 13.2       | 32.25      | 24.8        | 25           |
| WHOLE BOROUGH ...     | 0.4                         | 15.6 | 2   | 54   | 10   | 18   | 0.4            | 10         | 20.6       | 29         | 19          | 21           |

The percentage of houses having more than four rooms is seen to be 28; the highest percentages of such more commodious houses are found in Castleton Moor and Castleton West Wards; and the lowest percentage in Wardleworth West Ward. From the table it may also be seen that



the four-roomed dwelling is most numerous, this type constituting 54 per cent. of all the dwellings in the Borough.

With regard to house rents the table shows that 40 per cent. of the dwellings in the Borough are rented at over 5/- per week. The highest ward-percentage of houses over 5/- per week occurs in respect of Castleton West, Castleton South and Castleton Moor Wards; and the lowest in Wardleworth West, East and South Wards.

From the preceding table the subjoined one has been compiled to show the relative position of each ward when :—

- 1.—The basis of classification is the extent to which five and six or more roomed house accommodation prevails.
- 2.—A rent of over 5/- a week is the basis.

**Table XIII.**

| WARD                  | Position on<br>Accommodation<br>List | Position on<br>Rent List |
|-----------------------|--------------------------------------|--------------------------|
| Wardleworth West ...  | 11th                                 | 10th                     |
| Wardleworth South ... | 4th                                  | 5th                      |
| Wardleworth East ...  | 10th                                 | 11th                     |
| Spotland East ...     | 3rd                                  | 7th                      |
| Spotland West ...     | 8th                                  | 4th                      |
| Wuerdle ...           | 6th                                  | 9th                      |
| Castleton North ...   | 7th                                  | 6th                      |
| Castleton South...    | 5th                                  | 2nd                      |
| Castleton East ...    | 9th                                  | 8th                      |
| Castleton West ...    | 2nd                                  | 1st                      |
| Castleton Moor ...    | 1st                                  | 3rd                      |

NOTE.—The figure opposite the name of a ward indicates the position of the ward in a list arranged in descending order on either of the bases given. Thus it is seen that Wardleworth West Ward is at the bottom of the accommodation, and next to the bottom on the rent list.

### **Overcrowding.**

#### **Extent of Enquiry re Overcrowding.**

Enquiries in connection with overcrowding have been made at 3,953 houses, all of which were typical two-roomed back-to-back houses or typical four-roomed through houses. As the estimated total number of two-roomed houses is 3,473, and that of the four-roomed houses 12,157, and the enquiries concerned 1,165 two-roomed, and 2,788 four-roomed houses, it will be seen that 33 per cent. of the former and 23 per cent. of the latter, or an average of just over 25 per cent. of both classes have been considered in the enquiry. This may be expected to give a good reliable average with respect to the occupation of these two classes of dwellings, and more especially as these numbers are made up of a certain percentage of houses distributed over each of the 72 populated sub-districts.

#### **Standard for Overcrowding.**

Any dwelling having more than an average of two persons to each room has been taken as overcrowded; an ordinary two-roomed back-to-back house would therefore be allowed four persons, and a typical four-roomed house eight persons and no more. The Standard is that adopted by the Registrar-General in calculating comparative overcrowding in the various towns, and has been adopted in this enquiry as the most convenient and the fairest, and in order to allow of comparisons with similar Boroughs on the same basis.

The usual method of calculating for overcrowding adopted by the Sanitary Inspectors is the measurement of the bedroom, and an allowance of 300 cubic feet of air space for each adult person, and of 250 cubic feet of air space for each person under 10 years of age. Taking an



instance of four adult persons in one bedroom, the room would only require to be 1,200 cubic feet in capacity (or about 12ft. 0in. by 12ft. 0in. by 8ft. 6in.). Although this is an extremely low standard as also is that of the Registrar-General now adopted, still it is safe to assume that the particulars and figures given regarding overcrowding in this Report are rather under than over-stated.

#### Extent of Overcrowding.

Of the 3,953 houses considered, 436, or about 11 per cent. were overcrowded; this works out at a rate of one house in every nine enquired into. In two-roomed houses the percentage was very high, being 27.2, as against 4.27 per cent. in four-roomed houses. The comparison of these two classes of houses is more fully represented in the following table:—

Table XIV.

| * COMPARISON OF OVERCROWDING IN TWO AND FOUR-ROOMED HOUSES. |                          |                          |                    |            |                       |  |
|-------------------------------------------------------------|--------------------------|--------------------------|--------------------|------------|-----------------------|--|
| Type of House                                               | No. of Houses in Borough | No. of Houses considered | Houses Overcrowded |            | Rate of Over-crowding |  |
|                                                             |                          |                          | Number             | Percentage |                       |  |
| Two-roomed ... ..                                           | 3,473                    | 1,165                    | 317                | 27.20      | 1 in 3½               |  |
| Four-roomed ... ..                                          | 12,157                   | 2,788                    | 119                | 4.27       | 1 in 23               |  |
| Two and Four-roomed combined ... ..                         | 15,630                   | 3,953                    | 436                | 11.03      | 1 in 9½               |  |

The following two tables show how this overcrowding is distributed amongst the wards of the Borough:—

Table XV.

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES |                      |                  |                    |                       |                           |          |                |
|------------------------------------------------|----------------------|------------------|--------------------|-----------------------|---------------------------|----------|----------------|
| WARD                                           | Population concerned | Number of Houses |                    | Rate of Over-crowding | Average Number of Persons |          | Ranges of Rent |
|                                                |                      | Total considered | Total Over-crowded |                       | Per house                 | Per room |                |
| Wardleworth West ...                           | 609                  | 191              | 36                 | 1 in 5½               | 3.2                       | 1.6      | 2/- to 3/6     |
| Wardleworth South ...                          | 593                  | 172              | 42                 | 1 in 4                | 3.4                       | 1.7      | 2/- to 3/6     |
| Wardleworth East ...                           | 338                  | 99               | 27                 | 1 in 3½               | 3.4                       | 1.7      | 2/6 to 3/6     |
| Spotland East ...                              | 498                  | 145              | 34                 | 1 in 4½               | 3.4                       | 1.7      | 2/2 to 3/6     |
| Spotland West ...                              | 380                  | 110              | 23                 | 1 in 4½               | 3.5                       | 1.75     | 2/- to 3/6     |
| Wuerdle ...                                    | 385                  | 107              | 28                 | 1 in 4                | 3.3                       | 1.65     | 2/- to 3/6     |
| Castleton North ...                            | 347                  | 97               | 28                 | 1 in 3½               | 3.5                       | 1.75     | 2/- to 3/6     |
| Castleton South ...                            | 362                  | 75               | 47                 | 1 in 1½               | 4.8                       | 2.4      | 1/11 to 3/10   |
| Castleton East ...                             | 378                  | 94               | 36                 | 1 in 2½               | 4.0                       | 2.0      | 2/8 to 3/3     |
| Castleton West ...                             | 221                  | 61               | 12                 | 1 in 5½               | 3.6                       | 1.8      | 2/6 to 3/9     |
| Castleton Moor ...                             | 51                   | 14               | 4                  | 1 in 3½               | 3.6                       | 1.8      | 2/3 to 3/3     |
| WHOLE BOROUGH ...                              | 4,162                | 1,165            | 317                | 1 in 3½               | 3.57                      | 1.78     | 1/11 to 3/10   |

Table XVI.

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES |                                   |                          |                           |                                 |                              |             |                      |
|--------------------------------------------|-----------------------------------|--------------------------|---------------------------|---------------------------------|------------------------------|-------------|----------------------|
| WARD                                       | Popula-<br>tion<br>con-<br>cerned | Number of<br>Houses      |                           | Rate<br>of<br>Over-<br>crowding | Average Number<br>of Persons |             | Ranges<br>of<br>Rent |
|                                            |                                   | Total<br>con-<br>sidered | Total<br>over-<br>crowded |                                 | Per<br>house                 | Per<br>room |                      |
| Wardleworth West ...                       | 1,087                             | 253                      | 7                         | 1 in 36                         | 4.3                          | 1.07        | 2/9 to 5/6           |
| Wardleworth South ...                      | 1,411                             | 327                      | 12                        | 1 in 27                         | 4.3                          | 1.07        | 3/6 to 5/6           |
| Wardleworth East ...                       | 690                               | 153                      | 6                         | 1 in 25                         | 4.5                          | 1.12        | 3/6 to 5/6           |
| Spotland East ...                          | 1,430                             | 332                      | 9                         | 1 in 37                         | 4.3                          | 1.07        | 3/- to 5/6           |
| Spotland West ...                          | 1,319                             | 292                      | 7                         | 1 in 42                         | 4.5                          | 1.12        | 3/2 to 5/6           |
| Wuerdle ...                                | 1,203                             | 274                      | 8                         | 1 in 34                         | 4.4                          | 1.10        | 3/9 to 5/6           |
| Castleton North ...                        | 674                               | 141                      | 10                        | 1 in 14                         | 4.7                          | 1.17        | 3/- to 5/6           |
| Castleton South ...                        | 1,402                             | 276                      | 17                        | 1 in 16                         | 5.1                          | 1.27        | 3/3 to 5/6           |
| Castleton East ...                         | 1,235                             | 228                      | 21                        | 1 in 11                         | 5.4                          | 1.35        | 3/8 to 5/6           |
| Castleton West ...                         | 1,339                             | 284                      | 10                        | 1 in 28                         | 4.7                          | 1.17        | 4/- to 5/6           |
| Castleton Moor ...                         | 1,116                             | 228                      | 12                        | 1 in 19                         | 4.9                          | 1.22        | 2/9 to 5/6           |
| WHOLE BOROUGH ...                          | 12,906                            | 2,788                    | 119                       | 1 in 23                         | 4.63                         | 1.16        | 2/9 to 5/6           |

It will be seen from the tables that the highest average rate of overcrowding in two-roomed houses is in Castleton South Ward, and the lowest in Wardleworth West; and the highest average rate of overcrowding in four-roomed houses is in Castleton East Ward, and the lowest in Spotland East and West.

The rate of overcrowding, averaged for the Borough, shows a considerable increase on the figures of 1901, as published by the Registrar-General. The percentage at the present time in the two classes of houses of which particulars were ascertained is shown in the comparison therewith in the following table:—

Table XVII.

| PERCENTAGE OF OVERCROWDING IN TENEMENTS CONTAINING |  |  |  |  |  |           |            |            |            |
|----------------------------------------------------|--|--|--|--|--|-----------|------------|------------|------------|
| Districts                                          |  |  |  |  |  | 1<br>Room | 2<br>Rooms | 3<br>Rooms | 4<br>Rooms |
| England and Wales—Urban Districts, 1901 ... ..     |  |  |  |  |  | 0.95      | 3.07       | 2.63       | 2.25       |
| " " Rural Districts, 1901 ... ..                   |  |  |  |  |  | 0.09      | 1.54       | 1.98       | 2.23       |
| ROCHDALE, 1901 ... ..                              |  |  |  |  |  | 21.18     | 14.3       | 9.58       | 2.53       |
| ROCHDALE, 1910 ... ..                              |  |  |  |  |  | ...       | 27.2       | ...        | 4.27       |

From tables XV and XVI it is seen also that the average number of persons per house in the two classes of houses considered is 3.57 for the two-roomed, and 4.63 for the four-roomed. The total number of such houses in the Borough being estimated at about 3,400 and 12,000 respectively, it may be roughly calculated that over 70 per cent. of our total population inhabit two-roomed and four-roomed dwellings. Taking the average occupation of three roomed houses at a mean average between the two-roomed and four-roomed, the following comparisons with the averages for the country could be made.



Of the total population in various districts, the percentage living in each class of house was as follows:—

Table XVIII.

|                                                      | TENEMENTS CONTAINING |           |             |            |                    |       |
|------------------------------------------------------|----------------------|-----------|-------------|------------|--------------------|-------|
|                                                      | One Room             | Two Rooms | Three Rooms | Four Rooms | Five or more Rooms | Total |
| England and Wales—<br>Urban Districts in 1901 ... .. | 2.0                  | 7.4       | 10.3        | 21.2       | 59.1               | 100.0 |
| England and Wales—<br>Rural Districts in 1901 ... .. | 0.2                  | 3.9       | 8.1         | 24.0       | 63.8               | 100.0 |
| ROCHDALE IN 1901 ... ..                              | 0.3                  | 11.1      | 6.0         | 46.3       | 36.3               | 100.0 |
| ROCHDALE (estimated for 1910) ...                    | 0.2                  | 13.7      | 2.1         | 62.0       | 22.0               | 100.0 |

In making a true comparison in connection with the above table, the percentages for three and four-roomed houses should be added together. The reason for this is that many of the houses which at the census would be classed as three-roomed would, in this enquiry, be considered as "four-roomed" houses. It will thus be seen that considering only the 25 per cent. of the dwellings enquired into, and calculating from the average number of persons per house thus ascertained, the percentage of the population occupying one, two, three, and four-roomed dwellings appears much higher than the average percentage shown by the Registrar-General, whose calculations are based on the total number of houses of each class and their average occupation, in the whole of the Urban and Rural districts in the year 1901.

#### Circumstances of Inhabitants.

The general comparative circumstances of a community may be said to be regulated by three main factors, viz.:—(1) The rate of wages that may be earned—depending to some extent on the prevailing industries; (2) the relative amount which must be spent on rent; and (3) the relative amount which must be spent on food. By adapting information on these points from a recent report of an enquiry by the Board of Trade, it is possible to form comparative tables showing the position of this Borough in these respects. In the table following, the basis of comparison is an index number for London (= 100).

Table XIX.

| TOWN                                        | INDEX NUMBERS |             |                          |
|---------------------------------------------|---------------|-------------|--------------------------|
|                                             | Rent          | Food Prices | Rent and Prices combined |
| London ... ..                               | 100           | 100         | 100                      |
| Barrow-in-Furness ... ..                    | 63            | 99          | 92                       |
| Birkenhead ... ..                           | 70            | 92          | 88                       |
| Blackburn ... ..                            | 50            | 89          | 81                       |
| Bolton ... ..                               | 53            | 89          | 82                       |
| Burnley ... ..                              | 53            | 95          | 87                       |
| Chester ... ..                              | 50            | 94          | 85                       |
| Crewe ... ..                                | 48            | 93          | 84                       |
| Liverpool and Bootle ... ..                 | 65            | 91          | 86                       |
| Macclesfield ... ..                         | 32            | 90          | 78                       |
| Manchester and Salford..                    | 62            | 92          | 86                       |
| Oldham ... ..                               | 60            | 95          | 88                       |
| Preston ... ..                              | 48            | 90          | 82                       |
| ROCHDALE ... ..                             | 52            | 93          | 85                       |
| St. Helens ... ..                           | 56            | 91          | 84                       |
| Stockport ... ..                            | 51            | 88          | 81                       |
| Warrington ... ..                           | 50            | 92          | 84                       |
| Wigan ... ..                                | 50            | 88          | 80                       |
| Mean of 17 Lancashire<br>and Cheshire Towns | 54            | 92          | 84                       |

It is seen that the price which must be paid for house rent in Rochdale is slightly lower than the average price paid for similar accommodation in the Lancashire and Cheshire towns considered; the price for food is slightly higher; and the resultant index number when both are considered is also very slightly higher than the average. If only the six important towns in which cotton spinning and weaving are carried on to a large extent, viz.:—Blackburn, Bolton, Burnley, Oldham, Preston and Rochdale, are considered, a similar result occurs. The next table gives corresponding information with regard to wages.

Table XX.

| TOWN                                     | INDEX NUMBERS   |                    |            |          |
|------------------------------------------|-----------------|--------------------|------------|----------|
|                                          | Building Trades | Engineering Trades | Furnishing | Printing |
| London ... ..                            | 100             | 100                | 100        | 100      |
| Barrow-in-Furness ...                    | 91              | 89                 | ...        | 85       |
| Birkenhead ... ..                        | 89              | 93                 | 89         | 92       |
| Blackburn ... ..                         | 87              | 89                 | 81         | 83       |
| Bolton ... ..                            | 90              | 89                 | 90         | 85       |
| Burnley ... ..                           | 85              | 85                 | 84         | 81       |
| Chester ... ..                           | 89              | 84                 | 87         | 81       |
| Crewe ... ..                             | 82              | 75                 | ...        | ...      |
| Liverpool and Bootle ...                 | 89              | 93                 | 87         | 94       |
| Macclesfield ... ..                      | 81              | ...                | 84         | 77       |
| Manchester and Salford...                | 95              | 91                 | 88         | 90       |
| Oldham ... ..                            | 92              | 87                 | 83         | 87       |
| Preston ... ..                           | 86              | 89                 | 85         | 83       |
| ROCHDALE ... ..                          | 89              | 87                 | 84         | 82       |
| St. Helens ... ..                        | 88              | 89                 | 81         | ...      |
| Stockport ... ..                         | 93              | 92                 | 91         | 87       |
| Warrington ... ..                        | 95              | 91                 | 89         | ...      |
| Wigan ... ..                             | 95              | 89                 | 91         | 82       |
| Mean of 17 Lancashire and Cheshire Towns | 89              | 88                 | 86         | 85       |

and the following table gives further comparison with the cotton towns mentioned.—

Table XXI.—COTTON TOWNS.

|                                                         | Blackburn    | Bolton       | Burnley      | Oldham       | Preston      | Rochdale     |
|---------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Population in 1901 ...                                  | 127,626      | 168,215      | 97,043       | 137,246      | 112,989      | 83,114       |
| Percentage of Population engaged in Cotton Trade ... .. | 29.4         | 19.5         | 29.0         | 21.5         | 22.1         | 18.5         |
| Index Nos. (London=100)                                 |              |              |              |              |              |              |
| Rents ... ..                                            | 50           | 53           | 53           | 60           | 48           | 52           |
| Prices ... ..                                           | 89           | 89           | 95           | 95           | 90           | 93           |
| Rents & Prices combined ... ..                          | 81           | 82           | 87           | 88           | 82           | 85           |
| Wages in Cotton Trade—                                  |              |              |              |              |              |              |
| Weavers, 4-loom, men                                    | 22/- to 28/- | ...          | 22/- to 28/- | ...          | 22/- to 29/- | ...          |
| " " Women                                               | 22/- to 28/- | ...          | 22/- to 28/- | ...          | 21/- to 27/- | 20/- to 24/- |
| " " 3-loom "                                            | ...          | ...          | ...          | ...          | ...          | 15/- to 18/- |
| Spinners, Men ... ..                                    | ...          | 40/- to 50/- | ...          | 38/- to 46/- | 35/- to 45/- | ...          |
| Winders, Women ... ..                                   | ...          | 12/- to 16/- | ...          | 13/- to 18/- | ...          | ...          |



Although the rate of wages in almost all the branches of industry for which information is available for comparison is shown to be probably slightly lower in Rochdale than the mean for the 17 Lancashire and Cheshire towns, while the cost of living is on the other hand shown to be slightly higher; yet, as the information available is not so complete as desirable, it is possible that any apparent difference in rate of wages is small, while any apparent difference in cost of living may be due to some extent to the system of buying, whether on co-operative principles or otherwise. These comparisons are made without regard to fluctuations of trade or to the greater liability to fluctuation of one trade than of another, hence the particular rates relating to the towns engaged in cotton manufacture should form a group in themselves for the purpose of comparison with Rochdale, as being all subject to the effects of those variations which form the characteristic feature of the cotton industry.

Another point to be considered is the similarity of these towns with regard to the extensive employment of women workers. It is, therefore, necessary in a town like Rochdale to primarily consider the earnings of the working classes in relation to the whole family, and not merely in relation to the earnings of the head of the family. This fact has been recognised in collecting information for the next table, which shows the relative circumstances of the occupants of four-roomed and two roomed dwellings in each ward in the Borough.

As the average earning power of persons living in such houses was found not to vary to a great extent in each ward, the relative circumstances of such families is therefore almost entirely governed by the average number of persons dependent on one wage.

Table XXII.

SHewing COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| WARD                  | No. of Families considered | Total No. of Persons | Total No. of Workers | Av. No. of Persons to one wage | Classification of Worker's Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|-----------------------|----------------------------|----------------------|----------------------|--------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|                       |                            |                      |                      |                                | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Corrected |
| Wardleworth West ...  | 245                        | 932                  | 398                  | 2.3                            | 82                                       | 230               | 86               | 59.8                                 | 26          |
| Wardleworth South ... | 432                        | 1,793                | 795                  | 2.3                            | 138                                      | 462               | 195              | 58.5                                 | 25          |
| Wardleworth East ...  | 252                        | 1,028                | 418                  | 2.4                            | 67                                       | 242               | 109              | 58.0                                 | 24          |
| Wuerdle ...           | 381                        | 1,588                | 555                  | 2.8                            | 91                                       | 361               | 103              | 59.5                                 | 21          |
| Spotland East ...     | 477                        | 1,928                | 708                  | 2.7                            | 102                                      | 402               | 204              | 57.1                                 | 21          |
| Spotland West ...     | 402                        | 1,699                | 628                  | 2.5                            | 114                                      | 366               | 148              | 58.9                                 | 24          |
| Castleton North ...   | 238                        | 1,021                | 357                  | 2.9                            | 70                                       | 177               | 110              | 57.7                                 | 20          |
| Castleton South...    | 351                        | 1,764                | 541                  | 3.26                           | 103                                      | 314               | 124              | 59.2                                 | 18          |
| Castleton East ...    | 322                        | 1,613                | 484                  | 3.3                            | 62                                       | 286               | 136              | 56.9                                 | 17          |
| Castleton West ...    | 345                        | 1,560                | 490                  | 3.2                            | 127                                      | 262               | 101              | 61.1                                 | 19          |
| Castleton Moor ...    | 242                        | 1,167                | 383                  | 3.1                            | 91                                       | 188               | 104              | 59.3                                 | 19          |
| WHOLE BOROUGH ...     | 3,687                      | 16,093               | 5,757                | 2.8                            | 1,047                                    | 3,290             | 1,420            | 58.7                                 | 21          |

\* Corrected for number of persons to one wage.

Some explanation of the above table, and of the corresponding tables in the Ward Reports, is necessary. In the first place it should be particularly noted that the information refers only to a percentage of the residents in the two classes of houses, which were also considered with regard to overcrowding; namely, the two-roomed and four-roomed houses; and that the families considered in the above table are, for the most part, identical with those considered in the overcrowding tables, although it was not possible to obtain complete information concerning occupation of workers in all the families considered with regard to overcrowding.



In the second place, it is obvious that no account could be taken of irregular employment. A person actually in work at the time of the enquiry had to be entered as a worker, and had to be classified as a worker in a particular group, according to the nature of his employment at the time. Any person out of work, temporarily, at the time of the enquiry could not be entered as a worker, and would tend to increase the average number of persons depending on one wage.

Thirdly, it was also impossible to allow for the greater fluctuation of one trade than of another; though the effect of varying fluctuations might to some extent be minimised by suitable grouping of trades and occupations.

It is, therefore, evident that the Index Number of family means in the right-hand column of the tables does not show the relative position of the residents in each ward or each sub-district, but only the relative position of the residents in certain classes of houses in the wards and sub-districts, of which houses there may be either a large or a small percentage in any particular ward or sub-district; and as the earning power is based on the current rate of wages in any particular trade during the full-time working, and afterwards modified by considering the number of persons depending on one wage, it may be said that the Index Number represents the relative position of what *ought to be* the means and circumstances of the families residing in two-roomed and four-roomed houses in each ward and sub-district, according to occupation and size of family.

In calculating these index numbers found in the right-hand columns of the table, the following method was adopted :—

First, the usual employment followed by each worker was allocated to one of the four main groups or classes given below, and embracing the principal industries of the town :—

CLASS I.

Head Teachers, Cashiers, Head Clerks, Insurance Superintendents, Managers of Workshops, and others likely to be in receipt of more than about 45/- per week.

CLASS II.

Bricksetters, Joiners, Carpenters, Slaters, Plasterers, Masons, Plumbers and Painters; Wheelwrights, Smiths, Fitters, Turners and Pattern Makers; highly paid mill-workers, such as Spinners, Warpers and Under Managers or Foremen; Cabinet Makers, Upholsterers and French Polishers; Compositors; and all skilled workmen; some Clerks, Insurance Agents, Small Shop Keepers, ordinary Shop Managers, and others likely to earn from about 34/- to 40/- per week.

CLASS III.

All mill operatives except above, and including Card and Blowing Room hands, and persons employed in winding, weaving and other processes (young persons and those in receipt of low wages, such as two-loom cotton and one-loom woollen weavers, etc., being given a value of one-half). Car Drivers, Carters, Waggoners, some Clerks, Warehousemen, Head Dressmakers and Milliners, and such others likely to earn from about 20/- to 30/- per week.

CLASS IV.

Out-door Workers, General Labourers, Trade Apprentices, Firemen, Hawkers, Market Assistants, some Railway Servants and persons likely to earn from about 10/- to 20/- and under.

The number of workers which could be included in Class I. was found to be so small as to have very little significance, and was ignored; a maximum average wage for a resident in a four-roomed or two-roomed house was therefore taken to be about 45/- per week, and for purposes of calculation 45/- was given a value of 100 or full per cent. The three groups remaining :—Classes II., III. and IV., differ in value in almost equal stages when a rough average of the wages for the various occupations is taken; the stages are of 8/- or 9/-, or about 20 per cent. of 45/-. The approximate value of the average earning power in each class as a proportion of 45/- is, therefore, as follows :—Class II.—80 per cent.; Class III.—60 per cent.; Class IV.—40 per cent.



These whole number percentages, representing the average earning value of each group were then taken, and respectively multiplied by the number of workers in each group in any particular district. The three numbers thus produced were then added together and the total was first divided by the total number of workers in that district, and afterwards by the average number of persons to a wage. The number produced is an index number representing the position of the district. The following is an example of the calculation for the index number for Wardleworth West Ward contained in the last table :—

|                             |                |                      |
|-----------------------------|----------------|----------------------|
| No. of Workers in Class II. | (value 80)= 82 | } Total 398 workers. |
| " " " III.                  | (value 60)=230 |                      |
| " " " IV.                   | (value 40)= 86 |                      |

$$\text{Then :— } \left. \begin{array}{l} 82 \times 80 = 6,560 \\ 230 \times 60 = 13,800 \\ 86 \times 40 = 3,440 \end{array} \right\} = 23,800$$

$$\text{and } \frac{23,800}{398} = 59.8 = \text{Index No. of gross average earning power of each worker.}$$

Average No. of persons to one wage in ward is 2.3.

$$\text{Therefore } \frac{59.8}{2.3} = 26 = \text{Index number of average means of families in ward.}$$

Considering the table itself, it appears that the index numbers representing the gross average earning powers in each district do not vary to any appreciable extent; the number of highest value being that for Castleton West (61.1), and the number of lowest value being that of Castleton East (56.9)—a difference of 4.2, or 7 per cent. All the other wards have numbers ranging between these two, and the variation is very small. The consequence of this is that the final index number will be almost entirely regulated by the average number of persons depending on one wage. In this way it is seen that, theoretically, the two and four-roomed residents in Wardleworth West have the largest family means of those families investigated owing to the large proportionate number of workers, while those in Castleton Moor appear to have the lowest average family means owing to the small proportionate number of workers.

But as many of the sub-districts in the three Wardleworth and Spotland West Wards, which show the highest indices of family means, have at the same time been unfavourably reported on as regards their housing, social and environmental conditions; it may appear somewhat paradoxical, if the interpretation of this table is understood to indicate that the means of the family and bad environmental conditions are related by an inverse ratio; or in other words, that the higher the means the worse the conditions.

This phase of our sociological conditions has received much careful consideration, and the explanation is found in a comparison of the class of labour and the ages of the workers in the two types of district—the good and the bad, to which reference has been frequently made in this Report. In the districts with bad Housing Conditions and accompanying evils, and where many of the inhabitants are apparently poor, we find that the children are usually sent to work as soon as they reach the age standard fixed by law, and thus begin to earn wages at the earliest possible moment in any sphere of work which presents itself; whereas in the good districts where the environmental conditions are more favourable the children appear to remain longer at school. In this manner the average number of workers in one type of district may differ considerably from that in another, while at the same time the gross average earning power of each worker in both types of district may be approximately equal. Hence it will be evident on examination of the basis of calculation and correction in the table, that the index number of means of those families having the highest number of workers will appear proportionately higher.

From this representation one conclusion is inevitable, namely, that many of the apparent poor, who live in slumdom or in unfavourable hygienic conditions, are not poor through lack of means; but poor, either through the lack of knowledge of the proper and economical use of means,



or in many cases through the abuse of means. For, while we can select such areas as described, where the two and four-roomed dwellers are living under unfavourable conditions and apparently poor, we can on the other hand select areas where the two and four-roomed dwellers appear to appreciate and seek after the better class of house with the more hygienic and more favourable environment, and although with no greater means, but sometimes even less, the latter contrive to live more self-respecting and frugal lives than the former, and exhibit more care in the rearing and educating of their children. Thus the dwellers in the two types of district may, and do often exhibit corresponding differences in character no less distinct than the material and social environment in which they live.

This evidence of correlation of type of character with environment has been frequently adverted to, and although character is largely the product of heredity and environment, and although in the interpretation of character we cannot exclude the consideration of the former, yet I venture to think that in so far as there is available evidence of this correlation, environment is the more dominant factor; and, we are now beginning to learn that in the study of all sociological questions which have for their aim the regeneration of the home, the power of environment is great.

#### **The relation of Means to Rent.**

This discussion then leads to another very important question—how far is the amount of means responsible in determining location; or to limit the discussion; what is the probable number of apparently poor families, in any given typical area who are living in undesirable dwellings, but who at the same time are in a position to pay a slightly higher rental for more commodious and more sanitary houses in a healthier and more wholesome district.

This question has been frequently discussed, but so far very little reliable data is available, on which to found any expression of opinion; and it has to be clearly understood that any such conclusions must always bear a direct relation to the standards or criteria adopted. Such conclusions could not readily be deduced from the material collected for use in Table XXII.; as such calculations did not include any allowance for temporary unemployment, nor for seasonal irregularity in work nor fluctuations in trade, etc. Hence we have selected in Wardleworth East an area represented by W.13 and W.14, which may be considered typical of many other areas, where the housing and other conditions of the people are such as one desires to see improved. This area is bounded by Jermyn-street on the south, by Haynes-street on the north, by Lomax-street on the west, and by the Railway line on the east; and contains a large number of back-to-back houses, many of which are in poor condition, and the inhabitants apparently poor.

122 of these back-to-back houses were visited, many of them more than once, in order to ascertain the actual circumstances of the families occupying them. The circumstances in every case were carefully considered and verified as far as possible by other evidence, and it may be stated, that in very few cases did this other or circumstantial evidence differ materially from the statements given on interrogation.

The following table shows the number of persons affected by this enquiry:—

| OCCUPANTS OF 122 BACK-TO-BACK HOUSES. |                            |                             |        |                            |
|---------------------------------------|----------------------------|-----------------------------|--------|----------------------------|
| Sex                                   | Over 10<br>years<br>of age | Under<br>10 years<br>of age | Totals | Total No.<br>of<br>Workers |
| Males ...                             | 118                        | 60                          | 178    | 102                        |
| Females ...                           | 143                        | 77                          | 220    | 59                         |
| TOTALS ...                            | 261                        | 137                         | 398    | 161                        |



The total weekly rent of all these houses is £19 14s. 6d. The average weekly rent for each house is therefore 3/3. The great majority of the rents come between 2/10 and 3/6 per week.

The total weekly income of all these families (122) is £141 16s. 5d. This is equal to an average income per family of £1 3s. 3d., and an average income per person of £0 7s. 2d. weekly.

The proportion of the total income which is paid in rent is therefore less than  $\frac{1}{7}$  (one-seventh).

The following shows how the income is contributed :—

|                                           | £    | s. | d. |
|-------------------------------------------|------|----|----|
| (a) By 102 male workers ... ..            | 94   | 0  | 6  |
| (b) By 59 female workers ... ..           | 39   | 5  | 10 |
| (c) By Old Age Pensions ... ..            | 2    | 5  | 0  |
| (d) By Parish Relief ... ..               | 2    | 15 | 6  |
| (e) By Private Pensions ... ..            | 0    | 13 | 0  |
| (f) By Private Means ... ..               | 2    | 11 | 7  |
| (g) By Shops, etc. (sweet shops) — ... .. | 0    | 5  | 0  |
|                                           | £141 | 16 | 5  |

The average weekly wage of each class of worker is as follows :—

|                                            | £ | s. | d. |
|--------------------------------------------|---|----|----|
| Average weekly wage of Male Workers ... .. | 0 | 18 | 5  |
| " " Female Workers ... ..                  | 0 | 13 | 4  |
| " " All Workers ... ..                     | 0 | 16 | 7  |

With regard to the 59 female workers it is interesting to classify according to position in the home :—

|                                                |    |
|------------------------------------------------|----|
| No. of Female Workers—Unmarried ... ..         | 28 |
| " " Married                                    |    |
| (a) No children ... ..                         | 9  |
| (b) With children ... ..                       | 22 |
| " " whose children are put out to nurse ... .. | 6  |

It was found, incidentally, that the 122 families contained 15 unemployed males, who are able to work ; and 30 persons who are debarred from work by old age or invalidity. With regard to ability to pay more rent, and the preference for Through houses over Back-to-back houses, the following answers to questions were obtained :—

Answers to Question 1 (Can tenant pay more rent ?)

Yes 63 (or 52 per cent.)

No 59 (or 48 per cent.)

Answer to Question 2 (Does tenant want to remove to Through house ?)

Yes 53 (or 43 per cent.)

No 69 (or 57 per cent.)

Of the 63 who admitted being in a position to pay the higher rent of a Through house, 22 were amongst those who wish to remove, and 41 were amongst those who do not. The information under this head resolves itself into the following table :—

| Reasons given by Tenants<br>for remaining in<br>Back-to-Back Houses | Can Tenant afford<br>Higher Rent of a<br>Through House ? |    | Does Tenant wish<br>to go into a<br>Through House ? |    |
|---------------------------------------------------------------------|----------------------------------------------------------|----|-----------------------------------------------------|----|
|                                                                     | Yes                                                      | No | Yes                                                 | No |
| Cannot get suitable house ... ..                                    | 18                                                       | —  | 18                                                  | —  |
| On point of removing ... ..                                         | 4                                                        | —  | 4                                                   | —  |
| House convenient for Work ... ..                                    | 6                                                        | —  | —                                                   | 6  |
| House convenient in size* ... ..                                    | 10                                                       | —  | —                                                   | 10 |
| Do not want responsibility of higher rent ... ..                    | 14                                                       | —  | —                                                   | 14 |
| Satisfied with Back-to-back house ... ..                            | 11                                                       | —  | —                                                   | 11 |
| Cannot afford higher rent ... ..                                    | —                                                        | 59 | 31                                                  | 28 |
| TOTALS ... ..                                                       | 63                                                       | 59 | 53                                                  | 69 |

\* Small family

The chief features in this table are that, of the 63 families who admit being able to pay more rent, only 22 (or about  $\frac{1}{3}$ ) are making an effort to do so; while of 59 families in poorer circumstances 31 (or nearly  $\frac{1}{2}$ ) say that they would like Through houses but cannot afford the rent.

The average weekly income of the 122 families is shown below, in stages of 5/-.

|                       | AVERAGE WEEKLY INCOME IN 5/- STAGES. |                   |                    |                    |                    |                    |                    |                    |              |
|-----------------------|--------------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------|
|                       | 5/-<br>and<br>under                  | 5/1<br>to<br>10/- | 10/1<br>to<br>15/- | 15/1<br>to<br>20/- | 20/1<br>to<br>25/- | 25/1<br>to<br>30/- | 30/1<br>to<br>35/- | 35/1<br>to<br>40/- | Over<br>40/- |
| Number<br>of Families | 3                                    | 6                 | 21                 | 29                 | 28                 | 11                 | 8                  | 9                  | 7            |
| Percentage ...        | 2.5                                  | 4.9               | 17.2               | 23.8               | 23                 | 9                  | 6.5                | 7.4                | 5.7          |

The gross income per week per person is as follows :—

|                       | AVERAGE WEEKLY INCOME PER PERSON (GROSS) 1/6 STAGES. |                  |                  |                  |                  |                   |                    |                    |              |
|-----------------------|------------------------------------------------------|------------------|------------------|------------------|------------------|-------------------|--------------------|--------------------|--------------|
|                       | 2/6<br>and<br>under                                  | 2/7<br>to<br>4/- | 4/1<br>to<br>5/6 | 5/7<br>to<br>7/- | 7/1<br>to<br>8/6 | 8/7<br>to<br>10/- | 10/1<br>to<br>11/6 | 11/7<br>to<br>13/- | Over<br>13/- |
| Number<br>of Families | 4                                                    | 16               | 18               | 20               | 16               | 15                | 8                  | 9                  | 16           |
| Percentage ...        | 3.2                                                  | 13.1             | 14.8             | 16.4             | 13.1             | 12.3              | 6.6                | 7.4                | 13.1         |

and the following table shows the proportion of income which is paid in rent.

|                        | PROPORTION OF INCOME PAID IN RENT. |               |               |               |               |               |               |               |                |                |                |                |                |                |                |
|------------------------|------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                        | $\frac{1}{2}$                      | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{1}{5}$ | $\frac{1}{6}$ | $\frac{1}{7}$ | $\frac{1}{8}$ | $\frac{1}{9}$ | $\frac{1}{10}$ | $\frac{1}{11}$ | $\frac{1}{12}$ | $\frac{1}{13}$ | $\frac{1}{14}$ | $\frac{1}{15}$ | $\frac{1}{16}$ |
| Number of Families ... | 4                                  | 8             | 15            | 14            | 15            | 19            | 11            | 14            | 7              | 5              | 5              | 1              | 2              | 1              | 1              |
| Percentage ...         | 3.2                                | 6.5           | 12.3          | 11.5          | 12.3          | 15.6          | 9             | 11.4          | 5.7            | 4.1            | 4.1            | 0.9            | 1.6            | 0.9            | 0.9            |

54 per cent.

If the rents are deducted from the total incomes of the families the following is the result :—

|                        | WEEKLY INCOME LESS RENT, 5/- STAGES. |                   |                    |                    |                    |                    |                    |                    |              |
|------------------------|--------------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------|
|                        | 5/-<br>and<br>under                  | 5/1<br>to<br>10/- | 10/1<br>to<br>15/- | 15/1<br>to<br>20/- | 20/1<br>to<br>25/- | 25/1<br>to<br>30/- | 30/1<br>to<br>35/- | 35/1<br>to<br>40/- | Over<br>40/- |
| No. of<br>Families ... | 4                                    | 17                | 19                 | 31                 | 20                 | 14                 | 9                  | 4                  | 4            |
| Percentage ...         | 3.3                                  | 13.9              | 15.6               | 25.4               | 16.4               | 11.4               | 7.4                | 3.3                | 3.3          |



The following table shows the weekly income per person of adult age when two persons under 10 years of age are counted as one adult person, and when the rent has first been deducted.

| AVERAGE WEEKLY INCOME PER ADULT PERSON AFTER DEDUCTION OF RENT, 1/6 STAGES |                     |                  |                  |                  |                  |                   |                    |                    |              |
|----------------------------------------------------------------------------|---------------------|------------------|------------------|------------------|------------------|-------------------|--------------------|--------------------|--------------|
|                                                                            | 2/6<br>and<br>under | 2/7<br>to<br>4/- | 4/1<br>to<br>5/6 | 5/7<br>to<br>7/- | 7/1<br>to<br>8/6 | 8/7<br>to<br>10/- | 10/1<br>to<br>11/6 | 11/7<br>to<br>13/- | Over<br>13/- |
| No of<br>Families ...                                                      | 6                   | 12               | 23               | 25               | 13               | 14                | 12                 | 4                  | 13           |
| Percentage ...                                                             | 4.9                 | 9.8              | 19               | 20.5             | 10.6             | 11.4              | 9.9                | 3.3                | 10.6         |

35 per cent.

A working man earning an average wage of 35/- per week, and having an averaged sized family of five persons (two adults and three young persons) might reasonably pay 5/6 per week for rent. If the three young persons be counted as one and a half adults, then, after paying rent the income per person of adult age would be :—

Income 35/- }  
Rent 5/6 } Income less rent 29/6, and 29/6 divided by  $3\frac{1}{2}$  = 8/5 per person left.

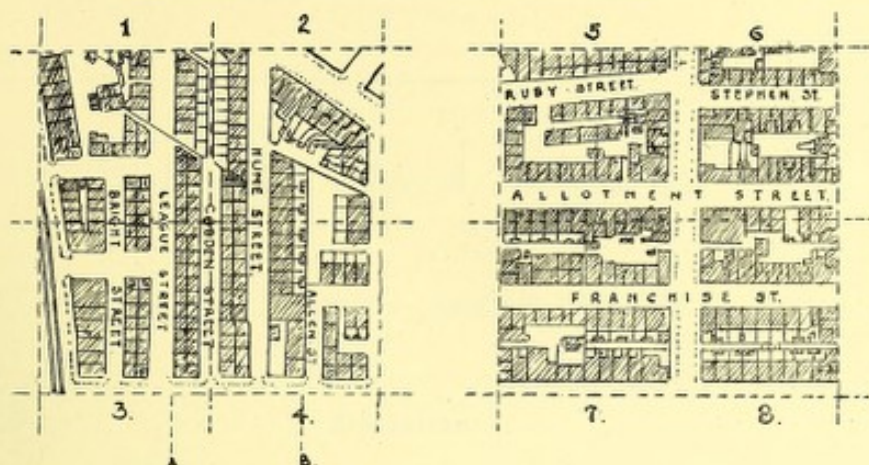
A little over one-seventh the income will have been paid in rent, and each adult person will have about 8/6 for food, clothing, cost of fuel, light, etc.

Taking this standard there are, among the 122 families enquired about, 43 (or 35 per cent.) whose incomes per adult persons exceed 8/6, and who are therefore in a position to pay more rent.

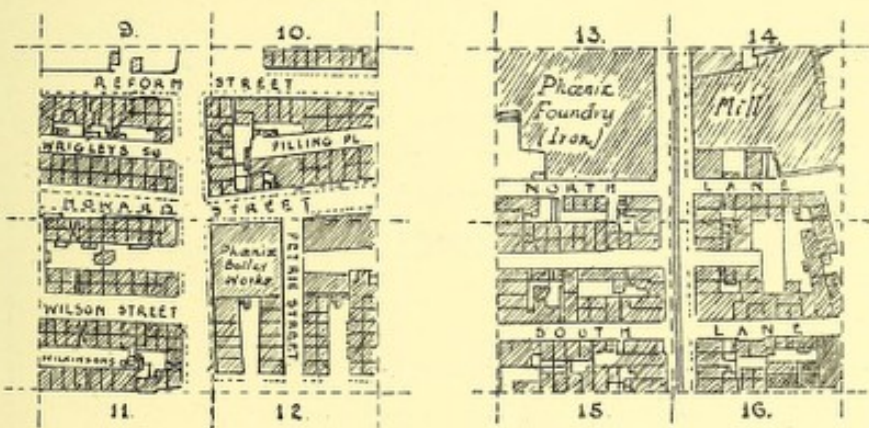
The following table gives particulars of the families who could afford more rent when different standards are taken.

| STANDARD OF CALCULATION.                                                                                                                                                              | No. | Per cent. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| Families who pay rent which represents $\frac{1}{3}$ and less than $\frac{1}{2}$ the total income ... ..                                                                              | 66  | 54        |
| Families who think they might be able to afford 5/6 per week for rent                                                                                                                 | 63  | 51½       |
| Families in which (after deduction of rent from total income, and after calculating two young persons as equal to one adult) there is more than 8/6 per adult member of family ... .. | 43  | 35        |

# EXAMPLES of AREA CROWDING. No. 5



(TRACINGS FROM ORDNANCE SURVEY MAPS 1910.  $\frac{1}{2500}$  SCALE.)



## DENSITY of HOUSES PER ACRE.

| Average for 4 Acres | Square No.       | No of Houses per Acre | Average for 4 Acres      | Square No. | No of Houses per Acre |
|---------------------|------------------|-----------------------|--------------------------|------------|-----------------------|
| 45                  | 1                | 55                    | 49                       | 9          | 37                    |
|                     | 2                | 31                    |                          | 10         | 47                    |
|                     | 3                | 49                    |                          | 11         | 76                    |
|                     | 4                | 47                    |                          | 12         | 36                    |
| Note -              | A to B on 3 + 4. | 72                    | (Average of 2 Acres) 53. | 13         | -                     |
| 52                  | 5                | 62                    |                          | 14         | -                     |
|                     | 6                | 49                    |                          | 15         | 58                    |
|                     | 7                | 55                    |                          | 16         | 48                    |
|                     | 8                | 41                    |                          |            |                       |





## **SECTION II.**

# **Detailed Ward Reports.**

## **WARDLEWORTH WEST WARD.**

### **Situation.**

This ward occupies what can be described as a north central position in the Borough.

### **Size and Population.**

The ward extends over 296 acres, and at the 1901 census had a population of 6,296, and a density of 21·3 persons per acre. The particulars for the five sub-districts into which the ward is divided are given in the table below. If the last two districts W.8 and W.18 are excluded from the calculations, as having, by reason of their semi-rural character, the effect of reducing the density per acre, the result is an acreage of 34, a population of 3,633, and a density of nearly 107 persons per acre.

| Sub-district | Acres. | Population | Density per Acre |
|--------------|--------|------------|------------------|
| W 4          | 10     | 817        | 81·7             |
| W 5          | 10     | 1,562      | 156·2            |
| W 6          | 14     | 1,254      | 89·6             |
| W 8          | 84     | 1,750      | 20·8             |
| W 18         | 178    | 913        | 5·1              |
| WHOLE WARD.. | 296    | 6,296      | 21·3             |

### **General Description.**

The three sub-districts W 4, W 5 and W 6 form part of the oldest and most densely populated districts of the Borough, very extensively built upon, and chiefly of a working class residential character. They stand at a fair altitude, and occupy that portion of the ward which has a gradual southern slope, and abut on two main approaches to the town. Although two of these sub-districts actually contain no mills or factories of any size within their boundaries, yet they are considerably affected by the smoke and dust from those in the remaining district and in the adjoining wards; especially from those to the south-west and at a lower altitude.

### **Streets, Yards, and Arrangement of Houses.**

In the oldest parts of the ward the streets are narrow, and in sub-district W 6 there are many unpaved and badly paved. These are chiefly of the private cul-de-sac type, and are in very bad condition. The whole ward shows a deficiency in the matter of street paving; whole streets built up with moderately new houses may be found to be unpaved, and in very bad condition in wet weather. The following table gives an idea of the percentage of houses abutting on unpaved streets:—



| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| W 4                                             | 100         | 0              | 0                         |
| W 5                                             | 37          | 10             | 53                        |
| W 6                                             | 49          | 0              | 51                        |
| W 8                                             | 32          | 27             | 41                        |
| W 18                                            | 17          | 22             | 61                        |
| WHOLE WARD..                                    | 43          | 15             | 42                        |

The old method of building cottages around a square area, which formed the common yard and contained the sanitary accommodation for all the houses, is in evidence in this ward ; and plays an important part in the prevention of the proper circulation of air around the dwellings and the distribution of light therein. The aim of the older builders having apparently been to erect as many dwellings as possible on a given area without regard to light, ventilation or accommodation, the common yards are often as a result very small, and fail to provide the advantages which would be obtained from sufficiently large and open yard space. The prevalence of the common yard in this ward is shown by the percentage table below, which also gives the percentage of houses affected by unpaved common yards in each district.

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| W 4          | 87                               | 13           | 90           | 10      |
| W 5          | 53                               | 47           | 66           | 34      |
| W 6          | 83                               | 17           | 91           | 9       |
| W 8          | 37                               | 63           | 83           | 17      |
| W 18         | 53                               | 47           | 36           | 64      |
| WHOLE WARD.. | 57                               | 43           | 73           | 27      |

Another arrangement of dwellings noticeable is that of long rows of back-to-back houses, facing on the one side a narrow street, and on the other a narrow cul-de-sac passage, which is the only yard space provided. This passage contains the closets and ashplaces, which are situated either close to the dwellings or at the blind end, where the air has least chance of circulating ; and, where in warm weather the contents of a number of closet pails help to intensify the odours which proceed from the polluted, unpaved yard surfaces and from many of the houses themselves. These conditions exist in sub-districts W.4, W.5, W.6, and W.8.

The more modern arrangement of houses, most prevalent in W.18, consists of long rows of 4 or 5 roomed dwellings with a good street frontage and having in the rear separate yard and sanitary accommodation, whilst a fairly wide passage divides the yards of opposite rows. If these houses, however, had been erected in small discontinuous blocks it would have facilitated a more free and equable circulation of fresh air.

#### Closet Accommodation.

The pail closet is predominant in this ward to the extent of 83 per cent. ; the number of dwellings affected by fresh-water closets and waste-water closets being about 8 per cent. and 9 per cent. respectively of the total number. W.4 has the highest percentage of pail closets, and



W.8 the lowest. In W.4 also is found the least number of separate closets, and in W.8 the greatest number. The following table is comparative in these respects for the sub-districts:—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                           |                            |                    |                                |                             |
|--------------|----------------------------------|---------------------------|----------------------------|--------------------|--------------------------------|-----------------------------|
|              | Pail<br>Closets                  | Fresh<br>Water<br>Closets | Waste-<br>water<br>Closets | Midden-<br>Privies | Separate<br>Accom-<br>modation | Joint<br>Accom-<br>modation |
| W 4          | 95                               | 5                         | 0                          | 0                  | 22                             | 78                          |
| W 5          | 83                               | 11                        | 6                          | 0                  | 50                             | 50                          |
| W 6          | 82                               | 8                         | 10                         | 0                  | 22                             | 78                          |
| W 8          | 77                               | 5                         | 18                         | 0                  | 64                             | 36                          |
| W 18         | 83                               | 12                        | 4                          | 1                  | 38                             | 62                          |
| WHOLE WARD.. | 83                               | 7.9                       | 9                          | 0.1                | 44                             | 56                          |

Many of the pail closets are in bad condition, and have been badly constructed and badly placed; and nowhere in the Borough is the lack of adequate separate accommodation more noticeable than in the old sub-districts of this ward. In the whole ward only about 44 per cent. of the families are provided with separate closets, and, in some instances as many as four families are compelled to share one convenience.

The yards and streets in part of W.4 show some of the worst features associated with the system of joint accommodation, which have been discussed in the Borough Report, namely:—the pollution of surface areas by persons who are either too careless and indifferent, or too lazy to use the closets in a proper manner.

### Consideration of Houses.

Of over 1,600 houses considered in this ward 22 per cent. were in bad condition, and 78 per cent. in good or passable condition. Taking the whole ward, the predominant type of house is the four-roomed through one with a range of weekly rent from 4/- to 5/-; and these form about 24 per cent. of the total. The percentage of through houses of all sizes is 62, and of back-to-back houses and modifications thereof 38. 27 per cent. of the total number of houses are two-roomed houses (all back-to-back), and the highest number of these is in sub-district W.6, which also contains the largest number of low-rented houses. Most of the back-to-back houses in this ward are not in good condition, and are wanting in adequate sleeping and sanitary accommodation. They consist usually of one living room and one sleeping room, and generally conform to the description given of Type i. of the Back-to-Back houses in the Borough report.

Following are comparative tables of percentages of the various classes of houses, and the various ranges of rents of houses in this ward:—

| Sub-district | PERCENTAGE OF HOUSES HAVING |    |     |    |     |                  |                   |                  |                  |                  |                   |                    |
|--------------|-----------------------------|----|-----|----|-----|------------------|-------------------|------------------|------------------|------------------|-------------------|--------------------|
|              | Number of Rooms             |    |     |    |     |                  | Ranges of Rent    |                  |                  |                  |                   |                    |
|              | 1                           | 2  | 3   | 4  | 5   | 6<br>and<br>over | 1/-<br>to<br>1/11 | 2/-<br>to<br>3/- | 3/1<br>to<br>4/- | 4/1<br>to<br>5/- | 5/1<br>to<br>5/11 | 6/-<br>and<br>over |
| W 4          | ...                         | 28 | 1   | 54 | 1   | 16               | ...               | 14               | 33               | 28               | 9                 | 16                 |
| W 5          | ...                         | 29 | 3   | 61 | 1   | 6                | ...               | 25               | 21               | 38               | 11                | 5                  |
| W 6          | ...                         | 47 | 2   | 38 | 3   | 10               | ...               | 34               | 27               | 15               | 12                | 12                 |
| W 8          | ...                         | 18 | 4   | 58 | 10  | 10               | ...               | 11               | 21               | 17               | 35                | 16                 |
| W 18         | 2                           | 18 | ... | 68 | 5   | 7                | 4                 | 22               | 21               | 29               | 16                | 8                  |
| WHOLE WARD.. | 0.4                         | 27 | 2.8 | 56 | 4.6 | 9.2              | 0.7               | 20               | 23.2             | 24.6             | 20                | 11.5               |



The extent of the prevalence of Houses Not Through is shewn below, the percentage for the ward being 38.

| Sub-district                            | W 4 | W 5 | W 6 | W 8 | W 18 | WHOLE WARD |
|-----------------------------------------|-----|-----|-----|-----|------|------------|
| Percentage of Through Houses ... ..     | 68  | 58  | 54  | 70  | 57   | 62         |
| Percentage of Houses Not Through ... .. | 32  | 42  | 46  | 30  | 43   | 38         |

In the whole of this ward the oldest houses invariably present one serious defect—that of dampness of floors and walls. Some of the houses are in such a condition from this cause as to be hardly fit for human habitation. The dampness referred to is not always temporary or immediately remediable, but arises from the old method of building walls of solid brickwork through which moisture is absorbed from the outside. Further, it also arises from the practice, very evident in this ward, of laying down flag floors directly on damp undrained and unprepared sites.

The more modern houses built with cavity walls and damp-proof courses, when properly constructed, are free from this defect. Many, however, of the new houses show evidence of it, which may often be attributed to either the defective material used or to faulty construction of the damp-proof course; or in some cases to the insufficient precautions taken in clearing out the wall cavity during building operations.

The four-roomed back-to-back house, of which there is a good number in this ward, is of more modern construction than the two-roomed, and generally in better condition, although some of them show signs of dampness from similar causes. These dwellings, instead of having the slopstones in the main living room, are provided with a second room of varying dimensions, which contains water supply, slopstone, and usually the stairs leading to the two bedrooms on the first floor.

### Overcrowding.

444 dwellings, comprising 191 two-roomed and 253 four-roomed houses, were considered in this ward in relation to overcrowding. The total number of two-roomed houses found to be overcrowded was 36, equal to nearly 19 per cent., or a rate of one in every  $5\frac{1}{2}$ ; and of four-roomed houses 7, equal to nearly 3 per cent., or a rate of one in 36. The following tables compare the sub-districts in this respect.

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES |                          |                |            |                      |                        |  |     |
|------------------------------------------------|--------------------------|----------------|------------|----------------------|------------------------|--|-----|
| Sub-district                                   | No. of Houses considered | Ranges of Rent | Population | Rate of Overcrowding | Average No. of Persons |  |     |
|                                                |                          |                |            |                      | per house/per room     |  |     |
| W 4                                            | 54                       | 2/- 3/6        | 174        | 1 in 5               | 3.2                    |  | 1.6 |
| W 5                                            | 36                       | 2/- 3/6        | 113        | 1 in 6               | 3.2                    |  | 1.6 |
| W 6                                            | 40                       | 2/- 3/-        | 142        | 1 in 5               | 3.5                    |  | 1.7 |
| W 8                                            | 48                       | 2/6 3/3        | 150        | 1 in 5               | 3.1                    |  | 1.6 |
| W 18                                           | 13                       | 2/6 3/-        | 30         | 1 in 7               | 2.3                    |  | 1.2 |
| WHOLE WARD..                                   | 191                      | 2/- 3/6        | 609        | 1 in $5\frac{1}{2}$  | 3.2                    |  | 1.6 |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |     |             |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|-----|-------------|-----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent |     | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |     |             |                       | per house              | per room |
| W 4                                         | 101                      | 2/9            | 4/- | 416         | 1 in 33               | 4.1                    | 1.0      |
| W 5                                         | 39                       | 3/9            | 4/- | 177         | 1 in 39               | 4.5                    | 1.1      |
| W 6                                         | 29                       | 3/6            | 4/6 | 151         | 0 in 29               | 5.2                    | 1.3      |
| W 8                                         | 41                       | 4/-            | 5/- | 174         | 1 in 41               | 4.2                    | 1.0      |
| W 18                                        | 43                       | 4/-            | 5/6 | 169         | 1 in 20               | 3.9                    | 1.0      |
| WHOLE WARD..                                | 253                      | 2/9            | 5/6 | 1,087       | 1 in 36               | 4.3                    | 1.07     |

### Notes on the Circumstances and Class of Inhabitants.

This varies in the different sub-districts, but generally speaking the circumstances appear to improve in ratio to the distance from the town centre. In the slum property situated in W.4 and W.6 there is a proportionately high percentage of lower class inhabitants. The latter sub-district contains a large number of low-rented dwellings of a poor type, and the poorest class of tenant is therefore attracted to the neighbourhood. Except at the south end, the majority of those living in W.4, which is further from the town centre, are of a rather better class and in rather better circumstances. In W.8 and W.18 the difference is distinctly noticeable; here there is a preponderance of clean, hardworking people of average means. The following table compares the circumstances of residents in two-roomed and four-roomed houses only in each sub-district:—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                    | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| W 4          | 54                         | 207                  | 96             | 2.1                                | 16                                       | 57                | 23               | 58.5                                 | 28          |
| W 5          | 49                         | 190                  | 90             | 2.1                                | 18                                       | 54                | 18               | 60.0                                 | 29          |
| W 6          | 51                         | 197                  | 75             | 2.6                                | 19                                       | 35                | 21               | 59.2                                 | 23          |
| W 8          | 40                         | 148                  | 61             | 2.4                                | 13                                       | 36                | 12               | 60.0                                 | 25          |
| W 18         | 51                         | 190                  | 76             | 2.5                                | 16                                       | 48                | 12               | 61.0                                 | 24          |
| WHOLE WARD.  | 245                        | 932                  | 398            | 2.3                                | 82                                       | 230               | 86               | 59.8                                 | 26          |

\* Corrected for number of Persons to one wage.



## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1908) |                        |               |                |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       |                                              |               | All Causes                                                                 | Seven Zymotic Diseases |               |                |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years |                                                                            | Total Zymotic          | Enteric Fever | Dysentery, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| W 4 (a)      | 153                                       | 40.1                                  | 23.5                                         | 34.3          | 31.4                                                                       | 1.68                   | 0.15          | 0.61           | 0.31       | ...           | 0.61                   | 3.83     | 5.51                      |
| W 5 (b)      | 182                                       | 25.8                                  | 24.5                                         | 33.7          | 17.7                                                                       | 1.84                   | 0.08          | 0.56           | 0.08       | ...           | 1.12                   | 1.52     | 2.26                      |
| W 6 (c)      | 220                                       | 22.3                                  | 21.6                                         | 31.5          | 22.4                                                                       | 1.89                   | ...           | 0.60           | 0.30       | 0.10          | 0.90                   | 2.49     | 4.69                      |
| W 8 (d)      | 127                                       | 28.2                                  | 17.1                                         | 28.5          | 16.6                                                                       | 0.71                   | ...           | 0.21           | ...        | ...           | 0.50                   | 1.00     | 3.93                      |
| W 18 (e)     | 136                                       | 28.5                                  | 23.1                                         | 28.8          | 16.8                                                                       | 1.22                   | ...           | 0.27           | 0.55       | ...           | 0.41                   | 1.37     | 2.06                      |
| Ward ...     | 158                                       | 28.5                                  | 22.9                                         | 31.6          | 20.0                                                                       | 1.41                   | 0.04          | 0.42           | 0.20       | 0.02          | 0.73                   | 1.89     | 3.73                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

## NOTES ON SALIENT FEATURES.

- (a) The death rate for children is low in comparison with the extremely high rate of deaths from All Causes and with the extremely high Birth Rate. The Phthisis and Respiratory Diseases rates are the principal components of the excess in deaths; it would therefore seem that the deaths from Phthisis and Respiratory Diseases are evidently those of adults. This, to some extent, points to the effects of the existence of a large well-known common-lodging house in this district, to which such deaths as occur at the Workhouse are allocated, as the lodging-house is stated, often incorrectly, as the last place of residence prior to admission to Workhouse. Rates are not affected by increase of population due to erection of new dwellings.
- (b), (d), and (e) Though the "All Causes" death-rate is below both the ward and the Borough averages, yet the deaths of children are proportionately very high; the deaths under five years in (b) comprise nearly 34 per cent. of the total deaths, and are nearly equal to those in (a). The Infant Mortality is excessive in (b), and in these three districts this is the only rate not affected by influx of population to new dwellings, and by age and sex distribution, for the reason that it represents a ratio to the number of births and not to the 1,000 of the population. The comparatively high rate from "Other Zymotic Diseases" (made up of many children's diseases) tends to strengthen the significance of the high rates of death of persons under one year and under five years.
- (c) The high rate of deaths from All Causes is due to a combination of the causes mentioned under (a) and (b), that is:—an extremely high Phthisis and Respiratory Diseases rate and high infant mortality. This district is, like (a), affected by lodging houses and furnished rooms, and the remarks made for (a) apply to (c) in that respect. With regard to the Infant Mortality, it is again seen that the "Other Zymotics" is above the average and helps to increase the rate of deaths in children.

## WARDLEWORTH SOUTH WARD.

### Situation.

This ward occupies an east central position in the Borough, and includes several of the districts of lower altitude.

### Size and Population.

The ward covers 117 acres, and had a population of 8,336 at the last census, and a density of 71.2 per acre. The ward is divided into eight sub-districts, and the respective size of each and density per acre is given below.

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| W 1          | 21      | 783        | 37.3             |
| W 2          | 13      | 952        | 73.2             |
| W 3          | 10      | 753        | 75.2             |
| W 7          | 4       | 618        | 154.5            |
| W 9          | 16      | 1,235      | 77.2             |
| W 10         | 20      | 1,817      | 90.9             |
| W 11         | 7       | 868        | 124.0            |
| W 12         | 26      | 1,310      | 50.4             |
| WHOLE WARD.. | 117     | 8,336      | 71.2             |

### General Description.

Sub-district W.1 forms part of the old town centre, and here the buildings are very dense, and for the greater portion of each day and night, it is the most thickly populated district. The premises, however, are largely "lock-up" business premises, whose occupants are not counted in the population, and hence the comparatively low density of persons per acre. With the exception of W.12, the lowest lying sub-district, the whole ward is built up with business premises and working class residences. There are comparatively few mills or factories actually within the boundaries of the ward, although there are large woollen mills in W.1, and both cotton and woollen mills in W.3, 9 and 12, while in W.12 is also situated the Corporation Manure Depot with its destructors. This ward is on the whole considerably affected by atmospheric impurities arising from the various industries and processes of manufacture, which are carried on both within and without its own boundaries.

### Streets, Yards, and Arrangement of Houses.

In the oldest and most central parts of the ward the streets are narrow and confined, and the great height of many of the business premises interferes with the proper circulation of air and distribution of light. This is most noticeable in sub-district W.1, part of which is practically in the centre of the town. Here, in earlier years, the value of the land for business sites has resulted in the crowding together of buildings without due regard to the provision of yard space and suitable sanitary accommodation; and this feature is even noticeable in many of the better class residential houses situated in the main streets. Many of these business premises have no yard space, and many are only provided with a passage at the rear in which are placed the sanitary



arrangements, which are often used in common by several tenants. The remaining districts are not so bad in respect of yard space, as they are further removed from the business centre; and in these the streets are usually of average width and fairly symmetrically arranged. The street paving in this ward is on the whole good. There are only 15 per cent. of the dwellings affected by streets not paved with setts. In this respect sub-districts W.3, 7, 11 and 1 are the best, whilst W.9, 2 and 12 are the worst. In W.12 the deficiency of street paving is noticeable. 30 per cent. of the houses in this district are affected by unpaved streets, and in one large street in this district, where the age of the buildings is from eight to ten years, the unpaved surface is at times like a quagmire. The following table shows the comparative percentages as regards street paving.

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| W 1                                             | 92          | ...            | 8                         |
| W 2                                             | 79          | ...            | 21                        |
| W 3                                             | 100         | ...            | ...                       |
| W 7                                             | 100         | ...            | ...                       |
| W 9                                             | 72          | ...            | 28                        |
| W 10                                            | 87          | ...            | 13                        |
| W 11                                            | 100         | ...            | ...                       |
| W 12                                            | 70          | ...            | 30                        |
| WHOLE WARD..                                    | 85          | ...            | 15                        |

The paving of back passages has been neglected in this ward. As an instance of this, W.11 with a full percentage of paved streets has scarcely one of its back passages paved. This sub-district also shows some instances of uneconomical laying out of ground for building purposes, and consequently for some reason or another spaces between the rear of some rows of houses has been left waste and unutilised. The spaces are not sufficiently wide to allow of building a third row of houses, but are too wide for a passage of regulation size. These spaces are unpaved, are likely to remain unpaved, and are used as drying grounds.

The private yard is predominant in this ward, when the whole ward is considered, but the sub-districts show great variation in this respect. For example 93 per cent. of the houses in W.7 have common yards or no yards at all, whilst in W.11 each house has a separate yard and closet. The following table shows the percentages in each class for each sub-district, and also the percentages of those houses having common yards which are unpaved or insufficiently paved.

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| W 1          | 64                               | 36           | 86           | 14      |
| W 2          | 82                               | 18           | 85           | 15      |
| W 3          | 81                               | 19           | 87           | 13      |
| W 7          | 93                               | 7            | 91           | 9       |
| W 9          | 61                               | 39           | 56           | 44      |
| W 10         | 45                               | 55           | 65           | 35      |
| W 11         | 0                                | 100          | 0            | 0       |
| W 12         | 7                                | 93           | 56           | 44      |
| WHOLE WARD.. | 48                               | 52           | 76           | 24      |

It is seen from the above table that in the oldest districts (W.1, 2, 3, 7, 9 and 10) a large number of houses are not provided with separate yards, but are arranged on the common yard or no yard principle. Sometimes the common yard is not an enclosed one, but only a wide passage between the houses concerned and a row of back-to-back dwellings. In these cases the passage contains the closet and ashpit accommodation for both the through houses and the block of back-to-back premises.

### Closet Accommodation.

The usual pail closet prevails in this ward to the extent of 88 per cent.; and in only about 8 per cent. of the total number of houses, and these of the better class, are closets on the fresh-water system provided. The system of joint closet accommodation prevails to the extent of 47 per cent., and this is found chiefly in the oldest districts of the ward.

Below is a table showing the comparative prevalence of each class of closet and of the joint and separate system in each sub-district.

| PERCENTAGE OF HOUSES AFFECTED BY |              |                     |                     |                |                        |                     |
|----------------------------------|--------------|---------------------|---------------------|----------------|------------------------|---------------------|
| Sub-district                     | Pail Closets | Fresh Water Closets | Waste-water Closets | Midden-Privies | Separate Accommodation | Joint Accommodation |
| W 1                              | 69           | 30                  | ...                 | 1              | 40                     | 60                  |
| W 2                              | 82           | 14                  | ...                 | 4              | 22                     | 78                  |
| W 3                              | 93           | ...                 | 7                   | ...            | 20                     | 80                  |
| W 7                              | 93           | 3                   | 4                   | ...            | 10                     | 90                  |
| W 9                              | 91           | 10                  | ...                 | ...            | 39                     | 61                  |
| W 10                             | 93           | 5                   | 2                   | ...            | 59                     | 41                  |
| W 11                             | 100          | ...                 | ...                 | ...            | 100                    | ...                 |
| W 12                             | 83           | 7                   | 10                  | ...            | 94                     | 6                   |
| WHOLE WARD..                     | 88           | 8                   | 3.5                 | 0.5            | 53                     | 47                  |

### Consideration of Houses.

Taking the whole ward the four-roomed through house is the predominant type, the rents of which range between 4/- and 5/-; but in this respect the sub-districts vary considerably as is shown by the following table.

| Sub-district | PERCENTAGE OF HOUSES HAVING |      |     |    |    |            |                |            |            |            |             |              |
|--------------|-----------------------------|------|-----|----|----|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |      |     |    |    |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2    | 3   | 4  | 5  | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| W 1          | 2                           | 24   | 5   | 24 | 5  | 40         | 2              | 13         | 27         | 15         | 2           | 41           |
| W 2          | 1                           | 32   | 2   | 41 | 4  | 20         | 1              | 17         | 42         | 19         | 2           | 19           |
| W 3          | ...                         | 34   | 3   | 30 | 13 | 20         | 3              | 28         | 26         | 23         | 3           | 17           |
| W 7          | ...                         | 34   | 3   | 49 | 7  | 7          | ...            | 13         | 34         | 37         | 6           | 10           |
| W 9          | ...                         | 35   | 1   | 44 | 1  | 19         | ...            | 22         | 21         | 32         | 5           | 20           |
| W 10         | ...                         | 24   | 0.4 | 42 | 15 | 18.6       | 0.2            | 13         | 18         | 23.4       | 22          | 23.4         |
| W 11         | ...                         | ...  | ... | 89 | 7  | 4          | ...            | ...        | ...        | 65         | 20          | 15           |
| W 12         | ...                         | 1    | ... | 54 | 22 | 23         | ...            | 0.8        | 1.3        | 29.9       | 26          | 42           |
| WHOLE WARD.. | 0.2                         | 21.6 | 1   | 48 | 11 | 18.2       | 0.5            | 12.2       | 19         | 29.3       | 14          | 25           |



Of the total number of houses 31 per cent. are houses not through, and the percentage varies in the sub-districts from 59 per cent. to nil, as follows :—

| Sub-district                         | W 1 | W 2 | W 3 | W 7 | W 9 | W 10 | W 11 | W 12 | WHOLE WARD |
|--------------------------------------|-----|-----|-----|-----|-----|------|------|------|------------|
| Percentage of Through Houses ... ..  | 59  | 41  | 59  | 59  | 51  | 69   | 100  | 97   | 69         |
| Percentage of Houses Not Through ... | 41  | 59  | 41  | 41  | 49  | 31   | 0    | 3    | 31         |

Of the true back-to-back houses in this ward, a great number are of the "inset" type, described in the General Borough Report under Group II., A ii. In sub-districts W.11 and W.12, the arrangement of houses is more modern, with long and short rows of four-roomed houses with separate yards.

Over 2,000 houses have been considered, and of these it is estimated that 80 per cent. are in good or passable condition, and about 20 per cent. in very poor condition. The worst sub-districts in this respect are found to be W.3 and W.9, with 58 per cent. and 38 per cent. respectively of their total number in a bad condition. Both these districts include small areas of what can be reasonably classed as slum property. A reference to the rent table will show that these two districts have the largest percentage of low-rented dwellings; of which there are 28 per cent. and 22 per cent. respectively, with rents between 2/- and 3/- per week.

#### Overcrowding.

Altogether enquiries were made at 511 houses, or about 27 per cent. of the total number of houses. Of these 172 were typical back-to-back houses, 327 were typical four-roomed through houses, and 12 were five-roomed houses. It was found that 25 per cent. of the two-roomed and 4 per cent. of the four-roomed were overcrowded. This works out roughly at 1 in every 4 of two-roomed, and 1 in every 27 of four-roomed. None of the five-roomed houses were overcrowded. The following tables give particulars of this.

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                                    |                |            |                       |                        |          |
|-------------------------------------------------|------------------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                    | No. of Houses considered           | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                                 |                                    |                |            |                       | per house              | per room |
| W 1                                             | 28                                 | 2/6 to 3/6     | 81         | 1 in 7                | 3.0                    | 1.5      |
| W 2                                             | 28                                 | 3/- .. 4/-     | 115        | 1 in 2½               | 4.1                    | 2.1      |
| W 3                                             | 40                                 | 2/- .. 3/6     | 125        | 1 in 5                | 3.1                    | 1.6      |
| W 7                                             | 29                                 | 3/- .. 3/6     | 79         | 1 in 28               | 2.8                    | 1.4      |
| W 9                                             | 21                                 | 2/- .. 3/6     | 88         | 1 in 3                | 4.2                    | 2.1      |
| W 10                                            | 26                                 | 3/- .. 3/3     | 105        | 1 in 2½               | 4.0                    | 2.0      |
| W 11                                            | No Two-r'd houses in this district | ...            | ...        | ...                   | ...                    | ...      |
| W 12                                            | Only 1 per cent. Two-roomed houses | ...            | ...        | ...                   | ...                    | ...      |
| WHOLE WARD..                                    | 172                                | 2/- to 4/-     | 593        | 1 in 4                | 3.4                    | 1.7      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |            |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |            |                       | per house              | per room |
| W 1                                         | 23                       | 3/6 to 4/6     | 120        | 1 in 8                | 5.2                    | 1.3      |
| W 2                                         | 60                       | 4/- .. 5/-     | 237        | 0 in 60               | 3.9                    | 1.0      |
| W 3                                         | 26                       | 3/6 .. 4/6     | 136        | 0 in 24               | 5.2                    | 1.3      |
| W 7                                         | 39                       | 4/6 .. 5/-     | 152        | 1 in 40               | 4.0                    | 1.0      |
| W 9                                         | 26                       | 4/6 .. 5/3     | 129        | 0 in 26               | 4.9                    | 1.2      |
| W 10                                        | 38                       | 3/6 .. 5/6     | 178        | 1 in 9                | 4.7                    | 1.2      |
| W 11                                        | 87                       | 4/9 .. 5/3     | 361        | 1 in 22               | 4.2                    | 1.0      |
| W 12                                        | 28                       | 4/9 .. 5/3     | 98         | 0 in 28               | 3.5                    | 0.9      |
| WHOLE WARD..                                | 327                      | 3/6 to 5/6     | 1,411      | 1 in 27               | 4.3                    | 1.07     |



### Notes on the Circumstances and Class of Inhabitants.

The ward shows marked variety amongst its inhabitants ranging from those of good means to those with no visible means of support and those of irregular habits, but the predominant class is certainly that of a respectable mill-worker, such as may particularly be found in sub-district W.11, in which district there is a very large proportion of women-workers. There are a number of lodging-houses in the ward with their typical migratory population.

While the type of house is not always an index of the class of its inmates, yet one finds in this ward that the districts having the greatest number of high rentals are, as a rule, most free from persons of an indifferent class.

Classifying the sub-districts in this ward according to the rentals prevailing, in descending order, the following result is obtained :—

| 1st  | 2nd  | 3rd  | 4th | 5th | 6th | 7th | 8th |
|------|------|------|-----|-----|-----|-----|-----|
| W 12 | W 10 | W 11 | W 1 | W 9 | W 2 | W 3 | W 7 |

If on the other hand, the relative means of families occupying houses typical of each district, is the basis of classification considerable variation arises.

| 1st  | 2nd | 3rd | 4th  | 5th  | 6th | 7th | 8th |
|------|-----|-----|------|------|-----|-----|-----|
| W 12 | W 7 | W 3 | W 11 | W 10 | W 1 | W 2 | W 9 |

This would appear to indicate that the amount of rent paid is not in direct ratio to the means of the household, and this is certainly a feature compatible with the general observations of those familiar with the districts. It should be borne in mind, that in calculating the approximate means of families, those families occupying the two and four-roomed houses only are taken into account.

The following table shows the results of enquiries carried out on these lines; the calculations involved are explained in the General Borough Report.

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND  
FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| W 1          | 38                         | 159                  | 64             | 2.5                                 | 3                                        | 36                | 25               | 53.1                                 | 21          |
| W 2          | 64                         | 261                  | 106            | 2.5                                 | 12                                       | 72                | 22               | 58.1                                 | 23          |
| W 3          | 26                         | 118                  | 63             | 1.9                                 | 4                                        | 36                | 23               | 54.0                                 | 28          |
| W 7          | 66                         | 249                  | 129            | 1.9                                 | 5                                        | 110               | 14               | 58.6                                 | 31          |
| W 9          | 47                         | 217                  | 77             | 2.8                                 | 11                                       | 39                | 27               | 55.9                                 | 20          |
| W 10         | 64                         | 283                  | 119            | 2.4                                 | 24                                       | 62                | 33               | 58.5                                 | 24          |
| W 11         | 87                         | 361                  | 160            | 2.3                                 | 42                                       | 72                | 46               | 59.5                                 | 26          |
| W 12         | 40                         | 144                  | 77             | 1.9                                 | 37                                       | 35                | 5                | 68.3                                 | 36          |
| WHOLE WARD.  | 432                        | 1,793                | 795            | 2.3                                 | 138                                      | 462               | 195              | 58.5                                 | 25          |

\* Corrected for number of Persons to one wage.



## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1908) |                        |               |               |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|---------------|---------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                 | Seven Zymotic Diseases |               |               |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                            | Total Zymotic          | Enteric Fever | Diarrhoea, &c | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| W 1 (a)      | 316                                       | 20.8                                  | 23.0                                         | 29.4          | 24.4                                                                       | 2.88                   | ...           | 1.60          | 0.16       | 0.48          | 0.64                   | 2.55     | 3.67                      |
| W 2 (b)      | 167                                       | 25.0                                  | 24.7                                         | 31.5          | 18.7                                                                       | 0.79                   | ...           | 0.53          | ...        | ...           | 0.26                   | 0.53     | 3.94                      |
| W 3 (c)      | 133                                       | 28.6                                  | 13.6                                         | 26.1          | 26.9                                                                       | 1.66                   | ...           | 0.83          | ...        | 0.17          | 0.67                   | 3.49     | 5.48                      |
| W 7 (d)      | 195                                       | 32.8                                  | 23.8                                         | 44.4          | 21.5                                                                       | 2.83                   | ...           | 1.42          | 0.41       | ...           | 1.10                   | 1.22     | 3.84                      |
| W 9 (e)      | 171                                       | 27.1                                  | 19.5                                         | 26.9          | 19.5                                                                       | 1.62                   | ...           | 0.71          | ...        | ...           | 0.91                   | 1.22     | 3.75                      |
| W 10 (f)     | 100                                       | 26.8                                  | 18.8                                         | 26.5          | 18.8                                                                       | 1.38                   | 0.07          | 0.55          | 0.21       | 0.14          | 0.41                   | 1.72     | 3.16                      |
| W 11 (g)     | 165                                       | 19.3                                  | 20.8                                         | 27.2          | 13.0                                                                       | 1.01                   | ...           | 0.43          | ...        | ...           | 0.58                   | 0.43     | 2.02                      |
| W 12 (h)     | 95                                        | 25.4                                  | 23.3                                         | 30.3          | 14.6                                                                       | 1.62                   | 0.19          | 0.48          | 0.10       | 0.19          | 0.67                   | 0.76     | 2.58                      |
| Ward ...     | 149                                       | 25.3                                  | 18.8                                         | 29.0          | 19.1                                                                       | 1.62                   | 0.05          | 0.74          | 0.11       | 0.12          | 0.62                   | 1.40     | 3.47                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07          | 0.51          | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

## NOTES ON SALIENT FEATURES.

- (c) Excess in rate of deaths from "All Causes" almost entirely due to Phthisis and Respiratory Diseases rate, which is again associated with furnished rooms and lodging-houses. It will be noticed that there is a low rate of deaths of children, and that the birth-rate is above average. The Phthisis death-rate evidently falls upon other than the juvenile population.
- (a) Excess due to both infant deaths and Phthisis and Respiratory Diseases. Two large common lodging-houses in district, to which Workhouse deaths are allocated, probably often incorrectly. High rate of infant deaths again combined with high Diarrhoeal rate. For sanitary conditions see Chart No. 1.
- (g) and (h) Extremely low death-rate from "All Causes" but one-third of all the deaths are of children under 5 years of age. In (g) infant mortality is high, but in (h) it is low, though the districts and population are very similar. The birth-rate varies in inverse proportion, being high in (h) and low in (g). (See remarks on Birth-rate and Infant Mortality in Section III of the Report).
- (b), (d), (e) and (f) Slight excesses over average in "All Causes" death-rate, almost entirely due to deaths of children under 5, this being most pronounced in (d), where the rate is accompanied by high infant mortality in proportion to births and high rates from "Diarrhoeal" and "Other Zymotic" Causes.

## WARDLEWORTH EAST WARD.

### Situation.

This ward occupies a north-eastern position in the Borough.

### Size and Population.

The extent of the ward is 354 acres, with a population of 5,640, and a density of 15.9 persons per acre

The census divisions are as follows :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| W 13         | 10      | 931        | 93.1             |
| W 14         | 16      | 1,251      | 78.2             |
| W 15         | 15      | 1,192      | 79.5             |
| W 16         | 14      | 1,128      | 80.6             |
| W 17         | 299     | 1,138      | 3.8              |
| WHOLE WARD.. | 354     | 5,640      | 15.9             |

Excluding the scattered rural district W.17 the total figures for the other four districts are :—  
Acreage 55 ; population 4,502 ; density 81.9.

### General Description.

All parts of the four sub-districts W.13, 14, 15 and 16 are situated less than one mile distant from the town centre ; most of the remaining sub-district W.17 is beyond this distance and includes cultivated and pasture land as well as moorland. The four sub-districts mentioned are thickly populated and well built upon, and while chiefly of a working class residential character, also contain a few factories.

The whole ward is of good average altitude, yet by reason of its geographical position, it is considerably affected by the smoke and dust of adjacent manufacturing areas, owing to the prevalence of south-west winds.

Sub-districts W.14 and W.13 contain several slum areas, of which the worst is in W.14, within the following boundaries :—Whitehall-street, Rope-street, Whitworth-road and Eastgate-street. This area is made up of short streets running east by west, which connect Whitworth-road with Whitehall-street. These short streets contain rows, of what were originally back-to-back houses, converted now for the most part into through dwellings. There are many examples of the three-storied cottage found here, the top room of which was an old workshop. The height of these old buildings, coupled with the narrowness of the streets, shuts out both light and sunshine from other dwellings (see Sketch No. 1). Many houses have been condemned as unfit for human habitation in this area, and there are many more that require like treatment.



### Streets, Yards, and Arrangement of Houses.

Sub-districts W.13, 14, 15 and part of W.16 are old portions of the Borough, which contain many narrow and confined streets as well as small shut-in common yards. The private streets of the cul-de-sac type and the common yards are, in many instances, either unpaved or insufficiently and badly paved. The usual arrangement is that of rows of houses either "through" or back-to-back, enclosing a common yard, which contains all the closet and ashplace accommodation grouped together at one end thereof. In one particular case there are about 20 houses without an ashplace in their common yard, and no space available for the provision of one. The tenants are consequently under the necessity of carrying their refuse a distance of about 50 yards to an ashplace attached to another block of buildings and owned by a different landlord. In sub-districts W.16 and W.17 the predominant arrangement is that of rows of four-roomed "through" houses with separate yards and private sanitary accommodation, and arranged in fairly symmetrical streets of average width.

A marked deficiency in the paving of streets is noticeable in W.16; 50 per cent., or one-half the total number of houses therein are affected by or abut on unpaved streets.

The following comparative table of percentages shows the position of each sub-district:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or no Paving |
| W 13                                            | 77          | ...            | 23                        |
| W 14                                            | 96          | ...            | 4                         |
| W 15                                            | 95          | ...            | 5                         |
| W 16                                            | 50          | ...            | 50                        |
| W 17                                            | 6           | 54             | 40                        |
| WHOLE WARD..                                    | 68          | 9              | 23                        |

There are also a great many unpaved back passages in the ward—W.16 being again the worst. In it are found rows of moderately new houses which, in common with similar rows in other parts of the Borough, have never had either streets or passages paved.

The "common" yard or no yard at all prevails in this ward to a much larger extent than in many of the other wards. The worst sub-districts, in this respect, are the two oldest—W.13 and W.14, and the best is W.17, the newest district.

The following table is given for comparative purposes:—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| W 13         | 83                               | 17           | 67           | 33      |
| W 14         | 84                               | 16           | 70           | 30      |
| W 15         | 81                               | 19           | 33           | 67      |
| W 16         | 61                               | 39           | 59           | 41      |
| W 17         | 34                               | 66           | 39           | 61      |
| WHOLE WARD.. | 68                               | 32           | 55           | 45      |

### Closet Accommodation.

About 88 per cent. of the houses are provided with pail closets, while about 6 per cent. are provided with fresh water closets and waste-water closets respectively. There are about 41 per cent. only of the dwellings provided with separate and private accommodation, the joint system of accommodation being least evident in W.17, as the following table shows :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                     |                     |                |                        |                     |
|--------------|----------------------------------|---------------------|---------------------|----------------|------------------------|---------------------|
|              | Pail Closets                     | Fresh Water Closets | Waste-water Closets | Midden-Privies | Separate Accommodation | Joint Accommodation |
| W 13         | 93                               | 7                   | ...                 | ...            | 25                     | 75                  |
| W 14         | 87                               | 13                  | ...                 | ...            | 29                     | 71                  |
| W 15         | 99                               | 0.5                 | 0.5                 | ...            | 27                     | 73                  |
| W 16         | 99                               | 1                   | ...                 | ...            | 43                     | 57                  |
| W 17         | 65                               | 7                   | 27                  | ...            | 78                     | 22                  |
| WHOLE WARD.. | 88                               | 6                   | 6                   | ...            | 41                     | 59                  |

The pail closet buildings are generally in bad repair and show the usual original defects in construction (see Sketch No. 2 in General Report), and in many parts of the old portions of the ward a lack of sufficient ashplace accommodation is noticeable, and as a consequence there is a great deal of surface pollution. It is common to find one large ashplace building which contains only three or four tubs, supposed to serve as adequate accommodation for about 20 houses. These tubs very quickly overflow with refuse, and the ashplace becomes little more than an old-fashioned midden. In the case of several houses in one of the sub-districts there is no sanitary accommodation whatever in the common yard.

### Consideration of Houses.

The four-roomed through house is the most numerous type, and the predominant range of rent is from 3/- to 5/- per week. There are, however, many houses without back doors and of the not through type. The following table shows the comparative prevalence of the room accommodation in the houses in each sub-district :—

| Sub-district | PERCENTAGE OF HOUSES HAVING |    |     |    |      |            |                |            |            |            |             |              |
|--------------|-----------------------------|----|-----|----|------|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |    |     |    |      |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2  | 3   | 4  | 5    | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| W 13         | ...                         | 40 | 12  | 33 | 3    | 12         | ...            | 29         | 29         | 23         | 4           | 15           |
| W 14         | 0.3                         | 38 | 9.7 | 30 | 3    | 19         | 1              | 26         | 30         | 15         | 5           | 23           |
| W 15         | ...                         | 29 | 1   | 56 | 2    | 12         | 1              | 8          | 24         | 45         | 9           | 11           |
| W 16         | ...                         | 29 | ... | 55 | ...  | 16         | ...            | 8          | 29         | 36         | 11          | 16           |
| W 17         | ...                         | 8  | 1   | 70 | 2    | 19         | 1              | 13         | 19         | 10         | 37          | 20           |
| WHOLE WARD.. | 0.07                        | 28 | 4.9 | 50 | 2.03 | 15         | 0.8            | 16         | 26.2       | 26         | 14          | 17           |



Of the total number of houses about 43 per cent. are back-to-back houses or modifications of the same, the percentage varying in the sub-districts from 62 per cent. to 23 per cent. as follows :

| Sub-district                         | W 13 | W 14 | W 15 | W 16 | W 17 | WHOLE WARD |
|--------------------------------------|------|------|------|------|------|------------|
| Percentage of Through Houses ... ..  | 38   | 47   | 57   | 60   | 77   | 57         |
| Percentage of Houses Not Through ... | 62   | 53   | 43   | 40   | 23   | 43         |

About 1,400 houses have been considered, and of these it is estimated that 79 per cent. are in good or passable condition, and 21 per cent. in very poor condition. The worst sub-districts are found to be W.13 and W.14, which contain about 40 per cent. and 36 per cent. respectively in bad condition. Both these districts include areas of what may be called slum property—the oldest class of back-to-back house, with low ceilings in both living and sleeping rooms, badly lighted, badly ventilated, damp, generally dirty, in bad repair, deficient in decent sanitary accommodation, built in narrow and confined streets, and with small enclosed common yards. There are also many examples of the "inset" back-to-back cottage—see Sketch No. 3—several of these have been recently divided up and added to the enclosing through houses, the extra spaces provided in this manner being utilized as bath-room and water-closet accommodation for the larger houses—an advantageous method of dealing with this class of property. A reference to the Rent Table shows that the two districts mentioned contain the largest percentage of low-rented houses, of two-roomed houses, and of houses not through. A brief description of some of these combined conditions will give an idea of how the bad features of such property originated.

(1.) In a large block of two-roomed true back-to-back houses one side abuts on to a narrow unpaved private street and badly flagged footpath, while the other side faces an insufficiently paved common yard which is enclosed on two other sides by similar blocks of houses. The open end of this yard abuts on a narrow paved street and contains about a dozen pail closets arranged in two rows with a passage between for the removal of the pails, this passage being the only existing ashplace accommodation as well. The dwellings consist of a kitchen with a small dark scullery at the back and one bedroom on the first floor. The walls and floors show signs of permanent dampness in most of the houses, the drains from the slopstones pass under the kitchen floor, while the only provision for food keeping is evidently the cupboard in the recess by the chimney.

(2.) In a small block of two-roomed houses the dwellings open on to an extremely narrow street with the high wall of a factory opposite, they are without back doors but possess small sealed windows at back which admit light to the recesses under the several stairs where the slopstones are fixed. These back windows overlook a completely enclosed common yard which contains the pail closets and ashplace used in common. The yard surface is insufficiently paved, the closets are continually in a filthy condition, and the dwellings in a very bad state of repair. The walls and floors are extremely damp, the rooms very small and inconvenient, the ceilings low, and no proper provision for food-keeping or clothes-washing is evident, while the direct sunlight of heaven never enters there.

In these two districts, W.13 and W.14, even the larger houses are not free from defects, the chief of which are dampness of walls and floors, insufficient yard space, and inadequate closet and ashplace accommodation. The newer districts W.15, 16 and 17, show the same features to a less degree, though even in the newest sub-district W.17, it is frequently found that dampness of walls and floors has arisen, presumably from lack of care in building, as has been described in the General Borough Report. In sub-district W.15 there is a long row of four-roomed dwellings, the roofs of which do not appear waterproof. This defect is so extensive that, without actual examination, it can be safely stated that it results from "short-lapping" of the slates in order to save



expense when the houses were built a good number of years ago. The newest dwellings of all—those in sub-district W.17—are examples of the two types of four-roomed houses described in Section I., and vary little in rent, being from 5/- to 5/6 per week. Their sanitary arrangements are unfortunately on the waste-water carriage system.

The back-to-back houses in this last sub-district W.17 are very old cottages, chiefly grouped about the road leading on to the moors, and many of them are stone buildings containing large rooms with low ceilings, and very damp; these houses, however, have the advantage of being in a very open situation.

### Overcrowding.

Special enquiries under this head were made at 252 houses, distributed over each sub-district. Of these, 99 were typical two-roomed back-to-back houses, and 153 were typical four-roomed houses. The rate of overcrowding was found to be very high, working out roughly at one in every 3½ back-to-back two-roomed, and one in every 25 through four-roomed. The following are tables for the comparison of the sub-districts.

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                          |                |            |                      |                        |          |
|-------------------------------------------------|--------------------------|----------------|------------|----------------------|------------------------|----------|
| Sub-district                                    | No. of Houses considered | Ranges of Rent | Population | Rate of Overcrowding | Average No. of Persons |          |
|                                                 |                          |                |            |                      | per house              | per room |
| W 13                                            | 18                       | 2/9 to 3/3     | 58         | 1 in 4½              | 3.2                    | 1.6      |
| W 14                                            | 25                       | 2/6 to 3/3     | 85         | 1 in 4¼              | 3.4                    | 1.7      |
| W 15                                            | 30                       | 2/9 to 3/6     | 96         | 1 in 4               | 3.2                    | 1.6      |
| W 16                                            | 17                       | 2/6 to 3/6     | 70         | 1 in 2½              | 4.5                    | 2.2      |
| W 17                                            | 9                        | 2/6 to 3/-     | 29         | 1 in 4½              | 3.2                    | 1.6      |
| WHOLE WARD..                                    | 99                       | 2/6 to 3/6     | 338        | 1 in 3½              | 3.4                    | 1.7      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |            |                      |                        |          |
|---------------------------------------------|--------------------------|----------------|------------|----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population | Rate of Overcrowding | Average No. of Persons |          |
|                                             |                          |                |            |                      | per house              | per room |
| W 13                                        | 22                       | 4/6 to 5/-     | 87         | 1 in 22              | 4.0                    | 1.0      |
| W 14                                        | 22                       | 3/6 to 5/3     | 110        | 1 in 11              | 5.0                    | 1.3      |
| W 15                                        | 38                       | 4/3 to 5/-     | 162        | 1 in 38              | 4.3                    | 1.1      |
| W 16                                        | 37                       | 4/- to 5/6     | 189        | 1 in 18              | 5.1                    | 1.3      |
| W 17                                        | 34                       | 5/- to 5/3     | 142        | 0 in 34              | 4.2                    | 1.1      |
| WHOLE WARD..                                | 153                      | 3/6 to 5/6     | 690        | 1 in 25              | 4.5                    | 1.1      |

### Notes on the Circumstances and Class of Inhabitants.

As in other wards, considerable variety obtains in this ward as to the class and circumstances of the inhabitants; Sub-districts W.13 and W.14 may be regarded as the worst districts in the ward generally; both have a large proportion of an indifferent class of inhabitants and contain small areas of slum property accommodating people of careless and dirty habits, not typical of either district, but having a serious effect on the general death rates. Within such small areas, notably those within the following boundaries:—(1) Whitehall-street, North-lane, Whitworth-road and Yorkshire-street; (2) Whitworth-road, South-lane, Ogden-street and Yorkshire-street; (3) Elliott-street, Haynes-street, Regent-street and Jermyn-street, are found low-rented old back-to-back houses and other old houses. Amongst the inhabitants of these houses there is little attempt at keeping houses clean; and the yards, courts and curtilages are often extensively polluted with domestic refuse. In one of these areas there is a small colony of residents



in furnished rooms and common lodging-houses. But these areas cannot be called typical of the two sub-districts, because both districts contain families of the tidy hard-working class; the indifferent classes, are, however, more prevalent in these two than in the remaining sub-districts. The population of W.15, further north, though not free from the taint of undesirable small areas, is on the whole of a better class and more cleanly. Coincident with this feature, as it happens are, (1) larger houses, and (2) higher rents; and, as will be seen from the table below, (3) better average circumstances. These conditions do not always go with each other; the next sub-district, W.16, being an example. Here we have a population living in similar houses, and of similar habits, but having a very low average income, due to the large size of individual families in typical houses, and the consequent large number of persons depending on one wage. The extent of overcrowding, on the standard taken, though large in the ward as a whole, is very marked, in this sub-district, and yet it is one of the cleanest in respect of its inhabitants. The outstanding feature of the sub-district W.17 is the large percentage of small families, occupying the large number of houses built during the last nine or ten years. These are people in comfortable circumstances, and of the better type of working-class, well able to afford a rent of 5/6 per week.

The following table is comparative for the various sub-districts in respect of the circumstances of the people:—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| W 13         | 40                         | 145                  | 60             | 2.4                                 | 10                                       | 32                | 18               | 57.3                                 | 24          |
| W 14         | 47                         | 195                  | 80             | 2.4                                 | 9                                        | 44                | 27               | 55.5                                 | 23          |
| W 15         | 68                         | 258                  | 113            | 2.3                                 | 14                                       | 69                | 30               | 57.1                                 | 25          |
| W 16         | 54                         | 259                  | 85             | 3.0                                 | 10                                       | 49                | 26               | 56.3                                 | 19          |
| W 17         | 43                         | 171                  | 80             | 2.1                                 | 24                                       | 48                | 8                | 64.0                                 | 30          |
| WHOLE WARD.  | 252                        | 1,028                | 418            | 2.4                                 | 67                                       | 242               | 109              | 58.0                                 | 24          |

\* Corrected for No. of Persons to one wage.

### Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1908) |                        |               |                |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       |                                              |               | All Causes                                                                 | Seven Zymotic Diseases |               |                |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years |                                                                            | Total Zymotic          | Enteric Fever | Diarrhoea, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| W 13 (a)     | 183                                       | 31.7                                  | 25.4                                         | 35.1          | 20.7                                                                       | 1.88                   | ...           | 0.81           | ...        | 0.13          | 0.94                   | 0.80     | 4.16                      |
| W 14 (b)     | 180                                       | 32.8                                  | 24.0                                         | 34.5          | 25.5                                                                       | 3.00                   | 0.10          | 1.20           | 0.38       | ...           | 1.30                   | 2.60     | 5.10                      |
| W 15 (c)     | 163                                       | 33.1                                  | 21.3                                         | 30.6          | 21.9                                                                       | 2.20                   | ...           | 1.05           | 0.42       | ...           | 0.74                   | 1.47     | 3.88                      |
| W 16 (d)     | 119                                       | 23.5                                  | 18.7                                         | 32.3          | 16.3                                                                       | 1.11                   | ...           | 0.67           | 0.22       | ...           | 0.22                   | 1.33     | 3.77                      |
| W 17 (e)     | 61                                        | 24.6                                  | 13.1                                         | 22.5          | 15.1                                                                       | 1.10                   | ...           | ...            | 0.77       | 0.11          | 0.22                   | 1.21     | 2.86                      |
| Ward ...     | 153                                       | 29.2                                  | 21.0                                         | 31.8          | 20.0                                                                       | 1.93                   | 0.02          | 0.78           | 0.38       | 0.04          | 0.71                   | 1.55     | 4.06                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

## NOTES ON SALIENT FEATURES.

- (b) Uniformly high rates of births and deaths generally, the percentage of deaths of "under 5 years" to total deaths shows the greatest deviation from the rule. A high rate of Phthisis and Respiratory Diseases is again associated with the existence of common lodging-houses and furnished rooms to which many adult Phthisis deaths are allocated; and a high rate of deaths from Diarrhoeal and "Other Zymotic Diseases" accompanies the high death rate of children. This is a very bad district and very congested. For Sanitary Conditions see Chart No. I.
- (a), (c), (d), (e). Excess of rate of deaths from "All Causes" in (a) and (c) is apparently due to high percentages of deaths under one year and under 5 years. The birth rate is high in each case as also is the ratio of infant deaths to births. Diarrhoea is the principal Zymotic disease affecting the rate in (c). In (d) and (e) the rates are somewhat affected by increase of population since 1901, but the low ratio of infant deaths to births in (e) should be noticed, as, taken in conjunction with an average birth-rate and with low rates of mortality of persons under 5 years, argues great care of children, and a good type of population. The birth rate in (e) is probably lower than stated owing to the influx of new inhabitants.



## SPOTLAND EAST WARD.

### Situation.

This ward occupies a north-western position in the Borough, and has a good average altitude.

### Size and Population.

The extent of the ward is 676 acres, and the population at the last census numbered 7,067, which gives a density of 10.4 persons per acre.

The same particulars for each of the eight census divisions are given below :—

| Sub-district | Acres. | Population | Density per Acre |
|--------------|--------|------------|------------------|
| S.N. 1       | 15     | 1,159      | 77.2             |
| S.N. 5       | 34     | 1,217      | 35.8             |
| S.N. 6       | 76     | 654        | 8.6              |
| S.N. 7       | 20     | 721        | 36.0             |
| S.N. 8       | 15     | 1,270      | 84.7             |
| S.N. 9       | 41     | 511        | 12.5             |
| S.N. 10      | 348    | 914        | 2.6              |
| S.N. 11      | 127    | 621        | 4.9              |
| WHOLE WARD.. | 676    | 7,067      | 10.4             |

### General Description.

Sub-districts S.N.1, 5, 7, 8 and 9, and the greater part of 6, are all less than a mile distant from the town centre. On the other hand, the whole of S.N.11 and the greater portion of S.N.10 are more outlying, extensive and rural in character. Sub-districts S.N.1 and 8, the most thickly populated and the nearest to the centre of the town, are the most densely crowded with buildings. While S.N.5, 6, 7 and 9 are fully built-up in parts, they contain more open air spaces; S.N.9 in particular being extensively occupied by a large public park recently presented to the Borough by a generous donor. Many good detached and semi-detached residences are found in these districts.

There are few mills or factories actually within the boundaries of the ward, and the district generally is not greatly affected by atmospheric impurity as a direct result of manufacture. The worst district in this and other respects is S.N.1, a portion of which is at the lowest town level. It is the oldest and most congested area in the ward, it also suffers most from the smoke and dust of mills in an adjoining ward. Viewed from rising ground a short distance away a dense pall of smoke may be seen on most days hanging over this and other sub-districts in adjacent wards, particularly those to the north-east. Part of S.N.8, which adjoins S.N.1, has similar features to those described above. These two districts form a south and south-west slope which reaches its greatest height in a kind of plateau on which lie sub-districts S.N.7 and S.N.9, from which the other districts slope away to the north and north-west for some distance, where another south-east and south-west slope occurs; the little village of Shawclough lies in the valley thus formed.

### Streets, Yards, and Arrangement of Houses.

Sub-district S.N.1 contains features in this connection which are typical of the worst found in the old portion of the Borough. As the sub-district is central, there are no unpaved streets, though there are some very badly paved ones; nearly all, however, are very narrow and very badly arranged, and all the available space has been built upon in such a manner as to seriously hinder the proper circulation of air around the dwellings. There are many blocks of old back-to-back houses and some instances of four-roomed dwellings built without back doors, but with small windows at back; both groups are without yard accommodation or with insufficient common yard accommodation, and without closets or ashplaces within anything like reasonable distance. There are several narrow cul-de-sac streets and a great portion of the sub-district is overcrowded with buildings.

S.N.7 and S.N.8 may be classed together under this head; the streets are fairly wide and well paved, and the arrangement of the houses in both districts is generally similar; that is rows of dwellings facing the streets, and rows of dwellings grouped around open common yards. The type of dwelling, however, is different in the two districts.

In the remaining districts the predominant arrangement of houses is one of good fairly wide streets with rows of houses, often too great in length without intersecting streets or passages. An unusual arrangement of the houses in one street in sub-district S.N.5 is worthy of notice; here the fronts of several rows of good cottages face the back yard doors of other rows of houses across the street. The outlying districts also show some peculiar arrangements of streets and houses—the dwellings which form the small hamlets just within the Borough boundary are often jumbled together regardless of design or systematic street formation. These dwellings are, of course, very old and out of date.

The following table gives the comparative position of each sub-district with regard to street paving :—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| S.N. 1                                          | 95          | ...            | 5                         |
| S.N. 5                                          | 75          | ...            | 25                        |
| S.N. 6                                          | 7           | 33             | 60                        |
| S.N. 7                                          | 77          | 6              | 17                        |
| S.N. 8                                          | 96          | ...            | 4                         |
| S.N. 9                                          | 37          | 22             | 41                        |
| S.N. 10                                         | 15          | 55             | 30                        |
| S.N. 11                                         | 1½          | 52½            | 46                        |
| WHOLE WARD..                                    | 58          | 17             | 25                        |

Regarding yard accommodation, the common yard or no yard is more prevalent in this ward than the private or separate yard, and varies considerably in extent in the different sub-districts, as shown by the following table :—



| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                 |              |         |
|--------------|----------------------------------|-----------------|--------------|---------|
|              | Common<br>Yards or<br>No Yard    | Private<br>Yard | Common Yards |         |
|              |                                  |                 | Paved        | Unpaved |
| S.N. 1       | 79                               | 21              | 83           | 17      |
| S.N. 5       | 22                               | 78              | 73           | 27      |
| S.N. 6       | 61                               | 39              | 86           | 14      |
| S.N. 7       | 74                               | 26              | 63           | 37      |
| S.N. 8       | 84                               | 16              | 83           | 17      |
| S.N. 9       | 35                               | 65              | 85           | 15      |
| S.N. 10      | 58                               | 42              | 51           | 49      |
| S.N. 11      | 39                               | 61              | 13           | 87      |
| WHOLE WARD.. | 58                               | 42              | 72           | 28      |

### Closet Accommodation.

The pail closet prevails to the extent of over 90 per cent., and fresh-water and waste-water closets are calculated at 7 per cent. and 2 per cent. respectively of the total number. With the exception of S.N.9, a sub-district which contains a large proportion of new and better-class property, the percentage does not vary to a marked degree all over the ward :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                           |                            |                    |                                |                             |
|--------------|----------------------------------|---------------------------|----------------------------|--------------------|--------------------------------|-----------------------------|
|              | Pail<br>Closets                  | Fresh<br>Water<br>Closets | Waste-<br>water<br>Closets | Midden-<br>Privies | Separate<br>Accom-<br>modation | Joint<br>Accom-<br>modation |
| S.N. 1       | 87                               | 13                        | ...                        | ...                | 21                             | 79                          |
| S.N. 5       | 95                               | 4                         | 1                          | ...                | 82                             | 18                          |
| S.N. 6       | 92.4                             | 7                         | ...                        | 0.6                | 41                             | 59                          |
| S.N. 7       | 81                               | 12                        | 7                          | ...                | 64                             | 36                          |
| S.N. 8       | 99                               | 0.6                       | 0.4                        | ...                | 20                             | 80                          |
| S.N. 9       | 59                               | 27                        | 14                         | ...                | 66                             | 34                          |
| S.N. 10      | 97                               | 3                         | ...                        | ...                | 44                             | 56                          |
| S.N. 11      | 99                               | ...                       | ...                        | 1                  | 70                             | 30                          |
| WHOLE WARD.. | 90.8                             | 7                         | 2                          | 0.2                | 49                             | 51                          |

In common with other wards the older sub-districts of this ward, particularly S.N.1, show a want of forethought both in the provision and construction of closet buildings as well as in the provision of sufficient and suitable ashplace accommodation. A reference to the above table shows that in two of the districts less than one-fourth of the dwellings are provided with separate and private accommodation. It is common to find one sanitary convenience which has to serve for as many as three and sometimes four families; whilst one single ashplace building capable of holding three or four tubs, but so constructed that only one of these is usually accessible, has to serve for a whole block of dwellings.

### Consideration of Houses.

The four-roomed through house, and a range of rent of from 3/6 to 4/6 are predominant in this ward. There are, however, about 30 per cent. of dwellings without back doors. The following tables give particulars of rooms, rents and types of houses in each sub-district :—



| Sub-district | PERCENTAGE OF HOUSES HAVING |    |     |    |    |            |                |            |            |            |             |              |
|--------------|-----------------------------|----|-----|----|----|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |    |     |    |    |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2  | 3   | 4  | 5  | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| S.N. 1       | 1                           | 22 | 6   | 26 | 2  | 43         | ...            | 14         | 28         | 9          | 4           | 45           |
| S.N. 5       | ...                         | 12 | 3   | 46 | 18 | 21         | ...            | 6          | 10         | 25         | 33          | 26           |
| S.N. 6       | 0.6                         | 23 | 9   | 52 | 5  | 10.4       | 0.6            | 16.4       | 42         | 30         | 3           | 8            |
| S.N. 7       | ...                         | 10 | ... | 41 | 3  | 46         | ...            | 2          | 8          | 23         | 5           | 62           |
| S.N. 8       | 2                           | 25 | ... | 59 | 6  | 8          | 2              | 15         | 36         | 32         | 2           | 13           |
| S.N. 9       | ...                         | 8  | 12  | 34 | 19 | 27         | ...            | 10         | 12         | 27         | 9           | 42           |
| S.N. 10      | ...                         | 21 | 5   | 58 | 9  | 7          | ...            | 17         | 44         | 17         | 14          | 8            |
| S.N. 11      | ...                         | 18 | 3   | 65 | 8  | 6          | ...            | 17         | 14         | 52         | 7           | 10           |
| WHOLE WARD.. | 0.6                         | 18 | 4   | 48 | 9  | 20.4       | 0.4            | 11.6       | 24         | 27         | 11          | 26           |

The extent of the prevalence of houses not through in the respective sub-districts is shown below :—

| Sub-district                         | S.N. 1 | S.N. 5 | S.N. 6 | S.N. 7 | S.N. 8 | S.N. 9 | S.N. 10 | S.N. 11 | WHOLE WARD |
|--------------------------------------|--------|--------|--------|--------|--------|--------|---------|---------|------------|
| Percentage of Through Houses ... ..  | 59     | 87     | 62     | 91     | 51     | 76     | 65      | 76      | 70         |
| Percentage of Houses Not Through ... | 41     | 13     | 38     | 9      | 49     | 24     | 35      | 24      | 30         |

The most central districts, S.N.1 and S.N.8, together with S.N.6, which includes most of the village of Shawclough, show high percentages of houses not through. Districts S.N.5, 7 and 9 contain fewer low-rented houses than any of the others.

As regards the condition of dwellings and taking the whole ward into consideration, it is estimated that about 80 per cent. are in good or passable condition and 20 per cent. in very poor condition. The worst sub-district is S.N.1, with 43 per cent. of poor dwellings. A great many of these dwellings are exceedingly old and most of them are damp, chiefly from the causes, now irremediable, which have been dealt with in Section I. It will be noted from the table given that this sub-district contains a relatively high percentage of large houses; of these, many of the high-rented ones are in extremely bad condition, crowded and congested, and are practically all short of yard space. Being advantageously situated for business purposes many of them are used as shops and dwelling-houses combined.

In the eastern portion of S.N.8, which adjoins and is continuous with S.N.1, there exists a class of property which has long since been recognised as of the worst type—two-roomed back-to-back dwellings of small dimensions, which have their only entrances actually within a covered passage. Anything like efficient ventilation is out of the question here, and to make matters worse the houses are in very bad repair.

These adverse arrangements, however, are not typical of the whole sub-district; in the central and western portions the prevailing types of houses are four-roomed "through" houses, with one "inset" back-to-back cottage to every three houses and two to every four, arranged around the common yard. Common yards prevail in this district to the extent of 84 per cent., which is the highest found in the ward, the percentage (80) of joint closet accommodation is likewise the highest. These dwellings, though old, are not all by any means in bad repair; a great number of them show evidence of careful usage by tenants, and consideration by owners. Their chief defect is the original faulty arrangement of the dwellings with the introduction of the inset



cottage—both of which are the result of the too economical use of land in the early planning of the town.

Sub-district S.N.7 contains many features of housing similar to those described for S.N.8, but the predominant features are not the same, as the district is in part much more modern. There are many good houses of high rentals and in good condition, and also some very large semi-detached villas. The prevailing type is the through house of six rooms and over, with rentals of six or more shillings per week; the percentage of four-roomed "through" houses is slightly lower. Most of the dwellings are in good or fair condition.

In S.N.5 and S.N.9 there are only small percentages of dwellings in really poor condition, and the predominant type in each is the fairly modern four-roomed or five-roomed through house with separate yard and closet accommodation. Each of these districts, however, have small areas of the older type of dwelling and examples of the back-to-back house. These are generally situated along the main approaches to the town centre.

The remaining districts, S.N.6, S.N.10 and S.N.11 are outlying and scattered, with the dwellings built along main roads or grouped in hamlets, and presenting almost every variety and condition; a great number are stone-built cottages of great age, of low rent, and in very poor condition; others are of the usual four-roomed type of through house, and there are several large detached residences.

### Overcrowding.

Enquiries concerning overcrowding were made at 477 dwellings in this ward; of these dwellings 145 were typical two-roomed back-to-back houses, and 332 were typical four-roomed through houses. The rate of overcrowding was found to be 1 in every  $4\frac{1}{3}$  of the two-roomed, and 1 in every 37 of the four-roomed.

Following are tables for comparison of sub-districts:—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES |                          |                |            |                      |                        |          |
|------------------------------------------------|--------------------------|----------------|------------|----------------------|------------------------|----------|
| Sub-district                                   | No. of Houses considered | Ranges of Rent | Population | Rate of Overcrowding | Average No. of Persons |          |
|                                                |                          |                |            |                      | per house              | per room |
| S.N. 1                                         | 29                       | 3/- to 3/3     | 127        | 1 in $2\frac{1}{2}$  | 4.4                    | 2.2      |
| S.N. 5                                         | 14                       | 2/10 to 3/6    | 49         | 1 in $3\frac{1}{2}$  | 3.5                    | 1.7      |
| S.N. 6                                         | 25                       | 2/2 to 3/-     | 83         | 1 in $3\frac{1}{2}$  | 3.3                    | 1.7      |
| S.N. 7                                         | 13                       | 3/- to 3/6     | 36         | 1 in $4\frac{1}{3}$  | 2.8                    | 1.4      |
| S.N. 8                                         | 22                       | 3/1 to 3/2     | 61         | 1 in 22              | 2.8                    | 1.4      |
| S.N. 9                                         | 13                       | 2/9 to 3/6     | 44         | 1 in $6\frac{1}{2}$  | 3.4                    | 1.7      |
| S.N. 10                                        | 16                       | 2/2 to 3/-     | 52         | 1 in $5\frac{1}{2}$  | 3.3                    | 1.6      |
| S.N. 11                                        | 13                       | 3/- to 3/6     | 46         | 1 in $4\frac{1}{3}$  | 3.5                    | 1.8      |
| WHOLE WARD..                                   | 145                      | 2/2 to 3/6     | 498        | 1 in $4\frac{1}{3}$  | 3.4                    | 1.7      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |             |                      |                        |          |
|---------------------------------------------|--------------------------|----------------|-------------|----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population. | Rate of Overcrowding | Average No. of Persons |          |
|                                             |                          |                |             |                      | per house              | per room |
| S.N. 1                                      | 30                       | 4/- to 4/6     | 175         | 1 in $7\frac{1}{2}$  | 5.8                    | 1.5      |
| S.N. 5                                      | 47                       | 4/10 to 5/6    | 224         | 0 in 47              | 4.8                    | 1.2      |
| S.N. 6                                      | 50                       | 3/- to 4/-     | 204         | 1 in 25              | 4.0                    | 1.0      |
| S.N. 7                                      | 41                       | 4/3 to 5/6     | 167         | 0 in 41              | 4.1                    | 1.0      |
| S.N. 8                                      | 45                       | 4/- to 4/10    | 181         | 0 in 45              | 4.0                    | 1.0      |
| S.N. 9                                      | 28                       | 4/6 to 5/-     | 102         | 0 in 28              | 4.6                    | 1.2      |
| S.N. 10                                     | 50                       | 3/9 to 5/3     | 202         | 1 in $16\frac{2}{3}$ | 4.0                    | 1.0      |
| S.N. 11                                     | 41                       | 4/3 to 5/3     | 175         | 0 in 41              | 4.3                    | 1.1      |
| WHOLE WARD..                                | 332                      | 3/- to 5/6     | 1,430       | 1 in 37              | 4.3                    | 1.1      |



### Notes on the Circumstances and Class of Inhabitants.

Taking the ward as a whole the majority of the inhabitants includes well-to-do business people and respectable working-class families in comfortable circumstances. - In one sub-district and in a portion of another, the inhabitants, unlike those referred to, are unappreciative of hygienic laws. As the conditions are so undesirable it is necessary to revert to them in greater detail. The majority of the people living in S.N.1 are of an indifferent careless class, amongst whom are the occupants of common lodging-houses and furnished rooms, of which there is a considerable number in this district. In common with many of the occupants of the lower rented houses, the greater number of these people are in very poor circumstances and not of very cleanly habits.

The rate of overcrowding is in this district very marked and much higher than in any of the others; and there seems to exist a tendency to huddle together as many persons as possible, in a dwelling with as low a rent as possible, irrespective of any considerations as to separation of sexes or domestic convenience. In fact there is little reason to apply the description "home" to many of these houses, used as they are merely as shelters at night by persons who follow no regular employment, and who have little knowledge of real home life and family rearing. Neglect of children and indifference to child life generally is noticeable to a marked extent, and it is astonishing how many large families there are without any visible means of existence. From the hygienic point of view, excluding housing conditions, the district exhibits an almost total disregard by its inhabitants of sanitary habits. Streets and yards may be found continually polluted by domestic refuse thrown out from the houses, and many of the houses themselves are filthy and offensive, purely as a result of the laziness and indifference of the occupants.

A small portion of S.N.8 presents similar features.

Below is a table giving comparisons of the sub-districts in respect of the average circumstances of their populations ascertained from enquiries made at houses typical in each district :—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND  
FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                    | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| S.N. 1       | 59                         | 302                  | 85             | 3.6                                | 4                                        | 41                | 40               | 51.5                                 | 14          |
| S.N. 5       | 61                         | 273                  | 91             | 3.0                                | 17                                       | 44                | 30               | 57.1                                 | 19          |
| S.N. 6       | 75                         | 287                  | 102            | 2.8                                | 11                                       | 67                | 24               | 57.4                                 | 21          |
| S.N. 7       | 54                         | 203                  | 83             | 2.4                                | 19                                       | 46                | 18               | 60.2                                 | 25          |
| S.N. 8       | 67                         | 242                  | 104            | 2.3                                | 15                                       | 62                | 27               | 57.7                                 | 25          |
| S.N. 9       | 41                         | 146                  | 73             | 2.0                                | 9                                        | 39                | 25               | 55.6                                 | 28          |
| S.N. 10      | 66                         | 254                  | 93             | 2.7                                | 16                                       | 46                | 31               | 56.7                                 | 21          |
| S.N. 11      | 54                         | 221                  | 77             | 2.8                                | 11                                       | 57                | 9                | 60.5                                 | 22          |
| WHOLE WARD.  | 477                        | 1,928                | 708            | 2.7                                | 102                                      | 402               | 204              | 57.1                                 | 21          |

\* Corrected for number of persons to one wage.



## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1908) |                        |               |           |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|---------------|-----------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                 | Seven Zymotic Diseases |               |           |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                            | Total Zymotic          | Enteric Fever | Dysentery | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| S.N. 1 (a)   | 256                                       | 19.9                                  | 14.5                                         | 22.1          | 29.3                                                                       | 1.62                   | ...           | 0.75      | 0.22       | ...           | 0.65                   | 3.13     | 4.85                      |
| S.N. 5 (b)   | 93                                        | 16.8                                  | 13.3                                         | 21.5          | 13.7                                                                       | 0.62                   | ...           | 0.21      | ...        | ...           | 0.41                   | 0.31     | 1.85                      |
| S.N. 6 (c)   | 186                                       | 20.3                                  | 21.5                                         | 23.8          | 14.5                                                                       | 1.34                   | 0.19          | 0.19      | ...        | 0.19          | 0.77                   | 0.96     | 1.53                      |
| S.N. 7 (d)   | 220                                       | 21.9                                  | 17.8                                         | 24.3          | 14.7                                                                       | 0.87                   | ...           | ...       | 0.17       | ...           | 0.69                   | 0.87     | 1.56                      |
| S.N. 8 (e)   | 130                                       | 24.6                                  | 19.8                                         | 29.2          | 18.0                                                                       | 1.67                   | ...           | 0.30      | 0.30       | 0.20          | 0.89                   | 1.28     | 2.95                      |
| S.N. 9 (f)   | 190                                       | 20.6                                  | 21.9                                         | 26.7          | 17.4                                                                       | 1.71                   | 0.49          | 0.98      | ...        | ...           | 0.25                   | 1.22     | 3.91                      |
| S.N. 10 (g)  | 119                                       | 23.6                                  | 11.8                                         | 20.4          | 17.1                                                                       | 0.82                   | ...           | 0.14      | 0.27       | ...           | 0.41                   | 1.09     | 3.56                      |
| S.N. 11 (h)  | 74                                        | 23.4                                  | 9.9                                          | 17.6          | 16.7                                                                       | 1.21                   | 0.20          | ...       | 0.40       | 0.60          | ...                    | 1.41     | 3.42                      |
| Ward ...     | 153                                       | 21.1                                  | 15.6                                         | 23.1          | 18.3                                                                       | 1.22                   | 0.07          | 0.30      | 0.21       | 0.11          | 0.55                   | 1.33     | 3.06                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07          | 0.51      | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE.—Rates not corrected for age and sex.

\* All rates per 1,000 calculated on population of 1901.

## NOTES ON SALIENT FEATURES.

(a) The principal components of the excess in the All Causes death-rate for this district are the rates from Phthisis and Respiratory Diseases, which account for 27 per cent. of the deaths. The infant mortality rate is high, but as the birth-rate is very low the actual number of deaths represented by the figure 256 above is very small. This is well borne out by the percentage of deaths under 1 and under 5 years to the total deaths being shown as much below the average for the Borough, and by the "Other Zymotic" rate being low. The deaths are evidently of adults from Phthisis and Respiratory Diseases. The rates have not been affected by influx of population to new dwellings. The district contains many lodging-houses.



(b), (c), (d), (e), (f), (g) and (h). The rate of deaths from All Causes in these districts, is, in each case, below average, but in three cases, (c), (d) and (f), the rate of infant mortality is high. As, however, the percentage of deaths under 1 and 5 years is in each case low, and as each birth-rate is also low, the actual number of deaths of infants is small though the ratio of deaths to births is high. A feature of the statistics for this ward is that not a single sub-district has a birth-rate as high as the Borough average, and if the influx of population to new houses in many of the districts were taken into account the difference would be more pronounced. With the exception of (a), (c) and (h) the populations of all the districts in this ward are predominantly of the adult class.

## SPOTLAND WEST WARD.

### Situation.

This ward occupies a western position in the Borough, and has a good average height above sea level. Three of its sub-districts rise from the river to the average altitude and the remaining sub-districts attain a still higher level.

### Size and Population.

The extent of the ward is 746 acres, and it had a population at the last census of 8,163; this gives a density of 10.9 persons per acre.

The same particulars for each census division are given below :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| S.N. 2       | 21      | 767        | 36.5             |
| S.N. 3       | 17      | 1,621      | 95.3             |
| S.N. 4       | 33      | 1,714      | 51.9             |
| S.F. 1       | 97      | 1,132      | 11.7             |
| S.F. 2       | 115     | 625        | 5.4              |
| S.F. 3       | 329     | 779        | 2.4              |
| S.F. 4       | 134     | 1,525      | 11.4             |
| WHOLE WARD.. | 746     | 8,163      | 10.9             |

### General Description.

The first four sub-districts tabulated above are all less than a mile distant from the town centre; the others are more outlying and extensive. Sub-districts S.N.2, S.N.3 and S.N.4 are on the whole, very thickly populated, and with the exception of a large area in S.N.2, almost entirely built upon. This excepted area comprises waste land and disused buildings, and its inclusion in the calculation markedly reduces the figure which expresses the density of the population per acre for sub-district S.N.2. For the density in the inhabited portion alone works out at about 74, as against 36.5 for the whole sub-district.

The three districts under consideration are almost wholly of a working-class residential character, and the most central one, S.N.2, contains three large cotton mills within its boundaries, in addition to other works. These districts, lying partly to the north-east of manufacturing areas, are considerably affected by smoke and dust, but the greater part of the remaining sub-districts are not; S.F.3 and S.F.4 lie almost entirely outside the manufacturing area, and are suburban in character. As might be expected, the land in the latter districts is being more and more utilised for building purposes, and the clearer atmosphere in the western portion of the Borough proves an attraction for the builders of better class residences.

Sub-districts S.F.1 and S.F.2 are mixed in character, each contains small areas which are densely built upon and thickly populated. These are found alongside the old main roads leading to the town. For a great part, however, each of these districts, like S.F.3 and S.F.4, is open and exposed, dotted with groups of old houses and rows of new ones and contains agricultural and pasture land.



### Streets, Yards, and Arrangement of Houses.

The largest blot in this ward is sub-district S.N.2 and a portion of sub-district S.N.4. In the first-named there are many features under the present heading which can safely be described as the worst in the Borough. As one of the oldest districts, it possesses the narrowest and the most badly designed streets, the least percentage of private and separate yards, and certainly the worst arrangement of houses. Where the ground is built upon to form groups of dwellings every available inch has been used, and in at least two of its streets the larger number of houses are over-shadowed by high mills and mill walls, and even those dwellings with a direct southern aspect receive no sunlight whatever. In one instance, where a rectangular common yard, of only moderate dimensions, was originally intended to serve for a number of dwellings abutting on it, the available space has been practically reduced to that of a passage by the erection of two small cottages in the middle of the yard. In this particular portion of the district as well as in the most southern portion, it is difficult to trace any reasonable original design of streets, yards and arrangement of houses; the practice apparently was to put up a dwelling where any fancy prompted. If the streets forming the district boundary be excepted there is scarcely a "through" street in the district. In the "Paddock" area to the west there are several very narrow cul-de-sac streets which constitute both street and yard for rows of back-to-back dwellings—a few of which are now broken through—and the few closets for the whole block of buildings are at the blind end of the street. As the district is situated on a steep southern slope some peculiar methods of house arrangement are thus explained. One of these, illustrative of the economy of space, is that in which the level of a higher street has been made the ground floor level of some dwellings fronting on to it, whilst that portion which would correspond to the cellar of houses back-to-back with these has been utilized for one-roomed dwellings (see Sketch No. 4.) All such dwellings share in a common yard at the back and join at the closet accommodation. This arrangement describes houses fronting north and south respectively, but there are also examples of dwellings facing west which are on the street level at the front and partly underground at the back. The slope of this street was made uniform throughout its whole length in connecting a high cross street with a low one, while the level of the earth behind the site of the dwellings was not reduced.

Part of sub-district S.N.4 shows features in street, yard and house arrangement very similar to S.N.2, although not to so great an extent; but in the remaining portion and in S.N.3 the predominant arrangement consists of rows of houses and cross rows which enclose common yards approachable only by a covered passage, or at the most a narrow open one. The "inset" back-to-back cottage is in evidence in these two districts, the majority of the comparatively small number of houses not through, found, are of that type.

In the remaining sub-districts, with the exception of some old portions which are situated along the main roads, the streets, yards, and arrangement of houses are more modern, and such as have been already described for other parts of the Borough.

The following table shows to what extent each of the districts in the ward is affected by the paving of its streets:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| S.N. 2                                          | 87          | ...            | 13                        |
| S.N. 3                                          | 86          | ...            | 14                        |
| S.N. 4                                          | 79          | ...            | 21                        |
| S.F. 1                                          | 67          | ...            | 33                        |
| S.F. 2                                          | 60          | ...            | 40                        |
| S.F. 3                                          | 42          | 23             | 35                        |
| S.F. 4                                          | 55          | ...            | 45                        |
| WHOLE WARD..                                    | 69          | 3              | 28                        |



As regards yard accommodation, the private and separate yard is slightly predominant in the ward as a whole, but only in four of the sub-districts if taken separately :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                 |              |         |
|--------------|----------------------------------|-----------------|--------------|---------|
|              | Common<br>Yards or<br>No Yard    | Private<br>Yard | Common Yards |         |
|              |                                  |                 | Paved        | Unpaved |
| S.N. 2       | 96                               | 4               | 65           | 35      |
| S.N. 3       | 61                               | 39              | 58           | 42      |
| S.N. 4       | 60                               | 40              | 55           | 45      |
| * S.F. 1     | 23                               | 77              | 61           | 39      |
| S.F. 2       | 47                               | 83              | 41           | 59      |
| S.F. 3       | 24                               | 76              | 45           | 55      |
| S.F. 4       | 32                               | 68              | 61           | 39      |
| WHOLE WARD.. | 48                               | 52              | 57           | 43      |

### Closet Accommodation.

The pail closet system prevails to the extent of 85 per cent., and the fresh water carriage and waste-water carriage systems to the extent of 6 per cent. and 9 per cent. respectively. The highest percentage of water-closets of both kinds is found in sub-district S.F.3, and the lowest percentage in sub-district S.N.2. The following table gives comparative figures for each sub-district :—

| PERCENTAGE OF HOUSES AFFECTED BY |                 |                           |                            |                    |                                |                             |
|----------------------------------|-----------------|---------------------------|----------------------------|--------------------|--------------------------------|-----------------------------|
| Sub-district                     | Pail<br>Closets | Fresh<br>Water<br>Closets | Waste-<br>water<br>Closets | Midden-<br>Privies | Separate<br>Accom-<br>modation | Joint<br>Accom-<br>modation |
| S.N. 2                           | 99              | 1                         | ...                        | ...                | 5                              | 95                          |
| S.N. 3                           | 95              | 1                         | 4                          | ...                | 44                             | 56                          |
| S.N. 4                           | 91              | 1                         | 8                          | ...                | 45                             | 55                          |
| S.F. 1                           | 86              | 5                         | 9                          | ...                | 79                             | 21                          |
| S.F. 2                           | 77              | 8                         | 15                         | ...                | 58                             | 42                          |
| S.F. 3                           | 61              | 16                        | 22                         | 1                  | 79                             | 21                          |
| S.F. 4                           | 80              | 10                        | 10                         | ...                | 70                             | 30                          |
| WHOLE WARD..                     | 85              | 6                         | 8.9                        | 0.1                | 55                             | 45                          |

The design and construction of the sanitary conveniences and ashplace accommodation in the oldest sub-districts of this ward, and in the oldest parts of the newer sub-districts, resemble those in other old parts of the Borough. The worst features are found in sub-district S.N.2, where there are many examples of closets and groups of closets situated in the most undesirable positions. Whilst some of these are a great distance from many of the dwellings whose occupants are supposed to use them, others are not even in the common yard; whilst there are still others which stand only a step from, and exactly opposite to, the doors of the houses. Sketch No. 1 illustrates a similar condition. Examples of faulty positions for the closet buildings are likewise found in S.N.4, one of the worst being located in the southern area. Here 20 back-to-back houses are served by a row of conveniences with an ashplace situated about two feet distant from the scullery windows of the two end cottages. The small courts, in the southern portion of S.N.2 and S.N.4, enclosed by back-to-back houses on two sides and high walls on the



others, contain groups of old and often dilapidated pail closets, which give rise to strong odours in summer. These offensive smells can be perceived immediately one enters any of the court passages, and are partly drawn into the adjacent cottages.

The lack of anything like sufficient or suitable ashplace accommodation prevails to a greater extent in S.N.2 than in any of the sub-districts. It is not rare to find a dozen dwellings, the inmates of which must share in one ashplace, so designed that only one or two of the tubs placed inside can be used without one actually going inside the small building (see Sketch No. 2). Although it is to a lesser extent, S.N.4 shows similar defects.

From the table given above it will be seen that the system of joint-closet accommodation is exceedingly prevalent in S.N.2; in some cases there are as many as four families who have to use one convenience.

### Consideration of Houses.

Over 2,200 houses have been considered in this ward, and of these it is estimated that 21 per cent. are in poor condition, and 79 per cent. in good or passable condition.

The four-roomed through house, and a range of rent of from 4/- to 5/- are predominant in this ward. There are also 28 per cent. of houses not through. The following tables give particulars of rooms, rents and types of houses in each sub-district :—

| Sub-district | PERCENTAGE OF HOUSES HAVING |    |     |    |    |            |                |            |            |            |             |              |
|--------------|-----------------------------|----|-----|----|----|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |    |     |    |    |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2  | 3   | 4  | 5  | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| S.N. 2       | 11                          | 41 | 16  | 22 | 4  | 6          | 8              | 41         | 38         | 8          | 1           | 4            |
| S.N. 3       | ...                         | 9  | 2   | 65 | 10 | 14         | 0.5            | 1.5        | 16         | 31         | 26          | 25           |
| S.N. 4       | 2                           | 19 | 2   | 63 | 7  | 7          | 2              | 13         | 17         | 36         | 20          | 12           |
| S.F. 1       | 1                           | 6  | 7   | 60 | 10 | 16         | 1              | 7          | 9          | 26         | 32          | 25           |
| S.F. 2       | ...                         | 20 | 2   | 59 | 6  | 13         | ...            | 13         | 20         | 29         | 20          | 18           |
| S.F. 3       | ...                         | 6  | ... | 33 | 15 | 46         | ...            | 4          | 12         | 25         | 14          | 45           |
| S.F. 4       | 1                           | 8  | 4   | 63 | 6  | 18         | 1              | 13         | 13         | 25         | 25          | 23           |
| WHOLE WARD.. | 2                           | 14 | 4   | 55 | 8  | 17         | 2              | 11         | 17         | 27         | 21          | 22           |

The extent of the prevalence of houses not through in the respective sub-districts is shown below :—

| Sub-district                         | S.N. 2 | S.N. 3 | S.N. 4 | S.F. 1 | S.F. 2 | S.F. 3 | S.F. 4 | WHOLE WARD |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|------------|
| Percentage of Through Houses ...     | 18     | 82     | 70     | 84     | 72     | 86     | 76     | 72         |
| Percentage of Houses Not Through ... | 82     | 18     | 30     | 16     | 28     | 14     | 24     | 28         |



Sub-district S.N.2 is again at the head of the list as regards houses not through, one-roomed dwellings and the lowest ranges of rent. As to the conditions of the dwellings it is estimated that 51 per cent. of those in this sub-district are in very poor sanitary condition, 42 per cent. in passable condition and only 7 per cent. in really good condition. All the houses in S.N.2 are very old and a great many are unfit for human habitation. Perhaps the worst part of the district is the "Paddock" area, where there are two-roomed houses partly underground at the back and very damp. A glance at the table giving the number of rooms per house shows that this district has the highest percentage of one-roomed dwellings. These are almost all below the kitchens of the other dwellings, and whilst it is impossible for these places to be adequately ventilated, it is also impossible for them to be properly lighted, owing to the projection of the landings used by the tenants of the houses above (see Sketch No. 4). In these one-roomed dwellings people sleep, eat, wash and cook, and such fittings as there are, are usually of the most primitive character—a dilapidated fire-range with or without a side boiler, a flimsy cupboard adjoining, and an old worn-out slopstone near the one window. The effluvia arising from some of these houses is often quite offensive, although some features of cleanliness are met with in a few exceptional instances.

In the "Dunkirk" portion of the district there still exists relics of the oldest type of houses without back-doors, and without convenience for the disposal of slop-water. These dwellings are provided with joint sanitary accommodation and even a joint water supply, which consists of one large tap placed at one end of the yard. The houses themselves are very old and dilapidated and are not fit for human habitation.

The most widely-spread and pronounced defect in dwellings in this sub-district is the dampness of the walls and floors; there are very few of the houses which do not show some signs of this, and in most of the cases the defect is not easily remediable.

In two portions of sub-district S.N.4 there are similar features, and about 31 per cent. of all the dwellings in the district are in very bad condition.

Of the three old sub-districts, S.N.3 is the best so far as the condition of its dwellings is concerned; for considering the age of part of the property its condition is remarkably good, and suggests the exercise of great care by both owners and occupiers. The back-to-back houses in this district are chiefly of the "inset" type, although there are a few examples of the true back-to-back cottage. The "through" houses are chiefly four-roomed, and possess the usual accommodation. They are in good or passable condition.

The four remaining sub-districts do not vary greatly as to the percentage of dwellings in bad condition, which is calculated at from 13 to 20 of the total number, but there is considerable difference in the character of the dwellings as a whole. In S.F.4 is found quite a large area covered by good four-roomed houses at a rent of about 5/- per week, in good condition and well arranged in small blocks. The front room of these dwellings is used as the living room or kitchen and has a vestibule; the rear room on the ground floor is a combined wash-kitchen and scullery of good average dimensions, and the two bedrooms on the first floor are of equally good size. All these four sub-districts have a small percentage of old property which resembles that found in the more central districts; but they are to a great extent being opened out for building purposes and have many modern dwellings of the better class.

It has been pointed out in Section I. of this report that indifferent methods of building are used in the erection of some new houses in the Borough. Evidence of this is presented by many of the new semi-detached and other dwellings in this ward.

### **Overcrowding.**

Enquiries concerning overcrowding were made at 402 dwellings; of these dwellings 110 were two-roomed back-to-back houses and 292 were four-roomed through houses. The rate of overcrowding was found to be 1 in every 4½ of the two-roomed and 1 in every 42 of the four-roomed.



Following are tables for comparison of the sub-districts :—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                          |                |            |                       |                        |          |
|-------------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                    | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                                 |                          |                |            |                       | per house              | per room |
| S.N. 2                                          | 40                       | 2/6 to 3/8     | 134        | 1 in 4½               | 3.4                    | 1.7      |
| S.N. 3                                          | 13                       | 3/2 to 3/3     | 46         | 1 in 6½               | 3.5                    | 1.7      |
| S.N. 4                                          | 17                       | 2/10 to 3/1    | 74         | 1 in 2½               | 4.4                    | 2.2      |
| S.F. 1                                          | 12                       | 2/8 to 2/10    | 32         | 0 in 12               | 2.7                    | 1.3      |
| S.F. 2                                          | 14                       | 2/6 to 3/3     | 41         | 0 in 14               | 2.9                    | 1.4      |
| S.F. 3                                          | 6                        | 2/10 to 3/6    | 13         | 0 in 6                | 2.1                    | 1.0      |
| S.F. 4                                          | 8                        | 2/- to 2/9     | 40         | 1 in 1½               | 5.0                    | 2.5      |
| WHOLE WARD..                                    | 110                      | 2/- to 3/8     | 380        | 1 in 4½               | 3.5                    | 1.7      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |            |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |            |                       | per house              | per room |
| S.N. 2                                      | 23                       | 3/3 to 5/-     | 136        | 1 in 11½              | 6.0                    | 1.5      |
| S.N. 3                                      | 49                       | 4/6 to 5/9     | 207        | 1 in 49               | 4.2                    | 1.1      |
| S.N. 4                                      | 39                       | 3/2 to 5/6     | 202        | 1 in 19½              | 5.2                    | 1.3      |
| S.F. 1                                      | 57                       | 4/6 to 5/6     | 261        | 1 in 57               | 4.6                    | 1.1      |
| S.F. 2                                      | 30                       | 3/10 to 5/6    | 118        | 1 in 30               | 3.9                    | 1.0      |
| S.F. 3                                      | 40                       | 3/6 to 5/6     | 161        | 0 in 40               | 4.0                    | 1.0      |
| S.F. 4                                      | 54                       | 3/8 to 5/6     | 234        | 0 in 54               | 4.3                    | 1.1      |
| WHOLE WARD..                                | 292                      | 3/2 to 5/9     | 1,319      | 1 in 42               | 4.5                    | 1.2      |

#### Notes on the Circumstances and Class of Inhabitants.

In this respect the eight sub-districts present great variation. The greater portion of the inhabitants of insanitary area S.N.2 are of a very careless and negligent class. During a house-to-house inspection of most of this sub-district made in 1908, which included 166 houses, 65 only were found to be in anything like clean condition, 38 were moderately clean, and 63 (or about 38 per cent). were in a very dirty condition. After making all reasonable allowance for poverty and other circumstances, these facts demonstrate how indifferent and uncleanly the people are. In the Paddock and Dunkirk areas particularly is this the case, while the children running about the streets or yards are neglected, dirty, ill-clothed and improperly fed.

In vivid contrast to these the people of the adjoining district, S.N.3, are very different; the prevailing type here being of the most industrious and thrifty working class. The district is notably a clean one, and it would be difficult to find a whole sub-district similarly placed with respect to its proximity to the town centre, which would prove to have as great a percentage of clean homes, yards, both private and common, and sanitary conveniences. Most of the people are tidy, thrifty, and in one portion of the district, certainly appear to be in better circumstances than the average working-class inhabitants of the Borough.

The inhabitants of S.N.4, which is partly continuous with both S.N.2 and S.N.3, have characteristics in common with those in the respective adjoining sub-district. The more numerous group resides in the northern part of the district which adjoins S.N.3, while the less numerous group occupies the southern part adjacent to S.N.2.



In the more outlying, and extensive sub-districts, S.F.1, S.F.2, S.F.3 and S.F.4, the populations change in character according to their proximity to the town, but the predominant class is a good one and there are few really dirty or indifferent families even in the lower rented houses.

The following table gives results of enquiries concerning the circumstances of people in typical two-roomed and four-roomed houses in each district:—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| S.N. 2       | 63                         | 270                  | 107            | 2.5                                 | 3                                        | 59                | 45               | 52.1                                 | 21          |
| S.N. 3       | 62                         | 253                  | 91             | 2.8                                 | 24                                       | 53                | 14               | 62.2                                 | 22          |
| S.N. 4       | 56                         | 276                  | 96             | 2.9                                 | 9                                        | 50                | 37               | 54.2                                 | 19          |
| S.F. 1       | 69                         | 293                  | 128            | 2.3                                 | 14                                       | 87                | 27               | 57.9                                 | 25          |
| S.F. 2       | 44                         | 159                  | 64             | 2.5                                 | 16                                       | 39                | 9                | 62.2                                 | 25          |
| S.F. 3       | 46                         | 174                  | 58             | 3.0                                 | 15                                       | 37                | 6                | 63.1                                 | 21          |
| S.F. 4       | 62                         | 274                  | 84             | 3.3                                 | 33                                       | 41                | 10               | 65.4                                 | 20          |
| WHOLE WARD.  | 402                        | 1,699                | 628            | 2.5                                 | 114                                      | 366               | 148              | 58.9                                 | 24          |

\* Corrected for number of persons to one wage.

### Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1903-8) | Average Birth-rate per 1,000 (1903-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1909) |                        |               |                |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       |                                              |               | All Causes                                                                 | Seven Zymotic Diseases |               |                |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years |                                                                            | Total Zymotic          | Etiotic Fever | Diarrhoea, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| S.N. 2 (a)   | 236                                       | 29.7                                  | 25.3                                         | 36.8          | 29.0                                                                       | 2.93                   | 0.16          | 1.47           | 0.16       | ...           | 1.14                   | 2.77     | 5.05                      |
| S.N. 3 (b)   | 59                                        | 17.1                                  | 10.3                                         | 14.3          | 14.7                                                                       | 0.46                   | 0.16          | 0.16           | ...        | ...           | 0.16                   | 0.77     | 2.70                      |
| S.N. 4 (c)   | 159                                       | 26.8                                  | 21.3                                         | 29.2          | 17.8                                                                       | 1.60                   | 0.15          | 0.58           | 0.15       | 0.07          | 0.73                   | 1.46     | 3.28                      |
| S.F. 1 (d)   | 80                                        | 27.6                                  | 17.5                                         | 34.1          | 14.5                                                                       | 2.54                   | 0.22          | 0.77           | 0.44       | 0.11          | 0.99                   | 0.99     | 1.88                      |
| S.F. 2 (e)   | 127                                       | 28.8                                  | 18.3                                         | 24.4          | 17.2                                                                       | 0.60                   | ...           | ...            | 0.20       | ...           | 0.40                   | 1.20     | 3.00                      |
| S.F. 3 (f)   | 133                                       | 20.2                                  | 13.4                                         | 22.4          | 14.9                                                                       | 1.28                   | 0.16          | 0.45           | 0.16       | 0.16          | 0.48                   | 1.28     | 2.25                      |
| S.F. 4 (g)   | 77                                        | 18.4                                  | 10.4                                         | 17.1          | 14.2                                                                       | 0.74                   | 0.08          | 0.16           | 0.08       | ...           | 0.41                   | 1.13     | 1.56                      |
| Ward ...     | 124                                       | 23.4                                  | 17.0                                         | 25.9          | 16.8                                                                       | 1.35                   | 0.14          | 0.44           | 0.14       | 0.05          | 0.58                   | 1.23     | 2.71                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE.—Rates are uncorrected for age and sex.

\* All rates "per 1,000" calculated on population in 1901.

### NOTES ON SALIENT FEATURES.

- (a) All rates are uniformly and proportionately high, and every death-rate is much above both the ward and the Borough averages except that from Diphtheria which is below the Borough average, and that from Scarlet Fever, which is zero. The high birth-rate



in this area, coupled with the high infantile mortality, indicate an excessive loss of infant lives. This district is described as one of the most extensively insanitary areas in the Borough, and the vital statistics show it to be one of the most unhealthy. For sanitary conditions see Chart No. 1. The district has not been affected by influx of population to new dwellings.

- (b) All rates are extremely low except the Respiratory Diseases death rate, which, however, does not reach either the Borough or the ward averages and the Enteric Fever death-rate, which exceeds both the ward and the Borough averages. An adult population predominates and the district is an extremely clean one. Rates not influenced by newly erected dwellings.
- (c) The rates in this district vary little from the average for the Borough except as regards the rate of deaths of infants per 1,000 births, and of those under 1 year taken as a percentage of the total deaths. The district comprises two clearly distinct areas varying strongly in the class of inhabitants, the type of dwellings and in altitude. It must be presumed that these influences tend to produce an average rate for the area.
- (d), (e), (f), and (g). The most striking feature is the proportionately high Zymotic rate in (d), evidently due to Diarrhoea and "Other Zymotics," which, taken in conjunction with the high percentage of deaths under 5 years—the only other excessive rate—suggests juvenile deaths from Zymotic diseases out of proportion to deaths from other causes. The rates in the remaining districts, (e), (f) and (g), although low, are not comparable owing to fluctuations in the population since the census in 1901. The rates would be still lower could they be calculated on the present population. The one rate, which is comparable for these districts, the infantile mortality, is low.

## WUERDLE WARD.

### Situation.

This ward occupies a north-eastern position in the Borough, and has a good average altitude, although one of its districts is very low-lying, and four of the others have one of their boundaries at the level of the river Roch.

### Size and Population.

The extent of the ward is 429 acres, and at the last census it had a population of 6,913; this giving a density of 16.1 persons per acre.

The same particulars for each census sub-district are given below :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| Wu. 1        | 29      | 1,422      | 49.0             |
| Wu. 2        | 38      | 1,210      | 31.8             |
| Wu. 3        | 30      | 1,214      | 40.5             |
| Wu. 4        | 45      | 803        | 17.8             |
| Wu. 5        | 62      | 985        | 15.9             |
| Wu. 6        | 36      | 788        | 21.9             |
| B. 1         | 189     | 491        | 2.6              |
| WHOLE WARD.. | 429     | 6,913      | 16.1             |

### General Description.

The greater part of this ward is more than a mile distant from the town centre, and with the exception of Wu.1, the grouping of its buildings is scattered and straggling. The most thickly populated portions lie about Halifax-road, the main highway between Rochdale and Yorkshire, in a north-easterly direction. The whole district is practically of a working class residential character, and although none of the sub-districts are so far entirely built upon, the most low-lying one, Wu.1, is the most densely populated. The majority of the dwellings are adjacent to the main road mentioned, and there is comparatively little crowding of houses. For, except in the newer portions of sub-district Wu.3 there is no definite plan of street arrangement, such as is found in some of the more central wards. The ward includes great stretches of land of a rural or semi-rural character, and is, generally speaking, the most open and scattered of the wards in the north portion of the Borough. It contains, however, several large mills and factories, around which new cottage property is being erected, and the population at present must be considerably in excess of that given in the above table from the last census. Included in the boundaries are the two villages of Smallbridge and Belfield, the dwellings of the latter being grouped about the highway to Milnrow, and those of the former on Halifax-road. Both these villages are of good altitude and the atmosphere is generally clear and does not appear to be greatly affected by the smoke and dust from the mills in the adjoining districts.



### Streets, Yards, and Arrangement of Houses.

As above stated there is no definite plan of streets except in the newer portions; where, however, branch streets have been taken off from the main roads, they are in most cases of average width and present similar features to those found in the older portions of the Borough. The back-to-back houses and houses without back doors are, as a rule, arranged around one large common yard, containing the joint-closet and ashplace accommodation. Considering the general nature of the district the old streets and yards are fairly extensively paved, but there are many new streets of newly erected houses where the back passages require attention in this direction.

The following table shows to what extent each of the districts in the ward is affected by the paving of its streets:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| Wu. 1                                           | 70          | ...            | 30                        |
| Wu. 2                                           | 78          | ...            | 22                        |
| Wu. 3                                           | 36          | ...            | 64                        |
| Wu. 4                                           | 66          | ...            | 34                        |
| Wu. 5                                           | 55          | ...            | 45                        |
| Wu. 6                                           | 47          | ...            | 53                        |
| B. 1                                            | 21          | 24             | 55                        |
| WHOLE WARD..                                    | 55          | 2              | 43                        |

The private and separate yard is predominant in the ward as a whole, and also in five of the seven sub-districts taken separately. The following comparative table shows that Wu. 5 is the worst sub-district in this respect:—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |               |              |         |
|--------------|----------------------------------|---------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yards | Common Yards |         |
|              |                                  |               | Paved        | Unpaved |
| Wu. 1        | 23                               | 77            | 77           | 23      |
| Wu. 2        | 47                               | 53            | 89           | 11      |
| Wu. 3        | 41                               | 59            | 70           | 30      |
| Wu. 4        | 35                               | 65            | 70           | 30      |
| Wu. 5        | 66                               | 34            | 68           | 32      |
| Wu. 6        | 60                               | 40            | 70           | 30      |
| B. 1         | 16                               | 84            | 26           | 74      |
| WHOLE WARD.. | 42                               | 58            | 73           | 27      |

### Closet Accommodation.

91 per cent. of the dwellings have the pail system; the fresh-water carriage and waste-water carriage systems being fitted in 5 per cent. and 3 per cent. respectively of the dwellings. The highest percentage of water closets of both kinds is found in sub-district Wu.3, in which the most recently constructed buildings have been erected. The following table is comparative for each sub-district:—

| PERCENTAGE OF HOUSES AFFECTED BY |               |                     |                      |                 |                         |                      |
|----------------------------------|---------------|---------------------|----------------------|-----------------|-------------------------|----------------------|
| Sub-districts                    | Pail Closets. | Fresh Water Closets | Waste-water Closets. | Midden-Privies. | Separate Accommodation. | Joint Accommodation. |
| Wu. 1                            | 94            | 6                   | ...                  | ...             | 80                      | 20                   |
| Wu. 2                            | 95            | 0.3                 | 4.7                  | ...             | 57                      | 43                   |
| Wu. 3                            | 83            | 8                   | 9                    | ...             | 64                      | 36                   |
| Wu. 4                            | 91            | 5                   | 4                    | ...             | 74                      | 26                   |
| Wu. 5                            | 92            | 6                   | ...                  | 2               | 40                      | 60                   |
| Wu. 6                            | 96            | 4                   | ...                  | ...             | 41                      | 59                   |
| B. 1                             | 93            | 2                   | ...                  | 5               | 86                      | 14                   |
| WHOLE WARD..                     | 91            | 5                   | 3                    | 1               | 63                      | 37                   |

It will be seen from this that the system of joint closet accommodation is most prevalent in Wu.5 and 6, which are the two oldest districts. As well as being the oldest, these also contain fewer new houses with modern arrangements of yards and sanitary systems than do the other districts. Further, one finds in many parts of the ward that the accommodation, in addition to being joint, is inadequate—for instance, when three or four households are provided with only one convenience.

#### Consideration of Houses.

The four-roomed through house, and a range of rent of from 4/- to 5/- are predominant in this ward. There is also a good percentage of houses with rentals exceeding 5/- a week. The following table gives particulars of the number of rooms and the rents of the houses in each sub-district :—

| Sub-district. | PERCENTAGE OF HOUSES HAVING |    |     |      |      |            |                |            |            |            |             |              |
|---------------|-----------------------------|----|-----|------|------|------------|----------------|------------|------------|------------|-------------|--------------|
|               | Number of Rooms             |    |     |      |      |            | Ranges of Rent |            |            |            |             |              |
|               | 1                           | 2  | 3   | 4    | 5    | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| Wu. 1         | ...                         | 13 | 1   | 48   | 26   | 12         | ...            | 10         | 7          | 30         | 35          | 18           |
| Wu. 2         | ...                         | 22 | 5   | 52   | 10   | 11         | ...            | 16         | 25         | 27         | 17          | 15           |
| Wu. 3         | ...                         | 11 | 0.5 | 61   | 14.5 | 13         | ...            | 7          | 16         | 33         | 22          | 22           |
| Wu. 4         | ...                         | 19 | 0.5 | 53.5 | 8    | 19         | ...            | 13         | 13         | 33         | 19          | 22           |
| Wu. 5         | 1                           | 22 | 3   | 58   | 7    | 9          | 2              | 20         | 27         | 29         | 12          | 10           |
| Wu. 6         | 2                           | 30 | 6   | 46   | 5    | 11         | 2              | 31         | 23         | 29         | 4           | 11           |
| B. 1          | ...                         | 5  | 2   | 57   | 31   | 5          | ...            | 4          | 13         | 45         | 26          | 12           |
| WHOLE WARD..  | 0.3                         | 17 | 2   | 54   | 15   | 11.7       | 0.5            | 14.5       | 17         | 32         | 20          | 16           |

The extent of the prevalence of through houses and houses not through in the respective sub-districts is shown below ; the percentages for the ward being 72 and 28 respectively.

| Sub-district                         | Wu.1 | Wu.2 | Wu.3 | Wu.4 | Wu.5 | Wu.6 | B.1 | WHOLE WARD |
|--------------------------------------|------|------|------|------|------|------|-----|------------|
| Percentage of Through Houses ...     | 83   | 62   | 83   | 76   | 56   | 48   | 93  | 72         |
| Percentage of Houses Not Through ... | 17   | 38   | 17   | 24   | 44   | 52   | 7   | 28         |



Over 1,800 houses have been considered in this ward and it is estimated that about 26 per cent. of these are in poor condition, the remaining 74 per cent. being either good or passable. The various sub-districts do not present many variations with regard to the types of houses except in so far as the district contains property of recent erection; in each sub-district there are old and defective houses of a similar class to those found in the older portions of the Borough—the usual two-roomed back-to-back cottage, the “inset” cottage, and the four-roomed through house with rooms of varying capacity. Of the houses with rentals over 5/- a week many have been recently erected, but they are not all in good condition. Some of them are examples of the results of the defective methods employed in building already pointed out in Section I (Dampness in Houses).

### Overcrowding.

Enquiries concerning overcrowding were made at 381 dwellings in this ward; of these 117 were two-roomed back-to-back dwellings, and 274 were four-roomed through houses. In the case of the two-roomed houses 28 (or 1 in  $4\frac{1}{2}$ ), and in four-roomed houses 8 (or 1 in 34), were found to be overcrowded. The following are tables for the comparison of the sub-districts:—

| OVERCROWDING IN TWO-ROOMED HOUSES. |                           |                |             |                       |                        |          |
|------------------------------------|---------------------------|----------------|-------------|-----------------------|------------------------|----------|
| Sub-district.                      | No. of Houses considered. | Ranges of Rent | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                    |                           |                |             |                       | per house              | per room |
| Wu. 1                              | 13                        | 2/9 to 3/6     | 58          | 1 in $2\frac{1}{2}$   | 4.5                    | 2.2      |
| Wu. 2                              | 22                        | 2/6 to 3/-     | 80          | 1 in $4\frac{1}{2}$   | 3.6                    | 1.9      |
| Wu. 3                              | 8                         | 2/6 to 3/-     | 24          | 1 in 4                | 3.0                    | 1.5      |
| Wu. 4                              | 19                        | 2/8 to 3/3     | 64          | 1 in $4\frac{1}{4}$   | 3.4                    | 1.7      |
| Wu. 5                              | 17                        | 2/8 to 3/-     | 53          | 1 in $5\frac{1}{2}$   | 3.1                    | 1.6      |
| Wu. 6                              | 23                        | 2/- to 3/-     | 92          | 1 in $3\frac{1}{2}$   | 4.0                    | 2.0      |
| B. 1                               | 5                         | 2/9 to 3/6     | 14          | 1 in 5                | 2.8                    | 1.4      |
| WHOLE WARD..                       | 117                       | 2/- to 3/6     | 385         | 1 in $4\frac{1}{2}$   | 3.3                    | 1.6      |

| OVERCROWDING IN FOUR-ROOMED HOUSES. |                          |                |             |                       |                        |          |
|-------------------------------------|--------------------------|----------------|-------------|-----------------------|------------------------|----------|
| Sub-district.                       | No. of Houses considered | Ranges of Rent | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                     |                          |                |             |                       | per house              | per room |
| Wu. 1                               | 43                       | 4/6 to 5/3     | 213         | 0 in 43               | 5.0                    | 1.2      |
| Wu. 2                               | 37                       | 3/9 to 5/-     | 199         | 1 in $9\frac{1}{4}$   | 5.4                    | 1.3      |
| Wu. 3                               | 49                       | 4/3 to 5/6     | 202         | 1 in 49               | 4.1                    | 1.0      |
| Wu. 4                               | 38                       | 4/3 to 5/-     | 142         | 0 in 38               | 3.7                    | 0.9      |
| Wu. 5                               | 37                       | 3/6 to 5/-     | 137         | 1 in 37               | 3.7                    | 0.9      |
| Wu. 6                               | 26                       | 3/6 to 5/-     | 111         | 1 in 26               | 4.3                    | 1.1      |
| B. 1                                | 44                       | 4/6 to 5/3     | 199         | 1 in 44               | 4.5                    | 1.1      |
| WHOLE WARD..                        | 274                      | 3/6 to 5/6     | 1,203       | 1 in 34               | 4.4                    | 1.1      |

### Notes on the Circumstances and Class of Inhabitants.

There are many small blocks of old property whose inhabitants are careful of their homes and who are of cleanly and regular habits, with an evident pride in keeping wholesome and tidy both their houses and the precincts thereof. There are, on the other hand, several small areas, contained chiefly in sub-district Wu.1, where the population is not of that good class, and where the houses, streets and yards exhibit signs of the people's carelessness. It is in Wu.1 that the largest families are found, that the number of persons per house is above the average, and the rate of overcrowding in the smaller-sized houses is highest. Besides being larger, the families are also younger, consequently the percentage of workers amongst the inhabitants of two-roomed and four-roomed houses is small compared with the other districts of the ward. Excluding the inhabitants of the small areas mentioned the population of the sub-district is of a good average working-class character and equal to that of most of the districts in the Borough. Sub-district Wu.6 perhaps the poorest district in the ward, contains the highest percentage of low-rented dwellings, and of dwellings in poor condition. The features of several of the small areas in Wu.6 approach very near to those described for Wu.1. Wu.5 is the sub-district most distant from the centre of the town. Here a small area, just on the Borough boundary and adjoining a neighbouring urban district, shows very bad housing conditions. In it there are many signs of poverty, and such children as are seen about the streets and yards appear dirty and ill-cared for.

These adverse conditions are not typical of the ward, and although none of the sub-districts are free from careless and improvident inhabitants, the general population is of a good class, industrious, clean and of average circumstances.

Below is a table comparing the average calculated means of the inhabitants of two-roomed and four-roomed houses in each district. It should be noted that the average index number for the ward is equal to that for the whole Borough, given in Section I.

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND  
FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | Total No. of Workers | Average No. of Persons to one Wage | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------------|------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                      |                                    | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross.                               | * Correct'd |
| Wu. 1        | 56                         | 271                  | 81                   | 3.3                                | 10                                       | 56                | 15               | 58.7                                 | 18          |
| Wu. 2        | 59                         | 279                  | 93                   | 3.0                                | 10                                       | 58                | 25               | 56.7                                 | 19          |
| Wu. 3        | 57                         | 226                  | 77                   | 2.9                                | 12                                       | 57                | 8                | 61.0                                 | 21          |
| Wu. 4        | 57                         | 206                  | 85                   | 2.4                                | 18                                       | 52                | 15               | 60.7                                 | 25          |
| Wu. 5        | 54                         | 190                  | 74                   | 2.6                                | 13                                       | 53                | 8                | 61.3                                 | 24          |
| Wu. 6        | 49                         | 203                  | 66                   | 3.1                                | 8                                        | 38                | 20               | 56.3                                 | 18          |
| B. 1         | 49                         | 213                  | 79                   | 2.7                                | 20                                       | 47                | 12               | 62.0                                 | 23          |
| WHOLE WARD.  | 381                        | 1,588                | 555                  | 2.8                                | 91                                       | 361               | 103              | 59.5                                 | 21          |

\* Corrected for No. of Persons to one wage.



## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>(8 years, 1901-1908) |                        |              |               |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|----------------------------------------------------------------------------|------------------------|--------------|---------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       |                                              |               | All Causes                                                                 | Seven Zymotic Diseases |              |               |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years |                                                                            | Total Zymotic          | Eratie Fever | Dysentery, Ac | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| Wu. 1 (a)    | 131                                       | 21.6                                  | 17.4                                         | 33.0          | 18.9                                                                       | 2.81                   | 0.09         | 0.70          | 0.18       | 0.09          | 1.76                   | 1.14     | 3.43                      |
| Wu. 2 (b)    | 131                                       | 21.5                                  | 20.3                                         | 25.9          | 15.8                                                                       | 0.83                   | ...          | 0.21          | ...        | ...           | 0.62                   | 1.24     | 3.61                      |
| Wu. 3 (c)    | 108                                       | 19.2                                  | 12.2                                         | 29.7          | 14.7                                                                       | 1.54                   | 0.31         | ...           | 0.52       | 0.31          | 0.41                   | 0.93     | 1.96                      |
| Wu. 4 (d)    | 73                                        | 20.6                                  | 8.7                                          | 13.9          | 17.0                                                                       | 1.09                   | 0.16         | ...           | 0.31       | 0.16          | 0.47                   | 1.56     | 3.27                      |
| Wu. 5 (e)    | 179                                       | 19.3                                  | 16.1                                         | 24.2          | 19.8                                                                       | 1.01                   | 0.13         | 0.38          | ...        | 0.13          | 0.38                   | 0.89     | 6.21                      |
| Wu. 6 (f)    | 172                                       | 24.1                                  | 17.9                                         | 28.1          | 23.9                                                                       | 2.06                   | 0.16         | 0.32          | 0.48       | 0.32          | 0.79                   | 1.43     | 6.03                      |
| B. 1 (g)     | 94                                        | 29.6                                  | 27.0                                         | 34.8          | 14.2                                                                       | 0.26                   | ...          | ...           | 0.26       | ...           | ...                    | 1.53     | 4.07                      |
| Ward ...     | 122                                       | 21.6                                  | 15.7                                         | 26.0          | 17.8                                                                       | 1.54                   | 0.13         | 0.27          | 0.23       | 0.16          | 0.74                   | 1.18     | 3.96                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                       | 1.64                   | 0.07         | 0.51          | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE :—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

## NOTES ON SALIENT FEATURES.

(e) and (f). Excess in death rate from "All Causes" is due chiefly to Respiratory Diseases. In (f) the Zymotics contribute to the relatively high percentage of deaths of children. Each district has bad areas. For Sanitary Conditions see Chart No. I.

(a), (b), (c), (d), (g). Rates considerably affected by increase of the population owing to new dwellings.

## CASTLETON NORTH WARD.

### Situation.

This ward occupies a south-eastern position in the Borough, and varies in altitude from the river level to the average for the town.

### Size and Population.

The ward occupies 263 acres with a population of 4,897 at the last census, and this gives a density of 18.6 persons per acre. There are five census sub-districts, the particulars of which are given below :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| C.N. 3       | 12      | 1,151      | 96.0             |
| C.N. 14      | 30      | 1,354      | 45.1             |
| C.N. 15      | 77      | 1,249      | 16.2             |
| C.F. 16      | 133     | 663        | 5.0              |
| C.N. 2       | 11      | 480        | 43.6             |
| WHOLE WARD.. | 263     | 4,897      | 18.6             |

### General Description.

With the exception of C.F.16 all the sub-districts of this ward are less than a mile distant from the town centre, and with the same exception all are within the old circular Borough boundary line. C.N.2, C.N.3 and C.N.14 form a portion of the central part of the old town built on the south bank of the Roch, which has a general north-west slope. The west portion of C.N.15 is a continuation of these districts, but the remaining portion, and the whole of C.F.16 are scattered and outlying, and on the whole they are neither thickly populated nor built up.

The ward lies to the east or north-east of many small manufacturing areas and is considerably affected by the air impurities conveyed therefrom by the south-west winds, though not to so great an extent as some districts on the opposite side of the river.

The most central district, C.N.2, was formerly one of the most congested and badly arranged, but is now chiefly of a business character; and the largest number of the inhabitants are either engaged in or live at the shops and other business premises, on the main street, which forms one of the boundaries. There are several common lodging-houses in the area, at which the majority of the remaining population reside. Another feature of C.N.2 is the large number of insanitary and old dwellings which have been demolished. In the adjoining sub-district C.N.3, with the exception of that part of its boundary which is on a thoroughfare, the conditions are in every respect the worst in the ward. The remaining districts of the ward are of a working-class residential nature generally, while parts of the out-lying districts are being utilized for the erection of larger houses.



### Streets, Yards, and Arrangement of Houses.

As most of this ward is made up of old portions of the Borough, there is found the characteristic crowding of dwellings and business premises in the most central sub-districts. C.N.3 is the most notable example of this; here the streets are below the average width, many of the dwellings do not possess any yard at all, while others are arranged in blocks which enclose a small common yard. All the tenants using these small yards share at the sanitary accommodation which they contain. Further, of these small streets, many are unpaved and in very bad condition. Sub-districts C.N.14 and C.N.15 are similar to C.N.2 in a small degree, but for the most part, the streets are of average width and fairly well paved. In these streets, however, very few dwellings are found with separate yards and closets. The most general arrangement found is that of "through" houses with "inset" cottages at the rear, all enclosing a common yard, very often unpaved, which contains the joint sanitary conveniences and ashplace buildings. C.N.2, the most central district of all, was originally a very congested one with narrow streets and little space at the rear of the dwellings. Since most of the old undesirable property has been abolished, and in some cases new dwellings erected on the sites, the district is more open, the only congested portions being around the shops in the main street forming one of the boundaries. C.F.16 is the remaining and most outlying sub-district where the buildings are chiefly arranged alongside a main approach to the Borough, and the dwellings are usually provided with separate yards and sanitary accommodation.

In the paving of its streets, this ward compares favourably with other wards occupying a central position, the percentage of dwellings affected by unpaved or insufficiently paved streets being 19 per cent. of the total number of dwellings actually abutting on streets. The following table is comparative for the sub-districts:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or no Paving |
| C.N. 3                                          | 83          | ...            | 17                        |
| C.N. 14                                         | 81          | ...            | 19                        |
| C.N. 15                                         | 95          | ...            | 5                         |
| C.F. 16                                         | 60          | ...            | 40                        |
| C.N. 2                                          | 100         | ...            | ...                       |
| WHOLE WARD..                                    | 81          | ...            | 19                        |

Turning now to the yard accommodation, the private and separate yard is provided for only 34 per cent. of the dwellings, C.N.15 being the worst district and C.F.16 the best in this respect. The comparative figures for each sub-district are given below:—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| C.N. 3       | 68                               | 32           | 68           | 32      |
| C.N. 14      | 66                               | 34           | 78           | 22      |
| C.N. 15      | 88                               | 12           | 66           | 34      |
| C.F. 16      | 36                               | 64           | 25           | 75      |
| C.N. 2       | 39                               | 61           | 100          | 0       |
| WHOLE WARD.. | 66                               | 34           | 66           | 34      |



### Closet Accommodation.

Pail closets are in use in 88 per cent. of the dwellings, and the fresh-water and waste-water carriage systems in about 9 per cent. and 3 per cent. respectively. The percentage of each kind of accommodation varies greatly in each district, as shewn in the following table :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                           |                            |                    |                                |                             |
|--------------|----------------------------------|---------------------------|----------------------------|--------------------|--------------------------------|-----------------------------|
|              | Pail<br>Closets                  | Fresh<br>Water<br>Closets | Waste-<br>water<br>Closets | Midden-<br>Privies | Separate<br>Accom-<br>modation | Joint<br>Accom-<br>modation |
| C.N. 3       | 86                               | 14                        | 0                          | 0                  | 42                             | 58                          |
| C.N. 14      | 88                               | 8                         | 4                          | 0                  | 42                             | 58                          |
| C.N. 15      | 95                               | 4.7                       | 0                          | 0.3                | 22                             | 78                          |
| C.F. 16      | 84                               | 8                         | 8                          | 0                  | 63                             | 37                          |
| C.N. 2       | 49                               | 27                        | 24                         | 0                  | 83                             | 17                          |
| WHOLE WARD.  | 88                               | 9                         | 2.99                       | 0.01               | 42                             | 58                          |

The worst features in closet building and accommodation are found in C.N.3, a district containing many two-roomed back-to-back houses. In some instances where the dwellings have no yard at all, the pail closet and ashplace serving for three or four dwellings are found, at the bottom of a covered passage, built against the wall of one of the dwellings. In other cases a group of pail closets and a large ashplace are built at the end of a block of cottages and are lineable with the street. In cases where a common yard is enclosed by the dwellings the closets and ashplace are often quite near to the door of one or other of these, but inconveniently distant from some of the other houses whose tenants are supposed to use them. The other sub-districts present similar features, but to a less extent, the general arrangement being better, although the lack of closet accommodation is as great and greater, in C.N.14 and C.N.15 respectively.

### Consideration of Houses.

About 1,000 houses were considered in this ward and it is estimated that 409, or about 38 per cent. of them are in really bad condition. The predominant class of house is the four-roomed one, having a rent of from 3/6 to 4/6; and the ward contains most of the various types of houses found in the Borough. Sub-district C.N.3 is the worst district as regards both the class of house and its sanitary condition. The two-roomed back-to-back house at a rental of from 2/- to 3/- is very numerous, and there are few of these dwellings in anything like proper condition; those huddled together behind the main street particularly showing many serious defects in addition to that of old age. Most of them are damp both as to walls and floors, the walls being built solid and the flag floors laid on the bare damp earth. A great many of the dwellings are dilapidated, and all lack proper food-keeping and clothes-washing accommodation; and a separate estimation of the general condition of the property showed about 60 per cent. of dwellings in poor condition. It is only fair to the owners of this property to mention that many similar dwellings in this district have been abolished by them, and that there are signs that many more will shortly be similarly treated. In this district there are common lodging-houses and furnished rooms, the inspection of which did not come within the scope of the enquiry.

In sub-district C.N.14 the typical four-roomed through house is most in evidence, and the prevailing rents range between 3/- and 4/-, but nearly one-half the total number of houses are in a generally poor condition. One special feature here is the difference in level of two adjacent streets causing some rooms to be on the ground level at the front but underground at the back. Many of these premises are damp owing to the apparent neglect of proper precautions in building. In these also, the closet accommodation is sometimes inconveniently situated at the top of flights of steps at the rear.



The dwellings of sub-district C.N.15, though old and generally out of date, are on the whole in much better condition. The four-roomed through house predominates, at a rent of 3/6 to 4/6 a week. Back-to-back houses, which are chiefly of the "inset" type, are found to the extent of 32 per cent. There are more houses of this class grouped together here than in any other part of the Borough. About 17 per cent. only of the total number of dwellings are in really poor condition, and most of these are at the south-east end of the district. The feature of the housing in this district is the lack of separate yards and closets; the "common yard" and "joint-closet" system prevailing to the extent of 88 per cent and 78 per cent. respectively. Even the more highly rented dwellings suffer in this respect.

C.F.16 is, in part, a continuation of the above district and is similar to some extent, but the district is more straggling and includes much old and defective property built along old roads and lanes. The percentage of this class of property is reduced by the existence of a great number of new houses in the district. There are about 25 per cent. of these new houses, and some of them are provided with baths. The percentage of houses not through is 14, and this figure includes some of the "inset" type of true back-to-back houses, as well as many of the modifications described in Group II B in the Borough Report. About 29 per cent. are in poor condition.

In sub-district C.N.2 there are now very few dwellings, the built up area being largely occupied by large shops, other business premises and common lodging-houses. The original dwellings, now mostly demolished, were of the worst and oldest type of back-to-back houses, and old blocks or groups of dwellings which were often utilized as common lodging-houses. There still exists one or two of the old dwellings, in poor condition and lacking in accommodation. The shops facing the main street are all short of space at the rear, and in many of them the backs of the buildings are in very bad repair.

The following table gives a comparative statement as to the number of rooms and the rents of dwellings in each sub-district :—

| Sub-district | PERCENTAGE OF HOUSES HAVING |    |   |    |   |            |                |            |            |            |             |              |
|--------------|-----------------------------|----|---|----|---|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |    |   |    |   |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2  | 3 | 4  | 5 | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| C.N. 3       | 1                           | 41 | 3 | 18 | 5 | 32         | ...            | 28         | 19         | 11         | 3           | 39           |
| C.N. 14      | 0.3                         | 27 | 7 | 43 | 7 | 15.7       | ...            | 10         | 31         | 17         | 11          | 31           |
| C.N. 15      | ...                         | 28 | 1 | 55 | 8 | 8          | ...            | 1          | 35         | 45         | 4           | 15           |
| C.F. 16      | ...                         | 9  | 1 | 60 | 6 | 24         | 0.5            | 8          | 22         | 24.5       | 21          | 24           |
| C.N. 2       | ...                         | 12 | 7 | 27 | 7 | 47         | ...            | 10         | 10         | ...        | 12          | 68           |
| WHOLE WARD.. | 0.3                         | 26 | 4 | 44 | 6 | 19.7       | 0.01           | 10.6       | 27.4       | 24.7       | 9.29        | 28           |

The extent of the prevalence of houses not through in the respective sub-districts is shown below, the percentage for the ward being 35.

| Sub-district                         | C.N. 3 | C.N. 14 | C.N. 15 | C.F. 16 | C.N. 2 | WHOLE WARD |
|--------------------------------------|--------|---------|---------|---------|--------|------------|
| Percentage of Through Houses ... ..  | 53     | 52      | 68      | 86      | 80     | 65         |
| Percentage of Houses Not Through ... | 47     | 48      | 32      | 14      | 20     | 35         |

**Overcrowding.**

The enquiries under this head extended to 238 houses, of which 97 were two-roomed and 141 four-roomed. Of the former, 28, and of the latter, 10, were found to be overcrowded; the rates thus being 1 in 3½ in the two-roomed and 1 in 14 in the four-roomed houses. The following tables show the particulars for the sub-districts:—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                          |                |            |                       |                        |          |
|-------------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                    | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                                 |                          |                |            |                       | per house              | per room |
| C.N. 3                                          | 41                       | 2/3 to 3/3     | 159        | 1 in 3                | 3.9                    | 1.9      |
| C.N. 14                                         | 29                       | 2/6 to 3/6     | 92         | 1 in 4½               | 3.2                    | 1.6      |
| C.N. 15                                         | 20                       | 3/2 to 3/6     | 64         | 1 in 7                | 3.2                    | 1.6      |
| C.F. 16                                         | 5                        | 2/- to 2/6     | 25         | 1 in 1½               | 5.0                    | 2.6      |
| C.N. 2                                          | 2                        | 3/- to 3/6     | 7          | 1 in 2                | 3.5                    | 1.7      |
| WHOLE WARD..                                    | 97                       | 2/- to 3/6     | 347        | 1 in 3½               | 3.5                    | 1.8      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |             |                      |                        |          |
|---------------------------------------------|--------------------------|----------------|-------------|----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population. | Rate of Overcrowding | Average No. of Persons |          |
|                                             |                          |                |             |                      | per house              | per room |
| C.N. 3                                      | 17                       | 3/- to 5/6     | 96          | 1 in 17              | 5.6                    | 1.4      |
| C.N. 14                                     | 42                       | 3/3 to 4/5     | 198         | 1 in 8½              | 4.7                    | 1.2      |
| C.N. 15                                     | 36                       | 4/- to 5/3     | 159         | 0 in 36              | 4.4                    | 1.1      |
| C.F. 16                                     | 41                       | 4/3 to 5/3     | 203         | 1 in 10¼             | 5.0                    | 1.3      |
| C.N. 2                                      | 5                        | 5/-            | 18          | 0 in 5               | 3.5                    | 1.9      |
| WHOLE WARD..                                | 141                      | 3/- to 5/6     | 674         | 1 in 14              | 4.7                    | 1.2      |

**Notes on the Circumstances and Class of Inhabitants.**

The circumstances of the population in this ward are very varied. In the most central district C.N.2, the shop owners reside on their premises to only a small extent, the lodging-house class of resident is less numerous than formerly and the population is essentially an adult one. In the adjoining district C.N.3, the majority of the residents are poor, and, judging from the condition of their environment, also negligent; and the large number of children found in one part of this district are ill-cared for. In C.N.14 and 15, and C.F.16 respectable working-class people predominate, with a good proportion of better class inhabitants. There are, however, particularly in C.N.14, small areas which contain a more indifferent class of tenant.

The following table shows the comparative circumstances of persons living in two-roomed and four-roomed houses in each district.



COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND  
FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| C.N. 3       | 58                         | 255                  | 97             | 2.6                                 | 9                                        | 48                | 40               | 53.6                                 | 21          |
| C.N. 14      | 71                         | 290                  | 99             | 2.9                                 | 20                                       | 42                | 37               | 56.5                                 | 19          |
| C.N. 15      | 56                         | 223                  | 76             | 2.9                                 | 21                                       | 36                | 19               | 60.5                                 | 21          |
| C.F. 16      | 46                         | 228                  | 71             | 3.2                                 | 15                                       | 44                | 12               | 60.8                                 | 19          |
| C.N. 2       | 7                          | 25                   | 14             | 1.9                                 | 5                                        | 7                 | 2                | 64.3                                 | 34          |
| WHOLE WARD.  | 238                        | 1,021                | 357            | 2.9                                 | 70                                       | 177               | 110              | 57.7                                 | 20          |

\* Corrected for number of Persons to one wage.

**Vital Statistics.**

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>* (8 years, 1901-1908) |                        |               |                |           |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|------------------------------------------------------------------------------|------------------------|---------------|----------------|-----------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                   | Seven Zymotic Diseases |               |                |           |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                              | Total Zymotic          | Enteric Fever | Diarrhoea, &c. | Dysentery | Scarlet Fever | Other Zymotic Diseases |          |                           |
| C.N. 3 (a)   | 192                                       | 20.4                                  | 11.0                                         | 19.8          | 30.5                                                                         | 2.26                   | 0.44          | 0.65           | 0.54      | 0.11          | 0.54                   | 3.91     | 6.51                      |
| C.N. 14 (b)  | 184                                       | 23.8                                  | 20.5                                         | 32.0          | 23.3                                                                         | 2.95                   | 0.09          | 1.11           | 0.46      | ...           | 1.29                   | 1.29     | 4.15                      |
| C.N. 15 (c)  | 151                                       | 21.8                                  | 25.7                                         | 37.3          | 14.2                                                                         | 1.70                   | 0.10          | 1.00           | 0.10      | ...           | 0.50                   | 0.70     | 2.30                      |
| C.F. 16 (d)  | 140                                       | 25.3                                  | 19.5                                         | 29.3          | 16.8                                                                         | 1.70                   | ...           | 0.57           | 0.38      | ...           | 0.76                   | 1.13     | 3.21                      |
| C.N. 2 (e)   | 123                                       | 4.2                                   | 3.1                                          | 7.8           | 20.8                                                                         | 0.52                   | ...           | 0.26           | ...       | ...           | 0.26                   | 3.39     | 2.87                      |
| Ward ...     | 166                                       | 20.8                                  | 16.3                                         | 26.3          | 21.5                                                                         | 2.10                   | 0.15          | 0.82           | 0.33      | 0.03          | 0.79                   | 1.97     | 4.01                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                         | 1.64                   | 0.07          | 0.51           | 0.23      | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

NOTES ON SALIENT FEATURES.

- (a) The most striking features are the very high Phthisis and Respiratory Diseases rates; and also the very high rate of Infant mortality combined with an extremely low percentage of deaths of children under one year to the total deaths, favouring the conclusion that the total deaths principally occur amongst adults, and further that the causes of death are Phthisis and Respiratory Diseases to an unusual extent. The housing conditions are bad and many houses have been demolished since last census, the population gradually decreasing during the eight years 1901-8. The true rates would therefore be higher than they appear above and probably would reach the maximum for the Borough if the decrease in population could be taken into account. As in many other districts the high rate from Phthisis is associated with lodging-houses.

- (b) The excess in the "All Causes" death-rate is largely due to deaths of children, as shown by the high rate from "Other Zymotics" and percentage of deaths under 5 years. Judging from apparent composition of population a high birth-rate might be expected, but the birth-rate is only average. The Respiratory Diseases death-rate is rather high. The district is a crowded one.
- (c), (d) and (e) The low birth-rate in (e) requires an explanation. There are very few ordinary families in this small district, which is made up of lodging-house areas and shop premises, and the portion of the female population of child-bearing age is very small. The percentage of the total deaths allocated to the period "Under 5 Years" is so low as to bring down the "All Causes" rate by about 20 per cent., and to a figure little above the Borough average, in spite of a high Phthisis rate. This latter rate is again associated with lodging-houses, and again the population has decreased somewhat since 1901 owing to demolition of property. In (c) the death-rate would appear exceedingly low, but for a proportionately large number of deaths of infants, the deaths of children under 5 forming over one-third of the total deaths. In (d) the rates are uniformly average.





## CASTLETON SOUTH WARD.

### Situation.

This ward occupies a south central position in the Borough, and is of a good average altitude.

### Size and Population.

The ward covers 439 acres with a population at the last census of 10,164 ; this gives a density of 23·2 persons per acre. There are eight census sub-districts, the particulars of which are given below :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| C.N. 8       | 14      | 1,454      | 103·8            |
| C.N. 9       | 21      | 1,074      | 51·1             |
| C.N. 10      | 18      | 1,451      | 80·6             |
| C.N. 11      | 15      | 970        | 64·7             |
| C.N. 13      | 38      | 1,073      | 28·2             |
| C.F. 8       | 106     | 1,383      | 13·0             |
| C.F. 9       | 208     | 904        | 4·3              |
| C.F. 10      | 19      | 1,855      | 97·6             |
| WHOLE WARD.. | 439     | 10,164     | 23·2             |

### General Description.

With the exception of sub-districts C.F.9 and C.F.10, the whole of the ward is less than a mile distant from the town centre, and, with the additional exception of C.F.8, is within the old circular Borough boundary of 1832. Notwithstanding this the ward is not wholly characteristic of the old Borough, as there are large areas of recently developed land in some of the sub-districts, notably C.F.8.

On the whole the ward has a good altitude, occupying most of the higher ground which lies between the north-west slope to the river, and another slope to the south-east. It is almost entirely of a residential character, with mills and factories chiefly scattered over sub-districts C.F.9 and C.F.10; atmospheric impurities arising from manufacture do not affect the ward to any great degree on account of altitude and position.

Sub-districts C.N.8, 9, 10, 11 and C.F.10 are most extensively built upon, the densest area being that which adjoins Castleton West Ward and constitutes part of "The Freehold." C.N.13 contains a large open space and the Canal Wharf. The remaining two sub-districts, C.F.8 and C.F.9, are the most scattered and outlying, they are very open and well adapted for building sites, for which purpose they are now being largely used.

### Streets, Yards, and Arrangement of Houses.

Generally this ward compares very favourably with other wards in the matter of street and yard arrangement; the design and width of the streets is on the average good, considering the age of the dwellings; and only about 30 per cent. of the latter are without proper separate yard space. The most notable exception is C.F.10. This is an old district and is bounded by the Canal, Well-i'th'-lane, Platting-lane, and Oldham-road. It contains many peculiar examples of street formation, and, with few exceptions, the dwellings are huddled together in all positions likely to hinder the proper formation of good "through" streets between the main thoroughfares on two of its boundaries. It has also the largest number of dwellings without separate yard and closet accommodation. On the other hand C.F.8, containing the largest proportion of new property has the least number of common yards and joint closets. C.N.9, a sub-district containing many good features under the present heading, has had several of its streets spoiled by their being constructed originally as cul-de-sacs. Walled across one end, where the boundary line between two building estates evidently lies, they thus remain as private streets, unpaved and insufficiently sewered. Had these been primarily planned to become through streets from Milkstone-road to Ashfield-road, the district would have been greatly improved. Several small portions of other sub-districts contain the usual back-to-back arrangement of houses with enclosed common yards which is found in the old portions of the Borough.

In street paving Castleton South Ward does not compare favourably with other wards. The following table gives particulars of the sub-districts:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| C.N. 8                                          | 83          | ...            | 17                        |
| C.N. 9                                          | 28          | 4              | 68                        |
| C.N. 10                                         | 65          | ...            | 35                        |
| C.N. 11                                         | 80          | 6              | 14                        |
| C.N. 13                                         | 83          | ...            | 17                        |
| C.F. 8                                          | 43          | 4              | 53                        |
| C.F. 9                                          | 28          | 25             | 47                        |
| C.F. 10                                         | 57          | 9              | 34                        |
| WHOLE WARD..                                    | 57          | 5              | 38                        |

Regarding yard accommodation, the separate and private yard prevails to the extent of 69 per cent. C.F.8 being the best district and C.N. 13 the worst, in this respect. A comparison of each sub-district is given below:—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| C.N. 8       | 23                               | 77           | 69           | 31      |
| C.N. 9       | 16                               | 84           | 49           | 51      |
| C.N. 10      | 38                               | 62           | 67           | 33      |
| C.N. 11      | 12                               | 88           | 69           | 31      |
| C.N. 13      | 64                               | 36           | 58           | 42      |
| C.F. 8       | 4                                | 96           | 58           | 42      |
| C.F. 9       | 56                               | 44           | 54           | 46      |
| C.F. 10      | 62                               | 38           | 73           | 27      |
| WHOLE WARD.. | 31                               | 69           | 64           | 36      |



### Closet Accommodation.

The number of pail closets in this ward is nearly 80 per cent. of the whole, while the number of fresh-water closets and waste-water closets represent about 5 per cent. and 15 per cent. respectively. C.N.11 and 9 have the highest percentages of fresh-water closets, and C.N.10 and C.F.10 the lowest. C.F.8, where there is much new property, has 43 per cent. of waste-water closets. The following table shows the comparative percentages of each type of closet for each sub-district :—

| PERCENTAGE OF HOUSES AFFECTED BY |                 |                           |                            |                    |                                |                             |
|----------------------------------|-----------------|---------------------------|----------------------------|--------------------|--------------------------------|-----------------------------|
| Sub-district                     | Pail<br>Closets | Fresh<br>Water<br>Closets | Waste-<br>water<br>Closets | Midden-<br>Privies | Separate<br>Accom-<br>modation | Joint<br>Accom-<br>modation |
| C.N. 8                           | 96              | 1.6                       | 2.4                        | ...                | 77                             | 23                          |
| C.N. 9                           | 67              | 9                         | 24                         | ...                | 86                             | 14                          |
| C.N. 10                          | 99              | 1                         | ...                        | ...                | 59                             | 41                          |
| C.N. 11                          | 69              | 11                        | 20                         | ...                | 91                             | 9                           |
| C.N. 13                          | 94              | 6                         | ...                        | ...                | 42                             | 58                          |
| C.F. 8                           | 52              | 5                         | 43                         | ...                | 97                             | 3                           |
| C.F. 9                           | 84              | 6                         | 8                          | 2                  | 48                             | 52                          |
| C.F. 10                          | 94              | 2                         | 4                          | ...                | 42                             | 58                          |
| WHOLE WARD..                     | 79.8            | 5                         | 15.1                       | 0.1                | 71                             | 29                          |

It is seen from the table that the lowest percentage of houses with separate accommodation is found in sub-districts C.N.13 and C.F.10, in which districts there is a high percentage of pail closets.

### Consideration of Houses.

Over 2,800 houses have been considered in this ward, and it is estimated that about 21 per cent. are in poor sanitary condition, the remaining 79 per cent. being in passable or very good condition. The highest percentage of poor dwellings is found in sub-district C.N.13, where at least 47 per cent. are of that class. The next worst districts, in order, are C.F.9, C.F.10, C.N.8 and C.N.10, all with percentages over 20. Taking the ward generally the four-roomed through dwelling, and a range of rent of from 4/6 to 5/6 are predominant. The usual accommodation for this rent is, on the ground floor a living kitchen at the front, with a small scullery or washplace at the back; and on the first floor one fair-sized and one small-sized bedroom. The ward, however, has many good and commodious houses with three or more bedrooms and with baths. Some of the best houses in the Borough may be found in this ward, though rents are comparatively and correspondingly high.

Two of the sub-districts (C.N.13 and C.F.9) contain one-roomed dwellings, most of which are hardly fit for habitation. Those in C.F.9 are surrounded by many other very poor dwellings lacking light, ventilation and accommodation, the two types of houses together forming one of the small slum areas found in the ward. In the eastern portion of C.N.13, where the one-roomed dwellings, partly below the ground level, are found, there are some very poor back-to-back houses of the oldest and worst type. It was in this same neighbourhood that many dwellings of a similar type were recently demolished for street improvements.

The following table classifies the dwellings in each sub-district :—

| Sub-district | PERCENTAGE OF HOUSES HAVING |     |     |      |    |            |                |            |            |            |             |              |
|--------------|-----------------------------|-----|-----|------|----|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |     |     |      |    |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2   | 3   | 4    | 5  | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| C.N. 8       | ...                         | 4.5 | 0.5 | 57   | 9  | 29         | ...            | 2          | 5          | 35         | 20          | 38           |
| C.N. 9       | ...                         | 6   | 2   | 76   | 2  | 14         | 1              | 5          | 5          | 17         | 56          | 16           |
| C.N. 10      | ...                         | 16  | ... | 75   | 8  | 1          | ...            | 6          | 23         | 52         | 14          | 5            |
| C.N. 11      | ...                         | 6   | ... | 34   | 41 | 19         | ...            | 5          | 2          | 19         | 38          | 36           |
| C.N. 13      | 1.6                         | 30  | 0.4 | 44   | 2  | 22         | 1.6            | 17         | 22         | 20         | 11          | 28           |
| C.F. 8       | ...                         | 2.5 | 0.2 | 59.1 | 13 | 25.2       | ...            | 2          | 2          | 21         | 50          | 25           |
| C.F. 9       | 1                           | 28  | 1   | 48   | 16 | 6          | 1              | 22         | 28         | 26         | 17          | 6            |
| C.F. 10      | ...                         | 25  | 2   | 59   | 8  | 6          | 1              | 18         | 16         | 37         | 19          | 9            |
| WHOLE WARD.. | 0.2                         | 13  | 0.8 | 58   | 12 | 16         | 0.5            | 8.8        | 11.3       | 28.7       | 30.5        | 20.2         |

The extent of the prevalence of houses not through in the respective sub-districts is shown below, the percentage for the ward being 18.

| Sub-district                         | C.N. 8 | C.N. 9 | C.N. 10 | C.N. 11 | C.N. 13 | C.F. 8 | C.F. 9 | C.F. 10 | WHOLE WARD. |
|--------------------------------------|--------|--------|---------|---------|---------|--------|--------|---------|-------------|
| Percentage of Through Houses ...     | 92     | 89     | 72      | 94      | 64      | 97     | 55     | 72      | 82          |
| Percentage of Houses Not Through ... | 8      | 11     | 28      | 6       | 36      | 3      | 45     | 28      | 18          |

### Overcrowding.

351 dwellings, comprising 75 two-roomed and 276 four-roomed houses were considered in this ward in relation to overcrowding. The total number of two-roomed houses overcrowded was found to be 47, or one in every  $1\frac{1}{2}$ ; and of four-roomed houses 17, or one in every 16. The following tables compare the sub-districts in this respect :—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                          |                |            |                       |                        |          |
|-------------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                    | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                                 |                          |                |            |                       | per house              | per room |
| C.N. 8                                          | 4                        | 3/3            | 19         | 1 in $1\frac{1}{2}$   | 4.8                    | 2.4      |
| C.N. 9                                          | 5                        | 2/6 to 2/9     | 29         | 1 in $1\frac{1}{4}$   | 5.8                    | 2.9      |
| C.N. 10                                         | 8                        | 2/10 to 3/8    | 39         | 1 in $1\frac{1}{2}$   | 5.0                    | 2.5      |
| C.N. 11                                         | 8                        | 2/10 to 3/1    | 27         | 1 in 8                | 3.4                    | 1.8      |
| C.N. 13                                         | 20                       | 2/6 to 3/3     | 104        | 1 in $1\frac{3}{16}$  | 5.2                    | 2.6      |
| C.F. 8                                          | 3                        | 1/11 to 3/10   | 15         | 1 in 1                | 5.0                    | 2.5      |
| C.F. 9                                          | 14                       | 2/3 to 3/6     | 73         | 1 in $1\frac{1}{2}$   | 5.2                    | 2.6      |
| C.F. 10                                         | 13                       | 2/10 to 3/-    | 56         | 1 in 2                | 4.3                    | 2.1      |
| WHOLE WARD..                                    | 75                       | 2/6 to 3/8     | 362        | 1 in $1\frac{1}{2}$   | 4.8                    | 2.4      |



| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |            |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |            |                       | per house              | per room |
| C.N. 8                                      | 50                       | 4/3 to 5/2     | 254        | 1 in 50               | 5.0                    | 1.26     |
| C.N. 9                                      | 38                       | 4/- to 5/3     | 198        | 1 in 9½               | 5.0                    | 1.3      |
| C.N. 10                                     | 25                       | 4/- to 5/6     | 150        | 1 in 6½               | 6.0                    | 1.5      |
| C.N. 11                                     | 34                       | 4/3 to 5/6     | 145        | 1 in 34               | 4.3                    | 1.1      |
| C.N. 13                                     | 33                       | 3/6 to 5/6     | 161        | 1 in 16½              | 4.9                    | 1.2      |
| C.F. 8                                      | 50                       | 4/6 to 5/6     | 254        | 1 in 25               | 5.1                    | 1.3      |
| C.F. 9                                      | 21                       | 3/3 to 4/8     | 114        | 1 in 7                | 5.4                    | 1.3      |
| C.F. 10                                     | 25                       | 4/6 to 5/6     | 126        | 0 in 25               | 5.0                    | 1.2      |
| WHOLE WARD..                                | 276                      | 3/6 to 5/6     | 1,402      | 1 in 16               | 5.1                    | 1.27     |

### Notes on the Circumstances and Class of Inhabitants.

The ward is on the whole thickly populated by respectable working-class people in fairly good circumstances. In sub-districts C.N.13, C.N.9, C.F.9, and C.N.10, there are small areas found, the inhabitants of which are of a typical slum character—careless and thriftless, with neglected and dirty homes and ill-cared for children. In C.N.8 and C.F.8 the largest percentage of adult persons is apparently found, while in C.F.10 and C.N.11 the smallest percentage is found. The two-roomed and four-roomed houses are very crowded, and the average number of persons to each wage earned is proportionately high, consequently the calculated means of the families in these houses is much below the average for the whole Borough. The average figure for the Borough is 21, and the following table gives that for each sub-district and for the ward.

### COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| C.N. 8       | 54                         | 273                  | 81             | 3.4                                 | 17                                       | 49                | 15               | 60.5                                 | 18          |
| C.N. 9       | 43                         | 227                  | 75             | 3.0                                 | 14                                       | 45                | 16               | 59.4                                 | 20          |
| C.N. 10      | 33                         | 189                  | 55             | 3.4                                 | 8                                        | 33                | 14               | 57.8                                 | 17          |
| C.N. 11      | 42                         | 172                  | 69             | 2.5                                 | 15                                       | 44                | 10               | 61.4                                 | 25          |
| C.N. 13      | 53                         | 265                  | 86             | 3.1                                 | 12                                       | 45                | 29               | 56.0                                 | 18          |
| C.F. 8       | 53                         | 269                  | 74             | 3.6                                 | 25                                       | 33                | 16               | 62.4                                 | 17          |
| C.F. 9       | 35                         | 187                  | 51             | 3.6                                 | 3                                        | 37                | 11               | 56.8                                 | 15          |
| C.F. 10      | 38                         | 182                  | 50             | 3.6                                 | 9                                        | 28                | 13               | 58.4                                 | 16          |
| WHOLE WARD.  | 351                        | 1,764                | 541            | 3.26                                | 103                                      | 314               | 124              | 59.2                                 | 18          |

\* Corrected for number of persons to one wage.

## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH RATES PER 1,000 OF POPULATION<br>* (8 years, 1901-1908) |                        |               |                |            |               |                        |      | Phthisis | Respiratory Diseases only |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|------------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                   | Seven Zymotic Diseases |               |                |            |               |                        |      |          |                           |
|              |                                           |                                       |                                              |               |                                                                              | Total Zymotic          | Enteric Fever | Diarrhoea, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |      |          |                           |
| C.N. 8 (a)   | 136                                       | 18.7                                  | 17.4                                         | 27.4          | 13.1                                                                         | 1.12                   | ...           | 0.43           | 0.26       | ...           | 0.43                   | 1.21 | 2.84     |                           |
| C.N. 9 (b)   | 122                                       | 21.6                                  | 18.5                                         | 25.6          | 17.6                                                                         | 1.51                   | ...           | 0.58           | 0.47       | 0.12          | 0.35                   | 1.05 | 3.49     |                           |
| C.N. 10 (c)  | 124                                       | 23.3                                  | 19.1                                         | 29.5          | 16.5                                                                         | 1.55                   | 0.17          | 0.52           | 0.17       | 0.35          | 0.35                   | 1.12 | 3.10     |                           |
| C.N. 11 (d)  | 112                                       | 17.8                                  | 14.8                                         | 22.1          | 14.3                                                                         | 1.80                   | ...           | 0.52           | 0.26       | 0.26          | 0.77                   | 0.64 | 2.83     |                           |
| C.N. 13 (e)  | 150                                       | 24.7                                  | 14.9                                         | 26.8          | 23.5                                                                         | 2.79                   | 0.12          | 0.81           | 0.35       | ...           | 1.51                   | 1.98 | 4.08     |                           |
| C.F. 8 (f)   | 114                                       | 34.5                                  | 22.4                                         | 32.1          | 16.9                                                                         | 1.54                   | ...           | 0.18           | 0.36       | 0.36          | 0.63                   | 1.27 | 3.07     |                           |
| C.F. 9 (g)   | 158                                       | 21.0                                  | 21.9                                         | 28.5          | 18.8                                                                         | 1.52                   | ...           | ...            | 0.14       | ...           | 1.38                   | 1.25 | 3.46     |                           |
| C.F. 10 (h)  | 142                                       | 24.7                                  | 20.6                                         | 30.4          | 17.3                                                                         | 1.75                   | ...           | 0.61           | 0.34       | 0.14          | 0.68                   | 1.35 | 3.37     |                           |
| Ward ...     | 131                                       | 23.7                                  | 19.0                                         | 28.3          | 17.1                                                                         | 1.67                   | 0.04          | 0.48           | 0.30       | 0.16          | 0.70                   | 1.24 | 3.21     |                           |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                         | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38 | 3.41     |                           |

NOTE.—Rates not corrected for age and sex.

\* Rates per 1,000 worked on population of 1901.

## NOTES ON SALIENT FEATURES.

(e) All rates are uniformly and correspondingly high except the percentage of deaths under 1 and 5 years, which are low, and the Infant Mortality and Birth-Rate, which are about average. The high "All Causes" death-rate is associated with high rates of death from Phthisis and Respiratory Diseases and from Diarrhoea and "Other Zymotics." Part of the district is a bad one as regards housing, but the population has decreased rather than increased since 1901, owing to demolition of dwellings for street improvements, etc. For sanitary conditions see Chart No. 1.

(g) The only rate excessively high is that of deaths of children under 1 year, which is the chief cause of the "All Causes" rate slightly exceeding the average. The rate of overcrowding in the houses in this district is excessive (see Chart No. 2).

(a), (b), (c), (d), (f), (h). The important features are:—

1.—The very low birth-rate in (d) accompanied by a low infant mortality and a low percentage of deaths of children. A low birth-rate is not what might be expected considering the age and sex constitution of the population, but that those born are healthy and well-cared for is demonstrated by the good proportion of young children found in the district and is borne out by the low infantile mortality.

2.—The apparently high birth-rate in (f) has little significance, as nearly one-half the total number of dwellings are new since 1901, consequently the birth-rate, as well as the death-rates, should appear much lower. This applies to most of these six districts to a varying extent.



## CASTLETON EAST WARD.

### Situation.

This ward occupies a south-eastern position in the Borough and is generally at a good altitude.

### Size and Population.

The ward contains 471 acres and had at the last census a population of 10,343; this gives a density of 21.9 persons per acre. There are six census sub-districts, the particulars of which are given below :—

| Sub-district | Acres. | Population | Density per Acre |
|--------------|--------|------------|------------------|
| C.N. 16      | 20     | 426        | 21.3             |
| C.N. 17      | 35     | 2,124      | 60.7             |
| C.F. 11      | 47     | 1,683      | 35.8             |
| C.F. 12      | 253    | 1,681      | 6.6              |
| C.F. 14      | 37     | 2,155      | 58.2             |
| C.F. 15      | 79     | 2,274      | 28.8             |
| WHOLE WARD.. | 471    | 10,343     | 21.9             |

### General Description.

With the exception of C.F.12 and part of C.F.15, the sub-districts are less than a mile distant from the town centre. Only two of the sub-districts, C.N.16 and C.N.17, are within the old Borough boundary line of 1832. Generally speaking, these two districts are the most closely built although a large portion of C.N.16 is occupied by a railway goods station and warehouses, and a very large part of C.N.17 by machinery works and other factories as well as several open spaces. The remaining two districts are crowded at their western sides with shops and dwellings, and contain many mills and factories.

The character of the ward generally is manufacturing, the chief exception being C.F.12—a district which contains an estate now being laid out to some extent on "Garden City" lines. The oldest and most undesirable portions of the ward lie along the main highways leading to Oldham and Milnrow, and the usual shop-hidden slum areas exist here as in many other parts of the Borough.

### Streets, Yards, and Arrangement of Houses.

The worst arrangements are found in an area contained partly in C.N.17 and partly in C.F.14. Here the streets are narrow, unpaved or badly paved, and in several cases they are of the cul-de-sac type. Many of the dwellings are without any yard space except that provided by the street, and back-to-back houses arranged in long rows are found. The houses are densely crowded together. Some areas in the western portions of C.F.11 and 12 and part of C.F.15 suffer from similar defects, and on the whole it can be stated that these defective features are worse in this ward than in any other portion of the Borough. But these bad features are not typical of the entire ward as it is only in the older portions of the districts concerned that they are found. The more recently developed areas, regulated by more stringent bye-laws, present many good wide streets with four and five-roomed through houses, which have separate yards and closets and are in good condition generally.

Street Paving : taking the number of dwellings affected into account, the street paving, in many of the sub-districts, is in bad condition.

Following is a table for comparison of each district :—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| C.N. 16                                         | 84          | ...            | 16                        |
| C.N. 17                                         | 17          | ...            | 23                        |
| C.F. 11                                         | 63          | 5              | 32                        |
| C.F. 12                                         | 20          | 36             | 44                        |
| C.F. 14                                         | 59          | ...            | 41                        |
| C.F. 15                                         | 59          | ...            | 41                        |
| WHOLE WARD..                                    | 57          | 8              | 35                        |

As regards yard accommodation, the private yard prevails to the extent of 65 per cent. in the whole ward, but in one of the sub-districts it falls as low as 32 per cent. The following table is comparative for each sub-district :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| C.N. 16      | 68                               | 32           | 75           | 25      |
| C.N. 17      | 39                               | 61           | 38           | 62      |
| C.F. 11      | 27                               | 73           | 44           | 56      |
| C.F. 12      | 49                               | 51           | 58           | 42      |
| C.F. 14      | 42                               | 58           | 59           | 41      |
| C.F. 15      | 15                               | 85           | 62           | 38      |
| WHOLE WARD.. | 35                               | 65           | 54           | 46      |



### Closet Accommodation.

83 per cent. of the houses have pail closet accommodation, and about 7 per cent. and 10 per cent. have fresh-water and waste-water closets respectively. The number of dwellings in this ward which have private and separate accommodation is high, being nearly 70 per cent. The sub-districts vary greatly in accommodation, as may be seen by the following table :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                     |                     |                |                        |                     |
|--------------|----------------------------------|---------------------|---------------------|----------------|------------------------|---------------------|
|              | Pail Closets                     | Fresh Water Closets | Waste-water Closets | Midden-Privies | Separate Accommodation | Joint Accommodation |
| C.N. 16      | 72                               | 13                  | 14                  | 1              | 56                     | 44                  |
| C.N. 17      | 93                               | 5                   | 2                   | ...            | 63                     | 37                  |
| C.F. 11      | 55                               | 6                   | 39                  | ...            | 77                     | 23                  |
| C.F. 12      | 79                               | 19                  | 2                   | ...            | 59                     | 41                  |
| C.F. 14      | 98.8                             | 1.2                 | ...                 | ...            | 60                     | 40                  |
| C.F. 15      | 95                               | 1                   | 3.5                 | 0.5            | 86                     | 14                  |
| WHOLE WARD.. | 83                               | 6.9                 | 10                  | 0.1            | 69                     | 31                  |

Many of the worst features of faulty closet construction and accommodation are illustrated in this ward, particularly in the area already mentioned as contained in sub-districts C.N.17 and C.F.14. In this area no adequate provision of closets and ashplaces appears to have been made, and in some cases it has been found necessary to convert cottages into closet buildings, one such convenience being allowed to every three cottages.

It is quite common here to find tenants who must journey into the next street to make use of closet and ashplace; since the arrangement of houses frequently consists of back-to-back dwellings which face a cul-de-sac passage in which there is no room for the erection of sanitary conveniences. In similar property in sub-district C.F.12 all the closets used by the tenants of two long blocks of back-to-back houses are placed at the end of one of the blocks with a very narrow passage from the main street which serves as an approach to the same. This passage is so narrow that two persons would have difficulty to pass each other therein.

Although in some of the sub-districts even in the older property there is now a considerable number of waste-water closets, and in one small area there are blocks of back-to-back houses served by a group of water-closets situated in the central portion of a common yard, still these conditions are exceptional, and the usual pail closet system and the lack of adequate separate accommodation is as pronounced in the old parts of this ward as in the other wards of the Borough. But some of the districts contain a relatively high proportion of new property with modern sanitary arrangements and the percentage of pail closets appears relatively lower on that account.

### Consideration of Houses.

About 2,800 houses have been considered in this ward, and it is estimated that 20 per cent. are in very poor condition, 47 per cent. in fair or passable condition, and 33 per cent. in good condition. In this respect sub-district C.N.16 is considered to be the worst district on the whole, with 44 per cent. of houses in poor condition. The class of house and the ranges of rent vary in the sub-districts to the extent shown in the following tables :—



| Sub-district | PERCENTAGE OF HOUSES HAVING |    |     |      |     |            |                |            |             |            |               |              |
|--------------|-----------------------------|----|-----|------|-----|------------|----------------|------------|-------------|------------|---------------|--------------|
|              | Number of Rooms             |    |     |      |     |            | Ranges of Rent |            |             |            |               |              |
|              | 1                           | 2  | 3   | 4    | 5   | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1½ to 4/- | 4/1 to 5/- | 5/1½ to 5/11½ | 6/- and over |
| C.N. 16      | ...                         | 25 | 4   | 40   | 6   | 25         | ...            | 14         | 25          | 8          | 4             | 49           |
| C.N. 17      | ...                         | 16 | 0.4 | 65.4 | 8.6 | 9.6        | ...            | 9          | 13          | 30         | 32            | 16           |
| C.F. 11      | ...                         | 8  | 1.4 | 71.3 | 8   | 11.3       | ...            | 7          | 6           | 30         | 39            | 18           |
| C.F. 12      | ...                         | 11 | ... | 66   | 6   | 17         | 0.5            | 9          | 20.4        | 32         | 17.1          | 21           |
| C.F. 14      | ...                         | 10 | 4   | 56   | 25  | 5          | ...            | 6          | 36          | 28         | 20            | 10           |
| C.F. 15      | ...                         | 2  | ... | 75   | 11  | 12         | ...            | 2          | 24          | 57         | 10            | 7            |
| WHOLE WARD.. | ...                         | 10 | 1   | 66   | 11  | 12         | 0.1            | 6.9        | 20          | 35         | 22            | 16           |

The extent of the prevalence of houses not through in each district is shown below, the percentage for the ward being 16.

| Sub-district                         | C.N. 16 | C.N. 17 | C.F. 11 | C.F. 12 | C.F. 14 | C.F. 15 | WHOLE WARD |
|--------------------------------------|---------|---------|---------|---------|---------|---------|------------|
| Percentage of Through Houses ...     | 69      | 83      | 87.5    | 84      | 75      | 93      | 84         |
| Percentage of Houses Not Through ... | 31      | 17      | 12.5    | 16      | 25      | 7       | 16         |

In C.N.16, the sub-district previously stated to contain the largest proportion of houses in poor condition, the worst features are found on the premises where a shop and dwelling-house are combined and which face on to the main roads. Many of these are old houses, partly dilapidated and in very bad condition, which are in almost every case without adequate yard space and sanitary accommodation. There is one instance, at least, in which the very narrow confined and small yard, common to three or four shop dwellings, has no separate outlet, with the result that the refuse collected in the joint ashplace has to be conveyed through one of the dwellings for scavenging purposes. In another instance, where high buildings overshadow the rear of the houses, the narrow common yard has been partly divided into small private ones, in some of which the diminishing yard space has been further curtailed by the erection of sheds. All these shop dwellings are without adequate accommodation for domestic purposes and there are very few really good dwelling-houses in the sub-district.

Though the predominant type of house for the whole ward is the four-roomed through house, and the chief range of rent between 4/- and 5/-, yet portions of the four districts C.N.17, C.F.11, C.F.14 and C.F.15, contain many undesirable dwellings which are not through houses, and are in very poor condition. Perhaps the worst dwellings are those in the neighbourhood of League-street—some of which are two-roomed back-to-back houses. These houses are not in good condition, are markedly lacking in accommodation, and many are both damp and dirty. In one particular street the general aspect is made much worse by the street being unpaved, and by the dirty habits of the people, who continually pollute the street surface by throwing out domestic refuse. In C.F.14 and C.F.15 there are many rows of badly built four-roomed houses in poor sanitary condition, and apparently much neglected by both owners and tenants. In the western part of C.F.12 there is much badly arranged property typical of the old methods of building. To the east of this, new property is being erected on better lines as regards design and



arrangement. The rents of many of these new residences, however, are too high for working-class people, and a number of them stand unoccupied and are apparently damp. Complaints *re* dampness were received from tenants occupying some of the new houses, which are let at a lower rental. These, while planned so as ensure ample open surroundings and to provide for abundant circulation of air, have apparently not been carefully constructed, and many are without bath accommodation.

### Overcrowding.

Enquiries were made under this head concerning families in 322 houses, 94 of which were two-roomed and 228 of which were four-roomed. The two-roomed houses were found to be extensively overcrowded, 36 of the 94 containing families of five and over—a rate of 1 in  $2\frac{1}{2}$ . The four-roomed houses were also found to be seriously overcrowded, 21 of the 228 containing families of nine or over—a rate of 1 in 11.

The following tables give particulars of overcrowding in the various sub-districts:—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES |                          |                |            |                       |                        |          |
|------------------------------------------------|--------------------------|----------------|------------|-----------------------|------------------------|----------|
| Sub-district                                   | No. of Houses considered | Ranges of Rent | Population | Rate of Over-crowding | Average No. of Persons |          |
|                                                |                          |                |            |                       | per house              | per room |
| C.N. 16                                        | 20                       | 2/10 to 3/3    | 74         | 1 in $3\frac{1}{3}$   | 3.7                    | 1.9      |
| C.N. 17                                        | 19                       | 2/11 to 3/-    | 90         | 1 in 2                | 4.7                    | 2.4      |
| C.F. 11                                        | 19                       | 2/9 to 3/-     | 60         | 1 in $3\frac{1}{3}$   | 3.1                    | 1.6      |
| C.F. 12                                        | 11                       | 2/8 to 3/3     | 40         | 1 in $5\frac{1}{2}$   | 3.6                    | 1.8      |
| C.F. 14                                        | 18                       | 2/9 to 3/-     | 82         | 1 in $2\frac{1}{4}$   | 4.5                    | 2.3      |
| C.F. 15                                        | 7                        | 3/- to 3/3     | 32         | 1 in $3\frac{1}{3}$   | 4.6                    | 2.3      |
| WHOLE WARD..                                   | 94                       | 2/8 to 3/3     | 378        | 1 in $2\frac{1}{2}$   | 4.0                    | 2.0      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |             |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|-------------|-----------------------|------------------------|----------|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |             |                       | per house              | per room |
| C.N. 16                                     | 27                       | 4/- to 5/-     | 109         | 0 in 27               | 4.0                    | 1.0      |
| C.N. 17                                     | 37                       | 3/8 to 5/-     | 199         | 1 in $18\frac{1}{2}$  | 5.4                    | 1.3      |
| C.F. 11                                     | 40                       | 4/- to 5/6     | 195         | 1 in 20               | 4.8                    | 1.2      |
| C.F. 12                                     | 42                       | 3/6 to 5/3     | 224         | 1 in 21               | 5.3                    | 1.4      |
| C.F. 14                                     | 40                       | 3/9 to 5/6     | 248         | 1 in 5                | 6.2                    | 1.6      |
| C.F. 15                                     | 42                       | 3/9 to 5/6     | 260         | 1 in 6                | 6.2                    | 1.6      |
| WHOLE WARD..                                | 228                      | 3/8 to 5/6     | 1,235       | 1 in 11               | 5.4                    | 1.4      |

### Notes on the Circumstances and Class of Inhabitants.

The three sub-districts which are nearest to the Town Centre are very thickly populated and show much evidence of child life and child labour. These are C.N.16, 17 and C.F.14, to which may be added C.F.15 as being in parts also very crowded. In all these districts respectable working-class people are found in fairly comfortable circumstances, but interspersed amongst them in several parts are other inhabitants of a negligent, indifferent class, occupying usually low-rented houses, but not by any means confined to such dwellings.



In sub-districts C.F.11 and 12 the well-to-do working class predominate, and very few of the indifferent class are found even in the poorest and lowest rented houses. The population in the latter sub-district appears to be mainly an adult one. Scattered throughout the outskirts of this ward are higher rented residences with well-to-do inhabitants.

The following table compares the circumstances of people in two-roomed and four-roomed houses :—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                    | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| C.N. 16      | 47                         | 183                  | 65             | 2.8                                | 8                                        | 34                | 23               | 55.4                                 | 20          |
| C.N. 17      | 56                         | 289                  | 85             | 3.4                                | 8                                        | 53                | 24               | 56.2                                 | 16          |
| C.F. 11      | 59                         | 255                  | 75             | 3.4                                | 15                                       | 41                | 19               | 58.9                                 | 17          |
| C.F. 12      | 53                         | 264                  | 73             | 3.6                                | 16                                       | 41                | 16               | 60.0                                 | 17          |
| C.F. 14      | 58                         | 330                  | 111            | 3.0                                | 7                                        | 73                | 31               | 55.6                                 | 18          |
| C.F. 15      | 49                         | 292                  | 75             | 3.9                                | 8                                        | 44                | 23               | 56.0                                 | 14          |
| WHOLE WARD.  | 322                        | 1,613                | 484            | 3.3                                | 62                                       | 286               | 136              | 56.9                                 | 17          |

\* Corrected for No. of Persons to one Wage.

### Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>* (5 years, 1901-1905) |                        |               |                |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|------------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                   | Seven Zymotic Diseases |               |                |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                              | Total Zymotic          | Etiérie Fever | Diarrhoea, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| C.N. 16 (a)  | 153                                       | 19.4                                  | 20.2                                         | 28.4          | 17.9                                                                         | 1.76                   | ...           | 0.29           | 0.29       | ...           | 1.17                   | 1.47     | 4.69                      |
| C.N. 17 (b)  | 204                                       | 26.6                                  | 24.5                                         | 34.9          | 20.9                                                                         | 2.23                   | ...           | 1.29           | 0.06       | ...           | 0.88                   | 1.71     | 4.00                      |
| C.F. 11 (c)  | 70                                        | 22.5                                  | 15.7                                         | 22.7          | 16.6                                                                         | 0.74                   | ...           | 0.22           | 0.15       | 0.07          | 0.30                   | 1.04     | 2.90                      |
| C.F. 12 (d)  | 180                                       | 19.9                                  | 17.7                                         | 26.8          | 19.9                                                                         | 1.71                   | 0.07          | 0.45           | 0.45       | ...           | 0.74                   | 1.49     | 3.42                      |
| C.F. 14 (e)  | 201                                       | 28.0                                  | 25.2                                         | 41.0          | 21.5                                                                         | 3.07                   | ...           | 1.22           | 0.17       | 0.23          | 1.45                   | 1.91     | 4.35                      |
| C.F. 15 (f)  | 164                                       | 35.1                                  | 28.0                                         | 43.8          | 19.5                                                                         | 2.70                   | ...           | 1.16           | 0.17       | 0.06          | 1.32                   | 1.27     | 5.00                      |
| Ward ...     | 169                                       | 26.7                                  | 22.7                                         | 34.8          | 19.5                                                                         | 2.17                   | 0.01          | 0.89           | 0.19       | 0.07          | 1.00                   | 1.44     | 4.12                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                         | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE :—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population 1901.

### NOTES ON SALIENT FEATURES.

(b), (f), (e) Slight excess of deaths from "All Causes" associated with a high percentage of deaths of children. This is further shown by a high birth-rate being combined with extremely high rate of deaths of infants per 1,000 births, and by excessive Diarrhoeal Diseases death-rate. In the case of (f) it is interesting to note the unusually high proportion of deaths from Respiratory Diseases as compared with Phthisis.

(a), (c), (d). In each case the percentages of deaths under 5 years and under 1 year are either low or about the average; all the birth-rates are low, but only in the case of (c) is the ratio of Infant deaths to births below average.

NOTE.—(c), (d) and (e) have been most affected by additional population in new houses.



## CASTLETON WEST WARD.

### Situation.

This ward occupies a south-western position in the Borough. The altitude of the sub-districts varies as follows :—From low to average, C.N.1, C.N.4, C.F.1, C.F.2 ; average and good, C.N.5, 6, 12, 7.

### Size and Population.

The ward extends over 394 acres, and at the last census had a population of 8,305 ; which gives a density of 21.1 persons per acre. The following table gives the details for each of the eight census sub-districts :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| C.N. 1       | 47      | 654        | 14.0             |
| C.N. 4       | 93      | 1,288      | 13.8             |
| C.N. 5       | 8       | 841        | 105.1            |
| C.N. 6       | 6       | 731        | 121.8            |
| C.N. 7       | 23      | 1,203      | 52.3             |
| C.N. 12      | 20      | 1,188      | 59.4             |
| C.F. 1       | 136     | 784        | 5.8              |
| C.F. 2       | 61      | 1,616      | 26.8             |
| WHOLE WARD.. | 394     | 8,305      | 21.1             |

### General Description.

Except small portions of sub-districts C.F.1 and C.F.2 the whole ward is less than one mile distant from the town centre, and the six C.N. sub-districts are within the old municipal Borough boundary.

The Town Hall is situated in sub-district C.N.1, and with its large open square together with the improved approaches from various parts of the Borough forms a town centre not equalled in extent or design in most of the large English Boroughs. In addition, a large public park is wholly included in the same sub-district, and being situated practically in the centre of the town forms the most advantageous feature of the town planning adopted in the old Borough.

The south portion of the sub-district contains a good number of better-class and commodious residences built in proximity to the park, making the general character of the district residential.

The most thickly populated and built-up districts are C.N.5 and C.N.6, which form a portion of the area known as the "Freehold," and are of a mixed residential character. C.N.4 contains large mills, and C.F.1 and 2 new cottage property provided for the accommodation of workers in new mills in the adjacent wards. The remaining districts contain very few, if any, factories of any kind. The whole ward is residential in character generally, and only very slightly affected by atmospheric impurities from manufacture.

### Streets, Yards, and Arrangement of Houses.

The worst features in this respect, if the oldest portions of C.F.1 and C.F.2 are excluded, are found in the crowded area contained in sub-districts C.N.5 and C.N.6. Here is seen the usual old arrangement of rather narrow streets with houses lacking adequate space at the rear, and generally unprovided with separate yard and sanitary arrangements. The overcrowding of houses on available space is consequently great; some idea of its extent being obtained when we consider that in C.N.5 there are, on an average, 29 private dwellings to each acre, and in C.N.6 about 33 private dwellings to each acre, not counting lock-up shops, warehouses, workshops, etc. The adjoining sub-district C.N.12, arranged on better lines generally, and with a better class of house, has about 15 private dwellings per acre, calculated in a similar manner, and not including the several schools, churches and open spaces in the district. Sub-district C.N.7 is fairly well arranged, the streets are of average width, and for an old district, there is a good percentage of dwellings with private yards and good open space at the rear. With these are intermingled blocks of property of the old type crowded up together and with deficient accommodation, but there is only a low percentage of back-to-back houses, chiefly of the "inset" type. The remaining districts of the ward being extensive and not fully developed combine features of street arrangement, etc., found in both the oldest and newest districts. For instance, C.F.1 has large detached and semi-detached houses along its main boundary road; further south along the same road and back from it stand parts of the old districts of Brimrod and Sudden, which contain many old dilapidated cottages with inadequate yards and poor street planning; further west the district is being developed on modern lines. A noticeable feature in this last area is the absence of cross streets or passages which would break up the existing long rows of houses into shorter blocks, a point noticed in many other newly developed districts in the Borough. This does not apply to a portion of the same area laid out on "Garden City" principles, where the dwellings are arranged in small blocks facing a central open space to be planted out as a garden; and, provided that more care be taken in the erection of the dwellings themselves, this plan has many advantages to recommend it.

As regards street paving, considering the large number of recently erected dwellings, whose streets, it is presumed, will shortly be paved, this ward compares favourably with many others in the Borough. The following table compares the sub-districts:—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or No Paving |
| C.N. 1                                          | 91          | ...            | 9                         |
| C.N. 4                                          | 52          | ...            | 48                        |
| C.N. 5                                          | 100         | ...            | ...                       |
| C.N. 6                                          | 96          | ...            | 4                         |
| C.N. 7                                          | 77          | ...            | 23                        |
| C.N. 12                                         | 97          | 3              | ...                       |
| C.F. 1                                          | 29          | 16             | 55                        |
| C.F. 2                                          | 46          | 5              | 49                        |
| WHOLE WARD..                                    | 68          | 3              | 29                        |

The private and separate yard is predominant in the whole ward, and in six of the eight sub-districts. The crowded sub-districts, C.N.5 and C.N.6, are at the bottom of the list, as is seen from the following table:—



| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |               |              |         |
|--------------|----------------------------------|---------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yards | Common Yards |         |
|              |                                  |               | Paved        | Unpaved |
| C.N. 1       | 47                               | 53            | 71           | 29      |
| C.N. 4       | 35                               | 65            | 43           | 57      |
| C.N. 5       | 61                               | 39            | 72           | 28      |
| C.N. 6       | 61                               | 39            | 100          | ...     |
| C.N. 7       | 40                               | 60            | 73           | 27      |
| C.N. 12      | 43                               | 57            | 52           | 48      |
| C.F. 1       | 42                               | 58            | 77           | 23      |
| C.F. 2       | 11                               | 89            | 46           | 54      |
| WHOLE WARD.. | 38                               | 62            | 68.5         | 31.5    |

### Closet Accommodation.

Pail closets are provided for 71 per cent. of the dwellings in this ward, the houses provided with fresh-water closets and waste-water closets being about 19 per cent. and 10 per cent. respectively of the total number. The highest percentage of fresh-water closets is found in C.N.1, and the lowest in C.F.1. Sub-district C.F.1, however, has the highest percentage of waste-water closets for the ward as it contains the highest percentage of new property and the second highest for the whole Borough. C.N. 6 and 5, sub-districts adversely commented on as regards other features, have also the lowest percentages of private and separate accommodation, coupled with the highest percentages respectively of pail closets in the ward.

The following table is comparative for each sub-district :—

| PERCENTAGE OF HOUSES AFFECTED BY |               |                     |                      |                 |                         |                      |
|----------------------------------|---------------|---------------------|----------------------|-----------------|-------------------------|----------------------|
| Sub-districts                    | Pail Closets. | Fresh-water Closets | Waste-water Closets. | Midden-Privies. | Separate Accommodation. | Joint Accommodation. |
| C.N. 1                           | 62            | 38                  | ...                  | ...             | 56                      | 44                   |
| C.N. 4                           | 77.1          | 14.6                | 8                    | 0.3             | 66                      | 34                   |
| C.N. 5                           | 82.4          | 16.7                | 0.9                  | ...             | 45                      | 55                   |
| C.N. 6                           | 93            | 7                   | ...                  | ...             | 44                      | 56                   |
| C.N. 7                           | 74            | 24                  | 2                    | ...             | 62                      | 38                   |
| C.N. 12                          | 73            | 27                  | ...                  | ...             | 61                      | 39                   |
| C.F. 1                           | 51            | 2                   | 47                   | ...             | 62                      | 38                   |
| C.F. 2                           | 66            | 26                  | 8                    | ...             | 90                      | 10                   |
| WHOLE WARD..                     | 71.22         | 18.93               | 9.8                  | 0.05            | 64                      | 36                   |

### Consideration of Houses.

Over 2,400 houses have been roughly considered in this ward, and it is estimated that about 17 per cent. only of these are in really bad condition, about 37 per cent. in passable condition, and the remaining 46 per cent. are in good condition. Compared with other wards this ward is in good condition as regards its dwellings, the best sub-district being C.N.7, where there are very few, if any, of the dwellings in really bad sanitary condition, and the worst sub-district being C.N.6 with a percentage of poor dwellings of about 47. The four-roomed through house and the large house with more than six rooms or with at least six rooms are predominant, and the ranges of rent prevailing are between 4/- and 5/- and over 6/-. The ward contains the highest percentage of dwellings with a rent over 6/- of any of the wards in the Borough, and the accommodation



according to the number of rooms is the best in the Borough. With the exception of Castleton Moor Ward, Castleton West has the lowest percentage and the least number of houses not through. The following tables compare the sub-districts under these heads:—

| Sub-district. | PERCENTAGE OF HOUSES HAVING |      |     |      |      |            |                |            |            |            |             |              |
|---------------|-----------------------------|------|-----|------|------|------------|----------------|------------|------------|------------|-------------|--------------|
|               | Number of Rooms             |      |     |      |      |            | Ranges of Rent |            |            |            |             |              |
|               | 1                           | 2    | 3   | 4    | 5    | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| C.N. 1        | ...                         | 6    | 5   | 30   | 6    | 53         | ...            | 1          | 13         | 21         | 10          | 55           |
| C.N. 4        | 2                           | 9    | 0.6 | 58   | 11   | 19.4       | ...            | 2          | 19         | 27         | 23          | 29           |
| C.N. 5        | ...                         | 12   | 2   | 57   | 3    | 26         | ...            | 2          | 20         | 43         | 4           | 31           |
| C.N. 6        | ...                         | 17.2 | 0.5 | 56   | 15.7 | 10.6       | ...            | 4          | 33         | 36         | 8           | 19           |
| C.N. 7        | ...                         | 5.5  | 0.3 | 47.5 | 7.2  | 39.5       | ...            | 0.5        | 16         | 29.4       | 6.1         | 48           |
| C.N. 12       | ...                         | 16   | 1   | 31   | 13   | 39         | ...            | 9          | 13         | 18         | 10          | 50           |
| C.F. 1        | ...                         | 11.1 | 0.9 | 69   | 12   | 7          | ...            | 6          | 28         | 11         | 45          | 10           |
| C.F. 2        | ...                         | 0.9  | ... | 57.1 | 9    | 33         | ...            | 0.2        | 5          | 31         | 30          | 33.8         |
| WHOLE WARD.   | 0.2                         | 8.8  | 1   | 53   | 9    | 28         | ...            | 3          | 17         | 27         | 19          | 34           |

The extent of the prevalence of houses not through in the respective sub-districts is shown below, the percentage for the ward being 16.

| Sub-district                         | C.N. 1 | C.N. 4 | C.N. 5 | C.N. 6 | C.N. 7 | C.N. 12 | C.F. 1 | C.F. 2 | WHOLE WARD |
|--------------------------------------|--------|--------|--------|--------|--------|---------|--------|--------|------------|
| Percentage of Through Houses ...     | 82     | 84     | 75     | 68     | 92     | 78      | 80     | 97     | 84         |
| Percentage of Houses Not Through ... | 18     | 16     | 25     | 32     | 8      | 22      | 20     | 3      | 16         |

The principal type of house in sub-district C.N. 1 is certainly a good one, though the rents are high in comparison with other districts, probably owing to the proximity of the park and other advantages of the position; but there is a very low percentage of smaller houses, built along the highway, which forms the western boundary of the district in which the houses are old, and in many cases in very poor condition. Some of these are back-to-back houses and others are dwellings with very little more accommodation, but having back doors. The yard and closet accommodation is poor, and in some cases there is continual flooding of the yards and ashplaces by water oozing from the higher ground at the rear. C.N.4 contains typical four-roomed through houses, many of which, though of practically recent construction, show signs of neglect in the matter of repair. Along the main road which forms the eastern boundary of the district there are many old defective houses, at the back of which are some one-roomed dwellings. A very defective feature of these blocks of property is the arrangement of the closets and ashplaces; in one case the pail closets for a whole block of dwellings are contained in a dark, narrow, covered passage, between two of the houses. The one-roomed houses have very low ceilings and are naturally short of all decent domestic accommodation. In the central portion of the district, also, houses in bad condition are found; here there are rows of badly-built and badly-arranged dwellings which front on to unpaved streets and have at the rear unpaved common yards and insufficient sanitary accommodation. The internal arrangements are poor and the dwellings show neglect by landlord and tenant alike. In C.N.5 and C.N.6, where excessive house-crowding has been pointed out, the houses vary considerably in character and condition.



These two districts have a high percentage of back-to-back houses, many of which are of the "inset" type; while others are four-roomed back-to-back houses. A great many of these are in poor condition, particularly in C.N.6. The four-roomed through houses of these districts are not on the whole commodious, the scullery or wash-house at the rear being small, and the bedroom over it correspondingly small. C.N.7 is the best sub-district as regards its houses; many of them are well-built and roomy and are provided with at least three bedrooms, a bath and a water-closet. Even the older houses of the district are of the better type and are in fair condition. This applies to a part of C.N.12 as well, a district which has a number of good houses in addition to others of a similar type to those described in C.N.5 and 6. C.F.1, one of the extensive sub-districts, combines all the features of housing found in the Borough, from the oldest types of two-roomed houses to the detached and semi-detached residences, but the ordinary four-roomed house is predominant. The worst dwellings and the oldest are; generally speaking, found on the main road—the south-east boundary—and in the groups of houses which stand adjacent thereto. A high percentage of these are in very bad condition indeed, some of them being practically unfit for human habitation, and nearly all being damp to some degree. The newer houses are not free from this defect, and in this district, particularly at that portion where the houses are very much exposed to the weather, there appear to be many examples of careless speculative building. It is not a rare occurrence to find almost the whole of one wall in a dwelling in a state of extreme dampness, due to the neglect of the most ordinary precautions in building. In C.F.2 about 90 per cent. of the houses are in good or passable condition, and although much of the district is of fairly recent development there are many good old semi-detached and detached residences along the main highway. Very small areas only are found of the old class of house and the percentage of houses not through is the lowest in the ward.

#### Overcrowding.

Enquiries concerning overcrowding were made at 345 houses in this ward; 61 of which were two-roomed and 284 four-roomed. Of the former, 12, and of the latter, 10, were found to be overcrowded. This gives rates of 1 in  $5\frac{1}{2}$ , and 1 in  $28\frac{1}{2}$  respectively. The following table is comparative for the sub-districts:—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                           |                |             |                       |                        |          |
|-------------------------------------------------|---------------------------|----------------|-------------|-----------------------|------------------------|----------|
| Sub-district.                                   | No. of Houses considered. | Ranges of Rent | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                                 |                           |                |             |                       | per house              | per room |
| C.N. 1                                          | 3                         | 2/6 to 3/6     | 14          | 1 in $1\frac{1}{2}$   | 4.7                    | 2.3      |
| C.N. 4                                          | 10                        | 3/2 to 3/9     | 35          | 1 in $3\frac{1}{5}$   | 3.5                    | 1.8      |
| C.N. 5                                          | 9                         | 3/- to 3/6     | 35          | 1 in $4\frac{1}{4}$   | 3.9                    | 1.9      |
| C.N. 6                                          | 9                         | 2/6 to 3/9     | 31          | 0 in 9                | 3.4                    | 1.7      |
| C.N. 7                                          | 5                         | 3/- to 3/6     | 20          | 1 in 5                | 4.0                    | 2.0      |
| C.N. 12                                         | 16                        | 3/- to 3/6     | 54          | 1 in $5\frac{1}{5}$   | 3.4                    | 1.7      |
| C.F. 1                                          | 9                         | 2/6 to 3/-     | 32          | 1 in 9                | 3.6                    | 1.8      |
| C.F. 2                                          | ...                       | ...            | ...         | ...                   | ...                    | ...      |
| WHOLE WARD.                                     | 61                        | 2/6 to 3/9     | 221         | 1 in $5\frac{1}{2}$   | 3.6                    | 1.8      |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |             |                       |                        |          |
|---------------------------------------------|--------------------------|----------------|-------------|-----------------------|------------------------|----------|
| Sub-district.                               | No. of Houses considered | Ranges of Rent | Population. | Rate of Over-crowding | Average No. of Persons |          |
|                                             |                          |                |             |                       | per house              | per room |
| C.N. 1                                      | 15                       | 4/9 to 5/6     | 62          | 1 in 15               | 4.1                    | 1.0      |
| C.N. 4                                      | 39                       | 4/- to 5/6     | 229         | 1 in $7\frac{1}{5}$   | 5.8                    | 1.4      |
| C.N. 5                                      | 38                       | 4/- to 5/3     | 165         | 0 in 38               | 4.3                    | 2.2      |
| C.N. 6                                      | 39                       | 4/- to 4/9     | 160         | 0 in 39               | 4.1                    | 1.0      |
| C.N. 7                                      | 35                       | 4/8 to 5/6     | 163         | 0 in 35               | 4.6                    | 1.2      |
| C.N. 12                                     | 35                       | 4/6 to 5/6     | 153         | 0 in 35               | 4.4                    | 1.1      |
| C.F. 1                                      | 39                       | 4/9 to 5/6     | 195         | 1 in $19\frac{1}{2}$  | 5.0                    | 1.2      |
| C.F. 2                                      | 44                       | 4/3 to 5/6     | 212         | 1 in 22               | 4.8                    | 1.2      |
| WHOLE WARD.                                 | 284                      | 4/- to 5/6     | 1,339       | 1 in $28\frac{1}{2}$  | 4.7                    | 1.2      |



### Notes on the Circumstances and Class of Inhabitants.

Taking this ward as a whole it may be styled the better class residential ward, containing the least number of poor people and the largest adult population in comfortable circumstances. The largest number of average working-class people is found in the Freehold district—C.N.5 and C.N.6—which are very thickly populated and where the largest juvenile population in the ward abounds. The other districts have only small areas of dwellings occupied by poorer people and are on the whole inhabited by well-to-do people and thrifty working-class families. As previously mentioned there are more highly rented and better class houses in this than in other wards, and the poorer class of tenant does not predominate. Where there are two-roomed and four-roomed houses, however, the families are large in comparison with some other wards and the means of the families are consequently reduced in comparison. This is shown in the following table:—

COMPARATIVE CIRCUMSTANCES OF RESIDENTS IN TWO-ROOMED AND  
FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | Total No. of Workers | Average No. of Persons to one Wage | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------------|------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                      |                                    | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross.                               | * Correct'd |
| C.N. 1       | 18                         | 76                   | 30                   | 2.5                                | 4                                        | 20                | 6                | 58.6                                 | 24          |
| C.N. 4       | 49                         | 264                  | 91                   | 2.9                                | 10                                       | 62                | 19               | 58.0                                 | 20          |
| C.N. 5       | 47                         | 200                  | 66                   | 3.0                                | 20                                       | 34                | 12               | 62.4                                 | 21          |
| C.N. 6       | 48                         | 191                  | 56                   | 3.4                                | 9                                        | 31                | 16               | 57.5                                 | 17          |
| C.N. 7       | 40                         | 183                  | 47                   | 3.9                                | 14                                       | 23                | 10               | 61.7                                 | 16          |
| C.N. 12      | 51                         | 207                  | 71                   | 2.9                                | 25                                       | 29                | 17               | 62.3                                 | 21          |
| C.F. 1       | 48                         | 227                  | 65                   | 3.5                                | 18                                       | 34                | 13               | 61.5                                 | 18          |
| C.F. 2       | 44                         | 212                  | 64                   | 3.3                                | 27                                       | 29                | 8                | 65.9                                 | 20          |
| WHOLE WARD   | 345                        | 1,560                | 490                  | 3.2                                | 127                                      | 262               | 101              | 61.1                                 | 19          |

\* Corrected for number of persons to one wage.

### Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH-RATES PER 1,000 OF POPULATION<br>*(8 years, 1901-1904) |                        |               |               |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|-----------------------------------------------------------------------------|------------------------|---------------|---------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                  | Seven Zymotic Diseases |               |               |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                             | Total Zymotic          | Etiotic Fever | Dysentery &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| C.N. 1 (a)   | 159                                       | 11.9                                  | 8.9                                          | 11.3          | 14.0                                                                        | 0.77                   | ...           | 0.19          | ...        | 0.19          | 0.39                   | 0.77     | 1.34                      |
| C.N. 4 (b)   | 103                                       | 28.0                                  | 19.0                                         | 31.6          | 13.3                                                                        | 1.55                   | ...           | 0.49          | 0.10       | 0.19          | 0.78                   | 1.65     | 2.04                      |
| C.N. 5 (c)   | 171                                       | 18.7                                  | 15.9                                         | 25.7          | 18.3                                                                        | 1.34                   | ...           | 0.30          | 0.15       | 0.45          | 0.45                   | 1.79     | 4.90                      |
| C.N. 6 (d)   | 143                                       | 22.9                                  | 15.7                                         | 19.6          | 16.7                                                                        | 1.20                   | 0.17          | 0.17          | 0.34       | ...           | 0.51                   | 1.71     | 2.56                      |
| C.N. 7 (e)   | 119                                       | 26.0                                  | 15.9                                         | 21.2          | 17.4                                                                        | 1.14                   | ...           | 0.21          | 0.21       | 0.10          | 0.62                   | 0.93     | 2.70                      |
| C.N. 12 (f)  | 56                                        | 19.4                                  | 8.1                                          | 13.3          | 14.5                                                                        | 1.26                   | 0.21          | 0.32          | ...        | 0.11          | 0.63                   | 1.16     | 2.10                      |
| C.F. 1 (g)   | 111                                       | 39.9                                  | 14.1                                         | 24.9          | 23.0                                                                        | 2.07                   | 0.32          | 0.64          | ...        | ...           | 1.12                   | 1.43     | 4.78                      |
| C.F. 2 (h)   | 114                                       | 22.9                                  | 16.4                                         | 25.0          | 13.7                                                                        | 1.55                   | 0.08          | 0.08          | 0.31       | 0.23          | 0.85                   | 0.93     | 1.93                      |
| Ward ...     | 115                                       | 23.9                                  | 14.7                                         | 22.2          | 15.9                                                                        | 1.35                   | 0.08          | 0.30          | 0.15       | 0.15          | 0.68                   | 1.28     | 2.71                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                        | 1.64                   | 0.07          | 0.51          | 0.23       | 0.12          | 0.71                   | 1.36     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.



## NOTES ON SALIENT FEATURES.

The average death-rate from " All Causes " in this ward is the lowest and the infant mortality next but one to the lowest of the wards of the Borough.

- (g) This is the only district in the ward whose " All Causes " rate is above the Borough average to any extent. The excess is primarily due to Respiratory Diseases, and to " Other Zymotics " and Diarrhoea to a secondary extent. The rate of deaths of children is not excessive, though the birth-rate is very high. The district is such a mixed and extensive one, that, could it be divided into and analysed for smaller areas there would probably be many variations. The predominant composition of the population in the whole ward is adult.

## CASTLETON MOOR WARD.

### Situation.

This ward lies to the south and south-west of the old Borough, with which it was incorporated in the year 1900.

### Size and Population.

The ward is the largest and least densely populated in the Borough, extending over 2,261 acres, and containing at the last census 6,990 persons—a density of only 4·7 persons per acre. There are six sub-districts, which are compared below :—

| Sub-district | Acreage | Population | Density per Acre |
|--------------|---------|------------|------------------|
| C.F. 3       | 497     | 1,332      | 2·7              |
| C.F. 4       | 161     | 1,953      | 12·1             |
| C.F. 5       | 117     | 811        | 6·9              |
| C.F. 6       | 565     | 2,094      | 3·7              |
| C.F. 7       | 570     | 800        | 1·4              |
| C.F. 13      | 351     | Nil        | Nil              |
| WHOLE WARD.. | 2,261   | 6,990      | 3·1              |

### General Description.

The greater portion of this ward is rural or semi-rural and suburban in character, the most built-up portion being a comparatively small area covered by the town of Castleton, which is situated about two miles from the town centre, along the main road to Manchester. Sub-district C.F.3, which is between the old Borough boundary at Sudden and Castleton, is being steadily developed for building purposes.

Along the main road to Oldham, more than a mile to the east of Castleton, and about two miles from the town centre is found the next large group of dwellings, which constitute part of the Buersil village. With the exception of the blocks of new property erected in the proximity to new mills in C.F.3 and C.F.6 the dwellings in the remainder of the ward are more scattered or built along the main highways. The important manufacturing portion is at and in the neighbourhood of Castleton, where there is a large engineering works and several cotton mills, some of which are built alongside the canal to the north-east. The district is not much affected by atmospheric impurities; as it is of fair altitude, the east and south-east portion being the higher and the west the lower.



### Streets, Yards, and Arrangement of Houses.

Castleton itself covers small portions of three sub-districts C.F.4, C.F.5 and C.F.6, and as already indicated the greater number of dwellings are built along the main highways, from which short streets branch off to the east and west. The most symmetrical arrangements of streets are found on the eastern and more modern side of this district; here long streets of dwellings run north to south and are connected with the main highway by short cross streets. These streets are of fair width and there is good space between the rear of the houses, many of the yards being longer and larger than those generally found in the Borough. The older portion of the town presents many odd features in street arrangement; one of these being blocks of dwellings with the back rooms fronting and abutting on to the street, without back doors, and with the front rooms and the only door of the house facing into a common yard which contains the sanitary arrangements. There is also the old arrangement of four blocks of "Through" houses forming a rectangle and enclosing a common yard in which are the privies and ashplaces; many of these yards are unpaved and in a very bad condition. Though there are few true back-to-back houses, or houses without back doors, there is yet much crowding of houses in the old parts of both the Castleton and Buersil districts. The newer houses now being erected at the western side of the ward are on better lines, although the rows of houses are too long, more cross streets or passages being desirable, as in other portions of the Borough. The percentage of dwellings abutting on unpaved streets is high, being about 35, and is not confined to the new houses by any means, as there are many of the older streets which are in bad condition. The following table compares the sub-districts :—

| PERCENTAGE OF HOUSES AFFECTED BY STREET PAVING. |             |                |                           |
|-------------------------------------------------|-------------|----------------|---------------------------|
| Sub-district                                    | Sett Paving | Macadam Paving | Insufficient or no Paving |
| C.F. 3                                          | 18          | 24             | 58                        |
| C.F. 4                                          | 62          | 12             | 26                        |
| C.F. 5                                          | 20          | 65             | 15                        |
| C.F. 6                                          | 52          | 17             | 31                        |
| C.F. 7                                          | 52          | 23             | 25                        |
| WHOLE WARD..                                    | 42          | 22             | 36                        |

The private and separate yard is predominant in the ward as a whole, but only in three of the five sub-districts taken separately. That the highest percentage is in C.F.3, and the lowest in C.F.5, will be seen from the following table :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |              |              |         |
|--------------|----------------------------------|--------------|--------------|---------|
|              | Common Yards or No Yard          | Private Yard | Common Yards |         |
|              |                                  |              | Paved        | Unpaved |
| C.F. 3       | 18                               | 82           | 5            | 95      |
| C.F. 4       | 26                               | 74           | 30           | 70      |
| C.F. 5       | 62.5                             | 37.5         | 22           | 78      |
| C.F. 6       | 27                               | 73           | 14           | 86      |
| C.F. 7       | 57                               | 43           | 17           | 83      |
| WHOLE WARD.. | 31                               | 69           | 18           | 82      |



The table shows a serious neglect in the matter of providing paved surfaces around dwellings with common yards in this ward, the percentage of unpaved common yards comparing very unfavourably with other wards of the Borough. The private yards are also very defective in this respect.

### Closet Accommodation.

Castleton Moor Ward differs from all the other wards in being the only ward in which the waste-water closet is predominant, and in which there is any considerable percentage of closets on the old midden-privy system.

The following table compares the sub-districts as to their sanitary accommodation :—

| Sub-district | PERCENTAGE OF HOUSES AFFECTED BY |                     |                     |                |                        |                     |
|--------------|----------------------------------|---------------------|---------------------|----------------|------------------------|---------------------|
|              | Pail Closets                     | Fresh Water Closets | Waste-water Closets | Midden-Privies | Separate Accommodation | Joint Accommodation |
| C.F. 3       | 29                               | 19                  | 39                  | 13             | 87                     | 13                  |
| C.F. 4       | 27                               | 17                  | 37                  | 19             | 81                     | 19                  |
| C.F. 5       | 23                               | 13.5                | 36.5                | 27             | 49                     | 51                  |
| C.F. 6       | 17                               | 12                  | 60                  | 11             | 74                     | 26                  |
| C.F. 7       | 64                               | 5                   | 8                   | 23             | 48                     | 52                  |
| WHOLE WARD.. | 28                               | 15                  | 40                  | 17             | 74                     | 26                  |

It will be seen that the highest percentages of old midden-privies are found in sub-districts C.F.5 and C.F.7, which districts extend to the southern extremities of the Borough, all of the latter and a considerable portion of the former being essentially rural in character, with scattered dwellings. There still remain in the more densely populated areas, however, many of these old privies, the arrangement and construction of which is of the most primitive and objectional character. In a considerable number the midden portion of the privy is exceedingly large, open to the weather, and being partly dug out in the form of a pit without any attempt to render impervious their sides and floors, they are consequently a fertile source of pollution. Others, although of less dimensions, covered in and provided with somewhat impervious floors and walls, and to this extent less objectionable than the former, are still a frequent source of nuisance and pollution. Many of these older privy middens are merely open spaces of considerable dimensions.

At the present time the waste-water closet is the predominant system in this ward, a greater number and a higher percentage being found here than in any other ward of the Borough. Unfortunately, most of the fittings used are of the "deep shaft" or "underground tippler" type of waste-water closet. This type of fitting, sanitary experts agree in considering to be the least hygienic of the two installed in Rochdale. Many of these closets were already installed before Castleton became incorporated, but many more have been introduced into the new dwellings erected since that period. C.F.6 must be specially noted in this connection as 60 per cent. of the dwellings there are provided with these conveniences. This is the highest figure for any sub-district in the whole Borough, 47 per cent. in C.F.1, Castleton West Ward, being the next highest.

The pail system exists to the extent of only 28 per cent., the lowest percentage for any ward in the Borough, and the percentage of fresh-water closets compares very favourably with other wards; this being partly the result of the existence of so many highly rented residences.



### Consideration of Houses.

Over 2,000 houses were considered, and it is roughly estimated that about 18 per cent. are in really poor condition, 36 per cent. in passable condition, and 46 per cent. in good condition. The poor dwellings are, owing to the nature of the district, found to be generally scattered all over the ward, but the largest groups or rows are found in Castleton itself on the north-west side of the railway, where many of the houses are badly built as well as badly arranged. Four-roomed through houses are the most numerous, and the prevalent range of rent is between 4/- and 5/3.

The following table shows comparisons for the sub-districts :—

| Sub-district | PERCENTAGE OF HOUSES HAVING |     |     |      |      |            |                |            |            |            |             |              |
|--------------|-----------------------------|-----|-----|------|------|------------|----------------|------------|------------|------------|-------------|--------------|
|              | Number of Rooms             |     |     |      |      |            | Ranges of Rent |            |            |            |             |              |
|              | 1                           | 2   | 3   | 4    | 5    | 6 and over | 1/- to 1/11    | 2/- to 3/- | 3/1 to 4/- | 4/1 to 5/- | 5/1 to 5/11 | 6/- and over |
| C.F. 3       | ...                         | 2   | 0.2 | 46   | 17.3 | 34.5       | ...            | 2          | 8          | 37         | 25          | 28           |
| C.F. 4       | ...                         | ... | 0.4 | 50   | 23.6 | 26         | ...            | 2          | 13         | 32         | 27          | 26           |
| C.F. 5       | ...                         | 3.5 | ... | 64.5 | 12   | 20         | ...            | 11         | 25.5       | 24         | 18.5        | 21           |
| C.F. 6       | ...                         | 3   | ... | 56   | 24   | 17         | ...            | 5          | 5          | 40         | 31          | 19           |
| C.F. 7       | ...                         | 3   | 0.5 | 56   | 6.5  | 34         | 0.5            | 12.2       | 35.5       | 8.4        | 8.4         | 35           |
| WHOLE WARD.. | ...                         | 2   | 0.2 | 52.3 | 19   | 26.5       | 0.05           | 4.7        | 13.2       | 32.25      | 24.8        | 25           |

Below is shown the comparative prevalence of the houses not through in each sub-district, the percentage for the ward being only 6, which is the lowest found in the whole Borough.

| Sub-district                         | C.F. 3 | C.F. 4 | C.F. 5 | C.F. 6 | C.F. 7 | WHOLE WARD |
|--------------------------------------|--------|--------|--------|--------|--------|------------|
| Percentage of Through Houses ...     | 97     | 98     | 87     | 93     | 91     | 94         |
| Percentage of Houses Not Through ... | 3      | 2      | 13     | 7      | 9      | 6          |

Though the percentage of houses not through is small compared with other wards, the general character of the houses is not good. In many of the old four-roomed houses the accommodation is poor and the structure of the buildings is also poor. Many of the houses are not well built and Castleton Moor Ward does not compare favourably with the other wards of the Borough as regards the general repair of its property.

### Overcrowding.

Enquiries under this head were made at 242 houses, of which 14 were two-roomed back-to-back houses and 228 were four-roomed through houses, of which 4 and 12 respectively were found to be overcrowded, giving a rate of 1 in 3½ in two-roomed houses and 1 in 19 in four-roomed houses. Following is a table comparative for sub-districts :—

| OVERCROWDING IN TWO-ROOMED BACK-TO-BACK HOUSES. |                          |                |            |                      |                        |     |
|-------------------------------------------------|--------------------------|----------------|------------|----------------------|------------------------|-----|
| Sub-district                                    | No. of Houses considered | Ranges of Rent | Population | Rate of Overcrowding | Average No. of Persons |     |
|                                                 |                          |                |            |                      | per house per room     |     |
| C.F. 3                                          | ...                      | ...            | ...        | ...                  | ...                    | ... |
| C.F. 4                                          | ...                      | ...            | ...        | ...                  | ...                    | ... |
| C.F. 5                                          | 3                        | 3/-            | 17         | 1 in 1½              | 5.6                    | 2.8 |
| C.F. 6                                          | 8                        | 2/7 to 3/3     | 26         | 1 in 4               | 3.3                    | 1.6 |
| C.F. 7                                          | 3                        | 2/3            | 8          | 0 in 3               | 2.6                    | 1.3 |
| WHOLE WARD..                                    | 14                       | 2/7 to 3/3     | 51         | 1 in 3½              | 3.6                    | 1.8 |

| OVERCROWDING IN FOUR-ROOMED THROUGH HOUSES. |                          |                |             |                      |                        |     |
|---------------------------------------------|--------------------------|----------------|-------------|----------------------|------------------------|-----|
| Sub-district                                | No. of Houses considered | Ranges of Rent | Population. | Rate of Overcrowding | Average No. of Persons |     |
|                                             |                          |                |             |                      | per house per room     |     |
| C.F. 3                                      | 35                       | 2/9 to 5/6     | 190         | 1 in 8½              | 5.6                    | 1.4 |
| C.F. 4                                      | 49                       | 3/6 to 5/6     | 256         | 1 in 16½             | 5.2                    | 1.3 |
| C.F. 5                                      | 49                       | 3/6 to 5/-     | 218         | 1 in 24½             | 4.4                    | 1.1 |
| C.F. 6                                      | 45                       | 4/2 to 5/-     | 233         | 1 in 22½             | 5.2                    | 1.3 |
| C.F. 7                                      | 50                       | 2/9 to 5/3     | 219         | 1 in 50              | 4.4                    | 1.1 |
| WHOLE WARD..                                | 228                      | 2/9 to 5/6     | 1,116       | 1 in 19              | 4.9                    | 1.2 |

#### Notes on the Circumstances and Class of Inhabitants.

In such an extensive ward, even a brief description of the people presents more difficulties than would be experienced in a smaller area. On the whole respectable working-class people are in the majority. The indifferent careless class of inhabitants found in more crowded parts of the Borough occupy small areas in two sub-districts, where large families of young neglected children are also in evidence. The considerable percentage of higher rented houses shows that a fair proportion of well-to-do people live in the district, while the rural areas accommodate some interested and concerned in farming.

The means of people living in two-roomed and four-roomed houses are compared below for the several sub-districts:—

#### COMPARATIVE CIRCUMSTANCES OF RESIDENTS OF TWO-ROOMED AND FOUR-ROOMED HOUSES.

| Sub-district | No. of Families considered | Total No. of Persons | No. of Workers | Average No. of Persons to one Wage. | Classification of Workers' Earning Power |                   |                  | Calculated Index No. of Family Means |             |
|--------------|----------------------------|----------------------|----------------|-------------------------------------|------------------------------------------|-------------------|------------------|--------------------------------------|-------------|
|              |                            |                      |                |                                     | No. in Class II.                         | No. in Class III. | No. in Class IV. | Gross                                | * Correct'd |
| C.F. 3       | 35                         | 190                  | 51             | 3.7                                 | 17                                       | 26                | 8                | 63.5                                 | 17          |
| C.F. 4       | 49                         | 256                  | 88             | 2.9                                 | 20                                       | 35                | 33               | 57.0                                 | 20          |
| C.F. 5       | 52                         | 235                  | 76             | 3.0                                 | 17                                       | 36                | 23               | 58.4                                 | 19          |
| C.F. 6       | 53                         | 259                  | 79             | 3.3                                 | 18                                       | 35                | 26               | 57.9                                 | 18          |
| C.F. 7       | 53                         | 227                  | 89             | 2.5                                 | 19                                       | 56                | 14               | 61.1                                 | 24          |
| WHOLE WARD.  | 242                        | 1,167                | 383            | 3.06                                | 91                                       | 188               | 104              | 59.3                                 | 19          |

\* Corrected for number of persons to one wage



## Vital Statistics.

| SUB-DISTRICT | Average Rate of Infant Mortality (1905-8) | Average Birth-rate per 1,000 (1905-8) | Average Percentage of Deaths to Total Deaths |               | AVERAGE ANNUAL DEATH RATES PER 1,000 OF POPULATION<br>* (8 years, 1901-1908) |                        |               |                |            |               |                        |          |                           |
|--------------|-------------------------------------------|---------------------------------------|----------------------------------------------|---------------|------------------------------------------------------------------------------|------------------------|---------------|----------------|------------|---------------|------------------------|----------|---------------------------|
|              |                                           |                                       | Under 1 Year                                 | Under 5 Years | All Causes                                                                   | Seven Zymotic Diseases |               |                |            |               |                        | Phthisis | Respiratory Diseases only |
|              |                                           |                                       |                                              |               |                                                                              | Total Zymotic          | Enteric Fever | Dysentery, &c. | Diphtheria | Scarlet Fever | Other Zymotic Diseases |          |                           |
| C.F. 3 (a)   | 108                                       | 39.1                                  | 21.6                                         | 34.7          | 19.3                                                                         | 2.53                   | ...           | 0.28           | 0.28       | 0.84          | 1.13                   | 0.94     | 3.10                      |
| C.F. 4 (b)   | 84                                        | 28.6                                  | 18.1                                         | 26.0          | 14.9                                                                         | 1.41                   | 0.13          | 0.26           | 0.51       | 0.19          | 0.32                   | 1.09     | 2.05                      |
| C.F. 5 (c)   | 134                                       | 28.0                                  | 24.1                                         | 32.5          | 16.0                                                                         | 1.08                   | ...           | 0.15           | 0.46       | 0.15          | 0.31                   | 1.23     | 2.93                      |
| C.F. 6 (d)   | 94                                        | 25.3                                  | 19.1                                         | 30.6          | 14.9                                                                         | 1.73                   | 0.12          | 0.06           | 0.42       | 0.36          | 0.78                   | 1.02     | 3.34                      |
| C.F. 7 (e)   | 131                                       | 19.4                                  | 15.9                                         | 26.3          | 16.1                                                                         | 1.41                   | 0.16          | 0.16           | ...        | ...           | 1.09                   | 0.94     | 2.50                      |
| Ward ...     | 105                                       | 28.5                                  | 20.0                                         | 30.4          | 16.0                                                                         | 1.70                   | 0.11          | 0.16           | 0.38       | 0.40          | 0.68                   | 1.06     | 2.75                      |
| Borough      | 140                                       | 24.8                                  | 18.8                                         | 28.4          | 18.2                                                                         | 1.64                   | 0.07          | 0.51           | 0.23       | 0.12          | 0.71                   | 1.38     | 3.41                      |

NOTE:—Rates are uncorrected for age and sex.

\* All rates per 1,000 calculated on population in 1901.

## NOTES ON SALIENT FEATURES.

(a), (b), (c), (d) and (e). All districts are mixed and scattered and rates are affected by new population. The rates would appear considerably lower than they do if worked on the actual present population. Infantile Mortality is the only rate, the calculation of which is not vitiated by fluctuations in the population, so that the figures recorded for each area are comparable. In all the sub-districts it is below the average for the Borough, while for the ward as a whole the figure is the lowest in the Borough.

### **SECTION III.**

## **Discussion of Vital Statistics.**

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### **PART I.—GENERAL FEATURES.**

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#### **Comparison of Rochdale with England and Wales and with other Towns.**

Before attempting any analysis and discussion of the Vital Statistics in relation to the wards and sub-districts of the Borough, it is both interesting and instructive to consider the position of Rochdale when compared with England and Wales, the 76 Great Towns, and with other Manufacturing Towns of approximately similar size and character.

To make such a comparison as complete and reasonably reliable as possible, the different rates for as long a period as they are available, and calculated on the same basis respectively, are included in the following tabulated statement—Table I.

Thus in Division A the rates represent averages of rates calculated on the estimated population in each year concerned for each group. In Division B, the rates are calculated on the estimated population in each group at the middle of 1908, and in Division C, at the middle of 1909.

For purposes of general comparison such averages taken over a period of eight years may be considered sufficiently reliable to establish the general relative position of Rochdale when compared with England and Wales, with the 76 Great Towns, and more appropriately with the manufacturing towns. For it is highly probable that this length of period will include years having abnormally high rates as well as years having abnormally low rates, and at the same time tend to minimise any effect on the rates, which might be due to any temporary local condition or influence. Still, for purposes of extended analysis, the rates for 1908, when the death-rate for Rochdale was unusually high; and the rates for 1909, when the death-rate for Rochdale was unusually low, have been included in the table, and are necessary for the discussion in the following pages.



Table I.

Showing a comparison of Birth and Death-rates for Rochdale with those of England and Wales, the 76 Great Towns, and with 17 neighbouring Manufacturing Towns.

| Division | Group                                 | Rate of Infant Mortality per 1,000 Births | Birth-rate per 1,000 of the Est. Population | Death-rates per 1,000 of the estimated Population. |                    |               |          |                                           |
|----------|---------------------------------------|-------------------------------------------|---------------------------------------------|----------------------------------------------------|--------------------|---------------|----------|-------------------------------------------|
|          |                                       |                                           |                                             | † All Causes Correct'd                             | All Causes (Crude) | Seven Zymotic | Phthisis | Respiratory Diseases (Excluding Phthisis) |
| A.       | AVERAGES FOR 8 YEARS, 1901-1908.      |                                           |                                             |                                                    |                    |               |          |                                           |
|          | England & Wales ...                   | 132                                       | 27.5                                        | 15.6                                               | 15.6               | 1.61          | 1.18     | 2.69                                      |
|          | *76 Great Towns (7 years, 1902-8) ... | 141                                       | 28.4                                        | 17.12                                              | 16.1               | 1.96          | (a)      | (a)                                       |
|          | †17 Manufacturing Towns               | 159                                       | 28.4                                        | 19.28                                              | 17.7               | 2.48          | 1.29     | 3.31                                      |
|          | ROCHDALE ...                          | 140                                       | 23.5                                        | 19.47                                              | 17.6               | 1.59          | 1.33     | 3.30                                      |
| B.       | YEAR 1908—                            |                                           |                                             |                                                    |                    |               |          |                                           |
|          | England & Wales ...                   | 121                                       | 26.5                                        | 14.69                                              | 14.69              | 1.29          | 1.12     | 1.31                                      |
|          | 76 Great Towns ...                    | 128                                       | 27.0                                        | 15.84                                              | 14.90              | 1.59          | (a)      | (a)                                       |
|          | ROCHDALE ...                          | 168                                       | 24.8                                        | 20.34                                              | 18.39              | 2.40          | 1.37     | 3.0                                       |
| C.       | YEAR 1909—                            |                                           |                                             |                                                    |                    |               |          |                                           |
|          | England & Wales ...                   | 109                                       | 25.6                                        | 14.49                                              | 14.49              | 1.12          | (b)      | (b)                                       |
|          | 76 Great Towns ...                    | 118                                       | 25.7                                        | 15.57                                              | 14.66              | 1.42          | (a)      | (a)                                       |
|          | †17 Manufacturing Towns               | 129                                       | 26.4                                        | 17.71                                              | 16.23              | 1.52          | 1.14     | 3.39                                      |
|          | ROCHDALE ...                          | 102                                       | 23.0                                        | 17.92                                              | 16.10              | 0.64          | 1.08     | 3.05                                      |

\* Seven years period adopted because anterior to 1902, classification of towns different.

A Great Town means a town with a population of 50,000 or over.

† Including the large manufacturing towns in Lancashire.

‡ Corrected for differences of age and sex constitution of population.

(a) Number of deaths from these diseases not tabulated by the Registrar-General, for the 76 Great Towns.

(b) Not available until publication of Registrar-General's Annual Report.

In reviewing this table one cannot fail but to be impressed with the relative position of the All Causes death-rate of Rochdale and of the 17 neighbouring Manufacturing Towns. Whether the crude or corrected death rates are considered, both alike are considerably higher than the corresponding rates for England and Wales and the 76 Great Towns; and when the crude rates are corrected for age and sex constitution, it brings out into stronger relief and further serves to emphasise our comparatively high All Causes death-rate and that of the neighbouring Manufacturing Towns, when compared with England and Wales and the 76 Great Towns.



**Table I. (a).**

EXCESS OF DEATH-RATE FROM ALL CAUSES IN ROCHDALE OVER THAT OF:—

| PERIOD                 | England and Wales |                     | 76 Great Towns  |                     | 17 Manufacturing Towns |                     |
|------------------------|-------------------|---------------------|-----------------|---------------------|------------------------|---------------------|
|                        | Crude per 1,000   | Corrected per 1,000 | Crude per 1,000 | Corrected per 1,000 | Crude per 1,000        | Corrected per 1,000 |
| Eight years, 1901-1908 | 2.00              | 3.87                | *1.50           | *2.35               | ‡                      | 0.19                |
| One year, 1908 ... ..  | 3.70              | 5.65                | 3.49            | 4.50                | (a) 1.38               | (a) 1.78            |
| One year, 1909 ... ..  | 1.61              | 3.43                | 1.44            | 2.35                | ‡                      | 0.21                |

\* Average for seven years, 1902-8.

‡ Rochdale rates 0.1 and 0.13 lower at first and third periods respectively.

(a) Not included in Table I. as only All Causes rate available.

For example, the crude death-rate from All Causes for Rochdale during the three periods under review is 2, 3.70, and 1.61 per 1,000 in excess of that for England and Wales; but when this rate is corrected, the excess becomes 3.87, 5.65, and 3.43 respectively. Similarly the excess of the same rate for Rochdale, over that of the 76 Great Towns for the same period, rises from 1.50, 3.49 and 1.44, to 2.35, 4.50 and 2.35 respectively, when the crude rates are corrected for age and sex constitution.

When, on the other hand, the rates for Rochdale are compared with the corresponding rates of other Manufacturing Towns, the difference becomes inappreciable, although in Table I. there appears a slight difference in crude rates in favour of Rochdale, yet in Table I (a) this position is transformed into a slight excess of death-rate for Rochdale, when corrected for age and sex constitution.

Still it has to be kept in view that the factor used for the correction of these crude rates is regulated by the relation between a "Standard Death-rate" for England and Wales and a "Standard Death-rate" for each of the towns and for Rochdale. Such standard rates are calculated on the hypothesis that the rates for each sex at each of twelve age-periods in each town were the same as in England and Wales during the ten years 1891-1900, the rate at all ages in England and Wales during that period having been 18.194 per 1,000.

### Comparative Value of Crude and Corrected Rates.

In so far as the above hypothesis represents the actual truth, the corrected rates for the respective towns and districts are valuable for ascertaining their relative healthiness respectively.

For, while the crude death-rate includes the actual number of persons dying, and when corrected for age and sex constitution is considerably raised; it indicates that a considerable number of those dying in Rochdale, are at the more healthy age-periods of life; and that their longevity would be greater if living under the average health conditions of England and Wales, than under the specific conditions in this district; further, the corrected death-rate shows what our death-rate would actually be, if our population in Rochdale was distributed over the different age-periods of life, as is found to exist as a whole for England and Wales.

It is, however, apparent that these corrected rates are more valuable and applicable with greater truth to the years immediately following the Census periods at which date the factors for correction are calculated; and, consequently, that their value and applicability diminishes proportionately during the intercensal period on account of changes which must inevitably take place in the age constitution of the populations in the different communities. Hence, it is reasonable to expect that, in considering the periods under review in Table I., any discussions



and conclusions founded on the basis of the crude rates would be relatively as approximately correct, as if calculated on the basis of the corrected rates, even if they were available, and selected for this purpose.

Furthermore, although the comparisons of the towns could be carried out with regard to the All Causes death-rate by using the corrected rates, still the comparison with regard to the death-rates from specific causes could not be dealt with in the same way owing to the absence of data for correction.

Such questions as these were fully appreciated at the commencement of our enquiries in 1909, and led to much careful consideration as to how far any general conclusions resulting from any comparisons which might be instituted between the wards and sub-districts of this Borough and the Borough itself, might be expected to lose in value, in the way of accuracy, by the use of uncorrected rates.

For an eight-year period such as we have taken, from 1901 to 1908, through limitation of available statistics, probably the nearest approach to accuracy in adopting corrected rates would have been obtained by the use of a corrective factor based on the mean of the age and sex constitution first obtained from the census returns in 1901; which date coincided with the commencement of the period under investigation; and, secondly from the ascertained age and sex constitution at the end of the eight years period in 1908; or on the estimated constitution of a yearly estimated population for each district. But as no such information relating to this period was available, both methods were impracticable; and even if available, and adopted, it might have secured no greater degree of accuracy; because, in the end, the crude rate itself would first have had to be calculated on a basis depending for its soundness upon an assumption—that certain conditions of population, such as for instance, the rate of emigration and immigration were uniformly maintained through each year of this period to the same degree to which they had existed previous to the time of the census (1901).

It was, therefore, concluded that in the absence of absolutely reliable data on which to calculate a factor of correction for possibly large variations in age and sex constitution of the population in each district, the results obtained by using crude rates might quite reasonably be expected to prove little less accurate than those obtainable by using doubtful corrected ones; and that the effects of probable errors in the comparison of districts with regard to rates and conditions could be to some extent minimised by the inclusion for actual comparison of as many districts as possible divided into two classes, and providing exceedingly strong contrasts in both rates and conditions, on the principle that: (a) the larger the collective area and population dealt with the greater the balancing effect of the fluctuations of population; and, (b) the greater the distinctions on the average between the conditions and rates in that collective area, the more likely we are to bring within the scope of this enquiry the chief factors or influences in operation; and thus, proportionately to minimise possible errors in any conclusions which may be formulated.

In considering these points it is difficult to avoid reference to a recently published report on an investigation into the relative mortality in Through Houses and Back-to-back Houses in certain towns in the West Riding of Yorkshire, submitted to the Local Government Board in July of this year (1910) by Dr. L. W. Darra Mair, and in which the methods of previous investigators engaged on similar work are adversely criticised, because they founded their conclusions on crude rates instead of death-rates corrected for variations in age and sex constitution of the population.

However, notwithstanding the special prominence given in the report itself to the greater importance of Dr. Darra Mair's results owing to the use of corrected rates, there is considerable doubt as to whether he has approached much nearer the truth with corrected rates than did his predecessors with crude rates.

The first doubt is connected with the basis of correction itself. For the areas selected, the death-rates were averaged for a period of 10 years (1898-1907) and (as in our own case) no information as to the age and sex constitution of the populations in 1898, the commencement of the period under investigation, in any of the areas, was available. By instituting a census-



taking in each of the areas Dr. Darra Mair arrived at the age and sex constitution at the end of the decennium, and assumed that no material error could result from considering the 1908 constitution as representing the mean age and sex constitution of the 10 years.

Still he admits on page 15, that the age and sex constitution as ascertained at the end of the decennium, may not and probably does not represent the mean age and sex constitution throughout the decennium, but he thinks it is not a very wide assumption, that the variations ascertained at the end of the period will reflect with sufficient approach to accuracy those existing throughout the 10 year period.

But, on the contrary, this assumption may be a very wide one as is well known to those familiar with the family migrations determined by trade and other influences, and which are characteristic of many of the Lancashire and Yorkshire towns from the latter of which Dr. Darra Mair has made his choice of areas.

Had it been demonstrated in the report itself that important differences had resulted through the use of corrected rates there would have been greater inclination to accept the attitude taken up in the report, but so far as can be seen, the extra trouble taken to provide corrected rates has made no material difference in comparing the relative mortality in Back-to-back and Through houses.

Indeed, when the excess in the crude rate in the one class of house over that in the other is compared with the corresponding excess in the corrected rate, it is found that only in two of the thirteen cases is the figure a significant one, and that in one case the difference is represented by 0.05 per 1,000. When all the areas are taken together the average excess mortality in back-to-back houses is 2.51 per 1,000 when the crude rates are considered; and 2.45 per 1,000 when corrected rates are taken. The total effect of using the corrected rates instead of crude rates is thus to reduce the excess mortality in Back-to-back houses by 0.06 per 1,000, a value which can scarcely affect the comparison except in the case of specific diseases.

In such computations, it has to be kept in view that the variations in migration of population and other factors due to accidental and industrial circumstances may very materially increase or decrease the actual value of the difference, in the rates of death, due to correction for age and sex constitution; and could either readily balance such a figure as 0.06 per 1,000; or on the other hand, readily account for a much greater average difference; and, consequently, it is doubtful, if any great advantage has resulted, or any nearer approach to truth attained from the use of corrected rates, which are based on an ascertained age and sex constitution of the various populations in the different areas considered at the end of the period, and assumed as the mean of the whole period under investigation, as has been adopted by Dr. Darra Mair.

Having now discussed the relative merits of crude and corrected death-rates, in respect of their utility and applicability to the vital questions under review in this Report, crude death-rates will now only be considered.

#### **The Excess of Birth-rate over Death-rate and the tendency to coincidence in these rates.**

Adverting again to Table I., and reviewing the average birth and death-rates in the three Divisions A., B., C., it is seen that, while the death-rates of the 76 Great Towns and the Manufacturing Towns are higher than the corresponding rates for England and Wales, the birth-rates of the two groups of Towns are also higher, with the exception of Rochdale, which stands comparatively low.

In the 8-year period (A.), it appears that in Rochdale the number of persons dying annually was 2 per 1,000 and 1.5 per 1,000 more, while the number of births occurring in Rochdale was 4 per 1,000 and 4.9 per 1,000 less, than for England and Wales and the 76 Great Towns respectively; and that, while the death-rate of Rochdale is not below the average for the 17 Manufacturing Towns considered, its birth-rate is 4.9 per 1,000 less than the average for these towns.



The higher birth-rates and death-rates of the Towns one anticipates, and they are readily explainable, but the cause of the abnormal deviation of our birth-rate is not evident, and having due regard to the principle of cause and effect has yet to be discovered and investigated.

The following representation of these facts derived from the figures and comparisons presented in Table I. may tend to clearness, and further assist in the formation of a clear conception of the present position and outlook of this Borough.

THE EXCESS OF THE BIRTH-RATE OVER THE DEATH-RATE.

|             |   |                                             |     |     |                 |
|-------------|---|---------------------------------------------|-----|-----|-----------------|
| Division A. | { | In England and Wales, 1901 to 1908, was     | ... | ... | 11.9 per 1,000. |
|             |   | In the 76 Great Towns, 1902 to 1908, was    | ... | ... | 12.3 "          |
|             |   | In the 17 Manufacturing Towns, 1901 to 1908 | ... | ... | 10.7 "          |
|             |   | In Rochdale, 1901 to 1908, was only         | ... | ... | 5.9 "           |
| Division B. | { | In England and Wales, during 1908, was      | ... | ... | 11.81 "         |
|             |   | In 76 Great Towns, during 1908, was         | ... | ... | 12.1 "          |
|             |   | In Rochdale, during 1908, was               | ... | ... | 6.41 "          |
| Division C. | { | In England and Wales, during 1909, was      | ... | ... | 11.11 "         |
|             |   | In 76 Great Towns, during 1909, was         | ... | ... | 11.04 "         |
|             |   | In 17 Manufacturing Towns, during 1909, was | ... | ... | 10.17 "         |
|             |   | In Rochdale, during 1909, was               | ... | ... | 6.9 "           |

Then, for the purpose of a more extended contrast, if we revert to the period 1876, when the present decline in the birth-rate for England first set in, and at which period the decline in the same rate for Rochdale had already well commenced, we find that the excess of the birth-rate over the death-rate was—

|                      |     |     |     |                        |
|----------------------|-----|-----|-----|------------------------|
| In England and Wales | ... | ... | ... | just over 13 per 1,000 |
| And in Rochdale      | ... | ... | ... | nearly 12 per 1,000    |

Now, contrasting these figures with those given above, we must conclude that, whereas the excess of 13 in the case of England and Wales has only been reduced to 12 during the period under review, from 1876 to 1908; on the other hand the excess of 12 in the case of Rochdale has been reduced to 6 during the same period; and that consequently the causal influences working towards the coincidence of the birth and death-rates have been more effective in Rochdale than in England and Wales taken as a whole. Thus, while the Registrar-General has amply demonstrated the gradual tendency towards coincidence of the birth and death-rates during the past three decennia in every civilised country, it will be seen that in England, Rochdale is playing no unimportant part in accelerating this coincidence when compared with other English towns.

It is not within the scope of this report to attempt any investigation and analysis of these causal influences. Some of these may be comparatively evident, but others are more subtle in their operation and complex in their analysis; and, consequently, satisfactory reasons are not yet evident why, during the past 30 years, these rates have been converging more rapidly in Rochdale on account of its quicker declining birth-rate and slower declining death-rate, when compared with similar rates, not only for England and Wales, but also with similar rates for the 76 Great Towns; and it is still less evident why, during the first 20 years of this 30 year period, the decline in the birth-rate for Rochdale was, on an average, twice as great as that for England and Wales.

### The Present Position and Outlook of Rochdale in regard to the Infantile Population.

Still the figures given for Rochdale in the above statement (A., B., C.), present another aspect, which suggests further investigation. The excess of births over deaths rises during the three periods from 5.9 to 6.4 in 1908, and to 6.9 in 1909. Then, as these figures depend on two variable factors, the birth-rate and the death-rate, and since the former with slight oscillations has continuously decreased from 36 per 1,000 of the population in 1878 to 21.8 in 1905, when it reached its as yet lowest level, it is of more than ordinary interest to enquire more fully, as to our actual position and outlook; and in what manner or degree these changes are affecting the constitution and numbers at different age-periods of our population.



For this purpose, if we assume that the average population of all the other Great Towns in England and Wales was exactly the same as that of Rochdale, both in number and in age and sex constitution during the period 1901 to 1908, and during 1909, it is possible to demonstrate the comparative position of Rochdale at these periods, with regard to the actual number of children affected by the Rates of Infant Mortality and the birth-rate, as shown in Table I., as follows:—

| Births                                                  |                                                       | Period<br>1901<br>to<br>1908 | Period<br>1902<br>to<br>1908 | Year<br>1909 | Reduction<br>of<br>Rochdale's<br>Deficiency |
|---------------------------------------------------------|-------------------------------------------------------|------------------------------|------------------------------|--------------|---------------------------------------------|
| Greater<br>average<br>number<br>of<br>children<br>born. | In England and Wales, ... ..                          | 344                          | ...                          | 233          | 111                                         |
|                                                         | In the 76 Great Towns, and ... ..                     | ...                          | 415                          | 242          | 173                                         |
|                                                         | In 17 Manufacturing Towns,<br>than in Rochdale ... .. | 421                          | ...                          | 305          | 116                                         |

From this table it is seen that the number of births, which were required in Rochdale to raise our birth-rate during 1901-8 and 1902-8, to those of *England and Wales*, the *76 Great Towns* and the *17 Manufacturing Towns* was **344**, **415**, and **421** respectively; while in 1909 these figures had been reduced to **233**, **242** and **305** respectively, the difference is thus represented by the numbers 111, 173 and 116 respectively.

According to these figures, it is clear that between the period 1901 to 1908 and the year 1909 a considerable improvement had taken place in the position of Rochdale with regard to the actual number of children born, when Rochdale is compared with the three respective groups of towns dealt with in Table I., and when the effect of the rates given in that table for *all* groups are considered solely in relation to the population of Rochdale at the various periods. This apparent improvement in position is, however, not the result of an increase in the number of births in Rochdale, but of a more pronounced decrease of the comparative number of births in the other towns, as may be seen by reference to Table I.

| Infant Deaths                                                                        |                                                   | Period<br>1901<br>to<br>1908 | Period<br>1902<br>to<br>1908 | Year<br>1909 | Reduction<br>of<br>Rochdale's<br>Deficiency |
|--------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------|------------------------------|--------------|---------------------------------------------|
| <i>Smaller</i> average number of deaths in England and Wales than in Rochdale ... .. |                                                   | 16                           | ...                          | ...          | } 30                                        |
| Greater<br>Average<br>Number<br>of<br>Deaths                                         | In England and Wales than in Rochdale ... ..      | ...                          | ...                          | 14           |                                             |
|                                                                                      | In 76 Great Towns than in Rochdale ... ..         | ...                          | 2                            | 33           | 31                                          |
|                                                                                      | In 17 Manufacturing Towns than in Rochdale ... .. | 38                           | ...                          | 56           | 18                                          |

From this table it is seen that the actual number of infant lives, which would have had to be saved annually during the first period given (1901-8) in order to reduce Rochdale's Rate of Infant Mortality to that of *England and Wales*, was 16; whereas in 1909 the position was reversed, and *Rochdale could have spared* 14 infant lives and still have had a rate equal to that of England and Wales. The total difference is represented by the figure 30.



Again the number of infant lives, which could have been spared annually in Rochdale during 1901-8 and 1902-8 in order to raise our Rate of Infant Mortality to that of the 76 *Great Towns*, and the 17 *Manufacturing Towns*, was only 2 and 38 respectively; whereas in 1909 it was 33 and 56 respectively; this difference is represented by 31 and 18 respectively.

Hence, as in the case of the Births, it appears that during the period 1901-8 and 1909 a great improvement has also taken place in the position of Rochdale with regard to Infant Deaths, when compared with the three groups of towns on the same basis as before in Table I.; but in this case the improvement is actually due to the marked decrease in the actual comparative number of children dying in Rochdale during the year 1909, and not to an increase of deaths in the other groups of towns. Rochdale's Infant Mortality for 1909 was the lowest ever recorded, and was lower than that of any of the three groups, while at the same time the rate for England and Wales as a whole was also the lowest on record.

From the above discussion and calculations, it is concluded, that with regard to both births and infant deaths the position of Rochdale since 1901 has improved over that of the three groups compared to the following extent:—

*Improvement in the Position of Rochdale stated in terms of the comparative number of children concerned between the period 1901-8 and the year 1909.*

|                            | Births | Infant Deaths |
|----------------------------|--------|---------------|
| Over England and Wales ... | 111    | 30            |
| „ 76 Great Towns ...       | 173    | 31            |
| „ 17 Manufacturing Towns   | 116    | 18            |

Consequently if we add together the number of children representing the improvement in position as regards births, and the number representing the improvement as regards Infant Deaths, in each case, the total number of children concerned in the improvement is as follows:—

|                                                      |     |
|------------------------------------------------------|-----|
| When Rochdale is compared with England and Wales ... | 141 |
| „ „ „ 76 Great Towns ...                             | 204 |
| „ „ „ 17 Manufacturing Towns ...                     | 134 |

To this extent then has Rochdale improved its position, but as we commenced with a deficiency of 344, 415, and 421 births respectively, the yearly deficiency in births in Rochdale, is still 203, 211, 287, when compared with England and Wales, the 76 Great Towns, and 17 neighbouring Manufacturing Towns.

To sum up: The present position of Rochdale shows considerable improvement, and chiefly by the operation of two factors. First, although our birth-rate has been low and practically stationary during the past few years, and consequently no improvement attained by an increased number of births, yet our position is relatively improved by the continuous and, in more recent years the more marked, decline of the birth-rate in the three groups compared. Secondly, by an actual and real improvement in the great reduction of our Infantile Mortality rate, especially during 1909, and still maintained for 1910 (although it may or may not be temporary).

Further, it is interesting to note, that this recent and more rapid decline in the birth-rate in the three groups compared, is following slowly but surely on a previous similar period of more marked and rapid decline in the birth-rate of Rochdale, which at the same time was accompanied by a continuous and comparatively high infantile mortality rate averaging 157 per 1,000 of the children born from 1856-1900; while for England and Wales the corresponding rate for the same period was 150.

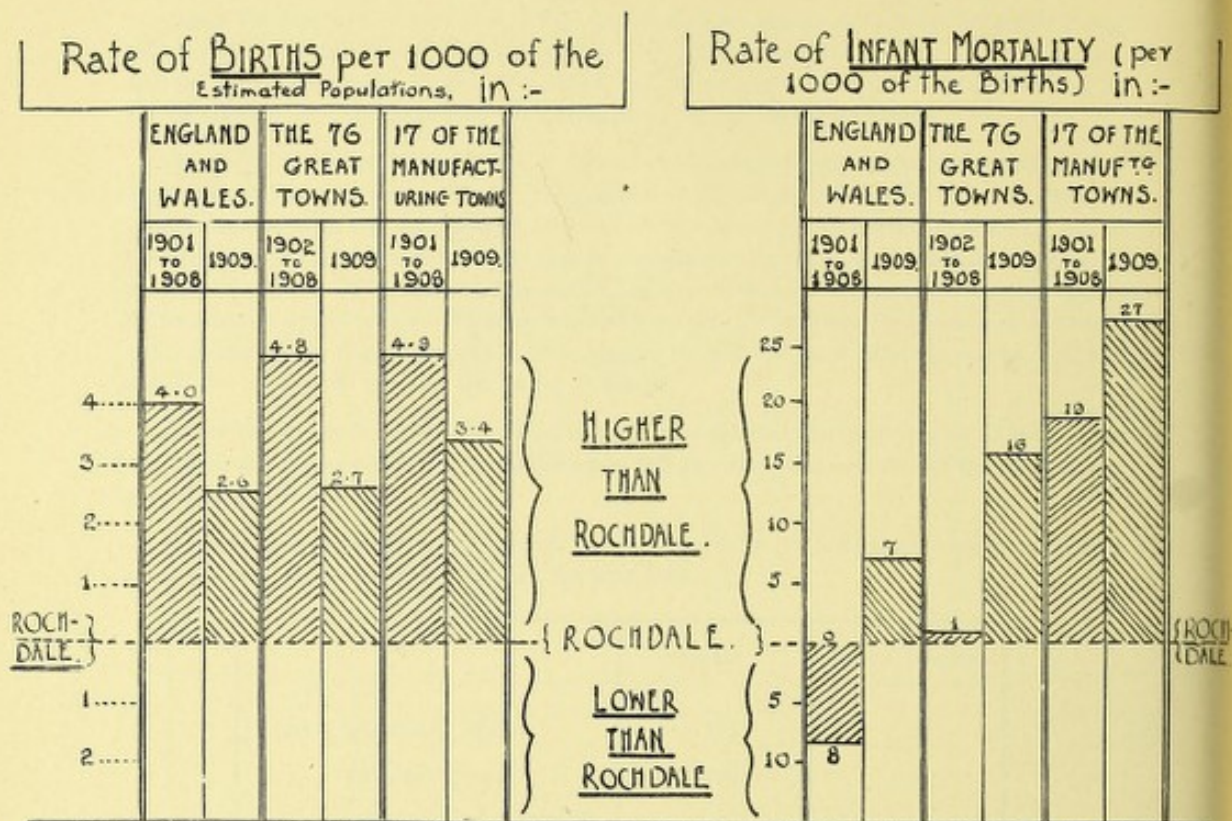
Thus the true position at present appears to be, that Rochdale on the one hand is beginning to retrieve itself from an unfavourable position as regards its high infantile mortality, while at the same time its birth-rate, with slight oscillations, is now remaining stationary; whereas,





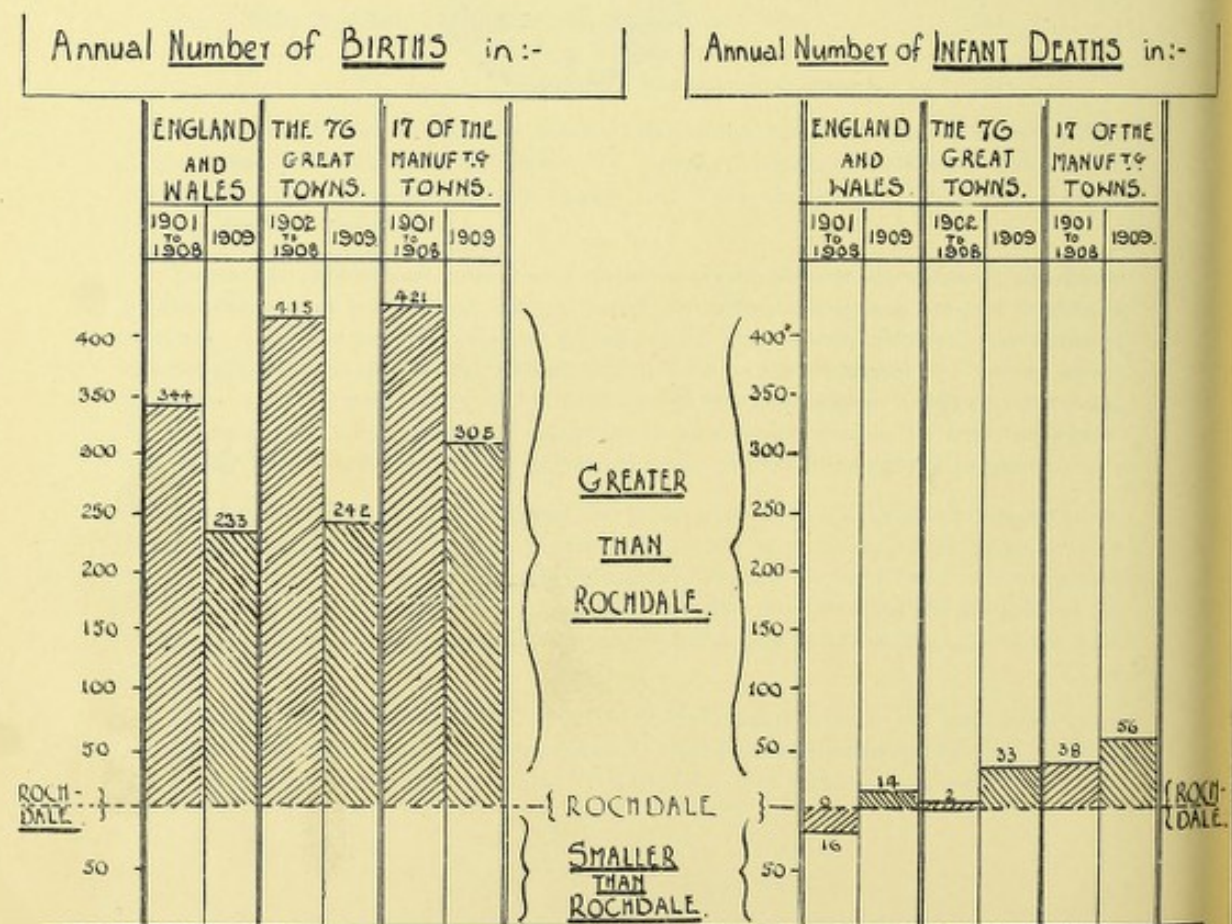
# CHART "A"

Comparison of the Rate of BIRTHS and the Rate of INFANT MORTALITY in ROCSDALE AND OTHER TOWNS.



# CHART "B"

Comparison of the Number of CHILDREN CONCERNED ANNUALLY if the Population of OTHER TOWNS had been exactly that of ROCSDALE.



NOTE:- AVERAGE POPULATION OF ROCSDALE { DURING 1901 TO 1908 = 85,999. DURING 1902 TO 1908 = 86,412. DURING 1909 = 89,654.



on the other hand, the three groups with which Rochdale is compared are, as regards their birth-rates, gradually sinking to a lower level, which Rochdale reached at an earlier date with a greater acceleration.

This argument and the figures on which it is based are shewn graphically in Chart "B" which follows. Chart "A" gives the differences in the rates which formed the basis of the calculation. (See also Chart "C" Annual Report, 1909).

It has to be clearly understood that although the immediately preceding discussion is based on the hypothesis of an assumed average population; yet it provides the means of comparison with England and Wales and other Towns, and supplies a more concrete and comparative representation of our present position and outlook, as regards the vital question of population, and in actuality we believe it represents approximately the truth. Further it may serve to indicate that in so far as the work of public health administration becomes efficient and effective, it finds expression in the greater annual number of lives saved and better health for the living. But as such results do not immediately appear in the form of dividends, there is sometimes a tendency in this commercial age to forget, that dividends cannot be earned without human labour; and consequently that every life saved, or better health secured, has a certain potential and economic value.

It is thus necessary to give full consideration to all such factors and influences, which may in any way be supposed or known to exercise a direct or indirect bearing on the constitution of our population. For it has been recognised that a declining birth-rate is a double-edged factor; and, if it extends over many years, may so alter the age-constitution of the population, that, in the first place by reducing the proportion of the population under five years amongst whom mortality is usually high, while at the same time relatively increasing the proportion between 10 and 40 years of age amongst whom mortality is usually low, there may be for a time a tendency to produce a lower death-rate; but, in the second place all other factors being equal, it must be expected that if this low birth-rate continues over many years, the proportion of old people over 55 years of age to the total population will be continuously increasing, and consequently there must come a time when the death-rate must be adversely affected by this change in the age-constitution of the population.

We have already adverted to and so far discussed the declining birth-rate, but there is another and relative aspect of this question. A low birth-rate in itself may not be regretted, if at the same time it is counterbalanced by a *corresponding* declining infant death-rate; and may, through varying economic and other circumstances, be considered even more humanitarian, and thus prevent the prodigal wastage of infant life, which must be considered rather a reproach to our modern so-called higher civilisation. For, under such conditions, the fewer infants born may be expected to be born healthier and with a greater chance of reaching the age of maturity and fertility; and in their life histories propagating and maintaining a healthier and hardier race—which principle is so far in accordance with the modern school of Eugenics.

But on again turning to Table I., we find that, although the All Causes death-rate of Rochdale and other Manufacturing Towns is higher, while the birth-rate of the former is lower, when compared with either England and Wales, the 76 Great Towns, and with other Manufacturing Towns; yet there is not a *corresponding* and *proportionate* reduction in our Infantile Mortality, which rate being calculated on the actual number of births is perhaps the most reliable comparative rate dealt with in the study of vital statistics, and which from 1856-1900 in Rochdale averaged 157, and for England and Wales 150 per 1,000 births respectively.

How far the present death-rate of Rochdale is already affected by any such changes produced in the age constitution of the population, due to the operation of its earlier and quicker declining birth-rate, it is, with the data before us at present difficult to make any definite statement. Still we must recognise its possibility; or even probability from a recent examination which we have made from previous Census figures, and when the Census figures of next year are available the period, after 30 years of a fast declining birth-rate, will be a convenient and interesting one to investigate and compare any apparent changes in the age-constitution of the population



with the death-rates at the corresponding different age-periods; although one cannot exclude or even interpret by close observation the influence of emigration and immigration, especially in a manufacturing district.

Having then endeavoured to emphasise the close correlation between the two most important rates—the birth-rate and the death-rate, and to show how any prolonged and marked declension in the former may operate on the latter; and, likewise the difficulty of assessing the modifying influence of various factors, such as the effects of migrations of population due to industrial, economic and other causes, and errors of estimated populations at this distance of time from the last Census; we now pass on to the consideration of other features, and to make a closer study of the apparently excessive death-rates from particular specific diseases which appear to greatly augment the general death-rate.

### Zymotic Diseases.

For this purpose it is again necessary to refer to Table I., and to consider the three important death-rates from Zymotic Diseases, Phthisis, and Other Respiratory Diseases. Dealing with Zymotic Diseases first the position of Rochdale in Table I. is apparently favourable, as its zymotic death-rate appears numerically lower than the 76 Great Towns and slightly below the average for England and Wales. But let us analyse this position and the constitution of our zymotic rate; and consider if the favourable position of Rochdale in the table is supported on analytical evidence. A review of this rate covering a period of many years clearly shows that it is very largely made up of deaths from Diarrhoeal Diseases and such zymotics as Measles and Whooping-cough, which are usually termed infantile diseases in contra-distinction to such zymotics as Enteric Fever and even Scarlet Fever and Diphtheria, the attack incidence of which usually falls on older children. This close relationship between the zymotic-rate and the infantile mortality rate is further confirmed from a study of the subjoined table, where it is seen how closely these rates follow one another. In the bad year 1908, they were both exceedingly high due to the occurrence of epidemic summer diarrhoea; in the good year 1909, they were both very low; and if an average of these two years be taken it will be found that the relative proportion of each of these rates is almost exactly the same as when an average for 8 years is taken. The figures below are extracted from Table I. for clearer comparison.

Table II.

SHEWING RELATION BETWEEN RATES OF DEATH FROM ZYMOTIC DISEASES AND OF INFANT MORTALITY IN ROCHDALE.

| Period                          | Death-rate per 1,000 of Population from Zymotic Diseases | Rate of Infant Mortality per 1,000 births |
|---------------------------------|----------------------------------------------------------|-------------------------------------------|
| During the year 1908 ... ..     | 2.40                                                     | 168                                       |
| “ “ 1909 “ “ “                  | 0.64                                                     | 102                                       |
| Average of 1908 and 1909 ... .. | 1.52                                                     | 135                                       |
| “ 1901 to 1908 ... ..           | 1.59                                                     | 140                                       |

This close relationship undoubtedly suggests that many of the deaths from Zymotic Diseases occur amongst very young children. Consequently, if it be admitted that a low and steadily declining birth-rate has been gradually reducing the proportion of young persons to the total population; it is evident, that there must be in Rochdale a smaller proportion of young people at the early age period of life when they are most susceptible to the usual Zymotic Diseases of childhood, than may be found to exist in many of the other towns where the decline has been less rapid and with which Rochdale is here compared. Hence, having due regard to our extremely



low birth-rate, it is open to doubt if the zymotic death-rate has fallen in the same corresponding ratio; and the position of Rochdale may not appear so favourable if the zymotic rate was calculated on a correct age-constitution of the population.

However, the Zymotic rate in Rochdale is not a high one, although subject to more sudden fluctuations than many other rates. Certainly it is not one of the constantly excessive rates referred to previously.

### **Phthisis and other Respiratory Diseases.**

On the other hand the death-rates from Phthisis and Other Respiratory Diseases presents a somewhat different aspect.

So far as reliable statistics are available we find that the death-rate from Phthisis in Rochdale in 1856 was 3.92 per 1,000 of the estimated population as compared with 2.6 for England and Wales; and that the intervening period down to 1908 may be divided into two periods of approximately 25 years each. During the first period down to about 1884, the Phthisis death-rate in Rochdale fell to about one-half, and was 1.92 in this year. Thereafter, from this date onwards the Phthisis rate has remained almost stationary, with a slower downward movement during the past few years until in 1908 it has fallen to 1.37 per 1,000 of the estimated population as compared with 1.12 for England and Wales. Hence, although during the past half-century the Phthisis death-rate in Rochdale has remained with few exceptions higher than the corresponding rate for England and Wales, yet it has shown a slightly more rapid decline than the latter during the earlier period of available statistics.

But as regards the other Respiratory Diseases (such as Bronchitis, Pneumonia, etc.), and again in so far as reliable statistics are available for the past half-century, even the same slightly favourable reduction in the death-rate observed as regards Phthisis is not observed here.

In 1856 the death-rates from other Respiratory Diseases in Rochdale, and for England and Wales, was 2.86 and 2.81 respectively per 1,000 of population; and in 1908 the corresponding rates are recorded as 3 and 1.31 respectively. During this interval of time the highest rates for Rochdale are recorded from 1870-1879, and from 1890-1893, when during these two short periods the average yearly death-rate reached 4.59 and 4.68 respectively; while the average yearly death-rate from other Respiratory Diseases for Rochdale and England and Wales during the past half-century is 3.95, or practically 4, for the former, and 3.5 for the latter respectively, per 1,000 of the estimated population.

For convenience of description the death-rates from Phthisis and other Respiratory Diseases will now be treated as the combined rate from Respiratory Diseases; and it is evident from the preceding discussion, that from the earliest date of reliable statistics this combined death-rate in Rochdale has been excessive; and, even to-day, in spite of 50 years' sanitary administration, this rate persists with no evident signs of diminution, except in so far as it is slightly reduced by the component Phthisis death-rate. A further illustration of this for a shorter interval of time is provided in Table I. Here the death-rates from Phthisis and other Respiratory Diseases are given as 1.33, 1.37, 1.08; and 3.30, 3.00, 3.05 respectively for the three periods under comparison. When these rates are combined they read as 4.63, 4.37 and 4.13 respectively, which is a remarkably steady rate, extending over three distinct periods of comparison.

Still we readily recognise that there are many other towns which show a similar high death-rate from Respiratory Diseases; and if the similar rates for the 76 Great Towns were available (as they are not, see Table I.) it is probable that the combined rate for Rochdale would not compare unfavourably with the corresponding rates for many of the other Great Towns; and further, when compared with the corresponding rates for the 17 neighbouring Manufacturing Towns of similar size and conditions (Table I.), the rates for Rochdale do not appear unfavourable by comparison. But when compared with the average rates for England and Wales the combined rate for Rochdale and the Manufacturing Towns is excessive; and therefore we must conclude that the constant and excessive death-rate from Respiratory Diseases has been in the past as it is in the present a pre-dominant factor in tending to raise the death-rate from All Causes for Rochdale above the corresponding average for England and Wales.



This then appears an important question concerning the public health of this Borough, which demands further investigation ; and working on the principle, that every effect must have an efficient cause, whether discoverable or not ; an endeavour will be made in Part II. to try and discover what relationship may exist between the vital statistics and the housing and general sanitary conditions in the sub-districts of this Borough ; while at the same time an attempt will be made to locate as far as appears justifiable the sources of the excess of different death-rates from particular groups of diseases to particular areas.

This task has not been undertaken without due regard to, and appreciation of, the many difficulties seen and unforeseen which have to be encountered and negotiated ; and further, one has frankly to admit that in dealing with the affairs of Human Beings, there is always the "personal equation," which can never be excluded, although difficult to adequately interpret or account for, in any conclusions arrived at by methods of statistics. Still by adopting the reasoning attitude in the following pages, we may hope to present some conclusions, which will be considered sufficiently intelligible and reasonable.

## PART II.—CORRELATION OF VITAL STATISTICS WITH THE HOUSING AND SANITARY CONDITIONS OBTAINING IN WARDS AND SUB-DISTRICTS OF THE BOROUGH.

It is important in the first place to clearly understand the population basis on which the birth and death-rates used for comparison of one district with another and with the Borough are calculated, as this differs somewhat from that used in Table I. In this Table, when dealing with Rochdale and other towns, the rates are calculated on an estimated population for each year. But in dealing with the sub-districts and consequently with the wards and the Borough itself, we have no alternative but to adopt the figures of the census year 1901 ; as an estimated population for each sub-district could not be obtained from the census data at present available for this Borough. In adopting this method we recognise it may involve the possibility of slight relative degrees of error in the computation of the respective death-rates of the Borough, wards and sub-districts ; and that the direction and degree of error will be in accordance with, and measured by the possibilities of any increase or decrease of population during the eight years under review (1901-1908) ; first, of the Borough population ; and, secondly, of its relative distribution in the 72 sub-districts. But that this degree of error is very slight, when dealing with the calculation of the rates for the whole Borough, the following Table III. will show ; and that it consists of slightly higher rates ; when, under (b), they are calculated from the 1901 census population figures ; than, when under (a) they are calculated on the estimated population figures up to 1908.

**Table III.**

Shewing the difference between :—

- (a) Birth and death-rates calculated on estimated populations as used for comparison of Rochdale and other towns in Table I ; and
- (b) Birth and death-rates calculated on 1901 census population for comparison of wards and sub-districts of the Borough.

| Average for 8 years<br>(1901-8) for Rochdale | Birth-<br>Rate | Death-Rates   |                  |          |                                  |
|----------------------------------------------|----------------|---------------|------------------|----------|----------------------------------|
|                                              |                | All<br>Causes | Total<br>Zymotic | Phthisis | Other<br>Respiratory<br>Diseases |
| (a) ... ..                                   | 23.5           | 17.6          | 1.59             | 1.33     | 3.30                             |
| (b) ... ..                                   | 24.8           | 18.2          | 1.64             | 1.38     | 3.41                             |
| Excess of (b) over (a) ...                   | 1.3            | 0.6           | 0.05             | 0.05     | 0.11                             |



The difference in the All Causes rate calculated on the two distinct population bases is seen to be only 0.6 per 1,000 of the Borough population. Such a result one anticipates when dealing with the Borough population as a whole, as the varying conditions and migrations of any section of the population from district to district or from town to town, in the end combine to produce a certain balancing effect from year to year. But in computing the death-rates of the 72 sub-districts, even if the estimated population for each was available, it is open to great doubt if such rates based on the estimated populations would be more correct or nearer the truth than if estimated on the census population basis of 1901. For the mathematically estimated populations can take no account of the effects of possible migrations to and from each district. Hence it was after weighing carefully the mathematical possibilities of error along with our own close and intimate acquaintance with the 72 sub-districts, that we resolved to base our calculations of all rates on the population figures of the 1901 census; and by a further process of exclusion of non-comparable sub-districts, for reasons which will be stated, to include only such sub-districts, as we consider from an intimate acquaintance of each, to be eminently comparable; and the conclusion drawn from these will apply with varying degrees of truth to many of the other sub-districts, and generally with a wider application to the whole Borough.

The basis on which the rates are calculated having been determined, it is now necessary to state that the death-rates from All Causes, Zymotic Diseases and Respiratory Diseases, have been calculated for each of the 72 sub-districts, from the material on which the graphic death-curves are drawn in Charts I. and II., and it will now be convenient to refer to these Charts, as they indicate many instructive and impressive features.

A glance at Chart I. will at once show the considerable extent to which the death-curve for Zymotic Diseases follows that for All Causes; but if the division lines of the sub-districts on Chart I. be brought into alignment with those of Chart II., the coincidence of the "significant peaks" in the All Causes curve with those of the curves representing Phthisis and other Respiratory Diseases is almost complete. Further, if the figures representing the Infant Death-rates for the sub-districts and given at the end of each ward report, were translated into a death-curve, it is evident that this curve would be more equable and certainly would not follow in the same order of coincidence with the All Causes death-curve, as is shown by the curve for Phthisis and other Respiratory Diseases.

Still referring to Chart No. 1 it is seen that of the 11 wards, five, viz.:—Wardleworth West, South, and East, and Castleton North and East, have a general death-rate above the average; one other, viz.:—Spotland East, a general death-rate equal to the average; and five others, viz.:—Spotland West, Wuerdle, Castleton South and West, and Castleton Moor, a general death-rate below the average for the Borough. Every ward, however, is found to have at least one sub-district with a rate above the Borough average, the most uniformly low rates being in Castleton Moor Ward.

A comparison of the birth-rate and various death-rates in two wards, one, Castleton North, having the highest general rate, and the other, Castleton West, the lowest general rate, is shown below.

**Table IV.**  
AVERAGE RATES FOR 8 YEARS, 1901-8.

| District                | Rate of Infantile Mortality per 1,000 Births (1905-8) | Birth-Rate per 1,000 of the Population (1905-8) | Death-rates per 1,000 of the Population. |                |          |                            |
|-------------------------|-------------------------------------------------------|-------------------------------------------------|------------------------------------------|----------------|----------|----------------------------|
|                         |                                                       |                                                 | All Causes                               | Total Zymotics | Phthisis | Other Respiratory Diseases |
| Castleton North Ward    | 166                                                   | 20.8                                            | 21.5                                     | 2.10           | 1.97     | 4.01                       |
| Castleton West Ward ... | 115                                                   | 23.9                                            | 15.9                                     | 1.35           | 1.28     | 2.71                       |
| BOROUGH ...             | 140                                                   | 24.8                                            | 18.2                                     | 1.64           | 1.38     | 3.41                       |



Further extending the comparison to the sub-districts, it is seen, on referring to the main death-rate on Chart No. 1, that the position of the districts may be enumerated and classified thus:—Sub-districts with death-rate from all causes:—

|     |                  |     |     |     |     |     |    |
|-----|------------------|-----|-----|-----|-----|-----|----|
| (a) | Above average    | ... | ... | ... | ... | ... | 27 |
| (b) | Equal to average | ... | ... | ... | ... | ... | 2  |
| (c) | Below average    | ... | ... | ... | ... | ... | 43 |

Considering the most significant of the "peaks" in the same curve it is found that—

- (a) 11 sub-districts have death-rates from all causes between 23 and 30 per 1,000  
 (b) 20 sub-districts have death-rates from all causes between 13 and 15 per 1,000

The location of all the districts to the wards appears as follows:—

**Table V.**

| CLASSIFICATION OF DISTRICTS ACCORDING TO DEATH-RATE. |                       |                                  |                  |                                |                             |
|------------------------------------------------------|-----------------------|----------------------------------|------------------|--------------------------------|-----------------------------|
| WARD                                                 | Greatly above Average | Above Average but to less extent | Equal to Average | Below Average to slight extent | Much below Average          |
| Wardleworth West ...                                 | W.4                   | W.6                              | W.5              | W.8 W.18                       | ...                         |
| Wardleworth South ...                                | W.1 W.3               | W.2 W.7<br>W.9 W.10              | ...              | ...                            | W.11 W.12                   |
| Wardleworth East ...                                 | W.14                  | W.13 W.15                        | ...              | W.16 W.17                      | ...                         |
| Spotland East ...                                    | S.N. 1                | ...                              | ...              | S.N.8 S.N.9<br>S.N.10 S.N.11   | S.N.5 S.N.6<br>S.N.7        |
| Spotland West ...                                    | S.N.2                 | ...                              | ...              | S.N.4 S.F.2                    | S.N.3 S.F.1<br>S.F.3 S.F.4  |
| Wuerdle ...                                          | Wu.6                  | Wu.1 Wu.5                        | ...              | Wu.2 Wu.4                      | Wu.3 B.1                    |
| Castleton North ...                                  | C.N.3 C.N.14          | C.N.2                            | ...              | C.F.16                         | C.N.15                      |
| Castleton South...                                   | C.N.13                | C.F.9                            | ...              | C.N.9 C.N.10<br>C.F.8 C.F.10   | C.N.8 C.N.11                |
| Castleton East ...                                   | ...                   | C.N.17 C.F.12<br>C.F.14 C.F.15   | ...              | C.N.16 C.F.11                  | ...                         |
| Castleton West ...                                   | C.F.1                 | ...                              | C.N.5            | C.N.6 C.N.7                    | C.N.1 C.N.4<br>C.N.12 C.F.2 |
| Castleton Moor ...                                   | ...                   | C.F.3                            | ...              | C.F.5 C.F.7                    | C.F.4 C.F.6                 |
| TOTAL NUMBER IN EACH CLASS ...                       | 11                    | 16                               | 2                | 23                             | 20                          |

From this representation a clear impression will be gathered of the direction in which the various sub-districts influence the ward and Borough rates. The Table also shows that it is possible for a ward to contain one or more good or one or more bad districts with corresponding low or high death-rates respectively, and yet the ward average death-rate may not follow in the same order, but inversely may be above or below that of the Borough; and consequently that the comparison of one ward with another is too superficial and would only obscure the truth.

It is interesting to notice that of the 27 worst districts enumerated above, 18 are wholly within a zone having for its boundary the old circular Borough boundary line and being about three-quarters of a mile in radius; four others are partly within or adjoin the boundary, and the remaining five are clear of the boundary, but enclose outlying portions, which are old and thickly populated; and further, it is possible to enclose 17 of the 18 sub-districts mentioned, well within the half of the circle lying to the north-east and to leave an almost complete south-west semi-



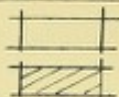


# DISTRIBUTION OF TWO-ROOMED HOUSES.

Sub-Districts having PERCENTAGE of Two-Roomed Houses

MAP N°1

Under 5



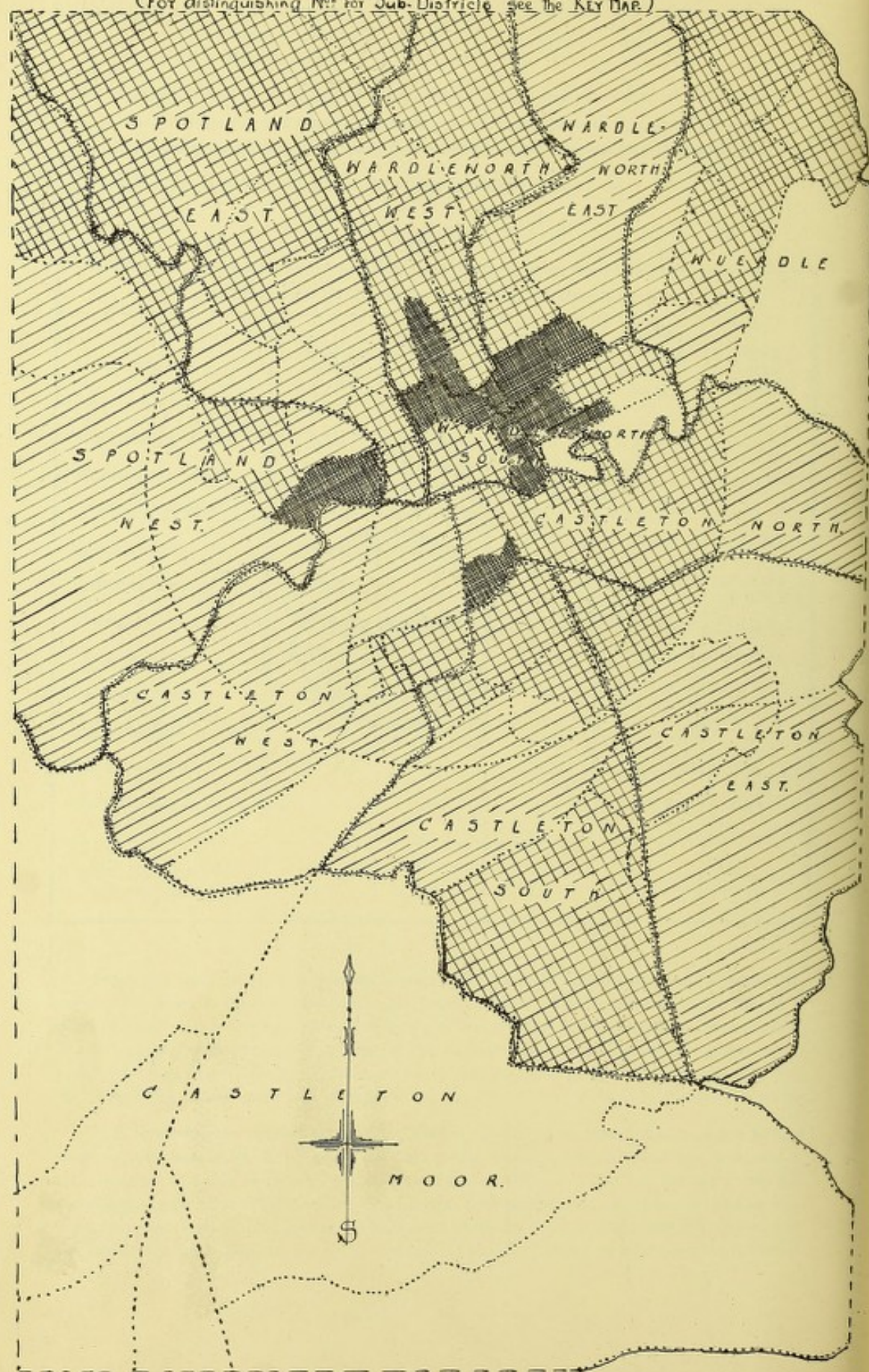
16 to 30



5 to 15

31 to 47

(For distinguishing Nos for Sub-Districts see the KEY MAP.)











circle with all its sub-districts having low rates. In other words the heaviest death-rates occur in that half of the town comprising the Wardleworth and Castleton North and East districts, and the lowest rates occur in the Spotland and Castleton South-west districts. (See Key Map in Appendix).

The extent to which the worst and best sub-districts differ, and how they compare with the Borough Average is shown below :—

Table VI.

COMPARISON OF DISTRICTS WITH HIGHEST AND LOWEST DEATH RATES.

|                                   | Average Rate of Infant Mortality | Average Birth-Rate per 1,000 | Percentage of Deaths |               | Rates per 1,000 of Population. |               |          |                      |
|-----------------------------------|----------------------------------|------------------------------|----------------------|---------------|--------------------------------|---------------|----------|----------------------|
|                                   |                                  |                              | Under 1 year         | Under 5 years | All Causes                     | Total Zymotic | Phthisis | Respiratory Diseases |
| Average of 11 Worst Districts ... | 180                              | 27.7                         | 18.4                 | 28.6          | 26.4                           | 2.35          | 2.58     | 5.02                 |
| Average of 20 Best Districts ...  | 116                              | 21.5                         | 16.7                 | 25.2          | 14.2                           | 1.25          | 0.96     | 2.20                 |
| AVERAGE FOR BOROUGH ...           | 140                              | 24.8                         | 18.8                 | 28.4          | 18.2                           | 1.64          | 1.38     | 3.41                 |

NOTE—(a) The percentage of deaths under one year and under five years are not percentages of deaths of persons at those age periods, but of all ages.

(b) The rates as already explained are calculated on the population of each district at the time of the census of 1901.

But, as already explained, rates calculated on either the census population or estimated population basis are liable to certain kinds of error, and especially through migrations to and from different districts on account of residential, industrial and various conditions. A good illustration of this is provided by sub-district W.8 in Wardleworth West Ward; and the following example will explain the effect upon the rate :—

Population of sub-district W.8 at last census = ... .. 1,750

Add births, 28.2 per 1,000 (worked on census figures=49.4 ;  
and for eight years=8 × 49.4= ... .. 395

Add increase of population due to occupation of new dwellings, approximately 131 built since last census, and with average occupation 4.5=4.5 × 131= ... .. 590

Taking average increase of population at the end of the 4th year=  $\frac{395 + 590}{2}$  = ... .. 492

2,242

Deduct deaths, 16.6 per 1,000 (worked on last census figures  
=29.1 ; and at end of 4th year= $\frac{29.1 \times 8}{2}$ = ... .. 116

Population at end of 4th year... .. 2,126



As the death-rate with a population of 1,750 was 16.6 per 1,000 at the last census, then with a population of 2,126 it would be only 13.6 per 1,000, which gives a difference of 3 per 1,000; and consequently the census rate, if adopted, would be 22 per cent. too high.

To avoid, as far as possible, any such fallacious comparisons, we have by a process of exclusion, which has for its basis of reason our own intimate acquaintance with each sub-district, eliminated from the present consideration those districts in which the population has either increased or decreased appreciably during the past eight years. This process reduces the material for comparison to 27 sub-districts; 16 of which have rates above the average, and 11 of which have rates below the average, and which are all within the old Borough line and distributed as follows:—

Table VII.

| DISTRIBUTION OF SUB-DISTRICTS FOR TRUE COMPARISON. |                                 |                                                        |
|----------------------------------------------------|---------------------------------|--------------------------------------------------------|
| WARD                                               | Death-rates above Average       | Death-rates below Average                              |
| Wardleworth West ... ..                            | <b>W.4</b>                      | .....                                                  |
| Wardleworth South ... ..                           | <b>W.1 W.2 W.3 W.7 W.9 W.10</b> | <b>W.11 W.12</b>                                       |
| Wardleworth East ... ..                            | <b>W.13 W.14 W.15</b>           | .....                                                  |
| Spotland East ... ..                               | <b>S.N.1</b>                    | <b>S.N.7 S.N.8</b>                                     |
| Spotland West ... ..                               | <b>S.N.2</b>                    | <b>S.N.3</b>                                           |
| Wuerdle ... ..                                     | .....                           | .....                                                  |
| Castleton North ... ..                             | <b>C.N.2 C.N.3 C.N.14</b>       | .....                                                  |
| Castleton South ... ..                             | <b>C.N.13</b>                   | .....                                                  |
| Castleton East ... ..                              | .....                           | .....                                                  |
| Castleton West ... ..                              | .....                           | <b>C.N.1 C.N.5 C.N.6 C.N.7</b><br><b>C.N.10 C.N.12</b> |
| Castleton Moor ... ..                              | .....                           | .....                                                  |
| TOTALS ... ..                                      | 16                              | 11                                                     |

N.B.—Those sub-districts in heavy type are such as have been previously referred to as having excessively high or excessively low rates.

Apart from the question of fixity of population during the past eight years, it is believed that the 27 districts chosen for comparison and included above, will strongly appeal to those acquainted with the town, not only as an expedient and justifiable selection, but as districts which, in contrast, will throw into relief many striking and interesting features. Then, when the census figures of next year are available, it may be possible to recalculate the rates for the remaining sub-districts on an average population basis of two census figures, and thus to extend the whole of the comparisons made with the 27 districts to the whole of the remaining sub-districts of the Borough. This present and future possibility, it is hoped, will add very considerably, not only to the present value but to the prospective value and interest of this Report.

In order to demonstrate the true difference between the rates of the bad and good districts it is now necessary to compare the 16 bad with the 11 good districts, instead of the 11 worst and 20 best districts as in Table VI., and this is done in the following table.

Table VIII.

COMPARISON OF CERTAIN DISTRICTS HAVING HIGH AND LOW DEATH-RATES.

|                                                                   | Average Rate of Infant Mortality | Average Birth-Rate per 1,000 | Percentage of Deaths |               | Rates per 1,000 of Population. |               |          |                      |
|-------------------------------------------------------------------|----------------------------------|------------------------------|----------------------|---------------|--------------------------------|---------------|----------|----------------------|
|                                                                   |                                  |                              | Under 1 year         | Under 5 years | All Causes                     | Total Zymotic | Phthisis | Respiratory Diseases |
| Average of 16 districts whose rates exceed Borough average ...    | 181                              | 26.3                         | 19.2                 | 29.7          | 24.1                           | 2.10          | 2.24     | 4.4                  |
| Average of 11 districts whose rates are below Borough average ... | 131                              | 20.9                         | 15.1                 | 22.4          | 15.7                           | 1.17          | 1.05     | 2.59                 |
| AVERAGE FOR BOROUGH ...                                           | 140                              | 24.8                         | 18.8                 | 28.4          | 18.2                           | 1.64          | 1.38     | 3.41                 |

The death-rates from Phthisis and Respiratory Diseases combined in the three groups noted above is thus shown as 6.64, 3.64 and 4.79 respectively. Consequently in the 16 worst districts under consideration three persons more in every 1,000 die from those diseases than in the 11 best districts; and nearly two persons in every 1,000 more than in the whole of the districts of the Borough.

With regard to other rates of death and births shown in the table a similar interpretation would be as follows:—

#### INFANT MORTALITY—

For every 1,000 children born the number which die under one year in the 16 districts exceeds that for the 11 districts by 50 and that of the Borough average by 41.

#### BIRTH-RATE—

The number of births per 1,000 of the population in the 16 districts exceeds that for the 11 districts by 5½ and that of the Borough average by 1½.

#### ALL CAUSES—

The number of deaths from All Causes per 1,000 of the population in the 16 districts exceeds that for the 11 districts by 8½ and that of the Borough average by 6.

#### TOTAL ZYBOTICS—

The number of deaths from Zymotic Diseases per 1,000 of the population in the 16 districts exceeds that for the 11 districts by 1 and that of the Borough average by ½.

#### PERCENTAGE OF DEATHS UNDER ONE YEAR—

Of the total deaths in the 16 districts the percentage of infants under one year exceeds that for the 11 districts by  $4\frac{1}{10}\%$  and that of the Borough average by  $\frac{1}{2}\%$ .

#### PERCENTAGE OF DEATHS UNDER FIVE YEARS—

Of the total deaths in the 16 districts the percentage of children under five years exceeds that for the 11 districts by  $7\frac{5}{10}\%$  and that of the Borough average by  $1\frac{5}{10}\%$ .



The information so far considered is sufficient to indicate the first broad conclusions, viz. :— that the directions in which the " bad " districts differ from the " good " districts and from the whole of the districts together are in having :—

- (1) High rates of death from Phthisis and Respiratory Diseases.
- (2) High rates of death from Zymotic Diseases.
- (3) High rates of Infant Mortality.

And further, in addition to (1), (2), and (3), the direction of difference of the bad from the good districts is seen in (4) and (5) ; although this last difference is not so well marked between the bad districts and the Borough figures.

- (4) High rates of death of children under one and five years.
- (5) High birth-rates.

But it is advisable at this point to note the varying extent of the difference as regards each rate. This is easily ascertained if each of the rates in Table VIII. representing the average for the Borough be considered equal to 100, and the rates in each of the two classes of district be considered in relation to that figure, as below :—

**Table VIII. (a)**

RELATIVE VALUE OF RATES IN THE THREE GROUPS IN TABLE VIII.

|                       | Infant<br>Mor-<br>tality | Birth-<br>rate | Deaths<br>under<br>1 year | Deaths<br>under<br>5 years | Total<br>Deaths | Deaths<br>from<br>Zymotic<br>Diseases | Deaths<br>from<br>Phthisis | Deaths<br>from<br>Respira-<br>tory<br>Diseases |
|-----------------------|--------------------------|----------------|---------------------------|----------------------------|-----------------|---------------------------------------|----------------------------|------------------------------------------------|
| 16 Bad Districts ...  | 129.28                   | 106.05         | 102.13                    | 104.58                     | 132.42          | 128.17                                | 162.32                     | 129.03                                         |
| WHOLE BOROUGH ...     | 100.00                   | 100.00         | 100.00                    | 100.00                     | 100.00          | 100.00                                | 100.00                     | 100.00                                         |
| 11 Good Districts ... | 93.57                    | 84.27          | 80.32                     | 78.87                      | 86.26           | 71.34                                 | 76.09                      | 75.98                                          |

The table shows that, considering only the good and bad districts, the most excessive death-rate in the bad districts is Phthisis, and the least excessive rate is Deaths under one year ; and if similar comparisons of the other rates are followed out the order of excess will be found to be as set out previously under the headings (1), (2), (3), (4), and (5).

The results so far obtained are based on averages of rates of all the districts in each class, and can only be considered correct to such degree as uniformity of high rates and low rates in the bad and good districts obtains respectively ; that is to say, that though in the 16 districts the Total Death-Rate is above the average in every case, and in the 11 districts the Total Death-Rate is below the average in every case, still one must consider the possibility of rates of death from specific causes not following the same order in every case. Complete correlation in that respect is inconceivable and not to be expected, but in order to arrive at a true value, the number of districts showing non-correlative rates in each class must be allowed for as shewn in Table X. (a) to follow.

The foregoing results are, however, sufficient to give a general conception of the difference in the rates of the two classes of district on the average ; and it will now be interesting to direct our studies towards the investigation of any differential conditions of Housing and Sanitation, with which the salient features of the Vital Statistics may be associated or correlated.



By referring to Chart No. 1 it will be found that with one exception (C.N.2), the 16 districts with high rates set out in Table VII have all percentages of

Back-to-back houses  
Two-roomed houses  
Houses with low rents, and  
Houses with Joint Closet Accommodation

which are *above the average* percentage for the Borough, and that with three exceptions (W.7, W.10 and W.15) the 16 districts have percentages of

Houses in Poor condition

*above the average* percentage for the Borough.

The most frequent exception, it should be noted, is sub-district C.N.2, bounded by South Parade, Drake-street, Great George-street, School-lane, Church Steps and Packer-street—a district where many old houses have been demolished during the period covered by the Vital Statistics, and which originally would have appeared above the averages.

In sharp contrast with the conditions in the 16 districts with high rates are those existing in the 11 districts with low rates. In all save three (S.N.8, C.N.6, and C.N.13) the percentage of

Back-to-back houses

is *below the average* percentage for the Borough; in all save two (S.N.8 and C.N.6) the percentages of

Two-roomed houses, and  
Houses with low rents

are *below the average* percentage for the Borough; in all save two (C.N.1 and C.N.6) the percentage of

Houses in Poor Condition

is *below the average* percentage for the Borough; and in all save four (S.N.8, S.N.3, C.N.5 and C.N.6) the percentage of

Houses with Joint Closet Accommodation

is *below the average* percentage for the Borough.

The first point thus established in a general way is, that, with regard to the Housing and Sanitary conditions of the sub-districts under consideration, and shown on Chart No. 1, those conditions in which the two classes of sub-districts, viz. :—(a) districts having high death-rates; and (b) districts having low death-rates, differ in the highest degree are—

- (1) Back-to-back houses
- (2) Two-roomed houses
- (3) Low-rented houses
- (4) Houses in Poor Condition
- (5) Houses with Joint Closet Accommodation,

and by following, on Chart No. 1, the column for each of these districts, the extent to which they differ in respect of the conditions may be ascertained. A general survey of Chart No. 2 will be sufficient to show that the average number of persons inhabiting two-roomed houses (which are nearly all of the back-to-back type), is nearly as large as that for four-roomed houses, which have twice the bedroom accommodation; and consequently that the ascertained overcrowding rate in two-roomed houses is enormous compared with that of four-roomed houses. Therefore, the list of conditions in which the two classes of districts differ greatly, must accordingly be extended as follows :—

- (6) Domestic overcrowding.

The extent to which the districts differ from each other and from the whole of the districts in the Borough, on the average is as follows :—



Table IX.

AVERAGE PERCENTAGES OF CONDITIONS IN TWO CLASSES OF DISTRICTS.

|                                                 | 1                                         | 2                                       | *3                                      | 4                                              | 5                                                     | 6                                                                       |   |
|-------------------------------------------------|-------------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|---|
|                                                 | Average Percentage of Back-to-Back Houses | Average Percentage of Two-roomed Houses | Average Percentage of Low-rented Houses | Average Percentage of Houses in Poor Condition | Average Percentage of Joint Pail Closet Accommodation | Average Percentage of Overcrowding in Two-roomed and Four-roomed Houses |   |
| 16 districts with death-rates above average ... | 45                                        | 31                                      | 47                                      | 37                                             | 68                                                    | 30                                                                      | 6 |
| 11 districts with death-rates below average ... | 19                                        | 11                                      | 20                                      | 14                                             | 41                                                    | 21                                                                      | 3 |
| WHOLE BOROUGH ...                               | 24                                        | 15½                                     | 31                                      | 21                                             | 41                                                    | 27                                                                      | 4 |

\* Four shillings and under per week.

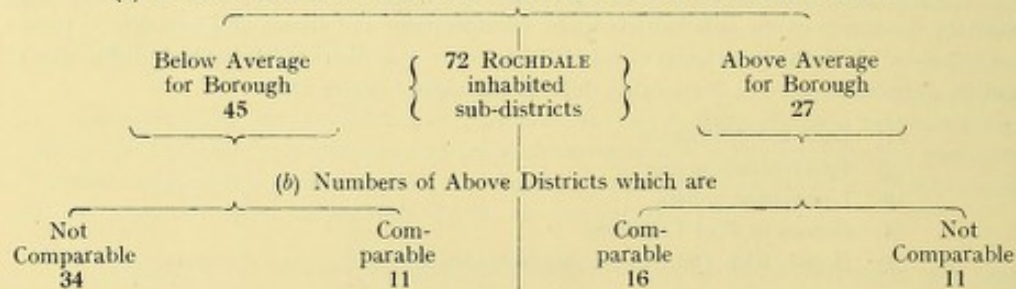
If the above table be read in connection with Table VIII. (a), the value of the average difference in the death-rates and the value of the average difference in the conditions, in the two classes of district, can be realised and compared; but in order to show how far the districts conform in having high or low percentages of conditions to correspond with high or low death-rates respectively, it is necessary to summarise and tabulate as follows:—

Table X.

Shewing:—

- (a) The total number of districts with rates of total deaths above or below the Borough average.  
 (b) Relative number of districts in each class which are considered to be "comparable."  
 (c) The number of comparable districts in each class which conform in also having percentages of certain housing conditions above or below the average for the Borough, and percentage of correlation in that respect.

(a) NUMBER OF DISTRICTS HAVING RATES OF DEATH FROM ALL CAUSES.



|                              | Below<br>Average<br>for<br>Borough | Above Average<br>for Borough |    | Below<br>Average<br>for<br>Borough | Comparative relation<br>between Rates and<br>Conditions |                                      |
|------------------------------|------------------------------------|------------------------------|----|------------------------------------|---------------------------------------------------------|--------------------------------------|
|                              |                                    |                              |    |                                    | Percentage<br>of<br>Correlation                         | Percentage<br>of Non-<br>Correlation |
| Back-to-Back Houses ...      | 8                                  | 3                            | 15 | 1                                  | 85.2                                                    | 14.8                                 |
| Two-roomed Houses ...        | 9                                  | 2                            | 15 | 1                                  | 88.9                                                    | 11.1                                 |
| Low-rented Houses ...        | 9                                  | 2                            | 15 | 1                                  | 88.9                                                    | 11.1                                 |
| Houses in Poor Condition ... | 9                                  | 2                            | 13 | 2                                  | 81.5                                                    | 18.5                                 |
| Joint Pail Closets ...       | 7                                  | 4                            | 15 | 1                                  | 81.5                                                    | 18.5                                 |



Further, by substituting birth-rates and death-rates for the sanitary and housing conditions the table may be extended to show the comparative relation between the death-rate from All Causes and the other rates on the same principle, as follows:—

**Table X. (a).**

Shewing the number of comparable districts in each class which, having death-rates from "All Causes" above or below the average for the Borough, conform with that classification in having other rates above or below the average for the Borough; and shewing also the percentage of correlation in that respect, on the same principle as that used in Table X.

NUMBER OF COMPARABLE DISTRICTS HAVING RATES OF DEATH (ALL CAUSES).

|                                                          | Below Average<br>for Borough<br>11                      |                                    | Above Average<br>for Borough<br>16 |                                    |                                                                      |                                      |
|----------------------------------------------------------|---------------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------------------------------------------------------|--------------------------------------|
|                                                          | NUMBER OF ABOVE DISTRICTS HAVING<br>THE FOLLOWING RATES |                                    |                                    |                                    |                                                                      |                                      |
|                                                          | Below<br>Average<br>for<br>Borough                      | Above<br>Average<br>for<br>Borough | Above<br>Average<br>for<br>Borough | Below<br>Average<br>for<br>Borough | Comparative relation<br>between<br>" All Causes " and<br>other rates |                                      |
|                                                          |                                                         |                                    |                                    |                                    | Percentage<br>of<br>Correlation                                      | Percentage<br>of Non-<br>Correlation |
| Infant Mortality ...                                     | 6                                                       | 5                                  | 7                                  | 9                                  | 48.1                                                                 | 51.9                                 |
| Birth-rate ...                                           | 9                                                       | 2                                  | 11                                 | 5                                  | 74.0                                                                 | 26.0                                 |
| Percentage of deaths<br>under one year ...               | 7                                                       | 4                                  | 11                                 | 5                                  | 66.7                                                                 | 33.3                                 |
| Percentage of deaths<br>under five years ...             | 8                                                       | 3                                  | 9                                  | 7                                  | 63.0                                                                 | 37.0                                 |
| Zymotic Rate ...                                         | 10                                                      | 1                                  | 12                                 | 4                                  | 81.5                                                                 | 18.5                                 |
| Phthisis ...                                             | 9                                                       | 2                                  | 11                                 | 5                                  | 74.1                                                                 | 25.9                                 |
| Respiratory Diseases ...                                 | 10                                                      | 1                                  | 14                                 | 2                                  | 88.8                                                                 | 11.2                                 |
| Phthisis and Respira-<br>tory Diseases com-<br>bined ... | 10                                                      | 1                                  | 15                                 | 1                                  | 92.6                                                                 | 7.4                                  |

Tables X. and X.(a) are to some extent corrective of Tables VIII.(a) and IX., in so far as they show to what extent the average differences in the two classes of district, with regard to both conditions and rates, obtain uniformly or not. The basis of classification into "good" and "bad" districts is the All Causes or "Total" death-rate; a good district has an All Causes rate much below the Borough average; a "bad" district an All Causes rate much above the Borough average. In Tables VIII. and VIII.(a) the rates of the whole of the districts in each class are averaged to show an average difference, but in X.(a) it is shown that one of the "good" districts has a rate of death from—say, Zymotic Diseases above the average Zymotic rate for the Borough. In that respect, therefore, the district is non-correlative. The same thing applies to conditions found in Table IX. and Table X. and may be illustrated by an example:

In Table IX. the average difference between 16 "bad" districts and 11 "good" districts in respect of the existence of back-to-back houses, is shown as  $(45 - 19) = 26$  per cent., but as three of the "good" districts have percentages of back-to-back houses *above* the average for the Borough, and one of the "bad" districts has a percentage *below* the average for the Borough, then all the districts are not correlative. By taking such districts as are shown in Table X. to be correlative in respect of back-to-back houses it is possible to find the percentage of correlation thus:—

Of the 27 comparable districts, 11 have death-rates from All Causes below the average for the Borough, but of those 11, only 8 have average percentages of back-to-back houses below the average for the Borough. Therefore only 8 "good" districts are correlative in this respect.



Similarly, 16 of the 27 districts have death-rates from All Causes above the average for the Borough, but 15 of the 16 only have percentages of the back-to-back houses above the average for the Borough. Therefore only 15 of the "bad" districts are correlative.

By adding all correlative districts together we get  $(8+15)=23$ , and if this number be considered with the total number of districts compared  $(11+16)=27$ , we get  $\frac{23 \times 100}{27}$  or 85.2 per cent.—a total percentage of correlation of 85.2, as shown in the column at the right-hand side of Table X.

It is obvious then, that the value of the average differences between the "good" and "bad" districts must be modified by the extent to which each district conforms in every respect to the classification in which it is placed, and that in order to arrive at a closer comparative value, both points must be considered together. If the ratio of the "good" and "bad" in each respect is ascertained as in Tables X.(b) and X.(c), the closer comparative values can be calculated as in Table X.(d). In order to clearly interpret the results given in Tables X.(b), X.(c), and X.(d), it is now necessary to explain the method adopted in their preparation.

#### THE METHOD OF COMPILATION OF TABLES X.(b), X.(c), and X.(d).

The figures in the right-hand column of Table X.(b) represent, in descending order, a numerical value of the excess of any condition in the bad districts when both the average excess of that condition (based on Table IX.), and the percentage of conformity or correlation of districts in respect of that condition (as shewn in Table X.) are considered together.

The figures in the right-hand column of Table X.(c), on the other hand, represent, in descending order, a numerical value of the excess of any rate in the bad districts, when both the average excess of that rate, as shown in Table VIII.(a), and the percentage of conformity or correlation of districts in respect of that rate, as shewn in Table X.(a), are considered together.

Finally, the figures in X.(d) (which are reduced for convenient comparison) represent a numerical value of the excess in "bad" districts of both conditions and rates, in combined descending order, and at the same time show the correlative importance of any rate and any condition, as calculated from the right-hand columns of the two Tables X.(b) and X.(c).

Taking, for example, the figures relating to "Two-roomed houses," the following is the process used in the preparation of Table X.(b). The difference in the percentage of two-roomed houses in the two classes of district is found, from Table IX., to be  $(31-11)=20$ , while the average percentage of two-roomed houses in the Borough is shown as  $15\frac{1}{2}$  (or 15.6). Taking the Borough average as a basis, and considering the 15.6 to equal 100, then the figure 20, representing the difference in the two classes of district becomes  $\frac{(20 \times 100)}{15.6}=128.21$ , as shewn in the left-hand

column of Table X.(b). The figure in the middle column is, of course, transferred from Table X., where the percentage of correlation of districts in respect of two-roomed houses is stated as 88.9. By the multiplication of the figures 128.21 and 88.9 a number is obtained which has a true relative value to any other number calculated on the same basis. Thus the number for two-roomed houses  $(128.21 \times 88.9)=11,397$ , is relative to the number for back-to-back houses  $(108.34 \times 85.2)=9,230$ , and also to the other numbers shown in respect of the three remaining conditions.

The compilation of Table X.(c) is carried out in exactly the same way, using, however, the respective values ascertained for rates instead of those for conditions. Thus, in the case of the Phthisis death-rate, the difference in the two classes of district is (from Table VIII.(a) where the Borough average again equals 100) found to be  $(162.32-76.09)=86.23$  as shown in the left-hand column of Table X.(c). Next, the percentage of correlation of districts in respect of the Phthisis death-rate (74.1) is transferred from Table X.(a). These two figures, as in the previous example, are multiplied together, and the product is the relative number 6,390 shown in the right-hand column of Table X.(c). This number, also, is relative to all the numbers for the other rates, 6,437, 4,711, 4,632, &c., calculated on the same basis and shown in the same column.

The numbers in Table X.(c) being all relative to each other, they are also correspondingly relative to any one of the representative numbers in Table X.(b) and *vice versa*, and if each be multiplied by the same number the ratio will remain the same; for example the figure for Phthisis



(6,390) when multiplied by the figure for two-roomed houses (11,397) will bear the same relation to the figure for Zymotic Diseases (4,632) also multiplied by the figure for two-roomed houses (11,397) as it did before the multiplication, and if all the products thus obtained be divided by 1,000, in order that the results may be easily compared, the ratio will still be the same. This is how the small numbers in Table X.(d) are arrived at. Taking again as examples the two-roomed houses and the Phthisis death-rate, the process is  $(\frac{11,397 \times 6,390}{1,000})$  or  $(11,397 \times 6.390) = 72$ , as shewn in the first vertical column of Table X.(d). For two-roomed houses and Zymotic Diseases death-rate, the figure is  $(\frac{11,397 \times 4,632}{1,000})$  or  $(11,397 \times 4.632) = 53$  as shewn in the same column. The figures for each condition and each rate are treated in the same way, and being arranged in descending order in Tables X.(b) and X.(c) they follow in combined descending order in Table X.(d).

Table X. (b).

ORDER AND VALUE OF DIVERGENCE OF "GOOD" FROM "BAD" DISTRICTS  
IN RESPECT OF CERTAIN HOUSING CONDITIONS.

| Housing Condition        | Value of Difference in the Two Classes of District, the average percentage for the Borough (Table IX.) being equal to 100 | Average Percentage of correlation in both classes of district according to Table X. | Number representing the comparative value of the excess in "Bad" over "Good" Districts as regards each condition |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Two-roomed Houses ...    | 128.21                                                                                                                    | 88.9                                                                                | 11,397                                                                                                           |
| Back-to-back Houses ...  | 108.34                                                                                                                    | 85.2                                                                                | 9,230                                                                                                            |
| Houses in Poor Condition | 109.52                                                                                                                    | 81.5                                                                                | 8,926                                                                                                            |
| Low-rented Houses ...    | 87.10                                                                                                                     | 88.9                                                                                | 7,743                                                                                                            |
| Joint Pail Closets ...   | 65.85                                                                                                                     | 81.5                                                                                | 5,367                                                                                                            |

Table X. (c).

ORDER AND VALUE OF DIVERGENCE OF "GOOD" FROM "BAD" DISTRICTS  
IN RESPECT OF BIRTH AND DEATH RATES.

| Rate                                         | Value of Difference in the Two Classes of District, the average rate for the Borough being equal to 100<br>[See Table VIII.(a)] | Average Percentage of correlation in both classes of district according to Table X.(a) | Number representing the comparative value of the excess in "Bad" over "Good" Districts as regards each rate |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Average of Phthisis and Respiratory Diseases | 69.64                                                                                                                           | 92.6                                                                                   | 6,437                                                                                                       |
| Phthisis ...                                 | 86.23                                                                                                                           | 74.1                                                                                   | 6,390                                                                                                       |
| Respiratory Diseases ...                     | 53.05                                                                                                                           | 88.8                                                                                   | 4,711                                                                                                       |
| Zymotic Diseases ...                         | 56.83                                                                                                                           | 81.5                                                                                   | 4,632                                                                                                       |
| All Causes ...                               | 46.16                                                                                                                           | 100.0                                                                                  | 4,616                                                                                                       |
| Infant Mortality ...                         | 35.71                                                                                                                           | 48.1                                                                                   | 1,718                                                                                                       |
| Deaths under 5 years ...                     | 25.71                                                                                                                           | 63.0                                                                                   | 1,620                                                                                                       |
| Births ...                                   | 21.78                                                                                                                           | 74.0                                                                                   | 1,612                                                                                                       |
| Deaths under 1 year ...                      | 21.81                                                                                                                           | 66.7                                                                                   | 1,455                                                                                                       |



Cross-Table X. (d).

Shewing comparative value of the excesses in "Bad" over "Good" Districts as regards both conditions and rates, in descending order, and as regards each condition and each rate, in descending order. Compiled from the respective representative numbers shown in Tables X.(b) and X.(c).

| Condition<br><br>Rate                              | Two-Roomed<br>(Back-to-back)<br>Houses | Back-to-Back<br>Houses | Houses<br>in<br>Poor<br>Condition | Low-<br>rented<br>Houses | Joint<br>Pail<br>Closets |
|----------------------------------------------------|----------------------------------------|------------------------|-----------------------------------|--------------------------|--------------------------|
|                                                    | (1)                                    | (2)                    | (3)                               | (4)                      | (5)                      |
| Phthisis and Respiratory Diseases combined ... (1) | 73                                     | 59                     | 57                                | 50                       | 35                       |
| Phthisis only ... (2)                              | 72                                     | 59                     | 57                                | 49                       | 34                       |
| Respiratory Diseases ... (3)                       | 54                                     | 43                     | 42                                | 36                       | 25                       |
| Zymotic Diseases ... (4)                           | 53                                     | 43                     | 41                                | 36                       | 25                       |
| ALL CAUSES ... (5)                                 | 53                                     | 43                     | 41                                | 36                       | 25                       |
| Infant Mortality ... (6)                           | 20                                     | 16                     | 15                                | 13                       | 9                        |
| Deaths under 5 years ... (7)                       | 18                                     | 15                     | 14                                | 12                       | 9                        |
| * Births ... (8)                                   | 18                                     | 15                     | 14                                | 12                       | 9                        |
| Deaths under 1 year ... (9)                        | 17                                     | 14                     | 13                                | 11                       | 8                        |

\* Births are included in the table for the purpose of shewing completeness, and to follow out the foregoing system, where the birth-rate has all along been considered.

#### Method of reading and the Significance of the Figures given in Table X. (d).

The figures given in this table are an index of the relative position occupied by the various housing conditions in respect of the death-rates from any or all of the group of diseases considered, or *vice versa*. For if the figures are read horizontally, the comparative relation between any particular disease or group of diseases and all the housing conditions is shown; and if the figures are read vertically, the comparative relation between any particular housing condition and all the diseases dealt with is also shown.

Reading the table in this way it is found that when the Phthisis and Respiratory Diseases combined death-rate is considered, the housing condition most closely associated therewith is two-roomed houses—index number 73; whilst that least closely associated therewith is Joint Pail Closets—index number 35. In other words, the correct interpretation of these indices is that:—In those districts which have an excess of both joint pail closet accommodation and two-roomed houses, there is also an excess of deaths from Phthisis and Respiratory Diseases, but more important still is the deduction that the two-roomed houses are associated with more than twice as many excess deaths from these diseases as are the deficiencies in closet accommodation. Similarly, if two-roomed houses are considered, it is found that the death-rate most closely associated therewith is that from Phthisis and Respiratory Diseases combined—index number 73; and that the least closely associated one is that of deaths of children under 1 year—index number 17. In other words, in those districts which have an excessive rate of deaths from Phthisis and Respiratory Diseases and an excessive percentage of deaths of children under 1 year of age, there is an excess of two-roomed houses, consequently the essential point is that in these two-roomed houses the excess deaths from Phthisis and Respiratory Diseases are  $4\frac{1}{2}$  times more numerous than the excess deaths of children under 1 year of age.

All the horizontal and vertical columns in the table are comparable in exactly the same way, and each of the 45 index numbers shown is relative to the other 44.

Further than this all the figures may be considered in relation to those representing excess of deaths from All Causes—in heavy figures in the table—in two-roomed houses, back-to-back houses, etc., as well as in relation to each other.



Thus in following the line representing deaths from All Causes it is seen that in the table, the comparative values of the excesses of deaths in the bad districts are represented by the figures 53, 43, 41, 36 and 25, when the deaths are considered in relation to all the five housing conditions numbered (1), (2), (3), (4) and (5). In other words, there are twice as many excess deaths associated with No. (1), two-roomed houses, as with No. (5), joint pail closets.

By now considering the relation between two-roomed houses and the figures in the first vertical column, we find that the comparative values of the excesses of deaths from Phthisis and Respiratory Diseases and from All Causes are represented by the figures 73 and 53 respectively; while the deaths under one year are represented by the figure 17.

The essential point here is, that in two-roomed houses the number of excess deaths in the bad districts is 38 per cent. greater, when Phthisis and Respiratory Diseases are considered in relation to the excess deaths from All Causes. On the other hand the number of excess deaths in the bad districts is nearly 68 per cent. less when Deaths under 1 year are considered in relation to the excess deaths from All Causes.

Such comparisons may be extended to each of the other conditions and rates in the table, taking the excess deaths from All Causes as a basis.

### **The Correlation of Class of Population with Housing Conditions.**

In studying the detailed Ward Reports one can hardly fail to recognise that there exists a close correlation between the different types of Housing Conditions in the different sub-districts, and the different classes of population, who inhabit these districts.

But there are many exceptions, in which districts vary considerably, and this again appears to vary with the situation of the district. It is not always the poorest class of tenant who inhabits the lowest-rented house. Not infrequently we find a large family, who, in consideration of the large number of workers in the family, ought to be decently housed and in very comfortable circumstances. Yet such families are often found inhabiting small insanitary and low-rented dwellings, which are quite inadequate for their accommodation and needs; and the reason given for doing so, is usually, that such a house is near the factory in which they are employed. But there are others again living in low-rented houses, and in unfavourable hygienic conditions, who could well afford to live in different circumstances; but as they have no appreciation of the value of the hygienic life, they naturally prefer to spend their means in other less profitable ways. Again there are the cases of the honest poor who, usually though poor, are clean as regards their persons and houses, and in this respect often stand out in contrast to many of their neighbours who are poor and even destitute because they will be so.

Still such an official as the Sanitary Inspector or Lady Health Visitor, who is constantly visiting in a district, and frequently entering the houses of the people, cannot fail to receive some strong impressions as regards the different classes of population, who inhabit the different districts, their habits, means, and degree of respect for the ordinary simple every-day rules of hygiene.

In this respect, if we review the 27 comparable districts, and consider first the 11 good districts, and select, say 6 of these with the lowest death-rates, they will be found to be W.11, W.12, S.N.7, S.N.3, C.N.1, C.N.12, the boundaries of which will be found in the Key Map. These districts, as far as reference has been made in the Ward Reports, have been uniformly described as having a predominant class of population, who give closer observance to hygienic conditions of living, and who form a large proportion of the best type of our working-class population.

On the other hand, if we select from among the 16 bad districts, the districts having the highest death-rates, they will be found to be W.4, W.1, W.3, W.14, S.N.1, S.N.2, C.N.3, C.N.14, C.N.13; and as far as reference is made to these in the Ward Reports, it will be found that they have been reported on, as regards the above features, frequently adversely.

Although to the observant the correlation of the different classes of population with their environmental conditions is no less pronounced and no less real, than those more concrete conditions already discussed, yet such correlations do not lend themselves to precise interpretation in words.



**PART III.—FURTHER ANALYSES OF THE CORRELATION BETWEEN THE  
RATES OF DEATH FROM SPECIFIC CAUSES AND THE HOUSING  
AND SANITARY CONDITIONS.**

Although the primary purpose of this report has been completed by the establishment of the correlations stated in Table X.(d) and preceding tables, yet with the data before us we are persuaded to extend our analysis regarding the death-rates from Phthisis and other Respiratory Diseases, Zymotic Diseases and Infantile Mortality. Thus far our analysis has resulted in the establishment of an intimate relationship between certain Housing and Sanitary Conditions and high death-rates from All Causes. It has further indicated the general extent to which the death-rates from certain groups of diseases coincide with the death-rate from all causes; and consequently the extent to which these rates may be considered as sharing in the relationship between the Housing and Sanitary Conditions and the All Causes death-rate.

**Phthisis and other Respiratory Diseases.**

We have treated of these diseases as a combined rate. This has the advantage of minimising any discrepancy arising from the diagnosis of cause of death in respect of two groups of disease so closely associated and so frequently co-existent.

Further, by reference to Chart No. 2, it will be seen that in the eight years' statistics the two rates follow each other very closely; and the part played by each as a component of the combined rate is also evident. Also the significant fluctuations in the curve for Phthisis and those in the curve for Respiratory Diseases, with about two exceptions in the 72 districts, appear to occur simultaneously and the rates are remarkably proportionate to each other.

Such evidence not only suggests identical or simultaneous and co-operating causal influences, but justifies the consideration of the two rates together.

The significance and correlation of this combined rate, in relation to the All Causes rate, and consequently to the Housing and Sanitary Conditions, has already been shown to be so great when 27 comparable districts were considered, that, we are tempted to enquire how far, and with what qualification these conclusions may be applicable to the other districts and the whole Borough. It is then necessary to consider how far the districts previously chosen for comparison might be considered representative of all the districts in respect of the death-rate from these particular diseases. For the purpose of working out the correlations already established, we excluded 45 districts, in which there appear to have been appreciable increases or decreases of population, which would have tended to vitiate the statistics calculated on the last census population. But for our present purpose instead of considering the proportion of one rate in a district to the same rate in another district, it is possible to ascertain the relative proportion of the Phthisis and Respiratory rate for each sub-district, to the rate of deaths from All Causes taken as 100 (Table XI.); and thus to a certain extent eliminate the effects of variation in population on which rates are calculated. When this is accomplished, as in Table XI., the ratio of the combined rate from Phthisis and Respiratory Diseases to the All Causes rate in any one district remains constant, and consequently the ratio in any one district can be compared with the ratio in any other district. This method is probably more correct in its application in dealing with the comparison of rates of Phthisis and Respiratory Diseases than for any of the other diseases considered; and the comparisons arrived at by this method are probably as correct as if based on a true population basis. Because, in dealing with Zymotic death-rates, since the great majority who suffer from Zymotics are children at the early age periods of life, the age constitution



and consequently the number of susceptible persons are important factors. But as regards Phthisis and Respiratory Diseases in this Borough, if the numbers dying at the different age periods during the past eight years are set out in order, it is found that they are nearly uniformly distributed except at the early age periods; and even this exception may be modified to some extent when we keep in view that our population is probably diminishing relatively at the early age periods.

It may be allowable then to consider all the districts in the Borough for our present purpose in connection with Phthisis and Respiratory Diseases by comparing the ratio between the combined rate of deaths from these diseases and the rate of death from All Causes. Accordingly these ratios have been calculated and tabulated as follows:—

**Table XI.**

Shewing the Proportion of Total Deaths due to Phthisis and Respiratory Diseases in each sub-district of the Borough during 8 years, 1901-8.

| No. of Sub-districts                                                                    | Sub-district                                                    | Rate of Deaths from All Causes = 100 | Phthisis and Respiratory Diseases combined | Range    |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------|--------------------------------------------|----------|
| 6                                                                                       | 1 C.N.1 ... ..                                                  | 100                                  | 15                                         | 15 to 19 |
|                                                                                         | 1 S.N.5 ... ..                                                  | 100                                  | 16                                         |          |
|                                                                                         | 2 S.N.6 and S.N.7 ... ..                                        | 100                                  | 17                                         |          |
|                                                                                         | 2 S.F.4 and W.11 ... ..                                         | 100                                  | 19                                         |          |
| 45                                                                                      | 2 S.F.1 and W.18 ... ..                                         | 100                                  | 20                                         | 20 to 27 |
|                                                                                         | 5 C.N.7, 15, C.F.2, 3, 7 ... ..                                 | 100                                  | 21                                         |          |
|                                                                                         | 2 C.N.12 and C.F.4 ... ..                                       | 100                                  | 22                                         |          |
|                                                                                         | 3 C.N.14, S.N.8 and W.12 ... ..                                 | 100                                  | 23                                         |          |
|                                                                                         | 10 C.N.11, C.F.11, S.N.3, S.F.2, 3, W.2, 7, 13, 15, Wu.1 ... .. | 100                                  | 24                                         |          |
|                                                                                         | 10 C.N.2, 6, 10, 13, C.F.9, 12, 16, W.1, W.5, W.9 ... ..        | 100                                  | 25                                         |          |
|                                                                                         | 4 C.N.9, C.F.8, C.F.5, W.10 ... ..                              | 100                                  | 26                                         |          |
|                                                                                         | 9 C.F.1, 10, C.N.17, 4, W.17, S.N.1, 2, 4, 10 ... ..            | 100                                  | 27                                         |          |
|                                                                                         | 1 Wu.4 ... ..                                                   | 100                                  | 28                                         |          |
| 18                                                                                      | 4 C.F.6, 14, S.N.9, 11 ... ..                                   | 100                                  | 29                                         | 28 to 34 |
|                                                                                         | 3 W.4, 8, 14 ... ..                                             | 100                                  | 30                                         |          |
|                                                                                         | 4 C.N.8, W.16, Wu.2, 6 ... ..                                   | 100                                  | 31                                         |          |
|                                                                                         | 2 C.F.15, W.6 ... ..                                            | 100                                  | 32                                         |          |
|                                                                                         | 2 W.3, Wu.3 ... ..                                              | 100                                  | 33                                         |          |
|                                                                                         | 2 C.N.3, 16 ... ..                                              | 100                                  | 34                                         |          |
| 3                                                                                       | 2 C.N.5, Wu.5 ... ..                                            | 100                                  | 37                                         | 37 to 39 |
|                                                                                         | 1 B.1... ..                                                     | 100                                  | 39                                         |          |
| Average of 72 districts above... ..                                                     |                                                                 | 100                                  | 26                                         |          |
| Average of 27 districts previously termed "Comparable" and in heavy type above ... ..   |                                                                 | 100                                  | 25                                         |          |
| Average of 45 districts previously termed "Non-Comparable" and not in heavy type ... .. |                                                                 | 100                                  | 27                                         |          |

The table shows incidentally that of the total deaths those due to Phthisis and Respiratory Diseases range from 15 to 39 per cent. in the 72 districts; that, however, in 66 of the 72 districts they form over 20 per cent., and in 21 of the 72 districts they reach an average of about 30 per cent., while the average for all the districts is 26 per cent.



But the main object of the table is to indicate the position of the 27 "Comparable" districts. It will be seen that these districts (distinguished by heavy type) appear in all parts of the table whether the proportion figure is a high, low, or average one, that the average ratio in the case of the comparable districts is practically the same as that of the "Non-comparable" districts, and as that for the whole of the districts. There is now reasonable evidence that no undue proportion of districts with exceedingly high or exceedingly low rates of death from Phthisis and Respiratory Diseases has been included for purposes of comparison and for purposes of correlation; indeed the choice of districts in this respect is shown to have been a valuable one, and the 27 districts must be considered as highly representative of the total 72 contained in the Borough. Therefore, any conclusions arrived at in considering these groups of diseases and death-rates as they affect the 27 districts will apply with almost equal point and force to the whole of the Borough, and the comparisons and correlations already established will be rendered more valuable.

In view of these conclusions and as affecting their validity, it may be urged that there are other subsidiary or complimentary conditions than the Housing and Sanitary Conditions enumerated in Table X., and whose influences on the death-rates considered have not received adequate consideration, and consequently that our conclusions are founded on too narrow a basis.

Some such conditions not specially named in Table X. may be enumerated here as follows:

- (1)—"The personal equation," and the effects of employment and habits. But as already stated the true effect of these variations in the life and character of each individual as regards reaction to environmental conditions, cannot adequately be recorded by methods of statistics.
- (2)—Domestic overcrowding and consequent want of sufficient bedroom accommodation.
- (3)—Crowded areas.
- (4)—House dampness.
- (5)—Poverty.
- (6)—Damp climate and subsoil.
- (7)—Unhealthy occupation.

Of the above conditions Nos. 2, 3, 4, and 5, can be taken to be generally co-existent with some of the conditions in Table X., for example, "domestic overcrowding," as previously shown, is chiefly associated with two-roomed houses (considered in Table X.); crowded areas in the worst aspect (see Tracings from Ordnance Maps) cannot be separated from back-to-back houses (considered in Table X.); house dampness is included in and indeed forms one of the main features justifying the use of the term "Houses in poor condition" (considered in Table X.); and poverty to a large extent, though not wholly, connects itself with low rentals (considered in Table X.)

The conditions, Nos. 6 and 7, climate subsoil and occupation, may be taken as exercising nearly equal influence on all the 27 districts alike; whilst the remaining conditions dealing with the character of the population have already been taken into account under the heading—"The Correlation of Class of Population with Housing Conditions."

There is one other condition, however, which may seriously affect the rates of different districts, according to the presence or absence of Common Lodging-houses, and particular types of furnished rooms or rooms let in lodgings. It is well-known that the occupants of these houses are not usually resident for any length of time; that many of them are old and infirm, and amongst whom, through irregularities and privations, such diseases as Phthisis and Respiratory Diseases are very prevalent; and to many of whom the Common Lodging-house is the threshold of the Workhouse. Few deaths actually occur in the Lodging-house, as the sick and dying are removed as quickly as possible to the Workhouse, but the death will be allocated to the residence previous to admittance as ascertained from the patient himself, who may have been resident at the Lodging-house for perhaps two or three days only, and may even be a stranger in the town.

This possible influence cannot be ignored, and due care has been taken to ensure that the 27 districts selected for comparison contained no excessive proportion of such houses, but even in this respect, were equally representative of the whole Borough.



The effect of all known conditions or influences existing equally in both classes of district and all known disturbing factors, being removed or accounted for as far as possible, the remaining conditions or influences existing unequally must bear some relation to the unequal rates of death in the two classes of district. The inequality in the rates of death from Phthisis and Respiratory Diseases was given in connection with Table VIII., where it is seen that in the bad districts nearly twice as many persons in every 1,000 die from these diseases than in the good districts. The inequality in the percentage of conditions on the other hand, was given in Table IX., where it is seen how the bad housing conditions predominate in the "bad" districts as compared with the "good" districts. Thus was constituted the primary relation which was afterwards modified to the comparative value in Table X.(d). In that table the value of the relation between the Phthisis and Respiratory Diseases combined rate and the respective housing conditions, is shown to be very much greater than between any other rate and any other conditions for the 27 districts.

These districts have already been shown to be very representative of the whole Borough, and in these districts the number of deaths from Phthisis and Respiratory Diseases constitutes 26 per cent. of the total Borough death-rate. Consequently one cannot avoid the conclusion that there is in this Borough a very close association between the Housing and Sanitary Conditions and the excessive death-rate from these diseases; and further, that as the Housing Conditions and co-existent evils, and the excessive combined death-rate from Respiratory Diseases have been in the past approximately constant factors, and since it is this rate which compares unfavourably with England and Wales, it is reasonable to conclude that as improvement in housing and sanitation proceeds the excessive death-rates from these diseases in Rochdale will also proportionately diminish.

#### **Zymotic Death-rate. Percentages (of Total Deaths) which were of Persons under 1 year, and of Persons under 5 years.**

In Table X.(d) is shewn the association between poor Housing Conditions with their co-existent evils, and the above rates in the 27 comparable districts. But in considering these rates the lack of sufficiently reliable data as to age and sex constitution is most felt, as the real value of these rates for purposes of comparison is necessarily dependent on the proportion of persons living at certain age periods in each district throughout the 8 years covered by the statistics under discussion.

As such data will not be available until the next census figures are received, we will not attempt to carry this analysis further, but at the same time we have every reason to believe that in all probability the relative value of these rates as regards excesses in bad over good districts, shown in Table X.(d) is not very far wrong. For the same reason it is not our purpose to extend the comparison of the Comparable districts with those termed Non-comparable, nor to attempt to establish how far the Comparable districts are representative of the Borough, as was done in respect of Phthisis and other Respiratory Diseases.

For the present we point out that the next most significant death-rate after Phthisis and Respiratory Diseases is the rate of deaths from Zymotic Diseases; and that the relation between the excess of deaths from Zymotic Diseases and the various environmental conditions considered is probably little less pronounced than was found to exist in respect of Respiratory Diseases. But with regard to deaths under 1 year and under 5 years, the relation is not high and varies very little from that found to exist in respect of the rate of Infantile Mortality, which will be discussed at a later stage.

#### **Birth-rate.**

Some important features are presented by the relative birth-rates in the "good" and "bad" districts, and though the relative value of the excess in the "bad" districts is shown in Table X.(d) to be small, as compared with the death-rates; since there is an excess of births on the average, in the "bad" districts over the "good" districts, it serves as an indication of the class of the population reproducing themselves in greatest numbers; and although there is at present considerable discussion by the different schools of Hygienists, Philanthropists and Eugenists



regarding the probable and ultimate effect on the English race of the increasing number of survivals of the relatively unfit, still this interesting study does not come within the scope of this Report. Still no truth is more evident than that the correlation of the birth-rate and Housing Conditions is a very close one; and, with the additional factors of destitution and indifferent habits, we have a trio of factors which deserves serious consideration, for, if left entirely uncontrolled, they must ultimately play a not unimportant part in moulding the destinies of the English race.

### Infant Mortality per 1,000 Births.

It is now interesting to observe, that whereas the value of the correlation between Phthisis and other Respiratory Diseases and Housing Conditions was shown to be very high (Table X.(d)); on the other hand the value of correlation between Infant Mortality and similar conditions, as shown in the same table, is relatively low. This is an important and striking feature which invites further analysis; and the extension of the comparison of the 27 Comparable districts in so far as this is admissible, with the whole Borough. This presents no difficulty, as the Infant Mortality figure represents a true rate, irrespective of population, age or sex; and is calculated on the actual number of registered births, and not on the population basis.

Thus, by arranging the mortality figure for the various districts in small ranges of 10, it can be shown how the Infant Mortality varies in each district; and further, by distinguishing the districts already used for comparison, the extent to which they represent the other districts can be seen as follows in Table XII., and also the extent to which they vary from the Borough average.

**Table XII.**

VARIATION OF AVERAGE INFANT MORTALITY FIGURE IN ALL SUB-DISTRICTS, DISTINGUISHING THOSE PREVIOUSLY USED FOR COMPARISON.

| Average Infant Mortality per 1,000 Births, 1905-1908 | SUB-DISTRICTS.                                                                                                                                      |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | Districts previously termed "Comparable" are varied as follows:—<br>"Good" Districts, heavy type, as <b>S.N.3</b><br>"Bad" Districts as <b>W.10</b> |
| 50-60                                                | <b>S.N.3, C.N.12</b>                                                                                                                                |
| 61-70                                                | C.F.11, W.17                                                                                                                                        |
| 71-80                                                | S.F.1, S.F.4, S.N.11, Wu.4                                                                                                                          |
| 81-90                                                | C.F.4                                                                                                                                               |
| 91-100                                               | S.N.5, C.F.6, <b>W.10, W.12</b> , B.1                                                                                                               |
| 101-110                                              | C.N.4, C.F.3, Wu.3                                                                                                                                  |
| 111-120                                              | C.F.8, C.N.11, C.F.1, C.F.2, <b>C.N.7</b> , S.N.10, W.16                                                                                            |
| 121-130                                              | <b>C.N.2</b> , C.N.9, <b>C.N.10, S.N.8</b> , S.F.2, W.8                                                                                             |
| 131-140                                              | <b>W.3</b> , W.18, C.F.5, C.F.7, C.F.16, C.N.8, S.F.3, Wu.1, Wu.2                                                                                   |
| 140                                                  | BOROUGH AVERAGE, 1905-1908.                                                                                                                         |
| 141-150                                              | C.F.10, <b>C.N.13, C.N.6</b>                                                                                                                        |
| 151-160                                              | <b>W.4, C.N.1</b> , C.N.15, C.N.16, C.F.9, S.N.4                                                                                                    |
| 161-170                                              | C.F.15, <b>W.2, W.11, W.15</b>                                                                                                                      |
| 171-180                                              | <b>C.N.5</b> , C.F.12, <b>W.9, W.14</b>                                                                                                             |
| 181-190                                              | <b>C.N.14</b> , S.N.6, S.N.9, W.5, <b>W.13</b>                                                                                                      |
| 191-200                                              | <b>C.N.3, W.7</b>                                                                                                                                   |
| 201-210                                              | C.F.14, C.N.17                                                                                                                                      |
| 211-220                                              | <b>S.N.7</b> , W.6                                                                                                                                  |
| 221-230                                              | ... ..                                                                                                                                              |
| 231-240                                              | <b>S.N.2</b>                                                                                                                                        |
| 241-250                                              | ... ..                                                                                                                                              |
| 251-260                                              | <b>S.N.1</b>                                                                                                                                        |
| 261-270                                              | ... ..                                                                                                                                              |
| 271-280                                              | ... ..                                                                                                                                              |
| 281-290                                              | ... ..                                                                                                                                              |
| 291-300                                              | ... ..                                                                                                                                              |
| 301-310                                              | ... ..                                                                                                                                              |
| 311-320                                              | <b>W.1</b>                                                                                                                                          |



The districts previously compared are again shown to be highly representative of all the districts; and although the average Infant Mortality in the "bad" districts was found to be in excess of the "good" districts to the extent of about 50 per 1,000, yet when the districts are taken separately, it is found on referring to Table XII., that—

In only 7 of the 16 "bad" districts is the rate above the average; and

In only 6 of the 11 "good" districts is the rate below the average.

In other words the value of the rate in Table VIII.(a) is next but one to the lowest, while the correlation in Table X(a) is absolutely the lowest. These facts suggest strong variations, and the truth is that the rate ranges:—

In the "bad" districts from 100 to 316 per 1,000 births; and in the "good" districts from 56 to 220 per 1,000 births; and, that there are 8 of the 11 "good" districts where the rate is higher than the lowest of the "bad" districts.

Again it is thus seen as also from Table X.(d), that in spite of differences in housing and allied conditions, there is not that pronounced excess of infant deaths in the "bad" districts over the "good" districts which one would expect; and that the Infant Mortality rate evidently does not follow in the same ratio as the other rates already considered. As this result is both striking and interesting it is well to prosecute our enquiry and endeavour to find some further confirmation; and at the same time endeavour to locate the influences or conditions which are more closely associated with deaths of infants than the housing and allied conditions.

These combined results are interesting, and clearly show that excess in the rate of Infantile Mortality cannot be entirely accounted for in terms of Housing Conditions, and that there must be other influences or conditions equally, if not more, inimical to child life. It is then incumbent to pursue this enquiry further, and endeavour to discover a closer causal relationship, than is presented in the correlation of Infant Mortality with Housing Conditions.

For this purpose we have now available a good deal of material and statistical evidence, which has been compiled from an exhaustive record of enquiries and information collected by the Lady Health Visitors during 1909, and during the current year; although at the same time we recognise that this evidence would have been more valuable if it had been available for a number of years. We will then utilise the statistical evidence of 1909, and make such analysis and deductions as may be considered reasonable.

During this year there were 2,066 births and 210 deaths of children under 1 year of age; and the following table represents the Infant Mortality of 1909, in relation to type of house:—

**Table XIII.**

| INFANT MORTALITY, 1909, IN RELATION TO TYPE OF HOUSE. |               |                            |                                           |
|-------------------------------------------------------|---------------|----------------------------|-------------------------------------------|
|                                                       | No. of Births | No. of Deaths under 1 year | Rate of Infant Mortality per 1,000 births |
| In Through Houses ... ..                              | 1,330         | 120                        | 90                                        |
| In Back-to-back, etc., Houses ...                     | 706           | 79                         | 112                                       |
| Not Classified ... ..                                 | 30            | 11                         | ...                                       |
| ALL CLASSES ... ..                                    | 2,066         | 210                        | 102                                       |

The excess of infant deaths in back-to-back houses over those in Through houses is 22 per 1,000, or 2.2 per cent., of births; and over the average for both classes it is 10 per 1,000, or 1 per cent.



The following table shows the mortality in each class of house according to size :—

**Table XIII. (a).**

| INFANT MORTALITY, 1909, IN RELATION TO SIZE OF HOUSE. |               |                            |                                           |
|-------------------------------------------------------|---------------|----------------------------|-------------------------------------------|
|                                                       | No. of Births | No. of Deaths under 1 year | Rate of Infant Mortality per 1,000 births |
| 1 and 2 Rooms ... ..                                  | 450           | 49                         | 109                                       |
| 3 Rooms ... ..                                        | 354           | 35                         | 99                                        |
| 4 „ ... ..                                            | 906           | 97                         | 107                                       |
| 5 „ ... ..                                            | 199           | 15                         | 75                                        |
| 6 „ and over ... ..                                   | 157           | 14                         | 89                                        |
| ALL CLASSES ... ..                                    | 2,066         | 210                        | 102                                       |

The highest rate occurs in one, two, three and four-roomed houses, and the lowest in five-roomed houses ; the excess being 34 per 1,000, or 3·4 per cent. of births. The differences between the rates in two, three, four and six-roomed houses is not great. But, although from the figures of one year there does not appear to be any marked correlation between Infant Mortality and Size of House, the period is too short from which to draw any definite conclusion, and more especially in dealing, as we are here, with small numbers.

**Table XIII. (b).**

| INFANT MORTALITY, 1909, IN RELATION TO MEANS OF FAMILY. |               |                            |                                           |
|---------------------------------------------------------|---------------|----------------------------|-------------------------------------------|
| Means of Family                                         | No. of Births | No. of Deaths under 1 year | Rate of Infant Mortality per 1,000 births |
| Poor ... ..                                             | 1,544         | 146                        | 95                                        |
| Fair ... ..                                             | 444           | 48                         | 108                                       |
| Good ... ..                                             | 68            | 5                          | 86                                        |
| Not Classified ... ..                                   | 20            | 11                         | ...                                       |
| ALL CLASSES ... ..                                      | 2,066         | 210                        | 102                                       |

The mortality is seen to be highest in families in fair circumstances and lowest in the case of families in good circumstances, the excess being 22 per 1,000, or 2·2 per cent. of births. The position of the " Poor " class should be noted. Here the rate only exceeds that of the " Good " by 9 per 1,000, or 0·9 per cent. of births. The highest number of births is among the " Poor " class, being three-fourths of the total births. The terms Good, Fair, and Poor, used in the above table correspond generally with the classification used in Table XXII. of Section I., under the headings Class II., Class III., and Class IV. respectively.

Table XIII. (c).

| INFANT MORTALITY, 1909, IN RELATION TO CROWDING (DOMESTIC). |               |                            |                                           |
|-------------------------------------------------------------|---------------|----------------------------|-------------------------------------------|
| Average No. of Persons per room                             | No. of Births | No. of Deaths under 1 year | Rate of Infant Mortality per 1,000 births |
| 3 persons and over ... (a) ...                              | 95            | 18                         | 189                                       |
| Over 2 and under 3 persons (b) ...                          | 122           | 22                         | 180                                       |
| 2 persons and under ...                                     | 1,849         | 170                        | 92                                        |
| ALL CLASSES ...                                             | 2,066         | 210                        | 102                                       |

When (a) and (b) are combined, they constitute "overcrowding" on the standard of the Registrar-General, and the greatest excess is seen to be 97 per 1,000, or 9·7 per cent. of births in the overcrowded houses, over non-overcrowded houses.

Table XIII. (d).

| INFANT MORTALITY, 1909, IN RELATION TO FEEDING. |               |                            |                                           |
|-------------------------------------------------|---------------|----------------------------|-------------------------------------------|
| Infants fed from                                | No. of Births | No. of Deaths under 1 year | Rate of Infant Mortality per 1,000 births |
| Breast ...                                      | 1,052         | 31                         | 29                                        |
| Bottle and Partly Bottle ...                    | 954           | 119                        | 125                                       |
| No food taken before death ...                  | 60            | 60                         | ...                                       |
| ALL CLASSES ...                                 | 2,066         | 210                        | 102                                       |

The excess of deaths in the case of bottle-fed children is 96 per 1,000, or 9·6 per cent. of births.

The various excesses in each case can be seen from the following tabulation :—

Table XIV.

| EXCESSES OF RATE OF INFANT MORTALITY.                         |                           |     |              |
|---------------------------------------------------------------|---------------------------|-----|--------------|
| 1.—In Back-to-back Houses over Through Houses ...             | ...                       | ... | 22 per 1,000 |
| 2.—In Two-roomed houses over Five-roomed houses ...           | ...                       | ... | 34 "         |
| "       "       "       Three       "       "       "       " | ...                       | ... | 10 "         |
| "       "       "       Four       "       "       "       "  | ...                       | ... | 2 "          |
| "       "       "       Six       "       "       "       "   | ...                       | ... | 20 "         |
| 3.—In Families of Fair means over Families of Good means ...  | ...                       | ... | 22 "         |
| "       "       "       "       Poor       "       "       "  | ...                       | ... | 13 "         |
| "       "       "       "       Good       "       "       "  | ...                       | ... | 9 "          |
| 4.—Overcrowded Houses (a) 3 persons and over ...              | } over Non-crowded Houses | ... | 97 "         |
| (b) over 2 and under 3 persons ...                            |                           | ... | 88 "         |
| 5.—In Bottle-fed infants over breast-fed infants ...          | ...                       | ... | 96 "         |



It is now seen that by far the most significant excesses of the Infant Mortality rate for 1909 occur in respect of feeding and overcrowding, and the least significant in respect of type and size of house, and the circumstances of the families. To a great extent these facts confirm our previous analysis, made as a result of the consideration of 8 years vital statistics in connection with housing and sanitary conditions, and they further serve to demonstrate that the conditions most closely associated with Infantile Mortality are : (a) bottle feeding ; and (b) domestic overcrowding.

The last condition, overcrowding, only affects a certain section of the population ; while, as regards bottle feeding, its effects are more general in its distribution in good and bad districts and among all classes of population.

But, while the above analysis brings out more prominently the importance of bottle feeding and domestic overcrowding than the housing conditions, in determining the infantile death-rate, one must keep in view the following considerations. First, that bad housing conditions by increasing the risk of food-contamination to which a bottle-fed child is liable, do thereby diminish its prospect of life ; and secondly, that bad housing conditions are undoubtedly intimately and subtly interwoven with those ante-natal influences, which, operating on the maternal health may, either on the one hand in some degree predetermine the chances of life of the child before it is born ; or, on the other hand such influences prolonged in time may tend to render the mother constitutionally unfit for the greater physiological strain of motherhood and breast feeding. Such factors, although none the less real, are difficult to express by methods of statistics and more readily find expression in gradual race deterioration, when any such race gradually fails to maintain and develop its own best and dominant qualities and in increasing numbers.

## **SECTION IV.**

### **PART I.—SOME GENERAL CONCLUSIONS.**

From a Report of this magnitude which deals with such a variety of subjects and in such detail, the thoughtful and reflective reader cannot fail but to receive many strong impressions ; which, although they may not readily lend themselves to summary treatment, are nevertheless real and of no less practical importance. On the other hand there are many more direct conclusions which may be derived from a study of this Report, and which appear applicable with approximately equal truth to many other manufacturing towns in Lancashire and Yorkshire, as well as to Rochdale, and without so much evidence as has been brought to bear in this Report ; but which we venture to think will be considered all the more valuable and reliable, when supported by such evidence, and because of the reasoning attitude which we have endeavoured to maintain throughout.

Referring now briefly to Sections I. and II. :—The subject matter in these sections has been treated first, in a descriptive and then in summary manner, and on calm reflection over the general conditions and conclusions there presented, it will be admitted, that the Housing Conditions in this Borough, and as affecting a large section of the population is a matter of supreme importance, both with regard to public health administration and as profoundly affecting the health and vital statistics of this community. In many of the wards and their sub-districts, the Housing Conditions described, and which here includes the whole environmental conditions of the home, are incompatible with the standard of sanitary housing, which we should recognise as necessary for the maintenance of the general public health and well-being of the people.

But, on the one hand, we readily acknowledge, that, since the present is the child of the past, many of the defects in our present Housing conditions are undoubtedly a heritage of the past, and due to the omission of the exercise of pre-science in town planning ; for in a sense towns grow, and are not built in a day.

But in this respect it is a notorious and almost inconceivable fact, that in England, Municipal Authorities are not entirely the masters of their own destiny as regards the control of the course of Town development in their own respective areas. Their powers in this respect are totally insufficient ; and consequently, having regard to more recent years it is extremely regrettable that in reflecting over many areas of buildings in this Borough, it has evidently been possible to build houses on a given area, in such number and manner, as to seriously interfere with the construction of streets in any systematic order, and of suitable dimensions. Consequently with no proper orientation and disposition of the houses, the provision of ventilation and the admission of sunlight, with sanitary and other conveniences appear to have been the mere accident of circumstances ; while, in many cases, one cannot avoid the impression that the building regulations of this Borough may not be adequate ; or may not be sufficiently respected or adhered to.

But the day has now come, when surely no one in England and far less in Rochdale, who seriously contemplates the unity and integrity of the English Home in moulding and determining the health and character and future destiny of the English race, would for a moment desire that unhealthy housing and environmental conditions should be longer perpetuated. For, with the increasing urbanisation of the people and so much indoor employment in large towns, the healthy housing of the people becomes a question of increasing importance and responsibility to public health authorities.



That this is fully recognised and contemplated by this Authority finds eminent proof and justification in this enquiry and report ; and in the development of remedial measures, which is the natural corollary, the results cannot be otherwise than of the greatest benefit to this community.

Turning to Section III., we will only recapitulate a few of the features, on which evidence has been given.

(1)—That the average of the total death-rate for Rochdale during the period under review (1901-1909), although as expected, considerably higher than the total death-rate for England and Wales, just as it has been in preceding decennia so far as our statistics are available, yet it is also considerably higher than the corresponding rates for the 76 Great Towns ; while, when compared with similar manufacturing towns the difference in corresponding rates is small and inappreciable.

(2)—That in so far as the total death-rate in Rochdale is in excess of England and Wales and some of the Great Towns, this excess appears to be in Rochdale as in many other manufacturing towns largely due to the excessive death-rate from Phthisis and other Respiratory Diseases.

(3)—That there appears to be a close correlation between the excessive number of deaths from Phthisis and other Respiratory Diseases, with certain types of housing conditions and co-existent evils, which have been described and located in many of the wards and sub-districts of this Borough.

(4)—That, since the birth-rate is highest in the most insanitary districts, while the infant mortality rate does not greatly differ in the two classes of districts—good and bad ; the actual number of survivals is therefore greater in the bad districts ; yet at the same time it is in such bad districts, where there is the greatest numerical waste of life both infant and adult.

(5)—That in so far as bad housing with its co-existent unfavourable environmental conditions can be held responsible, or in any way influencing this waste of life, and especially infant life ; it must be considered a wanton and inexcusable waste of life ; which is not only preventible, but ought to be prevented in so far as it is within the power of Municipal Authorities to exercise more direct and effective control over all housing conditions, which are fundamental ; for without such control no real sanitary reform can ever be accomplished, which has for its aim the raising of the standard of the health and happiness and general well-being of the people.

For comparison with the above conclusions see Appendix A.

## PART II.—HOUSING AND TOWN PLANNING.

In looking back on the history of this movement, it is an interesting reflection that while John Ruskin stood out pre-eminently among the writers and sociologists of the nineteenth century, as the greatest advocate for improvement in urban amenities and in everything that tends to make the city beautiful ; now in the Twentieth century the national conscience is awakening and beginning to realise the truth of the ideals and teaching of Ruskin, who always taught that art was not a thing to be taken in specific doses at specified times, but that we should cultivate it everywhere and so find it everywhere in our environment. Further, it is somewhat significant of the present, even as he considered in his day, that failure in the attainment of such ideals has been chiefly due to a confusion of understanding as to what should be done and how to do it ; and, even at this stage, although there has been great progress of thought, it cannot yet be said, that we have entirely emerged from the stage of confusion and passed into the clear understanding of what should be done and how to do it. The sequence of events during the past few years, however, has undoubtedly dispelled much of this confusion and facilitated a clearer understanding ; and to this end no factors have contributed more than the deeper and more comprehensive study of health problems and their correlation with environment ; also



the holding of national and international congresses, and the coming and passing of the Housing and Town Planning Bill. This Bill, the present president of the Local Government Board has dignified his term of office by adding to the Statute Book. In his recent presidential address at the opening of the September Town Planning Conference in London, the author of the Bill has described in terse, crisp and succinct terms the ideal of the Bill, or "what should be done": namely, "to secure comfort and health in the home, dignity in the streets, space in the roads, less smoke and noise, and freedom from all those other nuisances which are found in the town without a plan, where the rulers are without ideas and the citizens without outlook and imagination." But at the same time there are many favourable critics who are not sure, that this new Act in its present form makes it quite clear as regards administrative procedure by Municipal Authorities, how the ideal of the Bill is to be attained.

It was originally within our purpose in this Report to prepare a summary of the provisions, methods of procedure and probable effects of the operation of this Bill. Also to give some account of the extent, and methods of Housing Reform, which is being carried on in many parts of England, and to include a resumé of some of the more interesting æsthetic, architectural and economical features adopted in the building of suitable sanitary houses for working-class people, with at the same time a short review of the Garden City movement. But in consideration of the space already occupied by this Report, and in consideration of the dissension of opinion as regards the utility and methods of procedure under this Act in its present form; and the impracticability of adequately discussing this subject and the now voluminous Town Planning literature in small compass, we have reluctantly resolved to depart from our original purpose.

Still in concluding this report one cannot but advert, however, briefly to this Bill. That the Act, if judiciously and zealously administered, may become a great and useful measure, which sounds the lowest depths and aims at laying the foundation of a fundamental public health reform, no one, I venture to think, will deny, who has seriously contemplated the town of to-day, which has grown without a plan. At the same time a short experience of the working of the Act has already clearly indicated, that to remove certain defects and to facilitate and expedite procedure, it may require to be, and should be, greatly amended.

Still the wonder is that such a measure should have been so long delayed, which is briefly an attempt at the embodiment of organised common sense as applied to the Housing of the people and the development of any town; and for the lack of which many communities in England to-day are suffering in their amenities, and general health, while providing large sums of money for the removal of housing conditions which should never have existed.

The explanation is probably two-fold. It is doubtful, if in this country, we appreciate in the same degree as some of our continental neighbours the virtue and economic value of that thorough organisation, which means greater efficiency at proportionately less cost. Consequently, as regards Town planning, it is open to grave doubt, if we have always entertained a sufficient broad and prospective outlook so as to recognise, that cities are neither built in a day, nor can, as experience shows, be readily re-made on demand, but that in a sense they grow; and just in proportion as they have grown in the past without the directing and controlling organisation of a Town plan, so in proportion are their chief defects to-day.

Further, in reviewing the history of the domestic legislation of this Country, I venture to think that, irrespective of parties, the British Government has too frequently failed to give due consideration to that most elemental principle of wise Government—that the wealth and prosperity of a nation is only limited by the quality and numbers of its race.

Consequently both parties of the State have more or less failed to recognise and develop a strong progressive and effective Home Policy, which concerns itself with questions of Housing and other environmental conditions which seriously affect the character and well-being of the people. Such a policy, although not so specious and bizarre in appearance and effect as questions of foreign policy and the manoeuvres of party politics, yet no less has its own renown and reward and lies at the very foundation and stability of this Empire, which, since won by the prowess and character of its race, is most likely to be held by the maintenance of the best traditions of that character; and consequently there can be no more valuable national asset than the health



and character of the people. Further, not infrequently have useful measures of home policy been smashed on the anvil of party politics or too readily included in the "slaughter of the innocents," and that to-day we have the Town Planning Act, is, I venture to think, not so much due to either party of the State as to the Man and Author, who piloted the Bill through the shoals and shallows of adverse Parliamentary procedure.

This failure, however, has not been due to the lack of legislative measures, which from time to time have been added to the Statute Book, some of which are enumerated in the preface. But it is evident from the after history of these measures that they were neither sufficiently purposive nor practical; and consequently, in their adoption or application by the Authorities concerned, they have been found so frequently clothed in ambiguity, or so fettered by legal conundrums and departmental inertia, as to nullify or at least militate against their effective administration. As a concrete example one might cite the various legislative measures and the Regulations founded thereon, which have for their purpose the control of milk supplies; and at the same time pause to consider what is the general position to-day as regards the attainment of a reasonably pure and wholesome milk supply.

Hence it is refreshing to find the Housing and Town Planning Bill, in spite of its apparent defects, so completely differentiated from many of its predecessors, inasmuch as it is evident to all concerned that the Bill is intended to be put in operation, and further, that it has within itself the elements which will ensure its own progress.

Whatever good results may accrue in time from this Bill, the stimulus that it will give to the science and art of house-building is already evident; and it is very gratifying to be able to report, that, already in this Borough a scheme for the building of suitable dwellings for Artisans in one small area has been adopted, and the erection of houses in operation, while another much larger Town Planning Scheme, which includes the erection of about 400 houses, is under contemplation; and it is to be hoped that, when finished, these schemes will exhibit some of the best principles and ideals of providing suitable sanitary houses for people of moderate means.

But undoubtedly the most pressing architectural problem of the hour is the designing of new types of small sanitary houses or systems of housing on any principle, which will be suitable for the requirements and means of many of the poorer classes, while at the same time consistent and in harmony with the greater town plan in all its requirements of symmetry, correlation, sanitation and with some observance of the æsthetic. This problem I do not believe for one moment is beyond the wit of our Architects and Engineers to solve. For, if only some of the inventive ingenuity applied in the architecture of fighting and flying machines were spent in the architecture of houses, the results would be most interesting and of limitless possibilities.

In carrying out schemes of Housing and Town planning under this Act, however much the Act may ultimately be extended and amended, it is evident that the greater success must follow in proportion as any such schemes are sufficiently comprehensive and thoroughly organised. This in truth may be said to be axiomatic of all municipal constructive or administrative schemes; and hence the tendency for smaller Corporations is to combine, and for larger Corporations to extend their boundaries in view of obtaining unity of purpose, economy and efficiency of administration. Likewise in pursuance of this same policy the Corporation of this Borough may have at an early date to consider the advisability of extending its boundaries. For it is the experience of other manufacturing towns, as well as our own, that Town development advances in the direction from which the prevailing wind travels; and accordingly as is already evident, the development of greater Rochdale will be westward towards the Norden district.

On a broad survey from some vantage ground, this Borough presents many topographical and architectural features, which lend themselves to greater artistic development; and such as would provide an excellent study for an Architect or Engineer who possesses ideas and imagination. There is the central Town Hall, a fine gothic building with its open surrounding squares and from which radiate the chief streets and tramway lines. This central area extends to a radius of about quarter of a mile from the Town Hall, and is the chief business centre. Then surrounding this central area is a middle zone, which extends on an average from half to



three-quarters of a mile from the Town Hall centre, and is the chief residential area. Surrounding the middle zone is an outer zone in which is situated most of the Castleton area and many of the more detached and suburban residential portions of the Borough, and which contains many unbuilt areas, which lend themselves to Town planning.

If then the ideal of Town planning is to obtain in this Borough I venture to think it will be best secured by extending the boundaries, surveying the land, and adopting sufficiently comprehensive and well-organised measures, which will not only conserve the most suitable and especially the western grassy slopes as building and residential areas for greater Rochdale; but also ensure some systematic disposition and æsthetic co-ordination in the laying out of Parks, Gardens and open spaces with the new streets, which again should be so pre-determined as to direct the proper orientation of every house, and thereby preserve for every house the natural advantage of free ventilation and the free admission of sunlight. It is only by such comprehensive and organised schemes where every part is in its proper place and co-ordinated with the whole, that we can ever hope to attain unity of purpose and economy in house building; and at the same time secure that every house, however humble, shall be a sanitary house. For, although every house must be built by someone, yet in every well-ordered community the ultimate responsibility for every house should, and must rest, with the Authority in whose sanitary area it exists.

Thus, while securing sanitary housing and wholesome environmental conditions, Sanitary Authorities will have greater reason in bringing into operation the provisions of the law to compel those, for whom suggestion and persuasion is of no avail, to recognise that as regards their persons, homes, and children, they have certain duties and responsibilities, which, as self-respecting citizens they must honour and respect.



## **APPENDIX A.**

### **Extract from Report on Back-to-Back Houses, by Dr. L. W. Darra Mair.**

In view of the subject-matter treated and the conclusions arrived at in this Report, it may be of some comparative interest to consider the conclusions arrived at, in a Report on Relative Mortality in Through and Back-to-Back Houses in certain Towns in the West Riding of Yorkshire, by Dr. L. W. Darra Mair, Local Government Board Inspector, whose method of working has been already adverted to in Section III, Part I.

The chief points of his conclusions are as follows :—

1.—The comparison which has been made between through houses and back-to-back houses has been carried out so as to bring under review good types only of back-to-back houses, situated in healthy areas.

2.—The through houses and back-to-back thus compared were situated in 13 industrial towns in the West Riding of Yorkshire.

3.—Every care was taken to select strictly comparable through and back-to-back houses, occupied by the same class of people, with similar occupations and wages. Nevertheless, the rent of the through houses was, on the average, appreciably higher than that of the back-to-back houses—the average rent of the former being 5/6, and of the latter 4/6 per week.

4.—The vital statistics which have been obtained regarding these areas, cover a period of 10 years (1898-1907) ; and, on the basis of a special detailed census of each area, corrections have been made, throughout, for differences in the age and sex constitutions of the populations concerned.

5.—The corrected average annual death-rate from All Causes was greater in the back-to-back houses than in the through houses, to the extent of 15 per cent.

6.—The excess of mortality in back-to-back houses built in continuous rows was greater still, amounting on the average to a little more than 20 per cent.

7.—The corrected average annual death-rates from All Causes in through houses and in back-to-back houses possessed of means of side ventilation (blocks of four), were about equal.

8.—The outstanding causes of death which produced the excess of mortality in back-to-back houses were

(a) Pneumonia, Bronchitis and other Pulmonary Diseases (exclusive of Phthisis),  
and

(b) Diseases of defective development and of malnutrition in young children.

The corrected excess of mortality for each of these two groups of diseases, in back-to-back houses, approached 40 per cent.

9.—There was also some excess of mortality (10 per cent.) in back-to-back houses from infectious diseases, and a small excess (5 per cent.) from Diarrhea.

10.—Mortality from Phthisis showed an excess, amounting to 12 per cent., in back-to-back houses built in rows, but not in back-to-back houses built so as to admit of side ventilation (blocks of four).

11.—Although the average rate of mortality from All Causes was about the same in through houses and in back-to-back houses built in blocks of four, there was a large excess of mortality in the latter from Pulmonary Diseases (exclusive of Phthisis), as was the case in back-to-back houses in rows, and also a large excess of mortality from the diseases (except Premature Birth) of defective development and malnutrition in children.

12.—Approximately, the ages at which the excess of mortality in back-to-back houses occurred were the early ages of life from infancy up to 15 years, and the late ages of life from 65 years and upwards. At both of these periods of life, the predominating cause of the excess was mortality from Pulmonary Diseases, and at the early ages, as well, from diseases of defective development and malnutrition.

13.—At the age periods intervening between these two extremes, the relative excess of mortality in back-to-back houses was comparatively small.

On the whole, therefore, it is reasonable to infer from the data given in this report that, even in good types of back-to-back houses situated in healthy areas, the mortality from All Causes is higher by 15 to 20 per cent. than in comparable through houses ; but that this excess is not evident in back-to-back houses built with means of side ventilation.

Furthermore, it may likewise be inferred that the chief sufferers from residence in back-to-back houses are infants, young children, and old persons, in consequence, principally, of the greatly increased liability of both young and old to death from Pulmonary diseases (other than Phthisis), and, of the young, to death from diseases resulting from defective development and malnutrition.



1871. The first of these was the  
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1872. The second of these was the  
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1873. The third of these was the  
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1874. The fourth of these was the  
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1875. The fifth of these was the  
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1876. The sixth of these was the  
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1877. The seventh of these was the  
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1878. The eighth of these was the  
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1879. The ninth of these was the  
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... ..  
... ..

1880. The tenth of these was the  
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... ..  
... ..

1881. The eleventh of these was the  
... ..  
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... ..  
... ..

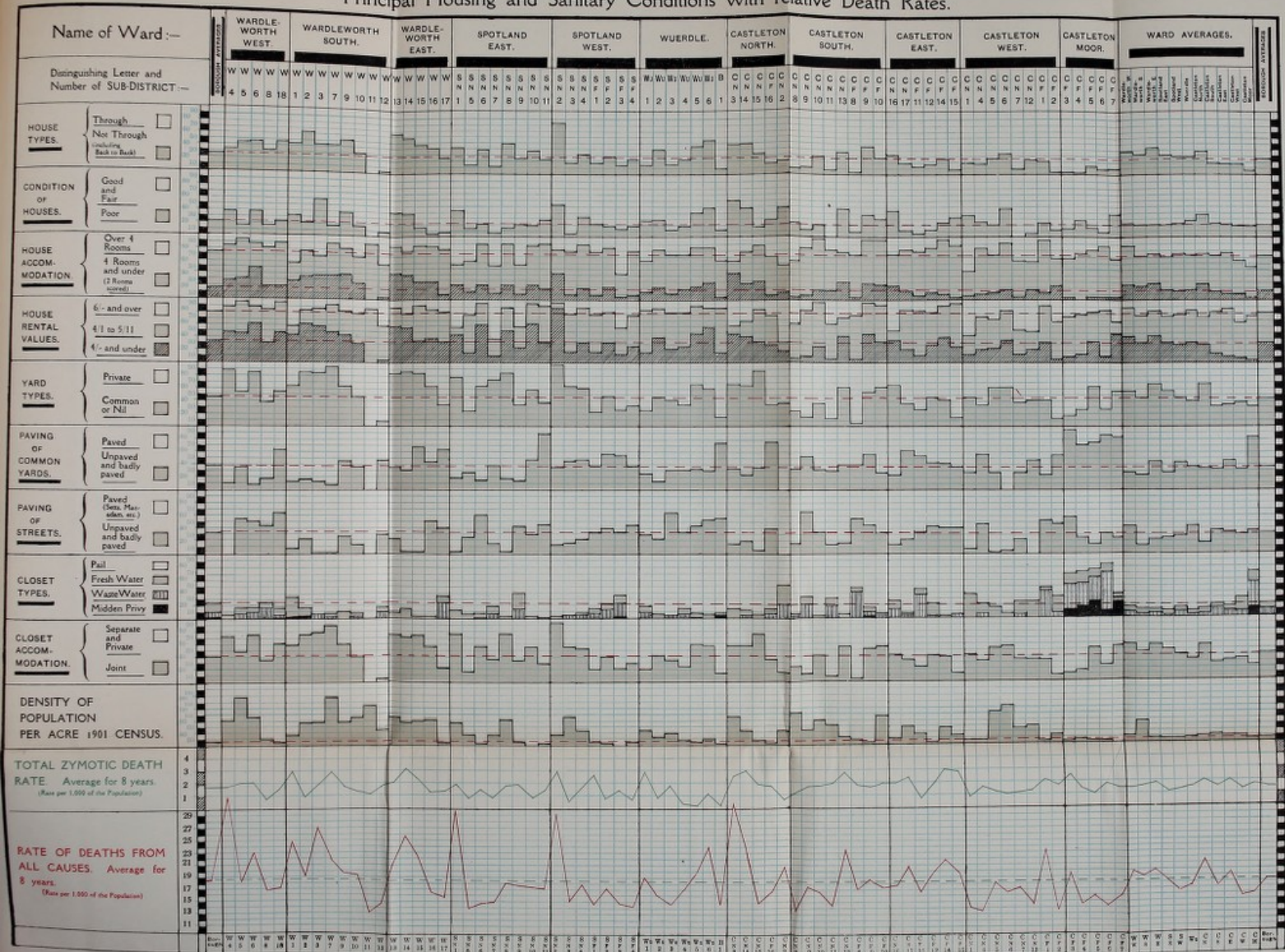
1882. The twelfth of these was the  
... ..  
... ..  
... ..  
... ..

1. Occupation of Dwellings. 2. Overcrowding. 3. Relation between Phthisis and :-  
(a) Overcrowding. (b) 2 Roomed Dwellings.





## Principal Housing and Sanitary Conditions with relative Death Rates.



## Boundaries of Census Sub-Districts, 1901.

|                          |                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CASTLETON<br>WEST WARD.  | C.F. 1. Manchester-road, Sudden Brook, River Roach, and line drawn from Eversleigh House, Manchester-road, to Remrod Wood.                                                   |
|                          | C.F. 2. L. & Y. Railway, Sudden Brook, Manchester-road, and a line drawn from Danster House, Manchester-road, to Clifton Terrace.                                            |
| CASTLETON<br>MOOR WARD.  | C.F. 3. Sudden Brook, L. & Y. Railway, Footpath from Royle Barn to Farewell Inn, along Partington-street, by footpath to Hey's Farm, Borough boundary line, and River Roach. |
|                          | C.F. 4. Borough boundary line, Liverpool branch of L. & Y. Railway to Blurgits Bridge, Partington-street and Grove-street.                                                   |
| CASTLETON<br>SOUTH WARD. | C.F. 5. Manchester-road, Borough boundary line, and L. & Y. Railway.                                                                                                         |
|                          | C.F. 6. Castleton Moor Ward boundary line, Manchester-road, L. & Y. Railway, Dean Brook, and Trows Brook.                                                                    |
| CASTLETON<br>EAST WARD.  | C.F. 7. Trows Brook, Dean Brook, Borough boundary line, and Manchester-road.                                                                                                 |
|                          | C.F. 8. Old circular Borough boundary line, Oldham-road, Rochdale Canal, and L. & Y. Railway.                                                                                |
| CASTLETON<br>NORTH WARD. | C.F. 9. Rochdale Canal, Well-1 <sup>st</sup> -lane, Platting-lane, Oldham-road, and Castleton Moor Ward boundary line.                                                       |
|                          | C.F. 10. Rochdale Canal, Oldham-road, Balderstone Vicarage Grounds, and Platting-lane, and Well-1 <sup>st</sup> -lane.                                                       |
| CASTLETON<br>WEST WARD.  | C.F. 11. Rochdale Canal, Road leading from Moss Bridge to Moss Cottage, King's-road, and Oldham-road.                                                                        |
|                          | C.F. 12. King's-road, line drawn from Moss Cottage to Spring Cottage, Badger-lane and Dean-lane, and Oldham-road.                                                            |
| CASTLETON<br>SOUTH WARD. | C.F. 13. Laurel-street, Vavasour-street, Rochdale Canal, and Oldham-road, and Old circular Borough boundary line.                                                            |
|                          | C.F. 14. Worsley-street, L. & Y. Railway, Rochdale Canal, and Church-road, and Vavasour-street.                                                                              |
| CASTLETON<br>EAST WARD.  | C.F. 15. Worsley-street, L. & Y. Railway, Rochdale Canal, and Church-road, and Vavasour-street.                                                                              |
|                          | C.F. 16. River Roach, Stanley Brook, Rochdale Canal, and L. & Y. Railway.                                                                                                    |
| CASTLETON<br>NORTH WARD. | C.N. 1. Packer-street, Church Steps, Church Stile, Drake-street, Manchester-road, Theatre-street and Esplanade.                                                              |
|                          | C.N. 2. South Parade, Drake-street, Great George-street, School-lane, Church Steps and Packer-street.                                                                        |
| CASTLETON<br>WEST WARD.  | C.N. 3. Drake-street, Church Stile, School-lane, Great George-street, to 72A, Drake-street.                                                                                  |
|                          | C.N. 4. Spotland West Ward boundary line, from Theatre to old Borough boundary line, and Manchester-road.                                                                    |
| CASTLETON<br>SOUTH WARD. | C.N. 5. Trafford-street, Tweekdale-street, and Manchester-road.                                                                                                              |
|                          | C.N. 6. Drake-street, Grove-street, Bunitt-street, Boundary-street, Tweekdale-street and Trafford-street.                                                                    |
| CASTLETON<br>EAST WARD.  | C.N. 7. Tweekdale-street, from No. 91, Manchester-road, old circular Borough boundary line, L. & Y. Railway, and Boundary-street.                                            |
|                          | N.B. C.F. 13. (Castleton Moor Ward) is uninhabited.                                                                                                                          |

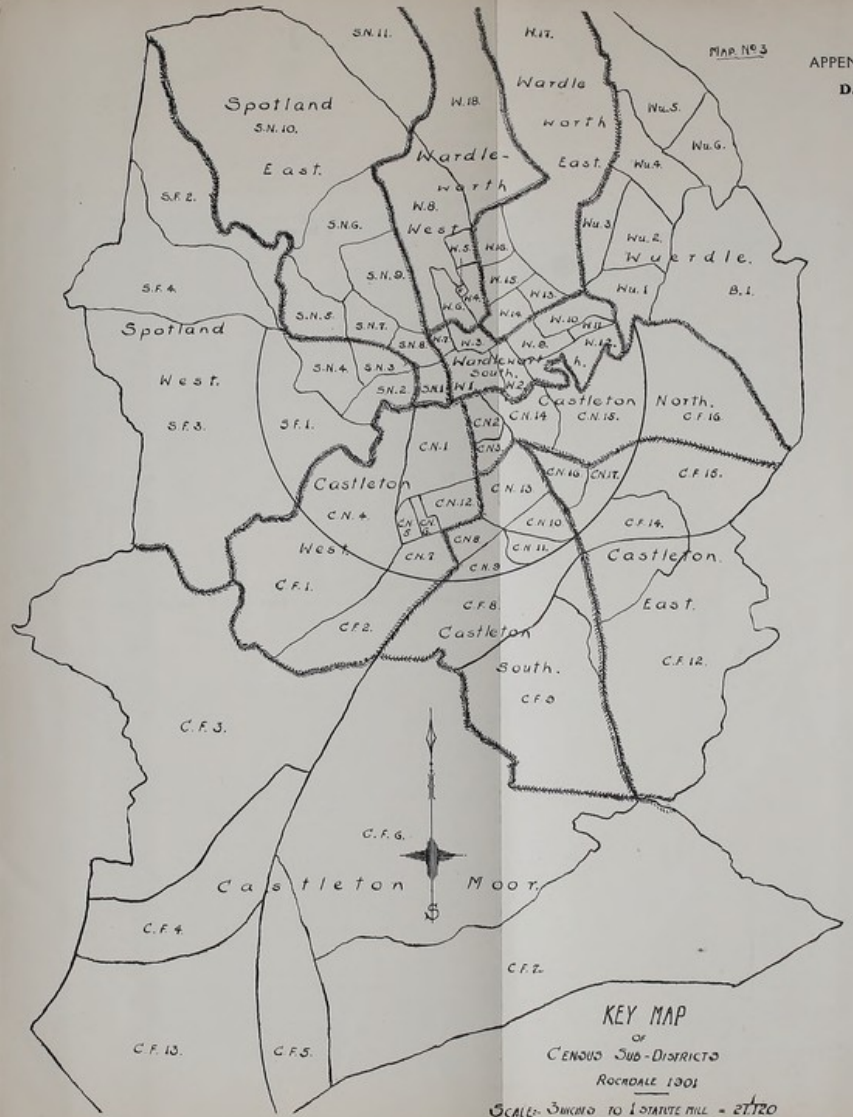
\* Small areas in Sub-districts C.F. 5, W. 4, and W. 17 have been transferred to C.F. 5, W. 11, and W. 10 respectively.  
Also placed there in the Wards to which they belong.

|                          |                                                                                                                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CASTLETON<br>WEST WARD.  | C.N. 8. Boundary-street, Railway, Milestone-road, and Tweekdale-street.                                                                                                                                                     |
|                          | C.N. 9. Milestone-road, from Railway Arch to No. 148, Deeplich-road, Ashfield-road, Boundary-street and Railway.                                                                                                            |
| CASTLETON<br>MOOR WARD.  | C.N. 10. Railway from Milestone Bridge to Oldham-road, Oldham-road, and Duham-street.                                                                                                                                       |
|                          | C.N. 11. Duham-street, Milestone-road, old circular Borough boundary line.                                                                                                                                                  |
| CASTLETON<br>SOUTH WARD. | C.N. 12. Grove-street, Bunitt-street, Boundary-street, Tweekdale-street, Milestone-road and Drake-street.                                                                                                                   |
|                          | C.N. 13. Wet Rake, Drake-street, Milestone-road, Railway, and Oldham-road.                                                                                                                                                  |
| CASTLETON<br>EAST WARD.  | C.N. 14. Drake-street, Wet Rake, Milnrow-road, Malesworth-street and River Roach.                                                                                                                                           |
|                          | C.N. 15. Malesworth-street, Milnrow-road, Railway, old circular Borough boundary line to River Roach, Castleton North Ward boundary line.                                                                                   |
| CASTLETON<br>NORTH WARD. | C.N. 16. Milnrow-road, Fishwick-street, Almsouth-street, and Oldham-road.                                                                                                                                                   |
|                          | C.N. 17. Fishwick-street, Almsworth-street, Oldham-road, old circular Borough boundary line, and Railway.                                                                                                                   |
| CASTLETON<br>WEST WARD.  | S.N. 1. Tread-lane, St. Mary's Gate, Bury-road, College-street, Spotland East Ward boundary line.                                                                                                                           |
|                          | S.N. 2. Bury-road, College-street, Spotland West Ward boundary line, and River Spalden.                                                                                                                                     |
| CASTLETON<br>SOUTH WARD. | S.N. 3. Bury-road, Mitchell-street, and Spotland-road.                                                                                                                                                                      |
|                          | S.N. 4. Mitchell-street, Bury-road, River Spalden, and Spotland-road.                                                                                                                                                       |
| CASTLETON<br>EAST WARD.  | S.N. 5. Clarke's-lane, from Lenny Barn, Spotland-road, River Spalden, to Foot Mill, and line drawn from Foot Mill to Lenny Barn.                                                                                            |
|                          | S.N. 6. Clarke's-lane, Falinge-road, Bentmeadow-street, Spotland East Ward boundary line to Bentley-street, Shawclough Brook from Thrum Hall lane to Foot Mill, and line drawn from Foot Mill to Lenny Barn, Clarke's-lane. |
| CASTLETON<br>NORTH WARD. | S.N. 7. Bentley-street, Falinge-road, Clarke's-lane, and Spotland-road.                                                                                                                                                     |
|                          | S.N. 8. Tread-lane, Falinge-road, Sherid-street, Spotland-road, and St. Mary's Gate.                                                                                                                                        |
| CASTLETON<br>WEST WARD.  | S.N. 9. Heights-lane, Bentmeadow-street, and Falinge-road.                                                                                                                                                                  |
|                          | S.N. 10. Whitworth-road (from No. 42B), Borough boundary, River Spalden to Foot Mill, Shawclough Brook, Bentley-street, thence along Spotland East Ward boundary line.                                                      |
| CASTLETON<br>SOUTH WARD. | S.F. 1. River Spalden from Spotland Bridge to River Roach, Spotland West Ward boundary line from that junction to River Spalden.                                                                                            |
|                          | S.F. 2. Rooley Moor-road, Borough boundary line, River Spalden, to Spotland Bridge.                                                                                                                                         |
| CASTLETON<br>EAST WARD.  | S.F. 3. Edenfield-road, Borough boundary line, Spotland West Ward boundary line, old circular Borough boundary line.                                                                                                        |
|                          | S.F. 4. Rooley Moor-road, Borough boundary line, and Edenfield-road.                                                                                                                                                        |
| CASTLETON<br>NORTH WARD. | S.N. 11. Whitworth-road from Gale Inn, Borough boundary line, and Spotland East Ward boundary line.                                                                                                                         |

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| WARDLEWORTH<br>SOUTH WARD. | W. 1. Penn-street, River Roach, Spotland East Ward boundary line, High-street, Redcross-street, Chetham-street, and Yorkshire-street.                                                                                                  |
|                            | W. 2. John-street, River Roach, Penn-street and Yorkshire-street.                                                                                                                                                                      |
| WARDLEWORTH<br>WEST WARD.  | W. 3. Whitehall-street, Rope-street, Mill-street, Hope-street, Redcross-street, Chetham-street and Yorkshire-street.                                                                                                                   |
|                            | W. 4. Whitehall-street, Howard-street, Duke-street, Sladen-street, Whitworth-road, and Rope-street.                                                                                                                                    |
| WARDLEWORTH<br>EAST WARD.  | W. 5. Whitworth-road, Cronkshaw-road, Duke-street, and Sladen-street: also a small area with the following boundaries, viz. —Howard-street, Duke-street, Whitehall-street, and Sam-street.                                             |
|                            | W. 6. Whitehall-street, Rope-street, Mill-street, Hope-street, Redcross-street, and Industry-road.                                                                                                                                     |
| WARDLEWORTH<br>SOUTH WARD. | W. 7. Redcross-street, High-street, Tread-lane, and Hope-street.                                                                                                                                                                       |
|                            | W. 8. Heights-lane, Further Heights-lane, Spotland East Ward boundary line to Whitworth-road, Whitworth-road, Casson Gate, Cronkshaw-road, Duke-street, Sam-street, Whitehall-street, Industry-road, Redcross-street, and Rope-street. |
| WARDLEWORTH<br>WEST WARD.  | W. 9. John-street, Ramsay-street, Mackinnon-street, South-street, West-street, and Yorkshire-street.                                                                                                                                   |
|                            | W. 10. West-street, South-street, Railway from South-street to Ramsay-street, Hey Brook and Yorkshire-street.                                                                                                                          |
| WARDLEWORTH<br>EAST WARD.  | W. 11. Ramsay-street, Railway, South-street, and Mackinnon-street.                                                                                                                                                                     |
|                            | W. 12. Ramsay-street, Castleton North Ward boundary line, and River Roach.                                                                                                                                                             |
| WARDLEWORTH<br>SOUTH WARD. | W. 13. Elliott-street, Haynes-street, Railway and Yorkshire-street.                                                                                                                                                                    |
|                            | W. 14. Yorkshire-street, Whitehall-street and Rope-street, Haynes-street, and Elliott-street.                                                                                                                                          |
| WARDLEWORTH<br>WEST WARD.  | W. 15. Haynes-street, Railway, Whitworth-road, and Wellington-street.                                                                                                                                                                  |
|                            | W. 16. Wellington-street, Whitworth-road, Wardleworth West Ward boundary line, and Railway.                                                                                                                                            |
| WARDLEWORTH<br>EAST WARD.  | W. 17. Railway, Wardleworth West Ward boundary line, Buckley Brook, Hey Brook, and Yorkshire-street.                                                                                                                                   |
|                            | W. 18. Wardleworth West Ward boundary line (from Whitworth-road to Spoke-road), thence along Spoke-road to Borough boundary line, Spotland East Ward boundary line, Whitworth-road from Gale Inn.                                      |
| WARDLEWORTH<br>SOUTH WARD. | Wu. 1. Hey Brook from River Roach, Yorkshire-street to Hamer-lane, line from this point to River Roach near Mayfield Mill, River Roach to Hey Brook.                                                                                   |
|                            | Wu. 2. Albert Road-street, River Roach to Mayfield Mill, line drawn from this point to Hamer-lane, Halifax-road.                                                                                                                       |
| WARDLEWORTH<br>WEST WARD.  | Wu. 3. Hey Brook, Buckley Brook, Henderson-street, Halifax-road, and Yorkshire-street.                                                                                                                                                 |
|                            | Wu. 4. Henderson-street, Albert Road-street, River Roach, Millgate, Buckley-lane, and Buckley Brook.                                                                                                                                   |
| WARDLEWORTH<br>EAST WARD.  | Wu. 5. Buckley-lane, Borough boundary line, and Halifax-road.                                                                                                                                                                          |
|                            | Wu. 6. Millgate, Halifax-road, Borough boundary line, Howarth Cross Mill.                                                                                                                                                              |
| WARDLEWORTH<br>SOUTH WARD. | B. River Beal, Rochdale Canal, Stanley Brook, and River Roach.                                                                                                                                                                         |



- WARDLEWORTH SOUTH WARD.
- W. 1. Penn-street, River Roach, Spotland East Ward boundary line, High-street, Redcross-street, Cheetham-street, and Yorkshire-street.
- W. 2. John-street, River Roach, Penn-street and Yorkshire-street.
- W. 3. Whitehall-street, Rope-street, Mill-street, Hope-street, Redcross-street, Cheetham-street and Yorkshire-street.
- WARDLEWORTH WEST WARD.
- W. 4. Whitehall-street, Howard-street, Duke-street, Sladen-street, Whitworth-road, and Rope-street.
- W. 5. Whitworth-road, Cronkeyshaw-road, Duke-street, and Sladen-street; also a small area with the following boundaries, viz.:—Howard-street, Duke-street, Whitehall-street, and Sam-street.
- W. 6. Whitehall-street, Rope-street, Mill-street, Hope-street, Redcross-street, and Industry-road.
- WARDLEWORTH SOUTH WARD.
- W. 7. Redcross-street, High-street, Toad-lane, and Hope-street.
- WARDLEWORTH WEST WARD.
- W. 8. Heights-lane, Further Heights-lane, Spotland East Ward boundary line to Whitworth-road, Whitworth-road, Casson Gate, Cronkeyshaw-road, Duke-street, Sam-street, Whitehall-street, Industry-road, Redcross-street, and Hope-street.
- WARDLEWORTH SOUTH WARD.
- W. 9. John-street, Ramsay-street, Mackinnon-street, South-street, West-street, and Yorkshire-street.
- W. 10. West-street, South-street, Railway from South-street to Ramsay-street, Hey Brook and Yorkshire-street.
- W. 11. Ramsay-street, Railway, South-street, and Mackinnon-street.
- W. 12. Ramsay-street, Castleton North Ward boundary line, and River Roach.
- WARDLEWORTH EAST WARD.
- W. 13. Elliott-street, Haynes-street, Railway and Yorkshire-street.
- W. 14. Yorkshire-street, Whitehall-street and Rope-street, Haynes-street, and Elliott-street.
- W. 15. Haynes-street, Railway, Whitworth-road, and Wellington-street.
- W. 16. Wellington-street, Whitworth-road, Wardleworth West Ward boundary line, and Railway.
- WARDLEWORTH WEST WARD.
- W. 17. Railway, Wardleworth West Ward boundary line, Buckley Brook, Hey Brook, and Yorkshire-street.
- WARDLEWORTH WEST WARD.
- W. 18. Wardleworth West Ward boundary line (from Whitworth-road to Syke-road), thence along Syke-road to Borough boundary line, Spotland East Ward boundary line, Whitworth-road from Gale Inn.
- WARDLE WARD.
- Wu. 1. Hey Brook from River Roach, Yorkshire-street to Hamer-lane, line from this point to River Roach near Mayfield Mill, River Roach to Hey Brook.
- Wu. 2. Albert Royds-street, River Roach to Mayfield Mill, line drawn from this point to Hamer-lane, Halifax-road.
- Wu. 3. Hey Brook, Buckley Brook, Henderson-street, Halifax-road, and Yorkshire-street.
- Wu. 4. Henderson-street, Albert Royds-street, River Roach, Millgate, Buckley-lane, and Buckley Brook.
- Wu. 5. Buckley-lane, Borough boundary line, and Halifax-road.
- Wu. 6. Millgate, Halifax-road, Borough boundary line, Howarth Cross Mill.
- B. River Beal, Rochdale Canal, Stanney Brook, and River Roach.



16.4.29  
H.M.



