

APPENDIX (B)

TO THE

REPORT of the GENERAL BOARD of HEALTH

ON THE

EPIDEMIC CHOLERA

OF

1848 & 1849.

REPORT BY MR. GRAINGER.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

PRINTED BY W. CLOWES & SONS, STAMFORD STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

1850.

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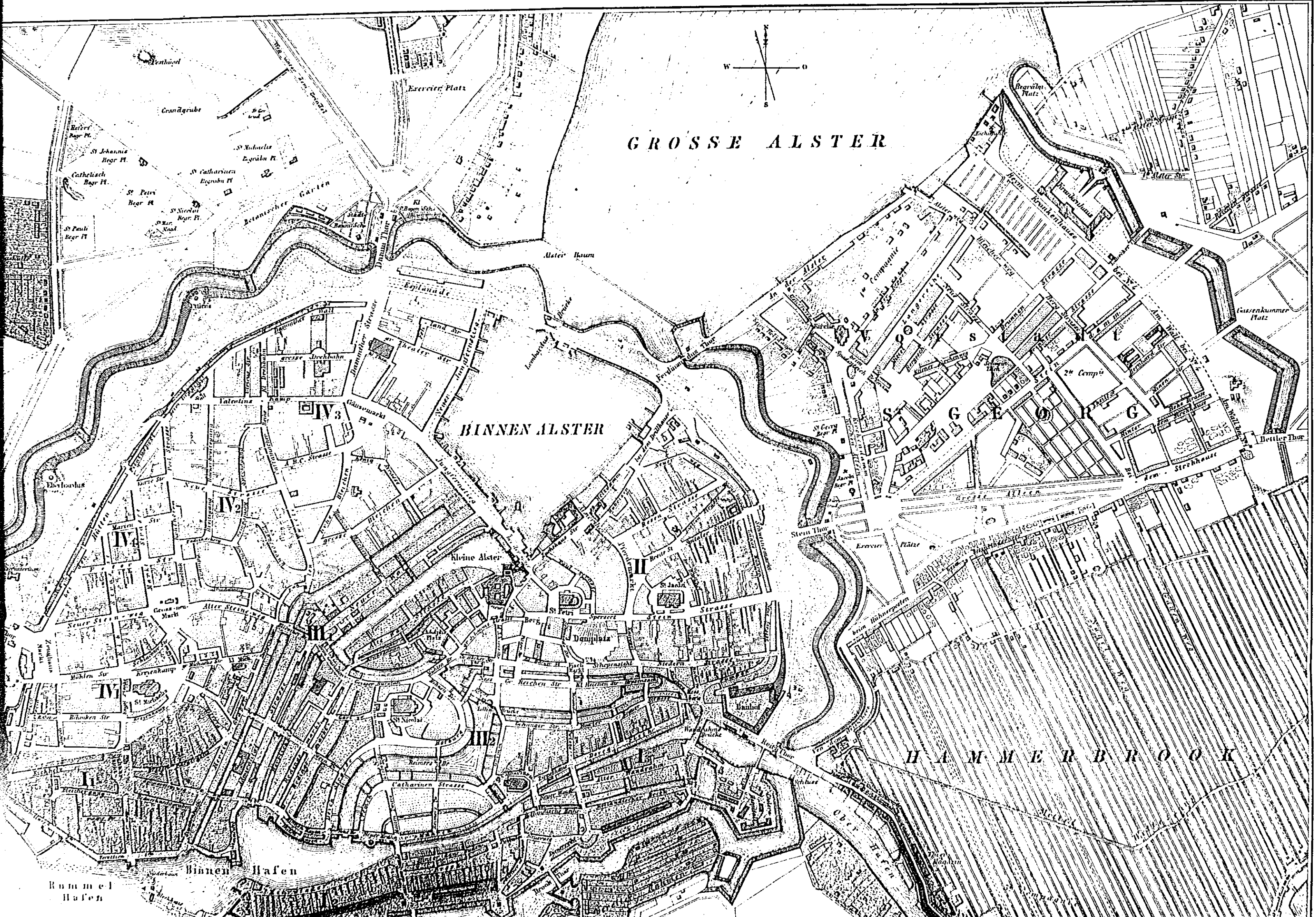


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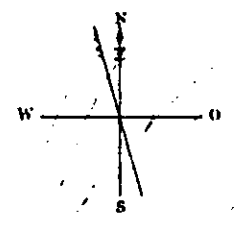
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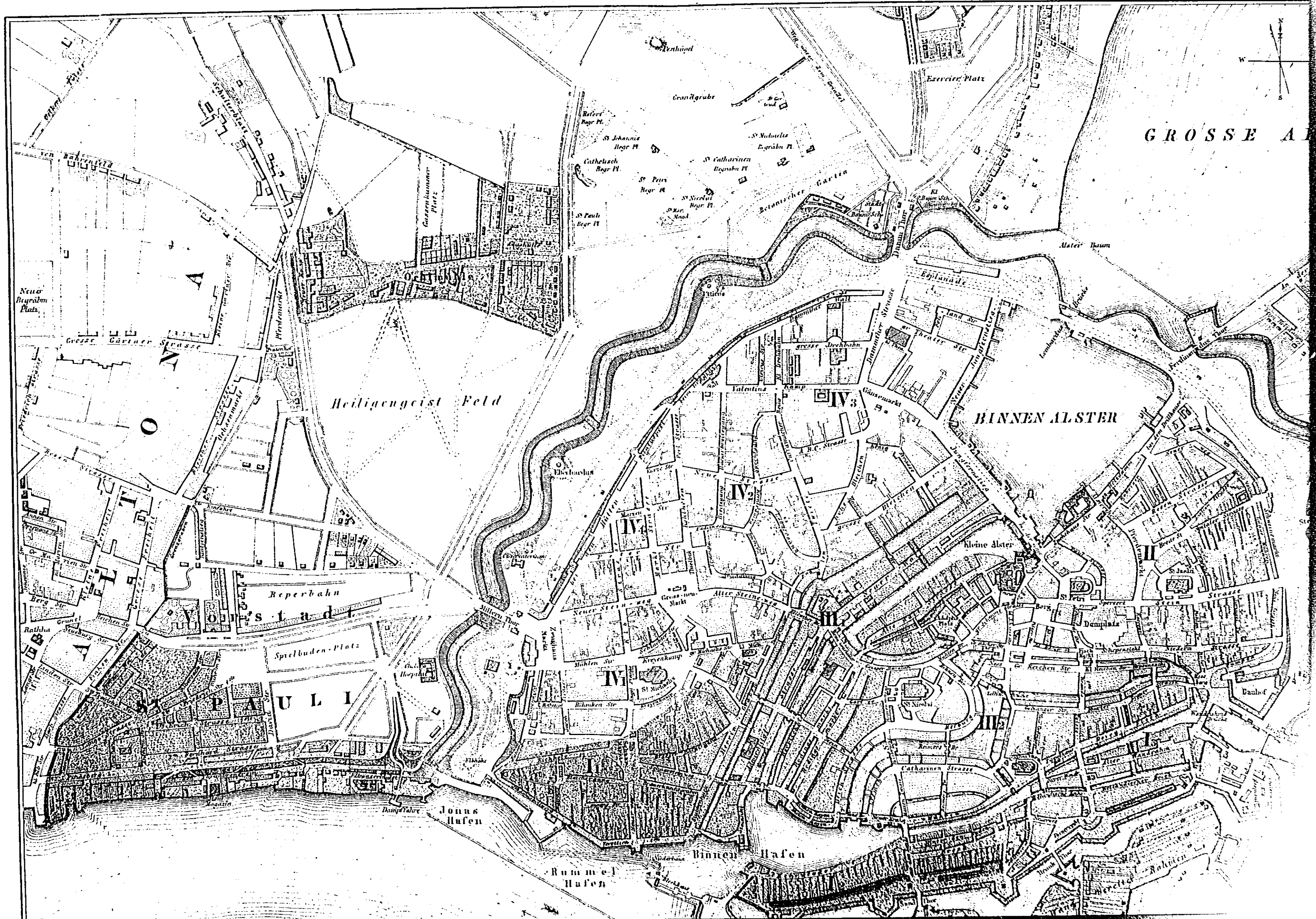
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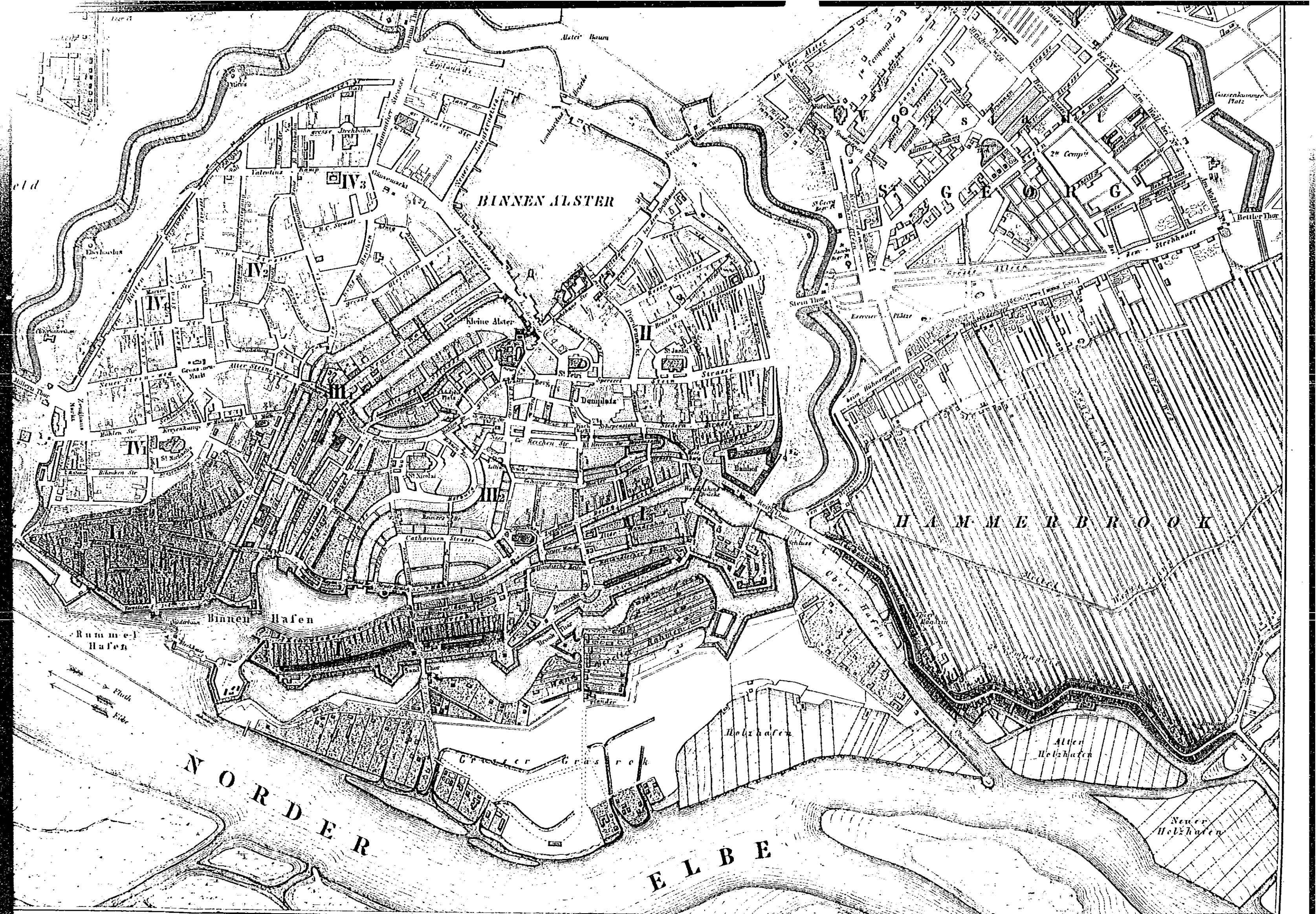
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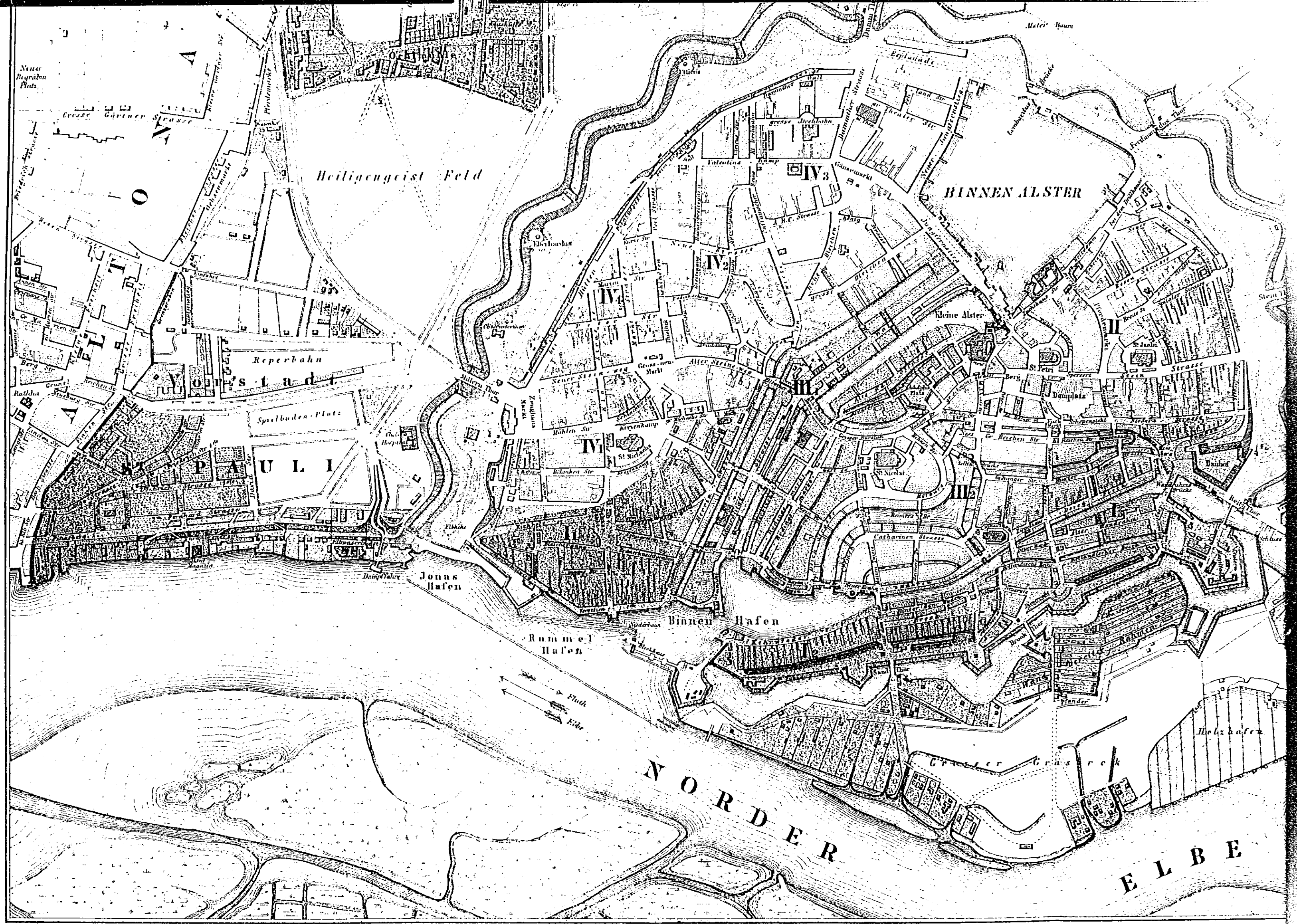


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APPENDIX B.

SANITARY REPORT ON EPIDEMIC CHOLERA

AS IT PREVAILED IN LONDON IN 1848-49.

MY LORDS AND GENTLEMEN,

I BEG respectfully to present my Report on the late Epidemic, as it prevailed in the metropolis in 1848-49; and in doing so it may be proper to state that the document is essentially a sanitary report, as it would have been foreign to the objects of the General Board to have considered either the pathology or the treatment of cholera.

SECTION I.

Relation between Cholera and other Epidemic Diseases.

IT is the opinion of a large number of medical observers that cholera is nothing else than a form of fever, according to some of the typhoid type, whilst others regard it as of the intermittent form, or allied to ague.* It would be foreign to the objects of this Report to enter into this question; but it is important to notice that, whatever may be the essential nature of cholera, it evidently belongs to the great epidemic class, and has, especially as concerns its habitat and activity, a close relation to typhus, the causes influencing the one affecting the other.

Cholera preceded by Typhus.—It will be shown in the next section that, proportionately as well as absolutely, the cholera of 1848-49 was more severe than that of 1832-33. This decided increase would appear to be in keeping with the steadily increasing prevalence of fever in the metropolis during the three years preceding the arrival of cholera, to which marked attention was called by the Metropolitan Sanitary Commissioners in the month of November, 1847. After showing that the mortality from typhus, in 1846, very greatly preponderated over that of 1845, and that of 1847 even over that of 1846, indicating the unabated or even increased force of epidemic disease, the Commissioners proceed to say,—

"The reasonable inference to be deduced from this fact is, that were cholera to revisit the metropolis at the present time, with the existing predisposition, it would come at a period peculiarly favourable to its extension."†

* A long list of opinions upon the nature of cholera, as entertained by continental writers, will be found in the following work:—'Die Cholera,' von Dr. Fleischer, p. 19. Leipzig, 1848.

† First Report of Metropolitan Sanitary Commissioners, p. 16.

How fatally this prediction has been realised, has been unhappily shown by the experience of the last year. But this increase of typhus is not the only circumstance to be noticed: the whole class of zymotic diseases, which constitute the true gauge of the healthiness or the unhealthiness of a community, has in late years received an immense development, as will appear in the following table, extracted from the summary of the London Returns of Mortality published by the Registrar-General:—

Deaths from Zymotic Diseases.			
1838	.	.	13,819
1839	.	.	9,613
1840	.	.	8,399
1841	.	.	7,909
1842	.	.	7,729
1843	.	.	10,046
1844	.	.	11,189
1845	.	.	9,594
1846	.	.	9,596
1847	.	.	14,039
1848	.	.	18,113

It will thus be perceived that, excluding the middle year 1843, there has been in the last five, as compared with the first five years, an increase of 31 per cent. The great increase in 1848 is essentially independent of cholera, as the deaths from that affection in 1848 only amounted to 468.

Increase of Diarrhœa.—In examining these returns, it is found that among the principal zymotic diseases the only one which has through the whole eleven years, with two slight exceptions, gone on progressively increasing, is diarrhœa; a point of interest, since, according to my observation, one of the most certain tests of the operation upon the human body of an atmosphere charged, like that of large cities, with putrid animal effluvia, is the prevalence of diarrhœa. The deaths from this disease in London are as follows:—*

1838	.	.	393	1844	.	.	705
1839	.	.	376	1845	.	.	841
1840	.	.	460	1846	.	.	2,152
1841	.	.	473	1847	.	.	1,976
1842	.	.	720	1848	.	.	1,913
1843	.	.	842				

This table shows that, irrespective of the cholera epidemic, a closely allied class of affections has (after making allowance for the increase of population) experienced in late years an enormous increase, the deaths in 1846 being nearly seven times those in 1838, and nearly five times those of 1841.

Increase of Typhus Fever.—The mortality from typhus has increased as follows:—

1844	.	.	1,696
1845	.	.	1,301
1846	.	.	1,796
1847	.	.	3,184
1848	.	.	3,569

In connexion with this general increase of zymotic disease, it is not an unessential fact, that there has been a decided increase in the nine years from 1840-48 in the mortality of childhood, the deaths of persons under 15 years of age being as follows:—

* See Annual Reports of Registrar-General.

1840	.	.	21,623	1845	.	.	22,633
1841	.	.	20,780	1846	.	.	22,275
1842	.	.	21,266	1847	.	.	26,512
1843	.	.	23,261	1848	.	.	28,378
1844	.	.	24,194				

Cholera preceded by Influenza.—It further appears that another epidemic, influenza, as so frequently happened in 1832, was prevalent prior to cholera. Thus, whilst the average deaths from influenza in the autumn quarter of the seven years, 1840-46, were 29·8, they mounted up to 1161 in the same quarter of 1847; and the Registrar-General reports that, taking boys under five years in London, 93 die from all causes out of 1000 annually, whilst "this rate of 93, which prevails in London in ordinary times, was raised by a few weeks' prevalence of influenza in 1847-48 to 106." The amount of this mortality may be judged of by the fact, that influenza was in the above period almost as fatal to children as the more terrible epidemic by which it was followed, the deaths from cholera in boys under five years having been, in 1849, 107 in 1000; whilst among aged persons, turned of 75 years, the mortality of cholera was even less than that of influenza.*

The state of health in the metropolis immediately antecedent to the arrival of cholera may be judged of by the following comparative table, showing the mortality of the diseases named, in the quarter ending September 30, in the years 1845-48;† the first undoubted case of cholera in London having occurred on September 22, 1848:—

	1845.	1846.	1847.	1848.
Zymotic diseases	2,437	3,255	4,102	5,162
Small-pox	76	51	320	435
Scarlatina	194	208	316	1,560
Typhus	273	403	895	682
Diarrhœa	449	1,549	1,196	1,048

The same antecedence of fever and influenza was noticed in Russia and Germany. At Hamburg I was informed by the most experienced physicians that the cholera was preceded by a decided increase of the intermittent fever, which it is remarkable seems to play the same part in that and many other continental cities as typhus does in London. Dr. Oppenheim spoke of there having been an immense amount of this intermittent; and in an institution for aged paupers no fewer than 249 cases occurred out of 650 inmates. Scarlet fever, as in London, was likewise very prevalent and severe. Influenza also prevailed, though not to such a degree as to be deemed epidemic. At Berlin intermittent fever, diarrhœa, and dysentery prevailed, especially diarrhœa, previous to the outbreak of cholera. In St. Petersburg, according to Dr. Crawford, there was a very great prevalence of severe influenza,

* Registrar-General's Return, Dec. 15, 1849.

† See Quarterly Returns of Registrar-General, 1849, No. III. p. 39.

and also a decided increase of intermittent fever, prior to the eruption of cholera in June, 1848.

It has usually been observed that, when cholera has actually broken out and with force, the preceding epidemics, and often indeed diseases in general, experience a marked and sometimes abrupt decrease, or they entirely cease. This was the case in the instances just quoted.

As regards London, for some months, during which cholera although continuously present evinced but little intensity—so that, for example, the weekly mortality from October, 1848, to June 30, 1849, was, from this cause, seldom above 50 for the whole metropolis, and never reached 100—the class of zymotic diseases and typhus, so far from falling below the average, was for the most part above it, as will appear from the following table for the first three months of the epidemic:—

Date.	Zymotic.*	Average from 1843-47.	Excess.	Typhus.	Average from 1843-47.	Excess.
1848						
Sept. 30 .	391	257	134	69	40	29
Oct. 7 .	417	270	147	65	50	15
„ 14 .	418	270	148	80	50	30
„ 21 .	348	270	78	65	50	15
„ 28 .	421	270	151	74	50	24
Nov. 4 .	358	270	88	77	50	27
„ 11 .	352	270	82	65	50	15
„ 18 .	332	270	62	70	50	20
„ 25 .	353	270	83	70	50	20
Dec. 2 .	352	270	82	67	50	17
„ 9 .	349	270	79	65	50	15
„ 16 .	331	270	61	68	50	18
„ 23 .	300	270	30	46	50	4 (less)
„ 30 .	338	270	68	71	50	21
Total . .	5060	3767	1293	952	690	262

It follows from these returns that, after subtracting the cholera deaths, there is an excess of the zymotic class, in 14 weeks, of 1293 deaths; whilst the excess of typhus in the same period amounts to 262. But although no effect was produced on other diseases so long as the force of the epidemic was slight, it might be supposed, in accordance with what has been observed in other countries, when cholera acquired its full epidemic force, that, however much it might by its own mortality raise the standard of deaths, the ordinary mortality from other diseases would be diminished. This was indeed the opinion I had formed from many statements made to me that fever and other epidemics had decreased during cholera; and it is probable that this was the case in

* In calculating the excess of zymotic diseases the cholera deaths have been subtracted.

districts where cholera was very destructive. Thus, in Rotherhithe, which suffered more than any other part of London, Mr. Chandler, who had the direction of the parochial medical arrangements, states that cholera swallowed up almost all other diseases, especially those of an inflammatory type, though there was still some typhus. But, with reference to the metropolis collectively, the documents of the Registrar-General, which afford such invaluable data for medical statistics, distinctly prove that, even when the total mortality was swollen enormously by cholera, that of our ordinary diseases of the zymotic class was, in the summer quarter of 1849, only 220 below the average of the four preceding years, and this notwithstanding the heavy increase that had occurred, as shown above, in 1846, 1847, and 1848. Thus, in the quarter ending September 30, 1849, the total deaths from zymotic diseases in London was 17,763; the cholera deaths were 12,847, and those from diarrhœa 2457. Now, if from the latter be deducted 1060 deaths, being the average mortality of diarrhœa in the summer quarter for the four preceding years, the total deaths from choleraic disease will be 14,244 for the quarter; and if this be subtracted from the whole mortality of zymotic diseases, it will leave 3519 for the deaths of that class; whilst the average of the four preceding years was 3739.

Conclusions as to the Epidemics of London.—The facts set forth in the preceding pages disclose a most grave condition of the metropolis as regards epidemic diseases, since it proves that the causes of unhealthiness are so potent in their operation as to allow of scarcely a perceptible diminution in the most fruitful sources of mortality, at a time when, in each of several weeks in succession, an unusual member of the zymotic class was carrying off from a thousand to two thousand victims, which thus went to augment the bills of mortality. The opinion often entertained, that persons who would die of other diseases are those who principally constitute the subjects attacked by cholera, is by these statistics proved to be erroneous, inasmuch as they show that the ordinary diseases still have their ordinary supply. It is indeed true that there was, subsequent to the subsidence of cholera, a considerable diminution in the average weekly mortality; but, when full allowance is made for this, there remains an awful mortality, the main part of which is unquestionably due to the enormous sanitary evils connected with this great metropolis.

It is an important consideration that there is such an intimate relation between the whole class of zymotic diseases—such an inseparable connexion between them as to their predisposing causes, their spread, and their prevention—that what applies to one, applies, speaking generally, to all. If a certain district combines the conditions favourable to the development and extension of low fever, it will assuredly give force to other epidemics—to small-pox, to scarlatina, to cholera; if, on the other hand, by efficient and well-matured sanitary improvements, typhus is diminished or eradicated, the most destructive pestilence may come, but it will acquire little or no footing in a locality thus prepared for resistance. This is not a mere matter of assertion; it will be subsequently shown that, whether we speak of the metropolis generally, of prisons, of lunatic asylums, or of model lodging-houses, the same conditions which either favour or

control the spread of fever, promote or oppose the ravages of cholera. It is not, therefore, because by the Divine blessing cholera has disappeared, that the sanitary proceedings undertaken under the alarm it inspired should cease. And yet, according to the reports of the medical inspectors, in many of the most densely populated districts, the inspectors of nuisances have been dismissed; the cleansing operations have been relaxed; and there is too much reason to apprehend that the courts and alleys will lapse back again into their accustomed filth; that privies and cesspools will again be allowed to overflow; that houses, proved by the evidence of medical officers, inspectors, and local authorities to be unfit for human habitations, "will long continue to remain," to quote the words of the Clerkenwell guardians, "pest-houses, spreading disease around;" and that, in the midst of all these tolerated and accumulated evils, the industrious classes will continue, as heretofore, to be decimated by fever, or, should it again break out, by cholera.

SECTION II.

On the Progress of Cholera in London.

Deficiency of Statistical Details.—Fully to have elucidated this subject, much more ample and detailed information would be necessary than it has been possible to procure. It would, for instance, have been requisite that the number of attacks, whether of the developed disease or of choleraic diarrhœa, and the relative mortality, should be known; the precise seat of these attacks, as to streets, and even courts and alleys, and the sanitary condition of these places; the proportion of attacks to the population in each such case; the age, sex, occupation, and mode of life of the persons attacked. Details like these, applying to a population of two millions and a quarter, would, it is obvious, under any circumstances, be most difficult of attainment; in fact, nothing short of a complete sanitary system could give such statistics. As it was, cholera came upon the metropolis when for the most part as unprepared with any systematic arrangements, as in 1832. Among other evils which flowed from this state of things, was the impossibility of obtaining accurate and complete reports of the daily progress of the disease; and yet this information was indispensable to the General Board of Health, the body intrusted with directing the various measures demanded on the occurrence of the epidemic, among which the amount of medical aid required was of course the most essential. Repeated attempts were made to procure from the local authorities daily returns showing the fresh attacks, but in vain.

A most serious impediment to the application of prompt measures of relief thus arose; and it was not till the Registrar-General, after considerable difficulty, and when the disease had made great progress, succeeded in obtaining a daily return of the deaths in each sub-registration district, that any reliable information was procured. If, unhappily, there should be any recurrence of the disease, some efficient plan ought to be devised for securing from every part of the metropolis regular and accurate daily returns, not only of the mortality, but especially of new cases both of cholera and diarrhœa: if such informa-

tion were not provided, it is to be apprehended that a serious sacrifice of life would be the result.

Sources of Information available.—In the absence of more precise data, the sources of information of which I have principally availed myself are as follows:—

1. The reports of the several medical inspectors who superintended the house-visitation.
2. The evidence of the medical officers of the metropolitan unions and parishes.
3. The mortality returns of the Registrar-General.*

Duration of the Epidemic.—The first undoubted case of cholera in London took place on September 22nd, 1848, at Horsleydown, Southwark; this case proved fatal in 11 hours: the last death recorded appears in the return of the Registrar-General, December 22nd, 1849: the whole of the epidemic having thus occupied a period of 15 calendar months.

There is little or no doubt, however, that some isolated cases of true Asiatic cholera occurred earlier than reported; but they were returned as English cholera. Several such cases are reported by Dr. Gavin to have occurred unquestionably in Bethnal-green, namely, 6 in July, 4 in August, and 2 in September, 1848. Three similar cases occurred also in Southwark prior to September 16, 1848.

First Cases of Cholera.—The history of the first cases of cholera occurring in any new locality is obviously a point of much interest in connexion with the question of contagion. The Board of Health was therefore desirous that the first attacks in London should be investigated; and the inquiry was intrusted to Dr. Parkes, who had had considerable experience of cholera in India. The following particulars of these cases are extracted from the Report of the General Board on Quarantine. It may be premised that the cases of cholera in London were among the first that appeared in Great Britain, being only a few days subsequent to the first case reported in the port of Hull, on board a vessel which had come direct from Hamburg. The first case, as above stated, occurred on September 22nd, 1848.

"From this period to the 10th October (twelve days), 28 cases occurred. An analysis of these cases, from Dr. Parkes' Report, gives the following results:—

- "1. These 28 cases occurred in ten different localities.
- "2. These localities were not near each other, but were situated at remote distances.

* As these returns do not altogether correspond to the more commonly known parochial divisions, it is proper to explain that, for the purpose of registering births, deaths, and marriages, the metropolis is first of all divided into 36 "superintendent registrars' districts," and then again into 135 sub-registration districts. These latter or "sub-districts," will be found, when properly grouped together, to correspond, with some trifling exceptions, to the several unions and parishes; and in this way the respective mortality in these more familiar divisions will appear. (See the tinted map of the metropolis appended to this Report.)