**Where consumption is bred in Manchester and Salford : a paper read before the Economic and Statistical Section of the British Association, Manchester Meeting, 1887 / by Arthur Ransome.**

(9)

# WHERE CONSUMPTION IS BRED IN MANCHESTER AND SALFORD:

*A Paper read before the Economic and Statistical Section of the British Association, Manchester Meeting*, 1887,

BY

ARTHUR RANSOME, M.D., M.A., F.R.S.,

*Hon. Physician to the Manchester Hospital for Consumption and Diseases of the Throat.*



[*Reprinted from the "Health Journal," November, 1887.*]

JOHN HEYWOOD,
DEANSGATE AND RIDGEFIELD, MANCHESTER;
AND 11, PATERNOSTER BUILDINGS,
LONDON.
1888.

# WHERE CONSUMPTION IS BRED IN MANCHESTER AND SALFORD.*

IT is well known that air rendered impure by respiration and a damp subsoil are powerful factors in the spread of consumption. Hereditary tendency to the disease has a certain influence, seeing that a constitution, especially vulnerable by the specific morbific organism, is transmitted from parents to their offspring; but this influence would have little effect if the *materies morbi* were not cultivated, and perhaps rendered virulent by those two unhealthy conditions.

It is highly probable that in this climate the transmission of the disease is only possible by this medium, namely by air charged with organic matter either from the ground or of animal origin, for when these are absent the disease never spreads from person to person; and on the other hand, it is possible to introduce the disease into damp ill-ventilated dwellings, and after such introduction it will attack susceptible inmates, especially the younger members of the household.

The beneficial influence of improved ventilation has been amply shown by the records of the phthisis mortality in the army and navy in all parts of the world, by the reports of public institutions, and by the immunity of races and peoples who pass their lives chiefly in the open air; and the influence of drainage is shown by the improvement in the rate of mortality from phthisis in places where improved drainage has been introduced. Dr. Buchanan's comparison between the phthisis rates of porous and clay soils, and the history of localities on elevated sites, points to the same conclusion with regard to the second proposition. The Collec-

* A paper read before the Economic and Statistical Section of the British Association, Manchester Meeting, 1887.

tive Investigation Records issued by the British Medical Association gives many instances of whole families carried off by the disease in localities favourable to its spread, and the experience of many medical men will confirm its truth.

This evidence is, to my mind, sufficient to show the probability that phthisis may become, at least for a time, endemic in certain districts, and even in certain houses. It appeared to me desirable that an inquiry should be made into the question of the existence of such areas of infection by tubercular disease in some of the most unhealthy districts of Manchester and Salford. In order to commence such a research as this, I obtained from the Health Officers of these two boroughs copies of their admirably kept mortality tables, and I am greatly indebted to the courtesy and public spirit of the officers connected with these departments for the liberality with which they responded to my wishes and for the great assistance they afforded to me. I have especially to thank Mr. Leigh and Mr. Dawson in Manchester, and Dr. Tatham in Salford. The latter gentleman visited several of the districts with me, and gave me much valuable information.

In Manchester I selected the Ancoats District No. 1, of which a map is here produced.*

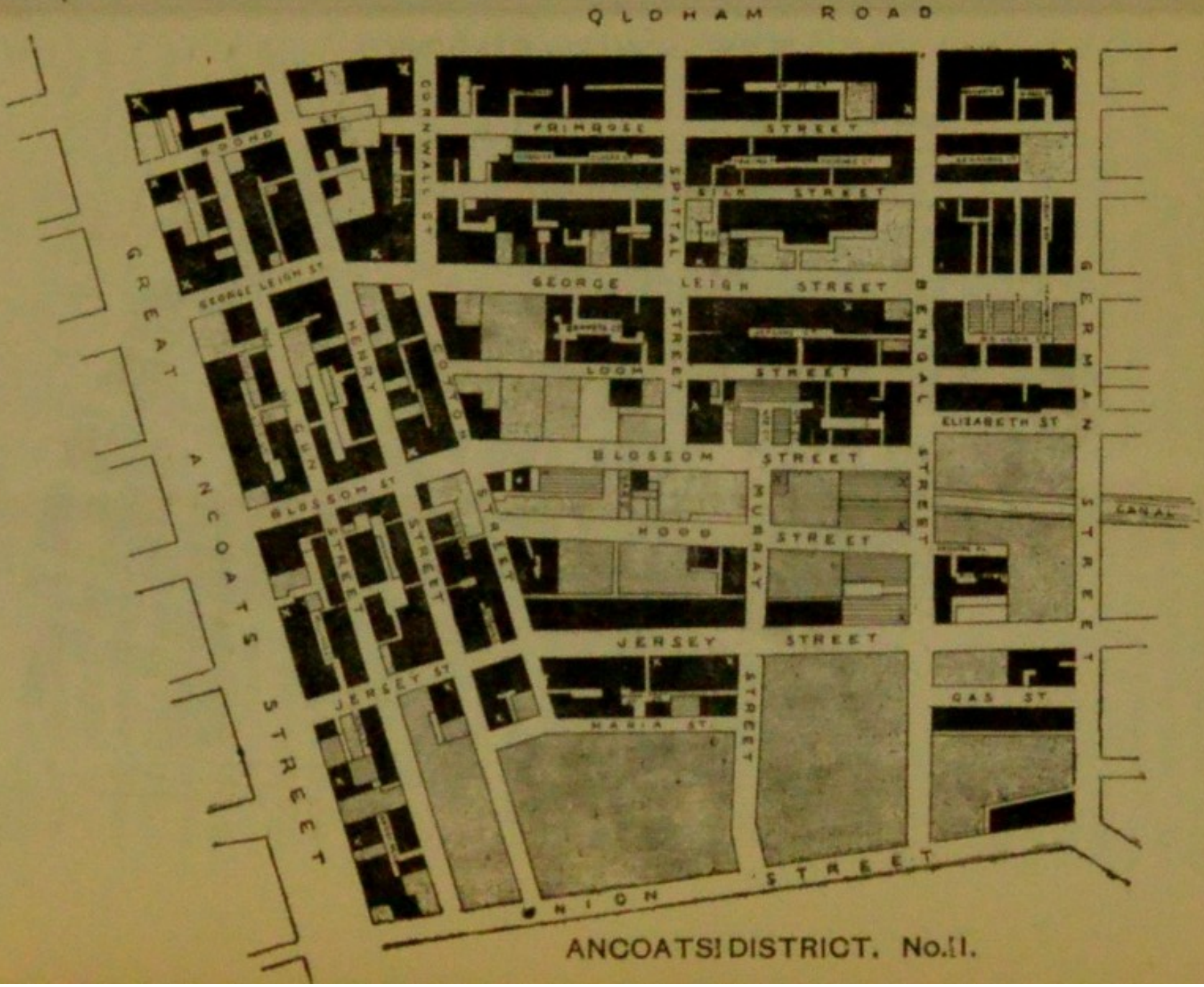
I am glad to be able to state that this district has been selected by the City Council as one that is to undergo thorough renovation under the direction of a Committee appointed for the purpose, and that we may therefore hope that the above description will not long apply to it. It will be very interesting to trace the effects of these improvements upon the health of the inhabitants, and especially upon the mortality from consumption.

The following description of this district is given by Mr. Leigh, Medical Officer of Health, in his report published in 1884 :—

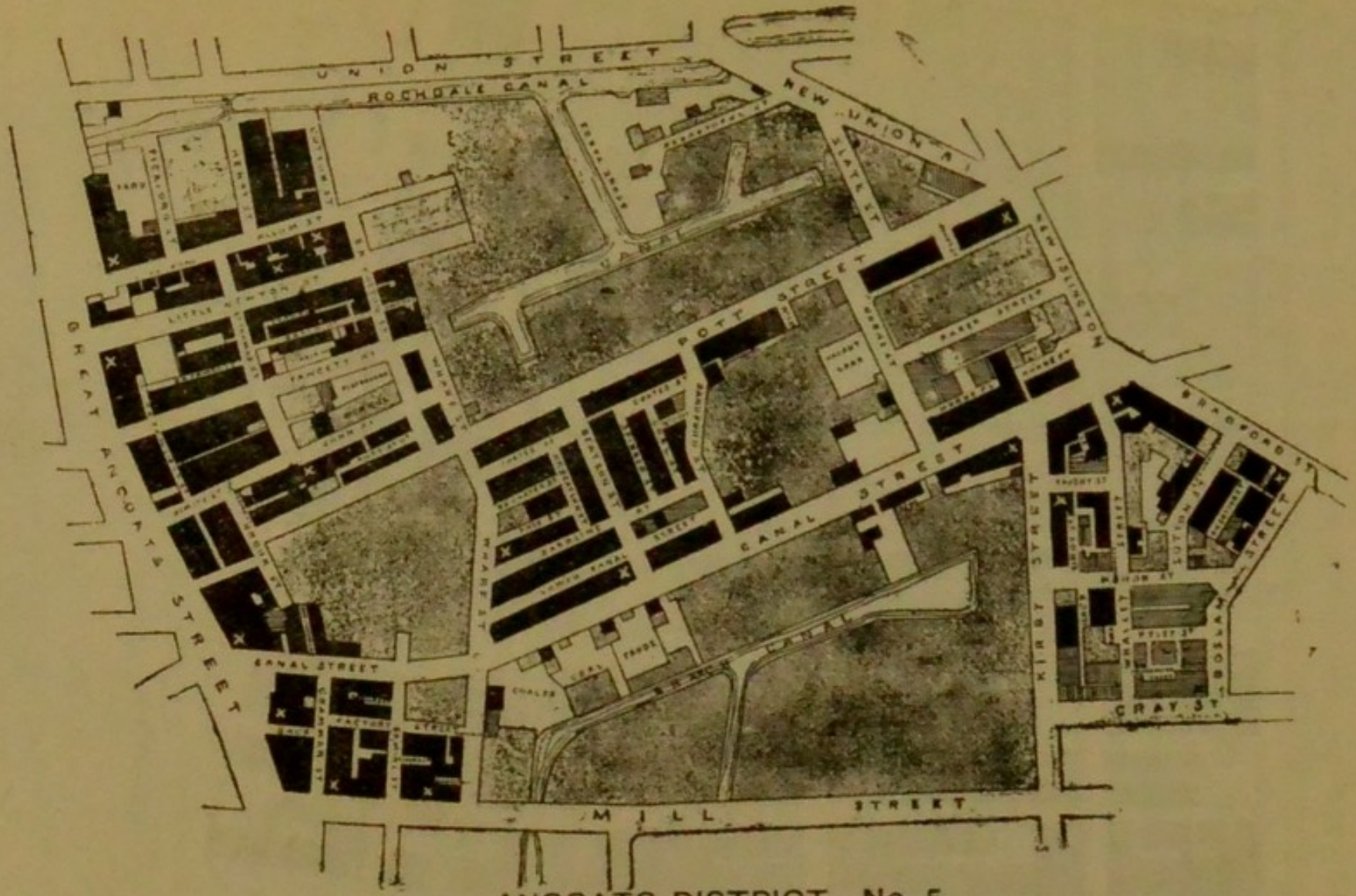
"Nearly the whole of the houses in the district were built before the year 1830. There are a great number of back-to-back houses in all parts of the district. The width of the streets ranges from 30ft. to 4ft., the greater number of

---

* We include in the map another Ancoats district (No. 5), the sanitary condition of which is equally bad. Indeed, these districts are only given as specimens of several others, and not as being exceptional.




ANCOATS DISTRICT. No. II.




ANCOATS DISTRICT. No. 5.

them being 16ft. or 17ft. wide. The passages vary in width, and are only 2ft. 6in. wide in some instances; in many cases the backs of the houses are too near each other. The streets are for the most part paved and sewered. The houses, as a rule, are without cellars, and have no ventilating spaces under the floor. They rise directly from the ground; the outside walls are 9in. thick, and the inside walls are 4½in. or 3in. thick. They smell fusty; the ceilings of some are only 6ft. from the floor; and the timber in many is in a state of decay. Houses in such a condition, and so erected, cannot be otherwise than damp. The absence of any provision to prevent the moisture of the ground rising into the walls, and the thinness of the latter affording so little defence against rain, the interior can seldom or ever be as dry as a house should be. From the want of subjacent ventilation any emanation from the soil must find immediate vent into the houses."

The population of the district is about 5,600 persons.

1. The first point that strikes one in looking through the admirable series of mortality tables with which Mr. Dawson, with Mr. Leigh's permission, kindly supplied me, is the large number of deaths from tubercular disease—150 in five years, in a population of 5,600, 30 in each year, or 5·3 per 1,000—more than double the rate for England and Wales.

2. Although these deaths are distributed throughout the district, yet it is noticeable that at least 15 per cent take place in the comparatively few houses contained in the narrow courts, opening by passages into the streets.

3. The longest and widest streets in the district are Jersey Street, with ten deaths, and George Leigh Street with eight deaths, but the number of deaths in these streets is approached by the mortality of eight in Hood Street, which is only half their length, but which is a mere lane, blocked at each end, so as to obstruct free ventilation. Silk Street and Primrose Street are each of them credited with nine phthisis deaths.

Again, Henry Street, which is a long thoroughfare, has only four such deaths; while Boond Street, a narrow cul-de-sac, only a quarter its length, has seven.

4. The reappearance of the disease in the same houses, as indicated by the occurrence of two or more deaths in them within the space of five years, is also most common in the more confined areas.

Thus, there are two deaths in the same house, at No. 2, Chapel Court. There are three deaths at No. 13, Boond Street, and two at No. 18 in this street.

There are three deaths from tubercular disease at No. 10, Jepson's Court, and two at No. 3 in the same confined space.

There are two at No. 3, Hewitt's Court, and in the short Hood Street there are two deaths each at the three houses, Nos. 2, 36, and 45.

In Spital Street there are two such coincidences, one at No. 12, and another at No. 29.

In Gun Street there are two deaths at No. 43, two in Blossom Street at No. 52, and in Bennett's Court there are three at No. 5.

Lastly, in Loom Street, there are two at No. 2.

All these streets and courts are comparatively short and narrow.

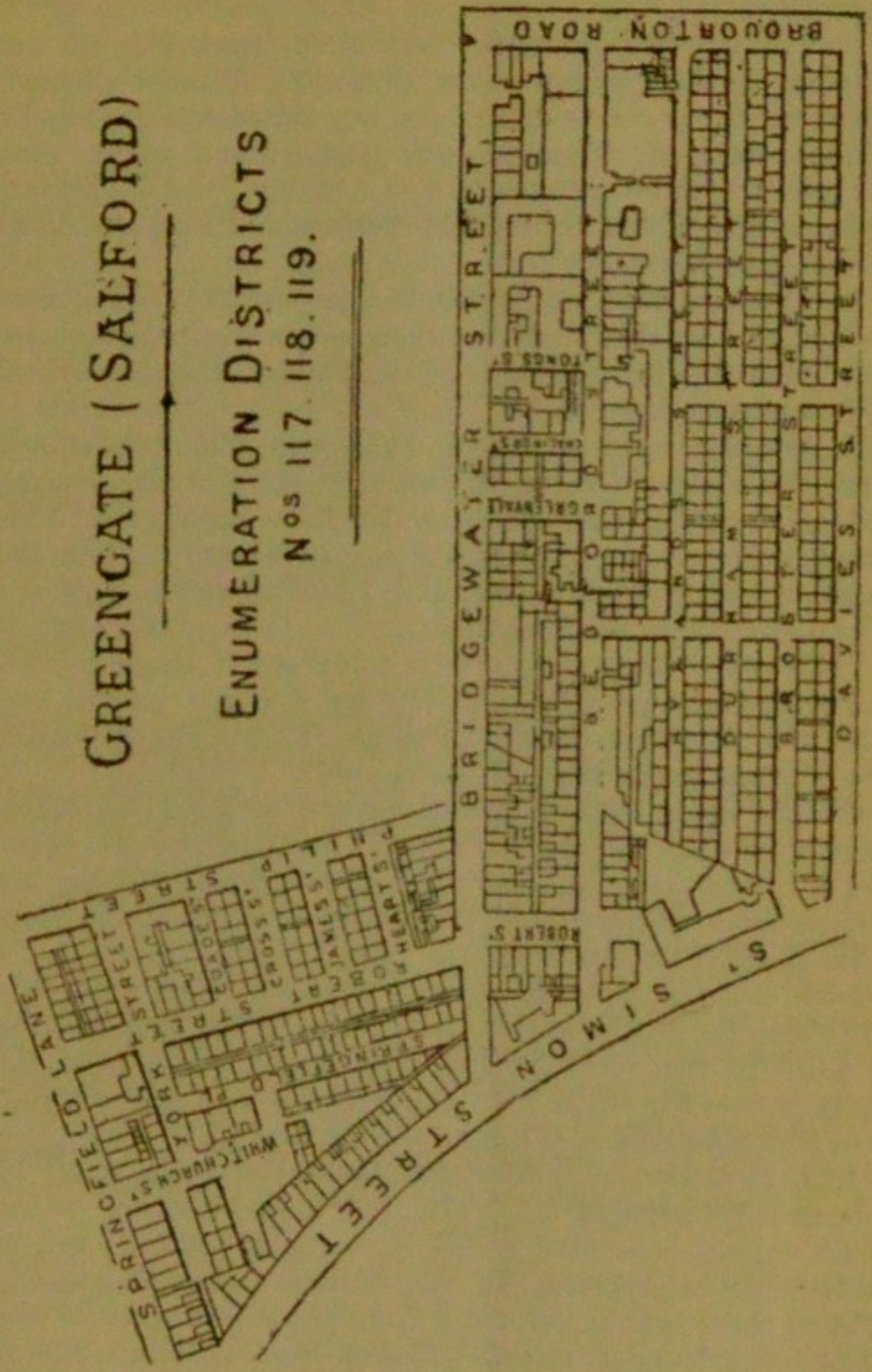
In the rest of the district there are, in Henry Street, four cases of such coincidences of mortality from tubercular disease (at Nos. 9, 20, 30, and 52), one in No. 31, Bengal Street, and one in Jersey Street at No. 29.

Altogether there were 21 such coincidences, 45 deaths in all, and only 12 of them occurred in the larger streets, whilst in the narrow closed-in alleys and in the small courts there were 33 deaths occurring in fifteen houses in groups of two or three.

The character of the houses, as we have seen from Mr. Leigh's description of the district, is much the same in all its parts—they are nearly all back to back, and have no through ventilation—the sub-soil is common to them all—the differences in the mortality may, therefore, with much probability, be referred to the differences in the ventilation of the several streets and courts, and I think that the frequency with which certain portions of the district are visited by the disease justifies me in applying to these portions the appellation of "phthisis nests."

In Salford, the districts into which it is divided are much smaller than those in Manchester—they are, in fact, the enumeration districts adopted at the last census. Dr. Tatham, the Medical Officer of Health for this borough, kindly selected for me three contiguous portions of Greengate, with a total population of 2,609, about half the size of

No. 10 District, Ancoats; and he both supplied me with the particulars of their mortality in the six years 1879-85, and




also had the accompanying map drawn out for me. Dr. Tatham also provided me with similar materials for another

district, No. 3, Regent Road; and he personally visited the Greengate District with me, and verified the causes of death recorded.

It will be seen from the map that these districts are simpler in their construction than the Ancoats district. There are fewer courts and alleys, but the streets are almost wholly composed of back-to-back houses; and whilst some of them are thoroughfares, others, notably Durham Street, Rylands Street, and Springfield Terrace or Place, are closed at one end.

This construction enables us to compare the streets more readily, and we shall find that their respective phthisis-rates bear out to the full the conclusions at which we have arrived with regard to Ancoats.

In Greengate District, No. 117, with 892 inhabitants, there are in the six years 47 deaths from tubercular disease, and of these 20 took place in Durham Street and 9 in Rylands Street, on one side of the street only, all in the single or back-to-back houses, and 13 of these are in groups of two or more in the same house.

In Broster Street, also entirely composed of single houses, and with its ventilation checked by a curve at the end nearest to St. Simon Street, there are 13 tubercular deaths, two of them at the same house, No. 66.

On the other side of Ryland Street, in No. 118 district, there were only two deaths from phthisis in the six years, and it is interesting to note that, although the cottages are just as small as the others, they have an outlet at the back.

In Bedford Street, a broader street mostly composed of similar cottages, with openings at the back, there were only 12 tubercular deaths in the whole street, and 6 of these were in pairs in the three houses, Nos. 4, 11, and 41, in the worst part of the street. In the whole of this 118 district, with 880 inhabitants, there were only 29 such deaths.

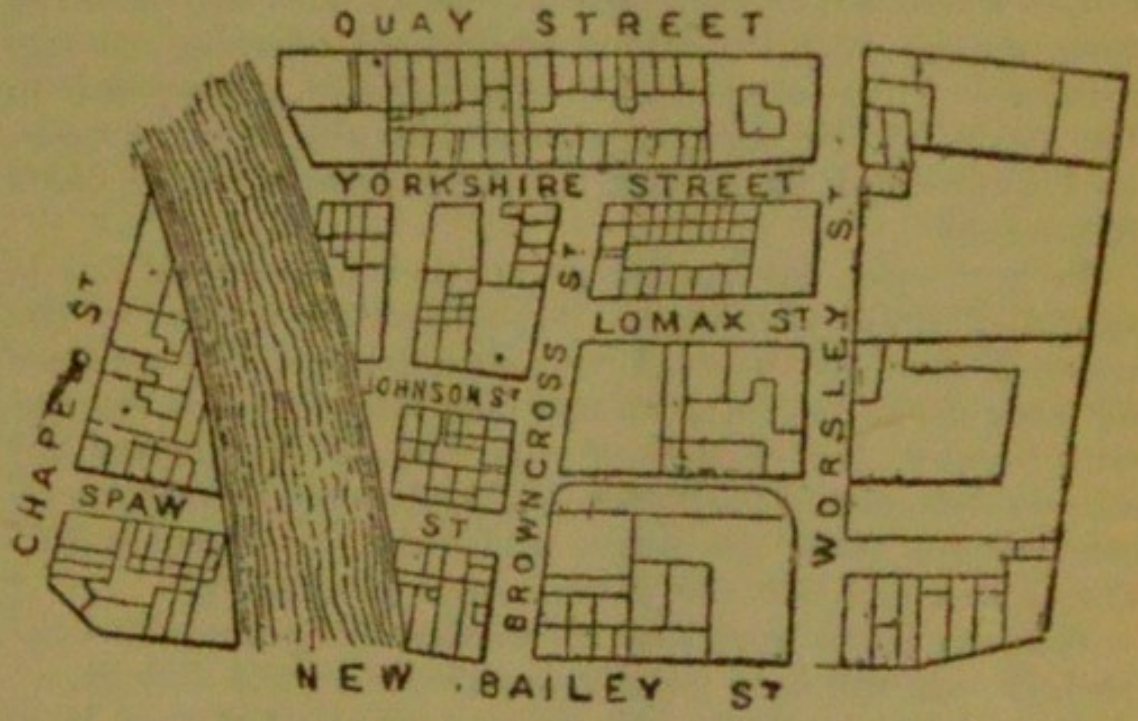
In 119 district, with 837 inhabitants, there are in all 21 tubercular deaths in six years, and 7 of these are in the short narrow cul-de-sac called Springfield Terrace—two of them in the same house, No. 9. This is the more remarkable, as there is only one death from phthisis in each of the longer and broader streets—Robert Street, Philip Street, and York Street.

These facts show that here, as in Ancoats, the streets

most infected with phthisis are also the most confined and ill ventilated, and that the largest proportion of deaths from this disease take place in the cave-like, back-to-back cottages. The phthisis-rate per annum is even higher than in Ancoats, being 6·2 per 1,000.

The subsoil underlying these districts is mainly clayey and alluvial.

In the Regent Road District, No. 3, with 791 inhabitants, there were in six years 40 deaths from undoubted tubercular disease, which is as high an average rate as that of Greengate, but the arrangement of the houses is less regular, and there are many works interspersed amongst them. It is thus more difficult to make a comparison between the several parts of the district. There are also fewer back-to-back houses, but ten out of the 40 cases occurred in five houses, that is, there are five coincidences of the disease in the same house—two in Quay Street, one in Shaw Street, one in Yorkshire Street, and one in a small court called Bennett's Square.




The facts now detailed are not perhaps in themselves entirely conclusive. There is a possibility that some portion of the statistics is vitiated by imperfect observations—in other words, that in some cases a wrong diagnosis has been made. There is also some uncertainty as to whether the disease originated in the houses in which the several deaths

took place—we cannot be sure whether the deceased lived in the same house from the commencement to the termination of the illness. Both of these sources of fallacy will however tell both for and against the houses in question. Errors in diagnosis may have been made in more than one direction, and death from phthisis may have been ascribed falsely to bronchitis or some pulmonary complaint. The change of residence also may have taken place from as well as into these houses.

On the whole therefore we may probably accept the statistics as giving, if not an exact, yet a very fair picture of the incidence of tubercular disease in the streets and alleys of the districts in question.

If this conclusion be admitted the figures show that upon certain of the narrower and most shut-in of the streets and courts the disease falls much more heavily than upon the rest of the districts, and the back-to-back houses claim a larger proportion of the deaths from phthisis than houses with through ventilation. It seems probable also that in the houses where two or more deaths from phthisis have occurred some special infection may have lingered, affecting not only members of the same family—hereditarily predisposed to the attack of the micro-organism—but also in some cases, as I ascertained by inquiry, affecting persons not of blood relationship.

In any case, the revelation of such an unusual rate of mortality from phthisis in these localities points to the necessity for their thorough reconstruction, and it is a matter for congratulation that, without any knowledge of the present inquiry, the Council of the City of Manchester had already determined to submit No. 1, Ancoats District, to reconstruction, under the direction of Alderman Watson's Sub-Committee, and that the work is now proceeding.

We may fairly hope that in another five years period the phthisis rate will have greatly diminished in this district.

It will be observed that only a very small part of Manchester and Salford has been dealt with in this investigation. There are probably many other districts as bad or worse than those selected, and it is most likely that they would yield similar examples of the connection between consumption and bad sanitary conditions.

John Heywood, Excelsior Printing and Bookbinding Works, Manchester.