

**Fifteenth annual report of the Local Government Board, 1885-86.
Supplement containing reports and papers on cholera submitted by the
Board's Medical Officer.**

Contributors

Great Britain. Local Government Board.

Publication/Creation

London : [Printed by Eyre and Spottiswoode, for HMSO], 1886.

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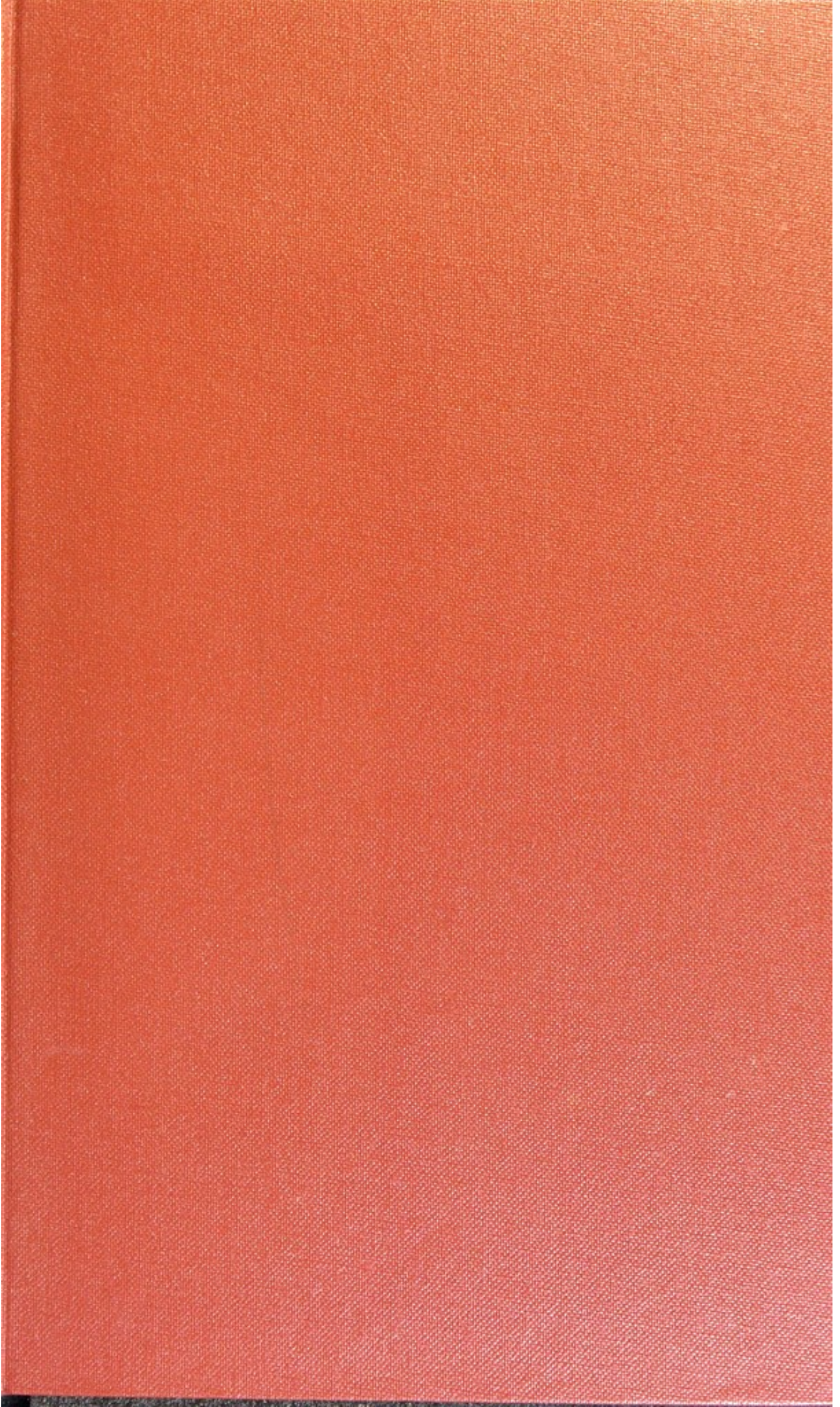
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FIFTEENTH ANNUAL REPORT
OF
THE LOCAL GOVERNMENT BOARD
1885-86.

SUPPLEMENT

CONTAINING

REPORTS AND PAPERS

ON

CHOLERA

SUBMITTED BY THE BOARD'S MEDICAL OFFICER.

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



LONDON:
PRINTED BY EYRE AND SPOTTISWOODE.

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Messrs. HANSARD and SON, 13, Great Queen Street, W.C., and 32, Abingdon Street, Westminster;
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PUBLIC HEALTH.

REPORT AND PAPERS

ON

CHOLERA.

SUBMITTED BY THE MEDICAL OFFICER

OF

THE LOCAL GOVERNMENT BOARD

1886.

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REPORT.

TO THE RIGHT HONOURABLE THE PRESIDENT OF
THE LOCAL GOVERNMENT BOARD.

MEDICAL
OFFICER'S
REPORT.

SIR,

I HAVE the honour to submit to you in the present Report an account of the observations of your Medical Department upon the subject of Asiatic Cholera during the year ended March 31st, 1886. They have had concern, first, with the epidemic prevalence of the disease in Europe, and with questions of measures for preventing its extension that in 1885 came under the consideration of the International Sanitary Conference at Rome; secondly, with the sanitary administration of ports and other districts of England inspected by the Department on account of their being regarded as the places where the appearance of cholera was most to be apprehended; and, thirdly, with recent researches that have been made by French and German Sanitary Commissioners, as well as by inquirers acting for our own Government, into the pathology of cholera, as regards its intimate nature and its methods of communication.

On Cholera in
1884-6.

CHOLERA IN EUROPE: INTERNATIONAL CONFERENCE.

The cholera which in June 1884 began its epidemic invasion of Europe by outbreaks in the Mediterranean ports of France, attacking Italy a few weeks later, extended during that year, as I have previously reported, somewhat widely; but by the end of December, the disease (at all events as an epidemic) had come to an end in both of these countries.

Invasion of
Europe.

At the beginning of 1885 all that was known to remain of cholera in Europe was a scattered prevalence of the disease in Spain. In that country, after a period of quiescence during the winter months, cholera re-appeared in certain Mediterranean provinces; it speedily attained extensive dimensions, and maintained itself during the latter half of the year over a large portion of the peninsula. At the time when the epidemic may be said to have ceased, in the early months of the present year, cholera had invaded at least forty of the provinces into which Spain is divided, and it had caused 120,000 deaths.

During 1885,
in Spain.

In the autumn of 1885, France and Italy again suffered from epidemic cholera. In France, it was most fatal to Toulon and Marseilles, but at the end of the year had begun to prevail in that north-west angle of France known as the department of Finistère. During last winter some hundreds of deaths were ascribed to cholera in Brest and other places of the

France.

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OFFICER'S
REPORT.

and Italy.

department, and in this district, within easy reach of our own shores, is not certainly extinct at the date of this report.

In like manner Italy, after her lengthened experience of cholera in 1884 and after the apparent cessation of the disease by the end of that year, began again to suffer from cholera in August 1885. Palermo was soon the seat of a serious epidemic, and during the next few months a number of Italian provinces were invaded. Probably, more or less cholera has continued through the past winter, for at the present date deaths from the disease are occurring at Brindisi, and a further extension of it in provinces on the Adriatic is threatened.

Cases in
England.

On one or two occasions during the year cases believed to have been choleraic in nature were witnessed in England in the persons of sailors from the Mediterranean, but the disease did not spread to any person.

Briefly stated, such has been the European experience of cholera, so far as we have learned of it, during the year ended March 31st, 1886. In the first of the papers appended to this report (App. No. 1) Dr. Thorne narrates the course and prevalence of the disease, among such communities as have afforded the needful information, since its earliest declared invasion of Europe; but his history does not profess to be complete. He can say little about cholera beyond Europe; and necessarily has little to record concerning the method of transit of the disease. He gives, however, some instructive and significant illustrations of the relation between filth and our present cholera epidemic. He further shows that each country which has been invaded received the disease by its littoral provinces;* and he tells how countries which profess to take strict quarantine precautions have suffered some very severely and others (it would seem) not at all, the latter resembling in this respect our own country, which imposes no quarantine whatever against cholera upon any of the multitude of vessels which reach its shores from infected countries.

Rome Sanitary
Conference.

In the spring of 1885, in view of the experience of Egypt in 1883 and of Mediterranean countries in 1884, Italy invited a number of Governments in various parts of the world to a conference on International Public Health. The Italian Government represented its dissatisfaction with the outcome of former conferences on the same subject, and desired to settle the basis of an international agreement, as to the measures for preventing the spread of epidemics from one country to another, such as might be acceptable to all Governments taking part in the conference. England consented to take part in this conference. It was opened at Rome on May 20th:—Our own country was represented by Her Majesty's Ambassador to Italy, with Sir Guyer Hunter and with Dr. Thorne of this department.

Attitude of
England:

The views of England concerning cholera in Europe, obtained from her own experience and strengthened by what she can learn

* The first appearance of cholera in Italy in 1884 seems to have been nearly simultaneous at Genoa and among refugees from France quarantined near the mountain frontier.

of other countries, are that for European communities which have secured their soil, water, and air against befoulment, there is little or no danger of cholera, no matter though the disease be actually brought into their midst; whereas communities which have not obtained this result have to encounter an unknown and serious measure of risk from cholera, when it chances to be introduced among them. English medicine holds that cholera in Europe has at times a power of spreading from the sick to the healthy, exerting this power in the presence of filthy local circumstances and most effectively where sources of drinking water have got contaminated by discharges from cholera patients. England puts her trust in measures that shall secure purity of earth, of water, and of air; and regards this purity as sufficient to prevent the spread of cholera in a European community. And as the measure that shall protect herself and other countries from such danger as attaches to intercourse with already infected places and communities, England relies and exhorts other countries to rely upon this same purity of local surroundings as the means for rendering that intercourse inoperative for harm.

her views on
cholera ex-
tension

Accordingly, England imposes no restriction upon intercourse between one and another community—town and town, or nation and nation. She is content with providing for the care of persons actually sick, and with obtaining the destruction of whatever may be harmful in the discharges from cholera cases: and for the rest, she is satisfied that each community, at all events under European conditions, can, if it pleases, render cholera harmless for itself; doing so by the adoption of practices which are profitable against other diseases as well as against cholera. She would dispense, in land and sea traffic alike, with those detentions known as quarantines, having found them in practice to result rather in hazardous concealments and evasions than in any effectual exclusion of cholera.

and on quaran-
tine.

Therefore, upon receiving the invitation of the Italian Government, England was not particularly anxious to share in the deliberations of the new conference. But it was eventually decided that England should be represented there, for the conference promised a useful occasion for explaining the practice of England as regards cholera, and her experience on various questions of public hygiene.

One of the first proceedings of the Rome Sanitary Conference was to delegate to a "Technical Commission" composed of its medical members and others, the consideration of the measures proper to be taken against the propagation of cholera by sea, especially between Asia and Europe; and herein a variety of questions concerning the Mecca pilgrimage and the sanitary administration of the Suez Canal came under review. Some related questions of precautions in river and land traffic, and of means of disinfection also arose for consideration. Dr. Thorne tells us that this Commission commenced its business by excluding "all questions involving scientific and theoretical considerations" and especially such as related to the etiology of the disease."

Proceedings of
Conference.

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OFFICER'S
REPORT.

Reception of
English
proposals.

Results.

Prospective.

Debating under what I cannot but deem the most serious disadvantage of no declared accord upon principles of sanitary action against cholera, the Commission nevertheless succeeded in affirming a number of propositions for submission to the full Conference. These commanded but a varying acquiescence from the representatives of England; and as respects the more immediate proposals of the English delegates the Technical Commission declined to accede to the view that the Suez Canal might properly for sanitary purposes be regarded as an arm of the sea, and be traversable by English vessels without detention; nor would the Commission affirm the English judgment as to the uselessness of detaining (or attempting to detain) in isolation at ports of arrival, healthy persons who had travelled from countries infected with cholera. Indeed the majority of members would seem to have held the opinion that such detention of healthy persons was indispensable; they were disposed, however, to think the name "quarantine" might profitably be disused.

The report of this Technical Commission was laid before the Rome Sanitary Conference; but only to have its consideration postponed, until communication had been had with the several Governments: and it would seem that at the date in November appointed for reassembling of the Conference, the opinions of Governments had been found too diverse to allow of any hope of agreement upon the questions that had been in debate by the Technical Commission. For the Conference did not meet again.

The English Government may expect that some useful result will have been gained by this Conference, though its labours have thus far been inconclusive.* For in preparation for the reassembling of the Conference the Italian Foreign Office issued a memorandum dealing more particularly with the matter which they regarded as of principal urgency arising out of the Rome Conference; and it was here pointed out that an international understanding on the sanitary régime of the Red Sea and the Suez Canal had become imperative: that the existing professions of control over isolation and disinfection were utterly vain for any sanitary purpose: and the memorandum went on to point out the reforms of practice in the Red Sea and the Canal which the Italian Government regarded as essential, and contended that the adoption of these reforms would allow of such free use being made of the Canal as a highway as England had contended for at the Conference; permitting the abolition of existing restrictions upon the movements of vessels, not only in the case of English shipping, but in the case of the vessels of all nations.

Dr. Thorne's account of the Proceedings of the Rome Conference, with a tabular comparison of the conclusions arrived at by its Technical Commission, with those of the Conferences of Constantinople (1866) and Vienna (1874), form the second and third of the appended papers. (App. 2 and 3.)

* Of this conference Dr. Thorne can say that "on no occasion has the value of the adoption of sanitary measures, as the principal safeguard against cholera, been more prominently recognized," than by

ENGLISH PORTS AND OTHER DISTRICTS. THEIR SECURITY AGAINST CHOLERA.

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OFFICER'S
REPORT.

In my Report for 1884 I recorded the precautionary measures which had been taken under the direction of your Board against the introduction and spread of cholera in England; that they had consisted (a) in maintaining the Board's Orders of 1883, imposing certain duties upon Masters of Ships, Customs Officers, and Sanitary Authorities respectively, in regard of cholera-infected vessels: (b) in prohibiting, during the time of cholera infection of certain countries, the importation of rags from those countries: and (c) in instructing local authorities and their officers as to the conditions requisite for local security against cholera. All these precautionary measures have been maintained throughout the year which has now expired. In appendix to this Report I have placed copies of papers relating to these several subject matters (App. 4, 5, and 6).

In 1884, a rapid medical survey of the chief English ports was, under the Board's instructions, undertaken with a view of ascertaining their state of preparedness to resist the introduction or spread of cholera. A fresh sanitary survey of the English coast has been made in 1885 on a larger scale, and in a more systematic manner; and has been extended beyond ports and riparian districts to a number of other sanitary areas of England and Wales. It has engaged your Medical Department through the year, and is in progress at the present time.*

Inquiry by the Board's inspectors into each of the 1662 sanitary areas of England has not been contemplated in the survey. Its design was to comprise those which were to be regarded as incurring chief risk of cholera being introduced into them or spreading within them. These were, first the ports and other littoral districts of the country that had chief opportunity of intercourse with infected countries, and therefore of acquiring for their own common unwholesome conditions such specifically injurious quality as that intercourse can bestow: secondly, the districts which cholera had in fact visited most severely during the epidemic of 1866; and lastly—since unpreparedness against cholera is more or less surely indicated by unpreparedness against other diseases which appear and spread under circumstances of soil, water, or air pollution—a number of districts were selected as more especially requiring inspection for the reason that enteric fever or epidemic diarrhoea was known habitually to prevail in them.

In each district that was visited by inspectors of the survey, investigation was made of the general sanitary circumstances of the district with reference to cleanliness, sewerage and drainage,

* With the assistance of some inspectors temporarily attached to the Department. For the most part, the actual work of the "cholera survey" has been assigned to members of the permanent staff, whose ordinary duties have been performed by the inspectors temporarily engaged.

excrement and refuse disposal, water supply, and condition of dwellings; also as to the general sanitary administration of the district and the performance of duty by sanitary officers; and, further, inquiry was made as to the provision of means of isolation and disinfection, both as concerns current English infections and in anticipation of the possible advent of cholera. Moreover, in the ports and coast districts of the kingdom, note was taken of various anomalies of their sanitary constitution with a view to amendment of them hereafter;* and the arrangements made by the several sanitary authorities, for giving effect to the Cholera Order of this Board (July 12th, 1883), were examined. The inspectors were charged to take counsel, in every instance, with the sanitary authority and its executive officers about matters that were capable of amendment, to place their experience derived from other districts at the disposal of every sanitary administration, and when needful to leave with the authority a written memorandum of the advice which they had given in conference. This system of inspection and advising was uniformly pursued; and I have reason to believe that it was generally appreciated by local sanitary bodies; that where sense of responsibility for sanitary duty had been wanting, the inspections conducted in valuable measure towards its development; and that where local authorities were desirous of performing their sanitary duties towards their own districts and the kingdom generally, they have been greatly aided by the inspectors' visits and have been correspondingly grateful to the Board for the advantage thereby afforded to them.

Results of survey.

Reports by two of the senior medical inspectors of the Board, Dr. Ballard and Dr. Blaxall, on the general results of the survey and on the coast survey particularly, will be found among the appended papers (Nos. 7 and 8). The reports themselves state in a comprehensive manner the general results of the inspections, and are well worth study not only as they have concern with the prevention of cholera in England, but also for the sake of the evidence they afford respecting the general working of the health administration of the country. The Appendix further contains (App. Nos. 8 (a.) and 9), in abstract, an account of the principal facts reported by each inspector, concerning the sanitary arrangements of the several districts visited.

* In the following cases the efficient administration of one or another district, for the purpose of cholera prevention, was interfered with, sometimes seriously, through want of adaptation of the areas of riparian districts to the requirements of the Board's Order of 1883. The remedy that seems most commonly applicable is the formation of several districts into an amalgamated port sanitary district:— (1.) *Chester and Holywell*. (2.) *Dover and Deal*. (3.) *Exeter and Exmouth*. (4.) *Harwich and Ipswich*. (5.) *Preston and Lytham*. (6.) *Runcorn and Liverpool*. Here Port Sanitary Districts are in question. Then, as regards Riparian Districts: (1.) *Bangor and Beaumaris*, (2.) *Barnstaple, Bideford, and Northam*, (3.) *Carmarthen Urban and Carmarthen Rural Districts*, (4.) Several Riparian Districts on *Chichester Creek*, (5.) *Littlehampton*, (6.) *Sandwich*, and (7.) *Salcombe*; with the districts adjacent to each, appear to be in want of some better organization. Already, since the survey began, the Riparian Districts of *Goole*, *Harrington*, *Littlehampton*, *Padstow*, *Fowey*, and *Blyth* have come under the Board's consideration with a view to the rectification of complicated or anomalous arrangements.

Of course this survey was designed rather to discover faults than to observe excellences; and accordingly a great many defects in the local health arrangements of the kingdom are recorded. The sanitary arrangements of port and riparian districts, upon which our security against the spread of cholera must very greatly depend, have been found in places excellent, in other places seriously defective. Probably your Board will learn from the total of the inspectors' reports that the duty of caring for the public health is becoming increasingly apprehended by English communities, and you may be satisfied that the recent survey will have conduced to a more general fulfilment of sanitary duty by the representatives of those communities.

RECENT RESEARCHES INTO THE PATHOLOGY OF CHOLERA.

The interest of England in Asiatic cholera during the year 1885 has not been restricted to observation of the progress of epidemics on the Continent of Europe, nor to watchfulness for the immediate security of her own shores. The appointment in 1883 by the French and German Governments of Scientific Commissions for the investigation of cholera in Egypt had given hope of a better understanding of the intimate nature of the disease; and the subsequent labours of the German Commissioners in India have been of the greatest interest to students of cholera in this country. They have afforded occasion for review of our current notions as to cholera pathology, and for corresponding expectation that we might have attained to such knowledge of the disease as would aid our endeavours for its control.

Cholera
pathology.

The observations of Dr. Koch* and his fellow-workers in India in 1883 and 1884 went to class cholera with certain diseases of infective nature that have been shown to be essentially related to the life of so-called microphytes present in the diseased body. Of these diseases, splenic fever, tuberculosis, and swine fever are the most notable examples; and in them the relation to the accompanying microphyte is such that, after the microphyte has been grown through many successive generations (that is, during the disease operations of the animal, or also, as in the three instances mentioned, outside the animal body in organic solutions), it is able on its introduction into a healthy animal body to engender the related disease in that animal. In such diseases as these the microphyte is found in the very blood and tissues of the animal, and this closest imaginable intimacy with the foreign organism has appeared to be necessary to the production of the disease.

Dr. Koch's
researches.

Admittedly no microphytic organism was discovered by Koch (nor has any such been discovered by anyone else) in the blood or

* See Dr. Robert Koch, in a report to a distinguished Medical Conference at Berlin, July 26th, 1884; Berl. Klin. Wochenschr. 1884, No. 31.

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REPORT.Dr. Koch's
researches.

tissues of cholera patients. But, as we know little about the manner in which such microphytes operate to injure the body in which they are found, it could not be altogether taken for granted that their absence from the blood and tissues was a refutation of their existence as a potential cause of disease. For all we knew to the contrary, was the reasoning of Koch, organisms concerned in the production of cholera would rather be discoverable in the seat of principal disturbance, namely, within the alimentary canal; and he laid himself out to seek in that situation for a microphyte that might be peculiar to cholera: content to postpone a demonstration of the means by which such microphyte, if it existed, produced its associated disease. The position thus taken up by the German observer was a bold one; and it presented undeniable fascinations. To discover the actual material of cholera in such a situation that it must be voided during the customary operations of the diseased body, to the danger of water and of soil that received contamination by it, would be in triumphant accord with the views prevailing among European etiologists respecting the spread of cholera among communities.

"Comma-
bacilli."

In the event, Dr. Koch announced his discovery in the stools of typical cases of cholera, and in the diseased intestine, of a peculiar curved bacillus, "comma-bacillus," which he regarded as characteristic of the disease, and as having essential causative relations with it.* Moreover, during Dr. Koch's study of cholera in India, he found in the tank water of a cholera neighbourhood, numerous bacilli identical with those which he had come to consider as essentially concerned in the production of the disease.† Assuredly therefore, if Dr. Koch's observations should bear the test of critical examination, we had come to be on the verge of a better knowledge of the nature of cholera; a knowledge that must needs be of avail to our endeavours for preventing the disease.

* The organisms which Koch termed "comma-bacilli" were not found by him (in his earlier observations) in any disease except cholera. The fresher the stool, the more abundant did he find the bacilli in it. The more rapid the progress of a fatal case, the more crowded with comma-bacilli did he find the lining membrane of the intestine to be after death. He could cultivate them outside the body on appropriate media of various kinds. He found them to be killed by drying, and their growth and multiplication to be hindered by a number of agents of the kind commonly regarded as disinfectant.

Koch is ready with an explanation of how these comma-bacilli, though absent from the blood and tissues, may operate to produce the disease which we know as cholera. They may be believed to do this by means of a chemical material or ferment which they produce during their stay in the intestine, and which being absorbed into the general system shall have the power of producing the specific disease. In this way the intensity of the resulting disease would be proportioned to the quantity of comma-bacilli that are at work, within the cavity of the intestine, for the production of the chemical ferment.

† It is true that Dr. Koch did not succeed in causing cholera by the introduction of the tank comma-bacilli into the bodies of animals; but provisionally he was able to account to himself for this failure, while maintaining his opinion that the tank bacilli were evidences of cholera. Later on, indeed (as will appear in a subsequent page), Dr. Koch and others did produce some injurious effects upon animals by inoculation of them with comma-bacilli; but it must be doubtful whether these effects had any relation to cholera, and whether they were not rather of a septicæmic nature.

Dr. Koch's views as to the nature of cholera and the means of its dissemination necessarily had chief concern for India. In the interests of that country the further study of the questions that had arisen became necessary, and this was entrusted by the Secretary of State for India to Dr. Klein, who possessed exceptional qualifications (in large degree through the experience he had gained during his researches for this Board into the nature of infective processes) to conduct the required examination of the notable results announced by Dr. Koch. Dr. Gibbes was associated by the India Office in the inquiry, and Mr. Lingard rendered valuable assistance to it.

MEDICAL
OFFICER'S
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Further study
by English
observers:

Dr. Klein and his coadjutors working on the subject in India had no difficulty in ascertaining that the organisms described by Koch are almost invariably present in cholera*; but, nevertheless, they were unable to assent to the opinion that the bacilli in question had a claim to be considered essential to the disease†; and on the whole, Dr. Klein is disposed to regard these and other organisms identified by him in the intestinal contents of cholera as being merely incidental to the putrefaction of those matters.

their judgment
on Dr. Koch's
results.

With regard to the discovery of comma-bacilli in the water of a tank in a cholera neighbourhood, the fact is made light of by Drs. Klein and Gibbes. "There is in India," they say, "not a tank, not a pool, not a well, in village or town, to which, on the one hand, choleraic evacuations have not access, and from which on the other, the natives do not use the water for drinking purposes, and nevertheless, except in years of epidemics, isolated cases only are heard of around these tanks and wells. One might," so they say, "reasonably ask, if the cholera evacuations contained the virus, why does not one case of cholera at once produce a wholesale outbreak?"

A body of distinguished medical experts, invited by the Secretary

* That is, in the rice water stools of cholera and in the intestines when examined under the ordinary circumstances of post-mortem examinations. Indeed, they established with equal uniformity the presence of another sort of bacillus (straight, smaller, and not mobile) along with comma-bacilli in the mucus flakes of the cholera intestine. Equally with Dr. Koch they were unable to discover any form of bacterial life in the blood or tissues of the cholera patient. Nor had they any difficulty in growing the "comma-bacilli" (which should, more properly, Dr. Klein says, be spoken of as vibrios) upon artificial media outside the body.

† To set aside the circumstance that organisms resembling the comma-bacilli of Koch were soon detected in various situations having no relation to cholera (*e.g.*, by Dr. Lewis, in the fluids of the mouth of healthy persons), the pathological consideration which had most weight with our English observers in refusing their assent to the views of Dr. Koch is as follows:—While it is true, they say, that under the ordinary conditions of post-mortem examination comma-bacilli are almost invariably found, both in the mucus flakes of the small intestine and penetrating the mucous membrane itself, it results from their own observations that if the post-mortem examination be made at a very short interval after death, these organisms are but very sparingly present even in the mucus flakes; and in typical cases may be altogether absent from any part of the intestinal mucous membrane—not a trace of them being discoverable even in the loosened superficial layer. The theory of Dr. Koch that these intestinal bacilli are able to cause cholera through their production of a chemical ferment capable of absorption into the general system, must therefore, the English observers contend, be abandoned.

Present position
of question.

of State for India to consider the report of Drs. Klein and Gibbes, have expressed their judgment that the evidence hitherto adduced does not warrant the contention that any of the bacterial organisms known to be associated with cholera bear a causative relation to the disease. And indeed it would seem clear that Dr. Koch arrived too hastily at his affirmative conclusions.

We are then, to-day, in the same position as before of ignorance as to what may be the relation of cholera to bacterial life. It is for this very reason, however, that I would venture to give a caution to students of last year's cholera researches; namely, not to allow their dissatisfaction with Koch's claim on behalf of his intestinal "bacilli" to dishearten them in their search after organisms that yet may exist undiscovered in the bodies of cholera patients. There is no warrant for asserting of cholera blood and tissues, any more than of small-pox blood and tissues, that because we have not yet, with our present methods, succeeded in demonstrating the foreign elements which are concerned in the disease, therefore such elements, even bacterial in their nature, do not exist. In the same way, I should wish to give a caution against a presumption which appears to have gained ground among Koch's opponents, that their objection to his inferences respecting the relation of cholera to comma-bacilli present in tank-water, justifies any defection from the doctrine formulated by Snow in 1849, and now based on abundant experience, that cholera epidemics in Europe may be produced by means of water polluted with cholera evacuations. Those who hold the doctrine that cholera can be so produced, do not need to be told that cholera excrements can contaminate hands of attendants and sources of drinking water without doing harm. But admitting always that this is possible, the fact affords no ground for saying that there are not states of evacuations and conditions of contamination,—conditions of places, of times and seasons,—in which pollution of water by cholera excrements may be the acting cause of cholera outbreaks among communities. Of our better known enteric fever of Europe no one would assert that it habitually spreads to nurses who have to soil their hands with its excrements, or that drinking water befouled by those excrements, needs must, under all circumstances, cause enteric fever among consumers of the water. But of enteric fever, no one I suppose would deny that water polluted by its excrements does, under circumstances that are not completely definable, become the cause of causes of enteric fever outbreaks among populations.

Recent observa-
tions by
Dr. Klein.

An excellent resumé, from the pen of Dr. Klein, of his researches in India, with criticism of Dr. Koch's conclusions respecting the relation of bacteria to Asiatic cholera, has recently appeared in the Proceedings of the Royal Society (February 1885), and with Dr. Klein's permission it is reproduced in the Appendix (No. 10) to the present report. It is supplemented by some more recent notes by Dr. Klein, bringing our knowledge of this relation down to the present date, April 1886. Herein he has occasion to comment on some later observations by Dr. Koch, in which that

pathologist is fain to admit the presence of "comma-bacilli" in a variety of situations independent of cholera, yet claims for those which are found in cholera some distinctive characters of their own; and in which he records the fatal results of experiments on animals with sub-cultures of those bacilli which he regards as special to cholera. Dr. Klein disputes the assertion that Koch's bacilli have these specific characters; and commenting on Dr. Koch's experiments, Dr. Klein certainly shows ground for believing that the experimental processes rather than the material itself were chargeable with the production of the resulting disease and death.

I have the honour to be,

Sir,

Your obedient servant,

April 1886.

GEORGE BUCHANAN.

APPENDIX.

APPENDIX.

APPENDIX

No. 1

Statement of the Prevalence of Cholera in Europe during 1901 and 1902, by the Hygienic Commission.

In accordance with instructions I have prepared the following summary of the prevalence of cholera in Europe during 1901 and 1902. The material is by no means complete, but it is believed that it contains the most important facts. The summary is divided into two parts: the first part contains the general facts, and the second part contains the details of the outbreaks. The first part is divided into two sections: the first section contains the general facts, and the second section contains the details of the outbreaks. The second part is divided into two sections: the first section contains the details of the outbreaks, and the second section contains the details of the outbreaks.

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PREVALENCE OF CHOLERA DURING 1901

1.—IN EUROPE

The first section of the first part contains the general facts. It is divided into two sections: the first section contains the general facts, and the second section contains the details of the outbreaks. The second section of the first part contains the details of the outbreaks. It is divided into two sections: the first section contains the details of the outbreaks, and the second section contains the details of the outbreaks.

The second section of the first part contains the details of the outbreaks. It is divided into two sections: the first section contains the details of the outbreaks, and the second section contains the details of the outbreaks.

APPENDIX.

No. 1.

SUMMARY ACCOUNT of the PREVALENCE of CHOLERA in EUROPE
during 1884 and 1885; by Dr. THORNE THORNE.

APP. No. 1.

On the Prevalence of Cholera in Europe during 1884 and 1885; by Dr. Thorne Thorne.

IN accordance with instructions, I have prepared the following summary account of the prevalence of cholera in Europe since June 1884. The materials at my disposal have been almost exclusively statistical, consisting for the most part of statistics communicated through the press, and based partly on official, partly on non-official records. But I have had opportunity, by means of documents communicated to the Board by the Foreign Office and the Colonial Office, of testing some, at any rate, of this information; and whenever I have found it necessary I have used those documents for the purposes of correction or amplification. As yet, however, with the exception of a report prepared in the Ministry of the Interior at Rome, of another in the Préfecture de Police in Paris, and of a third by the Sanitary Officer of Gibraltar, no official accounts of the epidemic have been issued by the Governments of the countries concerned.*

Under these circumstances, I am unable to claim for this report the accuracy which should properly have characterised it; but it may be regarded as affording some general indication of the extent and severity of the cholera prevalence in Europe since the onset of the disease at Toulon in the summer of 1884; and as such it may be of some use, pending the issue, by the several Governments concerned, of authoritative histories of the progress of the disease.

The statistics given deal with the epidemic up to the close of the last financial year (31st March 1886), but whilst the report has been passing through the press certain additional information, extending up to the end of May and bearing upon the continuance of the epidemic in Southern Europe, has been inserted.

PREVALENCE OF CHOLERA DURING 1884.

I.—IN FRANCE.

The first rumour of the existence of cholera in Europe came from Toulon on June 23rd, 1884, when it was announced that 14 deaths had already taken place, the first two fatal attacks having occurred on June 20th, and three more on the following day. It was also announced in the French Chamber on June 26th that, according to a report by Drs. Brouardel and Proust, who had been instructed to investigate the circumstances of the outbreak, the epidemic had commenced some 12 days before that date. By the 23rd a panic prevailed, and in the "Soir" of that day it was stated that 8,000 of the inhabitants had already left the town.

Toulon and
Marseilles.

No official reports have as yet appeared satisfactorily accounting for the origin of the outbreak. At first it was surmised that cholera had

* See page 17 as to an official report subsequently received on the epidemic of 1885 in Spain.

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On the Prevalence of Cholera in Europe during 1884 and 1885; by Dr. Thorne Thorne.

been imported from Cochin-China by means of the "Sarthe," a French transport, recently arrived in the port of Toulon. But this view was provisionally set aside by a report from Drs. Brouardel and Proust to the effect that though two cases of the disease had occurred on board that vessel at Saigon on April 1st and 2nd, the patients had been sent ashore there, that the vessel had subsequently been subjected to certain processes of disinfection; and that during the 45 days passage to Toulon no fresh case had occurred on board. Suspicion next attached to other French transports from Tonkin, on which certain cholera occurrences had taken place whilst in Chinese waters, but no definite information has as yet been made public on the subject, and hence the actual source of the initial cases still remains obscure.

By the 27th of June 40 fatal attacks had occurred in Toulon, and two deaths were reported from Marseilles. And the question as to the precise nature of the disease was set at rest by the announcement that the medical observers concerned very generally admitted that it was not an affection of a sporadic type, but Asiatic cholera with which they had to deal. By the end of June, 65 attacks had taken place at Toulon, and 17 at Marseilles. [The question of the occurrence of cases of cholera at Marseilles in 1883 is referred to in the Report of the Medical Officer for that year. See page ix., footnote.]

During the month of July the daily number of deaths in Toulon varied from 5 to 49, the smallest number taking place on the last day of the month, by which time a substantial decrease in the intensity of the epidemic had set in. The total cholera deaths during the month amounted to 650; 715 fatal attacks in all having taken place since the commencement of the epidemic. During the same month, and in the presence of an exceptional period of heat, cholera had been steadily spreading in Marseilles, the daily record of deaths rising to some 70 and 80 during the second week of the month, and falling again to about 20 towards the end of the month, when as many as 1,244 fatal attacks had been registered. But, in the meantime, the epidemic had spread beyond the limits of the two cities first affected, and fatal attacks were recorded during the third week of July as having occurred inland at Arles and Aix in the department of the Bouches-du-Rhône, and also at some twelve other places in the departments of Var, Basses Alpes, Gard, &c., and also in a more south-easterly direction in the department of Aude. Of these secondary prevalences the largest outbreak was at Arles, where between July 20th and 31st, no less than 79 fatal attacks were registered.

During the month of August the epidemic continued to decrease in Toulon and Marseilles, the deaths varying between 8 and 1 per day in the former, and between 24 and 4 in the latter city, and the totals for the month being for Toulon 80, and for Marseilles 390. But during this month a wide diffusion of the epidemic had taken place, the disease having become fatally prevalent in some 80 additional towns and districts other than those affected during July. Many of the places affected suffered only from one, two, and three fatal attacks, but in all some 550 deaths over and above those recorded from Toulon and Marseilles had taken place by the end of the month, at localities both inland and in departments bordering on the Mediterranean coast. Of these deaths, 62 took place at Perpignan, 39 at Carcassonne, 12 in the port town of Cette, and 31 in the neighbouring town of Giguean, all in the three departments intermediate between the Bouches-du-Rhône and the Spanish frontier.

During September the disease exhibited a rapid diminution both in Toulon and Marseilles, where the monthly record of deaths reached 29

Epidemic extension of the disease.

and 106 respectively. And although fatal attacks were recorded from some 30 freshly invaded localities, including the more inland departments of Drome and Cantal, yet no further diffusion of any magnitude took place. So also, of the other places already affected it was only in Perpignan, where 70 additional deaths took place, that the disease maintained itself in an epidemic form.

The months of October and November saw the end of epidemic cholera in the localities hitherto referred to, in so far as any public record is concerned. At Toulon a final group of some eight deaths was reported in the middle of November, whereas at Marseilles the record of cholera deaths ceased before the end of October. In all, there had been, according to the returns which were published in the public press, somewhat over 880 fatal attacks in Toulon, and not very far from 2,000 in Marseilles.

According to a report on the epidemic of cholera at Marseilles in 1884, by Mons. Guérard, engineer, the total cholera deaths from the commencement of the epidemic on June 27th to the 31st of October were 1,781, the disease having been fatally prevalent in all the 21 arrondissements. The population of the city is given as 360,099, and the cholera deaths during the period named amounted to a rate of 4.94 per 1,000 per annum; but it is explained that the number of the inhabitants was, at the date in question, abnormally lessened by the usual departures which take place every summer, and by the large exodus of people which the outbreak itself led to. In his description of the sanitary circumstances with which the epidemic was associated, M. Guérard points out that the most neglected portions of the town in point of cleanliness were those which were most fatally affected, and he especially refers to the old quarters to the north of Port-Vieux and behind the Rue Cannebière. Referring to the state of Marseilles forty years ago when, in the absence of sewers, the Port-Vieux became a receptacle for all the liquid impurities of the town; when local wells were in general use for the water supply; and when closets were but little known, all filth finding its way into the gutters; the report adds that, with the exception of an abundant water-service, the same description holds good now for the old quarters.

But whilst cholera was steadily diminishing in the south of France, some manifestations of the disease had taken place in the north of that country. From the information available it would appear that the first of this northern series of outbreaks took place at Yport, a small fishing village on the coast of Normandy. From an interesting report on the occurrence by Dr. Gibert, of Havre,* it would appear that the department of the Seine Inferieure had been entirely free from cholera until the disease was imported by the arrival there, on September 28th, of two of the crew of the "Louise-Marie," from the port of Cette. This vessel having arrived at Cette from Newfoundland nine of the crew shortly contracted cholera, two of the attacks terminating fatally. After this, several of the crew traversed France by rail, one dying of cholera on the journey. The personal effects of the remainder were at the same time submitted to some process of disinfection by a Sister of Mercy. One of the men, who left for Yport, had suffered from a choleraic attack at Cette, and on the day following his arrival (September 29th) his clothes were, with the aid of his sister-in-law, wrung out in water and hung up in front of certain dwelling-houses. On the 4th of October this sister-in-law was suffering from diarrhœa, and on her return that day from

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Marseilles.

Yport.

* Le choléra à Yport, par M. le Doctr. Gibert; Revue Scientifique du 5 Décembre 1884.

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having completed the washing of these clothes at the public "fontaine," she was seized with symptoms typical of the Asiatic disease, and died. Cholera subsequently extended in the filthy narrow streets and bye-paths, in which low dwellings, excavated in the sloping surface and having the natural soil for a flooring, supplied the place of houses. In all, there were 42 attacks and 18 deaths at Yport, the last case taking place about the middle of November.

Nantes.

So also, on the 1st of November, the prevalence of cholera was announced from Nantes, and it was stated that 24 fatal attacks had taken place up to that date. No detailed information is available as to the origin of this outbreak, which lingered on until about the 20th November, when 31 further deaths, making a total of 55, had been registered there. Another statement ("Times," 21st November), however, gave the total deaths from October 16th to November 12th as amounting to 93.

Paris and suburbs.

But by far the most important extension of cholera was that which affected the suburbs and subsequently the city of Paris.

According to a report addressed by the Préfecture de Police to the Ministers of the Interior and of Commerce on the cholera epidemic of 1884 in Paris and in the Department of the Seine, the outbreak in Paris and in the suburbs is divided into two periods, namely, one extending from June 24th to October 24th, during which the epidemic character of the disease is stated to have been but imperfectly marked, and a second, beginning November 4th, which formed the commencement of the epidemic properly so called.

During the earlier of these two periods the disease first affected the outskirts of the city, 14 communes being more or less involved, nearly all within the arrondissement of Saint-Denis. The extent of this outbreak was as follows: July, 6 cases and 5 deaths; August, 17 cases and 8 deaths; September, 15 cases and 12 deaths; October, 25 cases and 18 deaths. In all, 63 cases and 43 deaths. The commune most affected was that of Aubervilliers, where one fatal attack occurred in August, six in September, and nine in October. During this same first period 103 attacks and 40 deaths are stated to have taken place in Paris, and 101 of these attacks are shown in a table to have been distributed in point of time as follows: June, 1 case; July, 46 cases and 19 deaths; August, 39 cases and 10 deaths; September, 8 cases and 5 deaths; October, 7 cases and 6 deaths.

During the second of the periods referred to the cholera which, it is stated, had apparently disappeared from the northern suburbs of Paris at the end of October, only recurred to a comparatively trivial extent as an extension of the Paris epidemic. In the arrondissement of Saint-Denis 36 fatal attacks took place during the month of November, and 10 occurred in the arrondissement of Sceaux during the same period. But in the meantime the epidemic "properly so called" commenced in Paris by the occurrence of two fatal attacks on November 4th. The course of this prevalence is shown in the subjoined table.

Deaths from Cholera in Paris from November 4th to November 30th, 1884.

Date.					Number of Deaths.
November 4th	-	-	-	-	2
" 5th	-	-	-	-	3
" 6th	-	-	-	-	18
" 7th	-	-	-	-	12
" 8th	-	-	-	-	29
" 9th	-	-	-	-	65
" 10th	-	-	-	-	110

Date.	Number of Deaths.				APP. No 1.
November 11th	-	-	-	94	On the Prevalence of Cholera in Europe during 1884 and 1885; by Dr. Thorne Thorne
" 12th	-	-	-	81	
" 13th	-	-	-	85	
" 14th	-	-	-	65	
" 15th	-	-	-	67	
" 16th	-	-	-	40	
" 17th	-	-	-	38	
" 18th	-	-	-	48	
" 19th	-	-	-	30	
" 20th	-	-	-	34	
" 21st	-	-	-	29	
" 22nd	-	-	-	14	
" 23rd	-	-	-	20	
" 24th	-	-	-	11	
" 25th	-	-	-	9	
" 26th	-	-	-	7	
" 27th	-	-	-	4	
" 28th	-	-	-	10	
" 29th	-	-	-	5	
" 30th	-	-	-	8	
Total Deaths				938	

During the month of December 19 more cholera deaths were registered in Paris, 15 taking place between the 1st and the 10th of the month, and the remaining four occurring on four separate days, the last death taking place on the 31st. Two deaths returned as "choleriform diarrhoea" also occurred during the month. So also, in December 37 deaths from either "cholera or choleriform diarrhoea" took place in the suburbs of the city.

Each of the twenty *arrondissements* into which Paris is divided suffered more or less; and of the eighty *quartiers* forming the city only five escaped, but twenty-three of them only had from one to three fatal attacks. During the month of November 26 cases and 8 deaths occurred in the prisons of Paris, the cases being distributed as follows:— 5 in the Dépôt de la Préfecture de Police, 17 in the Prison de la Santé, and 4 in that of Sainte-Pélagie. Including the deaths entered as due to choleriform diarrhoea, the total fatal attacks which occurred in Paris and the suburbs during the epidemic numbered 1,125.*

* The same report contains the following statement as to the previous cholera epidemics in Paris:

"Relevé des décès pendant les précédentes épidémies cholériques à Paris.

"Le relevé ci-après des décès cholériques constatés à Paris en 1832, en 1849, en 1853-54, en 1865-66, et en 1873, facilitera la comparaison entre l'épidémie actuelle et les précédentes.

ÉPIDÉMIE CHOLÉRIQUE DE 1832.

ÉPIDÉMIE CHOLÉRIQUE DE 1862.							
1 ^{re} Période, Invasion.	Mars (à partir du 26)				-	90	décès 13,901
	Avril				-	12,733	
	Mai				-	812	
	Juin (due 1 ^{er} au 15)				-	266	
2 ^e Période, Recrudescence.	Fin de Juin				-	602	4,501
	Juillet				-	2,573	
	Août				-	969	
	Septembre				-	357	
Total					-	-	18,402

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Amongst the further occurrences of cholera in the North of France 18 deaths were announced as having taken place at Compiègne up to November 20th.

ÉPIDÉMIE DE 1849.				
En ville	Mars	-	-	130
	Avril	-	-	694
	Mai	-	-	2,426
	Juin	-	-	5,769
	Juillet	-	-	419
	Août	-	-	810
	Septembre	-	-	670
	Octobre	-	-	32
Dont 3,537 pour les dix premiers jours				décès. 10,950

Pendant la même période on a compté :—

Dans les hôpitaux et hospices civils	-	-	-	6,905
Dans les hôpitaux militaires	-	-	-	1,240
Et aux Invalides	-	-	-	89

Le chiffre total des décès est de - - - 19,184

ÉPIDÉMIE DE 1853-1854.				
1853	Novembre (à partir du 7)	-	-	151
	Décembre	-	-	518
1854	Janvier	-	-	30
	Février	-	-	3
	Mars	-	-	92
	Avril	-	-	429
	Mai	-	-	320
	Juin	-	-	938
	Juillet	-	-	1,121
	Août	-	-	2,396
	Septembre	-	-	848
	Octobre	-	-	500
	Novembre	-	-	129
	Décembre	-	-	151
				décès. 7,626

ÉPIDÉMIE DE 1865-1866.				
1 ^{re} Période.—Du 24 août 1865 au 11 janvier 1866				Décès. 5,751
Dont 3,724 à domicile, et 2,027 dans les hôpitaux. Le maximum journalier s'est produit le 14 octobre, avec 225 décès.				
173 jours séparent la première de la seconde période.				
2 ^e Période.—Du 3 juillet 1866 au 29 novembre 1866				5,257
Dont 3,458 à domicile, et 1,799 dans les hôpitaux.				
Le maximum journalier se produit le 7 août, avec 142 décès.				

Total des décès 1865-66 - - - 11,008

ÉPIDÉMIE CHOLÉRIQUE DE 1873.				
Du 4 Septembre au 30 novembre				Décès. 854
Savoir : Septembre				564
Octobre				267
Novembre				23

[Il est bon de faire remarquer que la population de Paris s'élevait, d'après les divers recensements, en :

1831 à 785,862 habitants.

1846 à 1,053,897

1851 à 1,053,262

1866 à 1,825,274

1872 à 1,851,792

(l'annexion était faite).

D'après le dénombrement de 1881, le chiffre de la population est de 2,239,928 habitants.]

In all, the cholera deaths in France during the epidemic of 1884, as recorded in the various sources to which I have had access, amounted to some 5,000.

But the French epidemic was not altogether limited to territory on the continent of Europe. As late as the 3rd of September Her Britannic Majesty's Acting Consul General for Algeria made a public statement to the effect that since the outbreak of cholera in the South of Europe not a single case had occurred in North Africa, and he explained the quarantine measures in force with a view of maintaining that immunity; but, although quarantine, in various degrees of severity, had been imposed on arrivals from Mediterranean ports since 28th June, the occurrence of suspicious cases, four of them fatal, was announced on September 19th, from Oran, near the western extremity of the coast of Algeria. And, according to intelligence received from Bona, at the western extremity of the Algerian coastline, six of the passengers by a steamer arriving from France had, by September 29th, died of cholera after being landed. At the beginning of November news was published to the effect that cholera was "still" widely prevalent at Oran, as also at Bona, Algiers itself being stated to have "thus far" escaped. The maintained prevalence of fatal cholera at Oran was from time to time noted in the public press, 30 deaths being recorded for the week ended November 14th, and 14 more deaths being stated to have occurred by the 20th. After this there was a public announcement that 54 cholera deaths had taken place in Algeria during the week ended November 22nd, and with this all public announcements as to the Algerian epidemic ceased.

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On the Prevalence of Cholera in Europe during 1884 and 1885; by Dr. Thorne Thorne.

Summary as to France.

Algeria.

II.—IN ITALY.

When cholera broke out in the South of France, the Italian Government, having regard to the large number of Italian operatives employed in the localities infected, took special precautions to prevent the extension of the disease into Italy. A transport was sent to Toulon to bring away such persons as might desire to return to their own country, and arrangements were made for their detention in quarantine before being allowed to land at any Italian port. Considerable efforts were also made to quarantine all persons entering Italy by land, with the result that many thousand travellers were detained in lazarettos at Ventimiglia, San Dalmazzo, Bardonnechia, Saluzzo, Pinerolo, &c.; and as an additional precaution even mail-bags passing from other countries—such as England—through France on their way to Italy, were required to be enclosed in specially prepared bags coated with a solution of tar. As a result of such vigilance a few cases of cholera were detected and isolated, as for example, in the lazarettos at Genoa and Saluzzo. Nevertheless, by the 22nd of July information was obtained that the disease was alleged to have broken out in Spezia, and that it had been conveyed there by means of arrivals from Toulon.

Commencement of the epidemic.

But according to information received about that date from Her Majesty's Ambassador at Rome, Spezia was still free from cholera, although a fatal case had occurred at Rio Maggiore, some 8 kilometres distant, to which place an Italian workman from Toulon had returned, after having performed the required quarantine. Two other non-fatal attacks had occurred amongst his fellow workmen. There were also at the same date cases of cholera at the lazaretto of Varignano. Three deaths had also occurred amongst the soldiers forming the sanitary cordon round the village of Pancalieri, at the foot of Monte Viso, where some Italian workmen from Toulon had been taken ill.

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Diffusion of the epidemic.

In the meantime, however, according to an official report* issued from the Ministry of the Interior at Rome, cholera had appeared in the following provinces: Cuneo on June 28th, Livorno July 14th, Porto Maurizio July 17th, Genoa July 19th, and Turin July 20th.

From the 24th of July onwards records of cholera deaths were regularly issued, and by the end of the first week in August those records appeared daily. The first of these regular records announced that 10 cholera deaths had occurred at Ventimiglia by July 24th; 13 were recorded between July 31st and August 11th at Pancalieri, and up to August 15th 70 fatal attacks in all had occurred in the country, the cases being mainly scattered about north-eastern Italy. From this date a somewhat rapid diffusion of the disease took place, and this especially in the provinces of Turin, Massa, Parma, Bergamo, and Cuneo, and also at Spezia, where 24 deaths were first recorded on the 22nd of August and 41 on the 23rd, and at Busca. Cholera had, according to information from Her Majesty's Embassy at Rome and from some other sources, also appeared in two provinces to the south of Rome, namely, Campobasso on the Adriatic, and Cosenza which divides the Tyrrhene Sea from the Gulf of Taranto. A regiment of infantry had been sent to the former province to isolate infected spots. The disease shortly afterwards manifested itself at Naples, two deaths having occurred there on August 27th and five more following before the end of the month. In all, some 680 fatal attacks had taken place from the commencement of the epidemic to the end of August, and of these 138 had occurred at Spezia, 116 in the province of Cuneo, 88 at Busca, 62 in the province of Bergamo, and 51 in that of Campobasso.

Naples.

Spezia.

A strenuous effort had been made to confine the disease to Spezia by means both of a military cordon on shore and of a maritime cordon in the bay, supported by gunboats, but it was largely evaded, the panic-stricken population fleeing through the surrounding hills. Indeed during the two days which followed the official announcement of the epidemic in Spezia, no less than 6,000 of the inhabitants fled from the place.

The month of September exhibited a great increase in the severity of the epidemic, and also a further diffusion of the disease. There was a considerable increase in the number of deaths in the province of Genoa, where the city itself was separately returned as infected on September 24th, and where 117 deaths occurred between that date and the end of the month; the disease was maintained in the province of Parma; at Spezia, where the fatal attacks had now reached 520 in number, the deaths had for some time varied from 20 to 38 a day; considerable extensions of the disease had taken place in the province of Bergamo, where a total of 318 deaths had occurred by the end of the month; a further heavy mortality had taken place in the province of Cuneo, Massa Carrara, and Parma; several additional provinces had become infected, notably the province of Caserta, where 64 fatal attacks occurred between September 9th and 30th; and four deaths were reported from the city of Rome and two from Venice.

In the city of Genoa the occurrence of cholera was, according to local correspondence, largely associated with the use of polluted water, supplied by the aqueduct of the Nicolay Society, the source of which is near Busalla where cholera had been very prevalent, and in which, it is stated, the clothes of cholera patients had been washed. Under any circumstances the municipality ordered the Nicolay Society to discontinue the supply of this water.

Cholera failed to spread to any extent in Rome, and in this connexion, it may be noted that, in addition to numerous other sanitary precautions

* Il colera in Italia, negli anni 1884 e 1885. Relazione del Deputato Giovanni Battista Morana, Segretario Generale del Ministero dell' Interno. Roma, 1885.

adopted by the municipality, no less than 144 fresh drinking fountains were opened to replace the wells that had been bricked up, and a committee was formed to examine the conditions of the different aqueducts, by which the excellent water-supply is delivered into the city, in order to ensure their being free from risk of contamination.

The disease had by September also extended to the Adriatic provinces of Rovigo and Ferrara; and outbreaks had occurred in some of the more southern portions of the peninsula, as at Chieti, Salerno, Benevento, and Caserta; a single death was also reported from the province of Palermo* in the island of Sicily.

But it was in the city and province of Naples that the disease manifested itself with the greatest severity. Up to September 3rd only nine cholera deaths were stated to have occurred in the city of Naples since August 27th; but on September 4th no less than 67 deaths were reported to have taken place there, and within little more than a week the daily number of fatal attacks was between 400 and 500. After the end of the second week in the month some diminution took place, the daily number of deaths falling gradually, first to some 160 during the course of the third week. By the end of the month a daily fatality, varying between 50 and 60, had been reached, but over 5,700 cholera deaths had by that time taken place in the city. During the same month some 520 deaths had occurred elsewhere in the province of Naples. The total cholera mortality for the kingdom during the month of September was over 7,800, making in all a fatality exceeding 8,500 since the commencement of the epidemic. With the month of October the extent of the epidemic became a good deal circumscribed. In the city and province of Naples there was, apart from some increase during the second week of the month, a general decline in the mortality, until at last by the end of the month the epidemic had ceased in the city and was practically over in the province. The total fatality for the city of Naples, recorded by the public press, since the commencement of the epidemic, had been over 6,500, and close upon 800 deaths had occurred in the remainder of the province.

From an interesting account of the cholera prevalence in Naples which was prepared by Her Majesty's Consul and communicated by the Foreign Office to the Board, it would appear that cholera was imported into Italy by means of Italian workmen and others who, escaping from Marseilles, crossed the Franco-Italian boundary. The means for quarantining the immigrants in and about Ventimiglia were so inadequate that a large number were first taken by sea to Spezia, where a floating quarantine hospital had been established, and thence, after a prescribed detention, they were shipped to different ports of the continent. In this way 65 Sicilian workmen arrived in Naples on August 3rd, and took up their quarters in the Porto district, one of the districts of the city the sanitary circumstances of which were most defective. These workmen were subsequently removed to a floating lazaretto, but it is explained that this removal came too late, and that two days afterwards the first case of cholera occurred in the city. On August 6th and 18th other similar detachments arrived, the people being sent to their respective homes in the provinces. One man arriving on the 18th put up in the Mercato district; he sickened with cholera the same night, and died within 48 hours. Another was attacked on the 21st, and on the 23rd one of fifteen men arriving from the lazaretto at Spezia,

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* As to this, see, however footnote, to the table on p. 12.

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being seized with symptoms of cholera on landing, was removed to hospital. This was the first case officially published. Further cases and deaths occurred off and on until on September 1st the disease broke out with considerable violence, 60 cases and 20 deaths being notified. The districts of the city which were most affected were the Mercato and Porto, and the two adjoining ones of Pendino and Vicaria. By September 10th 966 cases and 474 deaths were officially recognised; but the consular report adds that some 550 deaths in persons whose bodies were found lying about in different parts of the city, and whom it was impossible to identify, were in accordance with the register of burials kept at the cemetery, buried there, in addition to those registered in the official records. By November 9th, when the official bulletin was suspended, the cases had amounted to 12,345 and, including the 550 fatal attacks above referred to, the deaths had reached 7,086.

The four districts of the city which have been named and which are notoriously the most unhealthy and filthy, were much more severely affected than the remainder of the city. This is shown in the accompanying table, which is included in the consular report, and which shows the incidence of cases and deaths in the various districts of the city from August 23rd to November 9th:—

CASES AND DEATHS in each DISTRICT of the CITY of NAPLES.

Name of District.	Population			Cases of Cholera in each District.	Deaths from Cholera in each District, according to Official Bulletins.	Total Deaths in the different Districts.	Deaths at the Cholera Hospitals.	Buried at the Cholera Cemetery but not included in Official Bulletins.	Total Deaths.	Cholera Death-rate per 1,000 Inhabitants.
	Of each District of the City.	Of outlying Villages forming part of District.	Total.							
San Ferdinando	36,985	—	36,985	365	141	5,605	931	550	7,086	14.40
Chinaja	36,611	12,716	49,327	328	166					
San Guiseppe	19,333	—	19,333	388	187					
Montecalvario	44,733	—	44,733	496	167					
Avvocata	39,428	9,586	49,014	438	134					
Stella	40,693	—	40,693	476	174					
San Carlo all Arena	28,401	8,644	37,045	527	172					
San Lorenzo	22,302	—	22,302	323	119					
Vicaria	63,736	—	63,736	1,922	926					
Mercato	56,358	—	56,358	3,378	1,729					
Pendino	34,895	—	34,895	1,860	838					
Porto	38,487	—	38,487	1,844	852					
Total	461,962	30,496	492,908	12,345	(a) 5,605	5,605	931	550	7,086	14.40

(a.) The deaths at the hospitals and those of the persons buried without being registered are given in two subsequent columns. It has been impossible to include them in this one because it is not known to which district the victims belonged; but it is a matter of notoriety that they nearly all came from the "Vicaria," "Mercato," "Pendino," and "Porto," so that the deaths in those four districts may be safely put down at one-fourth more than the actual number figuring against each in the above column.

The report goes on to explain that the special sanitary circumstances which characterized the districts most affected were:—1°, bad means of drainage, the soil being in some parts saturated by the soakage and overflow of cesspools by soakage from faulty drains; 2°, water-supplies subject to risk of pollution both by reason of their method of delivery and means of storage; 3°, excessive aggregation of houses on area and overcrowding of individuals in houses; and, 4° the occupancy, often by two and three families, of filthy cellar dwellings known as "bassi." The number of "bassi" in the four districts concerned and the number of inhabitants occupying them are given as under:—

District.	Inmates in Bassi.	Number of Bassi.
Vicaria - - -	17,460	6,114
Mercato - - -	17,371	6,108
Pendino - - -	11,701	4,083
Porto - - -	14,565	5,106

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Then, again, as many as 9,846 human beings inhabited a class of old buildings honey-combed with small rooms which surrounded small, unpaved, damp court-yards full of refuse in the midst of accumulations of filth and offensiveness. These buildings, which are the worst that exist in the city, are known as "fondaci," and their inhabitants suffered most severely from the epidemic. The report subsequently describes the measures of improvement as to water-supply and sewerage and drainage which it was decided to carry out in the city, and to explain that extensive demolition of house property was in contemplation, and that this was to be supplemented by the construction of labourers dwellings on a large scale. Of these improvements the question of water-supply was dealt with in 1885, when the Serino water was brought from a distance of 24 miles and distributed in the city.

A further table extracted from the same report gives the history of Naples as regards cholera epidemics since its first invasion in 1836:—

CHOLERA EPIDEMICS at NAPLES from the Year 1836 to the Year 1884.

Year.	Population.	Periods over which the Epidemics extended.	Total Number of Deaths.
1836	(a) 351,719	October 2nd to December 31st - -	(f) 5,300
1837	"	April 25th to September 25th - -	13,800
1854	(b) 430,000	July 21st to October 30th - -	7,018
1855	"	September 3rd to December 11th - -	1,296
1865	(c) 447,000	October 14th to December 16th - -	2,626
1866	"	July 31st to January 27th, 1867 - -	3,389
1867	"	August 1st to October 7th - -	300
1873	(d) 448,000	August 23rd to December 20th - -	1,312
1884	(e) 492,617	August 23rd to November 9th - -	7,086

(a) As reported by Petrone, Director of Police in 1835.

(b) Census of 1845.

(c) Census of 1861.

(d) Census of 1871.

(e) Census of 1882.

(f) These figures are taken from the municipal archives, except as regards the years 1836 and 1873, which have been gathered from newspaper reports.

In Spezia the disease ceased early in the month of October. But according to information from Her Majesty's Consulate there had been in that town a total of 597 deaths, every tenth person having been attacked and every twenty-fifth having died, and this in "a beleaguered city with a cordon of troops round the place who had orders to fire on every unfortunate wretch who attempted to fly from death and pestilence."

The epidemic was, however, maintained up to the middle of October both in the province and the city of Genoa, in the provinces of Campobasso, Cuneo, and Brescia, and to a less extent elsewhere. Towards the close of the month, with the exception of five deaths recorded as having occurred during the first days of November in the province of Naples, the death records ceased and the epidemic, as such, may be regarded as having come to an end.

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Up to this date the total fatality of the disease in Italy, as judged of from the various sources to which I have had access, had reached 11,500.

This number, however, falls far short of the actual fatality which occurred. Indeed, the annexed table, extracted from the official report of the Ministry of the Interior of Rome, already referred to, accounts for a total of 27,030 cases and 14,299 deaths:—

Provinces.	Number of Communes attacked.	Total Number of Cases.	Total Number of Deaths.	Date of First Case in each Province.	Date of Last Case in each Province.
Alessandria - - -	25	105	72	25 July -	5 Nov. 1884.
Aquila - - -	7	237	126	18 August -	19 " "
Ascoli - - -	1	1	1	22 Sept. -	22 Sept.
Avellino - - -	13	33	23	3 " -	25 " "
Benevento - - -	11	13	7	5 " -	19 Oct.
Bergamo - - -	131	911	531	26 July -	24 " "
Bologna - - -	13	66	48	26 August -	5 Nov.
Brescia - - -	43	154	108	11 " -	19 Oct.
Campobasso - - -	12	191	81	3 Sept. -	25 Nov. 1885.
Caserta - - -	51	480	253	3 August -	28 Jan.
Chieti - - -	5	62	33	11 Sept. -	10 Nov.
Como - - -	3	3	2	17 August -	31 Oct.
Cosenza - - -	1	9	5	9 " -	24 " "
Cremona - - -	58	329	207	29 " -	15 Nov.
Cuneo - - -	82	2,344	1,655	28 June -	25 Dec.
Ferrara - - -	6	103	55	14 Sept. -	29 Nov.
Foggia - - -	2	2	2	11 " -	22 Oct.
Genova - - -	57	2,619	1,438	19 July -	2 Dec.
Lecce - - -	1	1	—	17 Sept. -	17 Sept.
Livorno - - -	1	12	5	14 July -	6 Oct.
Lucca - - -	8	12	11	26 " -	27 Sept.
Mantova - - -	7	26	13	15 Sept. -	19 Oct.
Massa - - -	14	369	232	24 July -	6 " "
Milano - - -	23	70	48	21 August -	24 Nov.
Modena - - -	16	128	93	26 " -	19 " "
Napoli - - -	54	15,927	7,994	17 " -	15 " "
Novara - - -	23	127	100	22 " -	17 " "
Padova - - -	1	1	1	30 Sept. -	30 Sept.
Parma - - -	17	262	196	10 August -	19 Nov.
Pavia - - -	30	154	97	2 Sept. -	14 " "
Perugia - - -	1	1	1	8 " -	8 Sept.
Pesaro - - -	1	11	6	8 Oct. -	24 Oct.
Pisa - - -	8	15	7	23 August -	5 " "
Piacenza - - -	2	2	2	28 Sept. -	17 " "
Porto Maurizio - - -	6	71	48	17 July -	9 " "
Potenza - - -	1	3	1	10 Sept. -	18 " "
Ravenna - - -	1	1	—	25 " -	25 Sept.
Reggio Emilia - - -	17	193	141	27 August -	3 Nov.
Roma - - -	2	13	6	8 Sept. -	29 Sept.
Rovigo - - -	18	146	87	8 " -	21 Nov.
Salerno - - -	28	289	147	4 " -	13 Dec.
Sondrio - - -	1	7	5	24 " -	1 Oct.
Torino - - -	54	517	404	20 July -	12 Nov.
Venezia - - -	3	10	7	23 " -	19 Oct.
Total - - -	858	27,030	14,299		

The following provinces remained entirely exempt, i.e., Ancona, Arezzo, Bari, Belluno, Cagliari, Caltanissetta, Catania, Catanzaro, Firenze, Forlì, Girgenti, Grosseto, Macerata, Messina, Palermo, Reggio Calabria, Sassari, Siena, Siracusa, Teramo, Trapani.

III.—IN SPAIN.

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Spain had at an early stage of the European epidemic organized strict measures of quarantine against France and other infected places. Thus, according to information derived from the British Vice-Consul at Bayonne, a seven days' quarantine was, by July 29th, imposed on all persons entering Spain by rail. Quarantine had also been imposed on arrivals by sea from France as early as June 26th. Nevertheless on September 3rd 46 cholera deaths were recorded as having occurred at Novelda, and 28 at Monforte, the latter being stated to have taken place since August 28th. Both these inland towns are situated in the Mediterranean province of Alicante. The disease next attacked the town of Elche in the same province, and on the 18th of September deaths were recorded from the coast town of Alicante. But, according to information received from Her Majesty's Legation at Madrid, the port of Alicante was in all probability infected at an earlier date. Thus, five cases of suspected cholera were announced in the "*Imparcial*" to have occurred there on September 1st, the disease being, it was alleged, imported by a vessel from Algiers, which arrived a few days previously at Alicante, and after performing a week's quarantine, proceeded to land her passengers. Amongst the latter was a family from Cette, which took up its abode in the house where the cases of cholera adverted to subsequently appeared. During the third week of the month isolated outbreaks and occasional deaths had also occurred in the province of Tarragona, also bordering on the Mediterranean, and in the neighbouring provinces of Lerida and Saragossa. The disease was maintained throughout the month, and in the provinces of Alicante and Tarragona, and to a less extent in that of Lerida, it extended into the second week of October. According to a communication, dated October 30th, from the British Consul at Barcelona sporadic cases had occurred in that city.* No further record of cholera deaths was heard of until the third week of November, when news came of the extension of the disease towards the centre of the kingdom, four deaths having occurred at Toledo, and two in the coast province of Valencia, these outbreaks being both followed by further deaths towards the close of the month. And finally, four deaths were announced on December 8th as having occurred at Vergel close to the northern boundary of the province of Alicante, and not far from the Mediterranean coast.

In all, intelligence was received of 274 cholera deaths in Spain during 1884, and of these 215 occurred in the province of Alicante. This latter number included 68 at Novelda, 48 at Elche, 36 at Monforte, and 10 in Alicante town.

IV.—ENGLAND.

For the sake of exhibiting together all the information I have been able to obtain concerning Cholera in Europe in 1884, I may state afresh the concern of England with the disease in the following words from the Medical Officer's Annual Report for that year, pp. xxviii. and xxix.:—"On three occasions there was threat of cholera importation into England. Her Majesty's troopship '*Crocodyl*,' after leaving Bombay on April 3rd, had eight cases of sickness believed to be cholera before reaching Gibraltar, all but one among

* This is confirmed in the Report by Consul Wooldridge for 1885, where he says, as regards Barcelona:—"There was an outbreak of cholera in both 1884 and 1885."—See Reports of Her Majesty's Consuls, Part III. Commercial, No. 6, 1886. [C.—4657.]

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" persons who had come from one and the same locality in India. Two convalescent cases from this ship were taken into the Garrison Hospital at Portsea. Then, in July the steamship 'Carthagena' arrived in Cardiff Roads from Marseilles, having had two men ill of 'choleraic diarrhoea' during her passage; and afterwards in August an Italian mail steamer [the 'Abysinia'] landed two men ill of cholera at the Flatholm Hospital of the Cardiff Port Sanitary Authority, and one of them died. In no instance was there any subsequent case of cholera on shore."

PREVALENCE OF CHOLERA DURING 1885.

I.—IN SPAIN.

Commencement of the 1885 epidemic.

Towards the end of the second week of April 1885 rumours reached this country to the effect that a dangerous epidemic of some sort had existed for a month or more at Xativa in the province of Valencia and that a medical commission had been sent by the Spanish Government to inquire into it. So also, about this date the existence of a few suspicious cases within a limited area in the south-west portion of the same province was officially notified. Portugal and France forthwith declared Spain to be infected and quarantine measures were imposed. But it was not until the beginning of June that cholera was publicly announced to be prevailing in Spain. Two cases resembling cholera were reported to have occurred in the province of Castellon on June 5th; on the 6th four cases and two deaths were recorded in the province of Valencia; on the 8th eight cases and four deaths of a disease stated to resemble cholera occurred in the city of Madrid; and 32 and 28 attacks respectively were reported from the province and city of Murcia on the 9th. Thus, the three coast provinces neighbouring to that of Alicante which suffered from the epidemic in 1884 had become seats of the disease, and the suspicion that the capital was also affected turned out to be presently well founded.

Extensive diffusion of the disease.

During the month of June the disease spread in each of the provinces and cities referred to, the spread being on a wide scale in all except the city of Madrid. In the province of Castellon the daily number of attacks and deaths had risen to over 100 and to about 50 respectively by the 17th of June, and by the end of the month the recorded attacks amounted to 1,656 and the deaths to 835; in the province of Valencia the cases and deaths rose steadily until a total of 5,446 attacks and 2,655 deaths had been reported by the end of the month; in the province of Murcia 1,152 deaths occurred during the same period; and in the city of Madrid 48 deaths were recorded. So also, in the meantime, the area of diffusion had considerably widened, the following cities and provinces being attacked in turn:—the cities of Cienpozuelos, Cartagena, Saragossa, Aranjuez, Cuença, and Toledo, and the provinces of Huesca, Saragossa, Cuença, Alicante, Toledo, and Teruel. Indeed by the end of June a total of 13,493 attacks and 5,101 deaths from cholera had been reported; the disease having, further, extended into the heart and to the northern portion of the kingdom.

During the month of July the epidemic increased both in severity and in the area of its diffusion. The disease was maintained in all the provinces and cities already attacked, the provinces of Castellon, Valencia, Murcia, Saragossa, Alicante, and Teruel, and the cities of Valencia, Saragossa, Cuença, and Aranjuez being the principal sufferers. Thus, the record of deaths for the month was:—Provinces of Castellon 1,639, Valencia 6,244, Murcia 1,902, Saragossa 2,593, Alicante 2,109, Teruel 817, and cities of Valencia 2,006, Saragossa 623, Cuença 273, and

Aranjuez 691. The disease also extended to the provinces of Tarragona, Albacete, Jean, Badajos, Segovia, Granada, Cordova, Malaga, Cadiz, Zamora, and Soria. In short, the epidemic was prevalent in nearly every portion of the kingdom except the extreme north-east and north-west, and by the 31st of the month a total of 54,626 attacks and of 23,001 deaths had been recorded for July. These, together with those occurring in June, amounted to a total of 68,119 cases and 28,102 deaths.

Excepting only the cities of Cienpozuelos and Aranjuez, where the disease ceased before the end of July, and those of Murcia and Toledo, where an abatement soon after followed, the cholera was maintained during August in nearly all the localities previously infected: and not only so, but in some of the provinces and cities first invaded during the month of July the disease extended with very great severity.

The August record of cholera deaths included the following amongst the provinces:—Castellon 1,865, Valencia 1,853, Madrid 799, Murcia 1,676, Saragossa 6,085, Cuenca 2,033, Alicante 1,770, Toledo 1,954, Teruel 3,485, Tarragona 821, Albacete 1,503, Jaén 836, Granada 4,836, Cordova 796, Valladolid 995; and the following amongst the cities:—Madrid 584, Cartagena 275, Saragossa 1,003, Granada 3,026, Lerida 452, Almeria 619, and Teruel 371. The disease had also undergone a further extension, the provinces newly affected being those of Gerona, Navarre, Logrono, Burgos, and Palencia to the north; Almeria to the extreme south; Salamanca on the west; and Valladolid and Guadalajara towards the centre of the kingdom. Those most severely affected were the provinces of Navarre with 2,455 deaths and Almeria with 1,031 deaths. There had also been 143 deaths at Adra on the south coast of the province of Almeria since August 18th; and at Motril on the same coast, where cholera is stated to have broken out about the third week of July the total cases and deaths at the end of August were 1,186 and 384 respectively. Ten fatal attacks also occurred during the month in Gibraltar, and 12 within the Spanish lines. The Gibraltar outbreak will be again referred to. The total record for the month for Spain included 141,071 cases and 48,878 deaths.

The month of September exhibited a decided decrease in the intensity of the epidemic, but the extent and suddenness of the decrease cannot have been anything like as great as would appear from the published statistics. Thus, in about a dozen of the provinces and cities in which considerable mortalities had occurred daily up to the 31st of August—and these localities included some of those which had been most severely affected—the record of further cases and deaths suddenly ceased with the end of that month. And similarly, other provinces followed suit in discontinuing record of cholera mortality within a few days of the commencement of September. The records for this latter month are therefore evidently most imperfect. With this qualification it remains to be noted that:—in the province and city of Madrid 247 and 112 fresh deaths were recorded in September, before the official records for both districts closed. So also, in the province of Saragossa 491 fresh deaths took place between September 1st and 12th; and in the province and city of Granada 734 and 95 more deaths were recorded, the return of statistics closing on the 14th of the month. The following mortalities were also recorded:—Provinces of Almeria 421, Navarre 403, Valladolid 323, Ciudad Real 106, Barcelona 411; and cities of Valladolid 76, Barcelona 487, Almeria 354, Cadiz 281, Santander 125, and Adra 67. Some further deaths occurred in Gibraltar, and the disease was maintained at Linea within the Spanish lines. The total numbers of cases and deaths recorded in Spain during September were 17,884 and 6,157 respectively, but the record is very imperfect, and this especially as to the

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non-fatal attacks concerning which no official returns were in certain instances made, although the return of deaths continued to be maintained.

All regular records of cholera deaths ceased with the month of September, and those which followed were but few in number and at somewhat long intervals. Thus, on the 9th October it was announced that 28 more deaths had occurred in the province of Albacete, and at different dates between the 1st and the 24th of the month 77 additional deaths were reported as having taken place in the province of Malaga; and again, 159 further deaths were returned from the city of Barcelona.* The disease also caused 10 additional deaths at Santander, 4 in the district of Linares, 4 in Gibraltar, and 38 at Linea. In all, a further mortality of 316 cholera deaths was returned for the month of October, but no approximate estimate even of cases was made known. At the end of October some 20 to 30 cases were also reported in districts around the town of Bilbao, in the extreme north of the kingdom, on the left margin of the river of the same name; and, the disease increasing there in November, an effort, which was frustrated by the attitude of the population, was made to place a military cordon round the infected localities. In the early stage of this outbreak the deaths were stated to number from three to six daily. After the middle of November no further news was received as to this prevalence. The last information for 1885 was from Marbella on the coast line of the province of Malaga, and about midway between that place and Gibraltar. Between December 13th and 25th 43 cholera deaths are stated to have occurred there. With this record cholera, in its epidemic form, seemingly came to an end in the peninsula. The total record of deaths as gathered from the public press and certain official documents since the commencement of the epidemic amounted to 83,453; the number of cases, so far as these were reported, being 227,074.

Summary for Spain

According to a summary account of the 1885 epidemic in Spain which appeared in a supplement to a report of the "Berlin Imperial Health Bureau" of March 16th, 1886, the epidemic was most widely diffused in the province of Saragossa where, in about four months, 9·1 per cent. of the population became attacked by cholera, with a mean mortality of 33 per cent. of the cases of illness. It apparently was most virulent in the province of Jaén (in the north-east of Andalusia) where, according to reports, more than one half (52 per cent.) of those attacked succumbed; next came the mortality in the province of Valencia 47·7 per cent., and Santander 46 per cent. On an average, it is stated that there died in Spain 8 persons out of every 22 attacked by cholera, or, more precisely, of every 100 reported cases of cholera 37 died.

The account referred to continues as follows:—

"Among the large Spanish towns attacked, Aranjuez was by far the most severely stricken. Within only one month 19·8 per cent. of the nominal population suffered, and 10·1 per cent. died of cholera, rates which in fact, may be doubled if regard be had to the actually remaining population, for, according to trustworthy reports, at the beginning of the epidemic so many inhabitants left the town, that the authorities estimated the remaining population at only 4,500 (given population 8,155).

"A similarly high percentage of mortality from cholera (over 50 per cent.) as in Aranjuez prevailed, according to official statements, in Villareal, Barcelona, and Madrid, and comparison of the numbers of

* According to the official report by Consul Wooldridge, the total cholera mortality for the town of Barcelona in 1885 was 1,318.

cases of sickness and of deaths arouses the suspicion that, especially in the large towns, *e.g.*, in Valencia, the actual number of sufferers has been even larger.

"This conjecture is confirmed in the case of Madrid by a supplementary report of the Alcalde Presidente, Señor Booch (Memoria de las Medidas adoptadas para contener la invasion del Colera en 1885), in which the following numbers for the city are given:—

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—	Ill.		Died.		Recovered.	
	Male.	Female.	Male.	Female.	Male.	Female.
Residents - -	655	933	399	582	256	351
Visitors - -	48	12	32	7	16	5
Suspicious cases -	210	349	146	200	64	149
Total - -	913	1,294	577	789	336	505

"So that on the whole there sickened in Madrid 2,207, of whom 1,366 died, or a mortality of 61·89 per cent. The perceptibly higher participation in sickness of the female sex is noteworthy. The so-called suspicious cases, yielding as they do a mortality of 61·73 per cent., may unhesitatingly be set down as true cholera cases.

"As regards the date of the commencement of the epidemic in Madrid, the same publication gives support to the assumption that prior to the earliest official lists in the 'Madrid Gazette,' cholera had already proved fatal in the city. For within 19 weeks from May 20th to September 30th there died in 1885, 1,822 more persons than in the corresponding period of 1884, and comparison of the numbers yields either the remarkable result that during the prevalence of the cholera other diseases also exerted a higher mortality than on the year before, or one must conclude that the number of cholera deaths was in reality higher than the lists and municipal publication referred to indicate."

[The distribution of cases of illness and of mortality in the several provinces from which reports were sent in, and in 12 large towns, are given at page 151 of the 'Veröffentlichungen' of the Imperial Health Bureau, from which it would appear that the total numbers reported were:—

	Cases of Illness	Deaths.
	264,166	98,051
Percentage of population	2·2	0·8.]

Whilst this report is passing through the press, an official document, issued by the Dirección General de Beneficencia y Sanidad, and containing a statistical account of the Spanish epidemic of 1885, has come to hand. From this document I extract the Table over leaf, which shows that, as regards both intensity and area of diffusion, the epidemic was of even greater severity than was apparent from the sources of information to which I had previously had access.

The outbreak which occurred in Gibraltar and in the immediate neighbourhood is dealt with at length in the annual report on the Public Health of Gibraltar for 1885, by Surgeon-Major F. P. Staples, officer of health.

The outbreak (a) in Gibraltar;

So far as Gibraltar itself is concerned, the first case occurred on August 6th, and the last case officially recorded was on the 13th of October. These dates correspond very closely with those of the commencement and disappearance of the disease from the town of Linea, but no direct connexion between the two outbreaks is stated to have

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GENERAL SUMMARY for the PROVINCES.

On the Prevalence of Cholera in Europe during 1884 and 1885; by Dr. Thorne Thorne.

Provinces invaded.	Number of Ayuntamientos invaded.	Population, according to Census, subjected to the Epidemic in each Province.	Total of		Dates of the Epidemic			Mortality.	
			Cases.	Deaths.	Commencement.	Termination.	Total Duration of Epidemic in Days.	Population.	Attacks.
Alava	18	17,112	859	325	26 July	18 Nov.	116	1.90	87.83
Albacete	39	130,921	8,236	3,244	11 June	27 Oct.	139	2.48	39.39
Alicante	75	311,425	13,977	5,645	1 "	20 "	142	1.81	40.39
Almeria	51	242,213	9,660	2,566	8 July	7 "	92	1.06	26.56
Avila	5	18,770	509	159	13 "	26 Sept.	76	0.85	31.24
Badajoz	4	35,240	950	558	12 "	8 Oct.	89	1.58	58.74
Barcelona	68	51,211	6,302	2,915	5 "	30 "	118	0.54	46.26
Burgos	35	63,529	2,310	786	7 "	5 Nov.	122	1.24	34.03
Caceres	2	2,178	147	57	11 "	11 Sept.	63	2.62	38.77
Cadiz*	7	130,631	2,232	984	12 "	31 Dec.	173	0.75	44.09
Castellón	80	214,686	16,753	6,436	5 June	30 Sept.	118	3	38.42
Ciudad Real	15	92,879	3,727	1,668	3 July	6 Oct.	96	1.80	44.75
Córdoba	13	138,369	3,787	1,318	18 "	21 "	96	0.95	34.80
Cuenca	123	137,649	10,003	3,459	20 June	30 "	133	2.51	34.58
Gerona	38	73,649	2,194	652	21 July	22 "	94	0.89	29.72
Granada	132	364,568	24,736	10,285	1 "	9 Nov.	132	2.82	41.58
Guadalajara	33	28,496	2,944	777	6 "	6 Oct.	93	2.73	26.39
Guipúzcoa	13	59,004	304	158	3 August	3 Dec.	123	0.27	51.97
Huelva	11	46,326	462	231	31 "	31 "	123	0.50	50
Huesca	49	63,387	5,762	1,237	3 June	24 Oct.	144	1.95	21.46
Jaén	35	207,024	5,039	2,599	7 July	29 "	115	1.26	51.58
León	3	7,981	111	48	7 Sept.	23 "	47	0.60	43.24
Lérida	54	83,330	3,441	1,209	2 July	21 "	112	1.45	35.13
Logroño	33	53,944	5,046	1,220	23 "	30 "	100	2.26	24.18
Lugo	4	31,144	16	16	11 "	26 Sept.	78	0.05	100
Madrid	44	477,712	8,584	3,559	4 June	27 Oct.	146	0.75	41.46
Málaga*	28	141,722	5,037	1,702	26 "	4 Nov.	132	1.20	33.79
Murcia	36	420,229	17,749	7,376	5 "	8 Oct.	126	1.76	41.56
Navarra	81	161,626	12,895	3,161	25 July	6 Nov.	150	1.96	24.51
Orense	2	9,741	94	39	2 Sept.	14 Oct.	43	0.40	41.49
Oviedo*	6	72,352	64	38	21 August	2 Dec.	104	0.05	59.38
Palencia	33	42,578	3,587	818	14 July	19 Oct.	98	1.92	22.80
Pontevedra	1	4,181	16	9	10 August	31 August	22	0.22	56.25
Salamanca*	40	40,162	1,258	476	13 July	31 Dec.	172	1.19	36.96
Santander	25	97,538	921	458	5 August	26 Nov.	114	0.47	49.73
Segovia	63	50,917	2,403	803	28 June	29 Oct.	124	1.58	33.42
Sevilla	8	167,201	247	101	26 July	17 Dec.	145	0.06	40.89
Soria	57	36,654	3,079	1,019	1 "	22 Oct.	114	2.78	33.09
Tarragona	61	196,448	8,740	2,536	24 June	13 "	116	1.29	29.02
Teruel	161	171,312	21,909	6,960	27 "	25 "	121	4.06	31.77
Toledo	73	170,857	10,308	3,972	20 "	30 "	133	2.32	38.53
Valencia	219	630,321	45,515	21,612	5 Feb.	8 "	246	3.43	47.48
Valladolid	101	157,019	7,578	2,603	12 July	13 "	94	1.66	34.35
Vizcaya	16	33,626	635	274	1 Oct.	30 Nov.	61	0.81	43.15
Zamora	30	49,418	3,587	764	21 July	16 "	119	1.55	21.30
Zaragoza	222	348,361	54,943	12,788	16 June	4 "	142	3.67	23.29
Totals	2,247	6,575,641	338,685	119,620	5 Feb.	31 Dec.	330	1.82	35.32
Population remaining exempt.	7,067	10,396,839							

* The epidemic absolutely terminated in the province of Cadiz on March 26th; in that of Malaga on January 19th; in that of Oviedo on January 30th; and in that of Salamanca on January 17th. No subsequent case has been reported in the whole peninsula up to date.

Madrid, 4th May 1886.

El Director General,
JULIÁN DE ZUGASTI.

El Jefe del Negociado,
JULIO JIMÉNEZ, LÓPEZ,
El Jefe de la Sección,
MANUEL DE LA PALIZA.

been discovered. In Gibraltar a second case followed on the 8th, a third and fourth on the 10th and 11th respectively, and by the end of the month 15 cases and 10 deaths had taken place. Twelve more cases and nine deaths occurred at intervals between the 1st and the 24th of September,

and a further occurrence of seven cases and four deaths between October 5th and 15th brought the outbreak to a close. In all, 34 cases and 23 deaths occurred in Gibraltar.

In referring to the circumstances with which the disease was associated, Surgeon-Major Staples points to the fact that its main incidence was, as during the cholera epidemic of 1865, upon the poor quarters of the town; the centres of the disease being the same in both outbreaks, except in so far as districts which have been rebuilt since the former epidemic escaped during the past year. Summarising the conditions with which the disease was mainly associated, Dr. Staples refers especially to impurity of air from overcrowding and faulty sanitary circumstances, impurity of drinking water, and unwholesome food supplies.

According to a document submitted to the Board by the Colonial Office, the first occurrence of cholera at Linea just within the Spanish lines was recorded on August 14th, when four cases had already occurred and when the first death took place. Two more deaths took place on August 17th, and one on each of the three following days. Between the 20th and the 26th no fresh cases or deaths were reported, but before the end of the month 18 more attacks and seven additional deaths had taken place; the total attacks and deaths for the month being 32 and 12 respectively. (b) in Linea

The month of September exhibited a considerable increase in the disease. On one day only was there a break in the record of cases and deaths, and the numbers of cases and deaths in a single day reached as high as 36 and 11 respectively. In all there were in September 295 cases and 44 deaths.

After the first week of the month of October the daily number of attacks began to diminish; the last deaths being registered on the 15th and the last cases on the 17th; there having been 95 cases and 38 deaths during the month up to the latter date. In all, there were during this cholera prevalence in the town of Linea 443 cases and 194 deaths.

Comparison between these two adjoining places shows that, with a population of some 24,000 persons, the cholera deaths in Gibraltar amounted to 23; whereas in the Spanish town of Linea, with only about half as large a population, no less than 194 fatal attacks occurred. Owing to the impracticability of preventing communication between Linea and Gibraltar (and this because, amongst other reasons, of the necessity of carrying supplies from the former into the latter place, and of the fact that some 4,000 persons daily enter Gibraltar from Spain in connexion with such supplies), no measures of land quarantine or other restrictions on the movements of the populations were attempted. Gibraltar and Linea.

Continued Cholera Prevalence in Spain in 1886.

It is, however, evident that the prevalence of cholera in Spain did not cease with the close of 1885. During the first two weeks of January 1886 information was received as to 11 deaths at Algeciras and eight in the province of Malaga. And, between January 27th and February 7th, 59 deaths occurred at Tarifa; the disease being still maintained there to some extent as late as March 3rd of this year, when the last information recorded the fact that four more deaths had come under notice.

II.—IN FRANCE.

After the close of the epidemic of 1884 in France, news as to cholera occurrences in that country practically ceased until, on the 2nd of August 1885, 12 fatal attacks were reported to have recently occurred at (a) in Marseilles, Cholera

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Marseilles. By that date, however, the disease had already acquired a firm hold on the city, for with the exception of two days only on which no intelligence was received as to the course of the epidemic, the daily mortality quickly rose, the largest number of deaths recorded being 75 and 69 respectively on the 20th and 21st of the month. In all, 969 fatal attacks took place in Marseilles during August. But by the end of that month a diminution in the severity of the outbreak had already set in, and this being maintained, the last batch of 70 additional deaths recorded for September was reported on the 14th of the month. After this no further cases were made known. The total cholera deaths for Marseilles in 1885 reached 1,039.*

(b) in Toulon.

On the 8th of August one fatal attack was reported from Toulon. This was followed by another on the 18th, and after this date the disease extended rapidly until, by the end of the month, 206 deaths had taken place in that town. After the first few days of September the fatal attacks materially diminished in number, but there were only a few days during the month on which one or more deaths did not take place; the total cholera fatality for the month amounting to 94. Fourteen more fatal cases followed during the course of the month of October, when the record of deaths ceased. In all, 314 fatal attacks occurred in Toulon.

Continued Cholera Prevalence into 1886.

Official records of the disease came to an end with the information above given. But from other sources information has been received which, though perhaps not in every detail accurate, goes to show that cholera still prevailed in certain parts of France during the remainder of 1885 and into the beginning of 1886. Thus, 71 deaths from a disease resembling cholera were reported as having occurred in the department of Finistère between October 7th and 31st. Three cholera deaths were reported from the Pyrénées Orientales on November 14th-15th, and early in November the disease also appeared in the neighbourhood of Quimper. The disease was apparently introduced into Concarneau to the south-east of Quimper from Toulon by the arrival of seamen on furlough from war-ships or transports recently returned from Tonquin, and it spread to several places such as Andierne, Guiloinec, Douarnenez, Kerhorre; and later on the disease was reported to be fatally prevalent in Brest and in the Ile de Sein to the south of Brest. Indeed, between the beginning of November 1885 and the 31st of January 1886, 512 deaths are stated to have occurred in connexion with these outbreaks. How far they were all due to cholera may be open to question, but on the other hand there can be but little doubt that many of them may be regarded in the light of a continuation through the winter months of the epidemic which had made its way into the north-west of France during the previous autumn.

Still later communications which have been received go to show that some similar disease (described as cholera but exhibiting an insignificant mortality in proportion to recorded attacks) continued to cause deaths at Douarnenez up to the middle of March 1886, and that during the first

* The subjoined paragraph appears in the "Report by Consul Perceval on the Trade and Commerce of Marseilles for the year 1885." See Report from Her Majesty's Consuls, Part III., Commercial No. 6, 1886. [C.—4657.] "I am of opinion that Marseilles has herself to blame very much for the frequency of these epidemics by neglecting sanitary precautions. When the disease is here in our midst great improvements are promised; when it is over nothing is done. The drainage system is atrocious; the main drains emptying themselves into the docks where the vessels lie, and no person who has not had the misfortune to experience it can form an adequate idea of the effluvia arising from these drains on a warm summer's night."

two weeks of April six deaths from such cause had occurred in the fishing village of Tréboul, about two miles from Douarnenez. At the beginning of May the department of Finistère was reported as apparently free from infection.

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III.—IN ITALY.

After the cessation of the epidemic prevalence of cholera in Italy in 1884, no records of the disease, beyond an announcement that 12 cases and two deaths had occurred at Gaeta early in January 1885, and that the town and suburbs had, in consequence, been isolated by a military cordon, were received in this country until September 3rd, when cholera was announced to have broken out at Trivio; seven cases and two deaths having occurred there since August 27th. But according to the official report subsequently issued by the Italian Minister of the Interior, cholera was reported to have shown itself during the month of August in the following provinces:—Naples, August 1st (one non-fatal case only); Massa, August 3rd; Genoa, August 4th; Cremona, August 10th (one non-fatal case only); Porto Maurizio and Venice, August 11th; Parma, August 14th; Piacenza, August 15th (one fatal case only); Alexandria and Modena, August 17th; and Caserta, August 21st.

On September 6th a single case was reported to have occurred in Palermo, the capital of Sicily, and seven cholera deaths were reported from there by the 8th of the month. Thirteen more cases and four deaths were announced as having occurred in the city by the 14th, and then a rapid and sudden increase in the epidemic took place; the occurrence of no less than 258 cases and 185 deaths being announced on the 19th. Up to the end of the month the disease prevailed on a large scale, 2,509 cases and 1,426 deaths in all having then been recorded. With the month of October some diminution set in, but with the exception of four separate days, between the 1st and the 24th, for which no returns were forthcoming, and of another break towards the close of the month, a daily fatality, varying from 75 to 7, was maintained. By the end of October, 1,781 additional cases and 861 more deaths had been recorded. The total cases and deaths in this city then amounted to 4,290 and 2,287. From this date no further reports as to cholera in the city of Palermo reached this country. During the second week of September an isolated case of cholera was announced from the province of Palermo beyond the boundary of the city, and although no further news was received as to the continuance of this outbreak until the middle of October, yet from that date until the 28th of the month the disease exhibited itself on a somewhat wider scale, causing 212 cases and 131 deaths. These statistics did not, however, include the town of Monreale immediately to the south-west of the city of Palermo. In Monreale isolated cases and four deaths occurred at intervals between September 17th and 27th, and by the end of the month 48 cases and 15 deaths had been announced. The disease increased during the first week of October, and by the middle of the month an additional 140 cases and 56 deaths had taken place.

Outbreak in Sicily.

Although no further intelligence was received after the end of October as to the prevalence of cholera in the city and province of Palermo, it is evident that the disease had not then ceased. So also, the number of cases and deaths which actually occurred were much in excess of the statistics which reached this country at the time. Indeed, in Signor Morana's official document, the province of Palermo is credited with 5,335 cases and 2,959 deaths, and even at the close of 1885, when the report was issued, the epidemic was not regarded as at an end.

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Cholera on the mainland.

Beyond a few isolated occurrences of the disease, the following outbreaks also were reported from the Island of Sicily:—At Bagheria between September 17th and October 13th, 33 cases and 14 deaths; at Villabate between October 8th and 22nd, 20 cases and 9 deaths; at Ficarazzi between October 8th and 13th, 20 cases and 3 deaths; at Belmonte between October 11th and 14th, 22 cases and 9 deaths; and in the Isola delle Femine off the north coast of Palermo, between October 11th and 14th, 18 cases and 12 deaths.

In addition to the 11 Italian provinces first attacked in August, and to Palermo, where the first cases took place in September, cases occurred in 13 other provinces during the latter month. By far the majority of these outbreaks were trivial, the total mortality varying between one and nine. But in the province of Reggio Emilia, which was invaded on September 11th, the cases and deaths reported were 47 and 26 respectively; in the province of Rovigo they were 81 and 56; and in that of Ferrara they amounted to 112 and 48.

The intelligence as to cholera in Italy, which was made public during the months of August, September, and October 1885, took note only of a small proportion of the cases and deaths which actually occurred. But according to the official report issued by the Ministry of the Interior, cholera caused 6,397 attacks and 3,459 deaths; the several provinces being attacked during the periods specified in the accompanying table:—

Provinces.	Number of Communes attacked.	Total Number of Cases.	Total Number of Deaths.	Date of First Case in each Province.	Date of Last Case in each Province.
Alessandria -	3	21	9	17 August -	17 Oct.
Bologna -	1	1	—	11 Sept. -	11 Sept.
Caltanissetta -	1	1	—	7 " -	7 "
Caserta -	1	9	7	21 August -	1 "
Cremona -	1	1	—	10 " -	10 August.
Cuneo -	3	4	3	15 Sept. -	21 Sept.
Ferrara -	5	112	48	24 " -	25 Oct.
Genova -	15	66	43	4 August -	14 Nov.
Girgenti -	3	3	2	17 Sept. -	24 Sept.
Livorno -	1	1	1	17 " -	17 "
Mantova -	1	1	—	2 Oct. -	2 Oct.
Massa -	7	65	38	3 August -	14 "
Messina -	2	2	—	21 Sept. -	21 Sept.
Milano -	1	1	1	29 " -	29 "
Modena -	3	34	18	17 August -	14 Nov.
Napoli -	1	1	—	1 " -	1 August.
Novara -	1	2	2	1 Sept. -	1 Sept.
Padova -	5	11	3	6 Oct. -	3 Nov.
Palermo -	14	5,535	2,959	6 Sept. -	
Parma -	27	313	202	14 August -	31 Oct.
Pavia -	2	5	3	21 Sept. -	11 "
Piacenza -	1	1	1	15 August -	15 August.
Porto Maurizio -	4	10	7	11 " -	11 Sept.
Reggio Emilia -	10	47	26	11 Sept. -	
Rovigo -	22	81	56	15 " -	
Trapani -	4	35	9	28 " -	5 Nov.
Venezia -	13	34	21	11 August -	
Total -	152	6,397	3,459		

After the end of October 1885 no further intelligence was forthcoming as to cholera in Italy until December 23rd. Information then received was to the effect that during the latter month five fatal attacks had occurred in the city of Venice, besides 15 cases and 10 deaths in the province of the same name. It is also noteworthy that Signor Morana, in his report at the close of 1885, assigned no date for the close of the epidemic in the provinces of Palermo, Reggio Emilia, Rovigo, and Venice. From this it would appear that fresh cases were heard of up to the date of the issue of that document.

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Continued Prevalence into 1886.

In the first three months of 1886 no information was received from Italy as to any cholera prevalence, but during the month of April it became evident that the disease still existed in that country.

The first news came from Brindisi where, between April 5th and 15th, 72 cases and 15 deaths had taken place, and about the same date two deaths were announced as having occurred at Monopoli somewhat further to the north on the same coast line. The disease at Brindisi was, at first, officially regarded to be of a merely sporadic character, but the later history of the outbreak gives no support to this view.

By the end of April cholera had spread to other places within the province of Brindisi, the first deaths outside the city taking place on May 1st. Intelligence as to fatal cholera in the city was suspended after May 15th, by which date 31 deaths had already taken place there.

In the province of Brindisi intelligence as to cases and deaths was of a somewhat intermittent character up to May 19th, when 78 cases and 25 deaths had taken place. Since then no further news has been received. But on May 7th it became evident that cholera was also prevailing in the coast town of Bari to the north of Monopoli, the outbreak having, by the end of May, already led to 177 cases and to 70 deaths.

But the cholera prevalence during 1886 has not been limited to the southern extremity of the kingdom of Italy. On the 1st of May four cases and two deaths were reported as having occurred at Venice, and with the exception of four days, as to which no returns were received, the disease was steadily maintained up to the end of the month, the daily record of deaths having ranged from 2 to 21, and by far the largest mortality having occurred during the last week of the month. At the close of May, 276 cases and 151 deaths had occurred in Venice, and the epidemic was still maintained there. There had also been an extension of the disease to Vicenza.

IV. ENGLAND.

England, and indeed the whole of the United Kingdom again remained free from epidemic cholera during 1885. But in several instances vessels arriving from foreign ports were dealt with under the Cholera Order, 1883. Thus, in the port of Liverpool, the "Mayo" from Carthage had a suspicious case of diarrhoea on board, but after medical inspection she was released.

The "Cartagena" sailed from Marseilles on August 8th for Oran, but owing to the prevalence of diarrhoea on board she had to put back, two of the crew dying, and two being placed in hospital at Marseilles. On August 26th she left Marseilles, this time for Carthage, and thence on September 11th she sailed for Liverpool. During the voyage, diarrhoea again prevailed amongst the crew and on arrival at

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Liverpool two men were placed in the port sanitary hospital, the vessel being then released from all restrictions.

Again, a sailor, belonging to the barque "Ribbleton," reached Bristol on August 4th, after having travelled from Marseilles, and died under the following circumstances:—The "Ribbleton," having 13 persons on board, had remained at Marseilles from July 20th to August 6th discharging cargo and taking in ballast. Five days after entering the port one of her crew who had, two days previously gone ashore without permission was seized with cholera. He died on the following day. The sailor above referred to as reaching Bristol on August 4th was paid off at Marseilles, and travelled thence overland direct to Bristol. On the day following his arrival he was taken ill with symptoms of cholera, and he died on August 7th; the port medical officer, who has had considerable experience of the disease, declaring the attack to have been true Asiatic cholera. All necessary precautionary measures were adopted, and no further case of the disease arose. The "Ribbleton" herself subsequently reached Bristol on September 21st, another of her crew having sickened with "diarrhœa" on August 6th, the day the vessel left Marseilles, and being on the sick list up to September 3rd. The vessel having been disinfected, and her ballast having been discharged overboard and conveyed into the Channel, she was admitted into dock.

A suspicious death also took place on board the S.S. "Crindau" in the port of Cardiff. The vessel arrived at Cardiff from Barcelona on September 2nd. The exact nature of the disease is somewhat doubtful; it occurred in the case of a man who came on board after the arrival of the ship in port; but the medical officer of health regarded it as a case of sporadic cholera. Precautions were taken as to disinfection and the burial of the body, the captain and the remainder of the crew having previously been allowed to land.

No. 2.

REPORT on the PROCEEDINGS of the INTERNATIONAL SANITARY CONFERENCE held at ROME, 1885; by Dr. THORNE THORNE.

APP. No. 2.

On the Proceedings of the International Conference held at Rome, 1885; by Dr. Thorne Thorne.

I HAVE the honour to report, that having been nominated to the Foreign Office for that purpose by the Board, I attended the International Sanitary Conference of Rome in the capacity of British delegate. Great Britain was represented by three delegates, namely, Sir John Savile Lumley, G.C.B., Her Majesty's Ambassador at the Court of Rome, who acted as diplomatic and senior delegate; Surgeon-General Sir William Guyer Hunter, and myself. Two other delegates, Surgeon-General Sir Joseph Fayrer and Surgeon-Major Dr. Timothy Lewis, went out from this country as representing British India. In all, the Conference consisted of 63 delegates, 31 being medical delegates and the remaining 32 being either the diplomatic representatives of their respective countries at the Court of Rome or specially appointed delegates holding other official positions. All the European States were represented; a separate medical delegate for Egypt being included amongst the Turkish representatives.* Of the European States, Belgium, Greece, and Roumania were only represented by diplomatic delegates. Brazil, British India, and Mexico were represented by both diplomatic and medical delegates, the United States of America by a medical delegate only, and the Argentine Republic, Chili, China, Guatemala, Japan, Peru, and Uruguay by other than medical delegates. Following the precedents of the Constantinople and Vienna Conferences, it was decided that each autonomous Administration should dispose of one vote.

The expediency of convoking a Conference in Rome appears to have been first entertained by the Italian Government in 1883 as the result of the epidemic of cholera which prevailed in Egypt during the course of that year; and in view of the experience acquired during the cholera epidemic of 1884 in Southern Europe, as to the value of the restrictive measures by which it had been sought to stay the spread of the disease, it was later on felt that the occasion for the assembling of a Conference was especially opportune. It was at first desired that the Conference should take a much wider scope than that which was ultimately decided on, and which is set forth in the letter and memorandum addressed on April 21st, 1885, by Signor Mancini, Minister for Foreign Affairs at Rome, to the Italian representatives abroad. A copy of this letter and memorandum are annexed to this Report. The Italian Government were impressed by the circumstance that the deliberations of the two previous Conferences of Constantinople in 1866 and of Vienna in 1874 had failed to result in any international agreement as to the measures best adapted to prevent the spread of epidemic disease from one country to another, and this especially in regard of quarantine restrictions, concerning which the "most complete anarchy" continued to exist. It was hoped that the Conference, when it had discussed the subject from a technical and scientific point of view, might be able to settle the basis of an international agreement as to measures of prevention such as would be acceptable to all the Governments. And it was also suggested that rules might be drawn up for the immediate application

* Dr. Abbate Pacha, the delegate from Egypt, arrived in Rome too late to take part in the discussions on the Conclusions which are dealt with in this Report.

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On the Pro-
ceedings of the
International
Conference held
at Rome, 1885;
by Dr. Thorne
Thorne.

of an International System of Sanitary Intelligence, such as had been suggested by the Sanitary Conference which met at Washington in 1881.

The Conference was opened on the 20th of May by Signor Mancini, after which Signor Cadorna, President of the Council of State, was elected to the presidency. At this meeting a "Projet de Question préalable," which had been prepared by the Italian Government as a programme for the proceedings of the Conference, and which was mainly based on the conclusions arrived at by the Vienna Conference, was submitted by the President. At the second meeting on May 22nd, a resolution was passed adopting this programme in principle. But at the same sitting it was proposed by the French Ambassador that a Technical Commission consisting of the medical delegates should be formed in order to prepare a series of resolutions to be submitted to the Plenary Conference, and it having been decided that any diplomatic delegate was at liberty to attend the sittings of the Technical Commission, and, in the case of there being no technical delegate, to take part in the proceedings and to vote on that Commission, the proposition was unanimously assented to. The work of the Commission was materially assisted by the appointment of Sub-Committees on all the more important subjects dealt with; the Sub-Committee in each case submitting to the Technical Commission a code of resolutions at which they had arrived, and which formed the basis for the discussions of the Commission. Members of both the British and the Indian delegations served on several of these Sub-Committees.

The Technical Commission commenced its labours on May 23rd, 1885, under the Presidency of Dr. J. Moleschott, Senator of the Kingdom of Italy and Professor in the University of Rome, and after holding 15 sittings, it reported its proceedings to the Plenary Conference at the third meeting of that body on the 12th of June. At this latter meeting the Conference decided, on the motion of the German Ambassador, to propose to the Italian Government that an adjournment should take place in order to enable the several diplomatic delegates to confer with their respective Governments as to the attitude each should take with regard to the Conclusions at which the Technical Commission had arrived, and this proposal having been assented to, it was decided at a fourth meeting held on June 13th, that the Conference should re-assemble on November 16th, 1885. When that date arrived it was, however, considered that, having regard to the divergence of opinions which had been manifested during the discussions of the Technical Commission, there would be advantage in further postponing the re-assembling of the Conference, and under these circumstances the following Report has to do only with the proceedings and the provisional Conclusions of the Technical Commission.*

I have annexed these Conclusions to this Report, as also a Table in which the Conclusions of the Constantinople and Vienna Conferences, and those arrived at by the Technical Commission of the Rome Conference, are so arranged as to facilitate comparison between the results of the three Conferences.

At an early sitting of the Technical Commission it was decided that the measures necessary for the prevention of cholera should, in the first

* The summary of the Conclusions arrived at by the Technical Commission, which is appended to this Report, has been arranged by the compilers of the Procès-Verbaux in a different order to that in which they were discussed, and hence in the references that will here be made to them the numbers do not run consecutively.

instance, engage the attention of the delegates, and that all questions involving scientific and theoretical considerations, and especially such as related to the etiology of the disease, should be excluded from discussion. At first, the "Programme Questionnaire" of the Italian Government was taken as the basis for the discussions of the Commission, but some difficulties being experienced in following this course, it was decided to proceed on the lines of a programme which was submitted by M. Brouardel (France), and which, after certain modifications had been introduced, dealt with the subject under the following headings:—
 "Mesures à prendre contre la Propagation du Choléra par voie de Mer:—1°. Mesures d'assainissement au point de Départ; 2°. Mesures d'assainissement pendant la Traversée; 3°. Dispositions spéciales pour la Mer Rouge; 4°. Mesures d'assainissement à l'Arrivée; 5°. Dispositions spéciales à la Méditerranée; 6°. Prophylaxie sanitaire de la Mer Caspienne." Before this decision had been arrived at a resolution had, however, been come to on the question of Land Quarantine.

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I.—LAND QUARANTINE.

The Technical Commission were all but unanimous in their condemnation of measures of land quarantine. By far the majority of the delegates, including myself, held that cholera was largely transmissible by human agency, and that consequently sanitary cordons, if applied with the strictness of a scientific experiment, ought to be effective in preventing the spread of the disease; but it was admitted that the recent experiences of Egypt and of Southern Europe, in 1883 and 1884, had once more demonstrated the futility of their application, and, as a result, a proposition by Dr. Rochard (France), to the effect that "Les quarantaines de terre et les cordons sanitaires sont inutiles" (Conclusion No. 6) was adopted with the single dissentient voice of Turkey.

II.—MARITIME QUARANTINE.

The preliminary discussions on the subject of maritime quarantine disclosed great diversity of opinion on the part of the several delegates. One objected to any "arbitrary time quarantine;" another to any quarantine whatever in European ports when the disease was already prevalent on the Continent; a third wished materially to reduce the length of quarantine detentions; whilst others apparently believed in the efficacy of quarantine as heretofore imposed, and even called for more stringent restrictions. During the course of the debate on the subject, information was asked for as to the system adopted in this country in substitution for quarantine, and I undertook to explain to the Commission the details and working of the system of "Medical Inspection," which has long been carried out in Great Britain, and which had received the formal approval of the Vienna Conference. I explained that under the Order of the Local Government Board, cholera-infected vessels—and infected vessels only—arriving in the ports of England and Wales were dealt with as follows:—The sick of cholera were immediately isolated, and those actually suspected of developing cholera could be detained, under observation, for 48 hours; meanwhile all healthy persons were allowed to land, subject to notification of their destination being communicated by the Port Sanitary Authority to the Medical Officers of Health of the localities to which they were bound, in order that these officers might exercise the needed surveillance over them on their arrival within their districts. I gave some details as to the sanitary organisation necessary to give effect to this system, and I explained how far the English local sanitary authorities had prepared them-

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selves in advance by duly appointing the requisite officers, and by providing themselves with hospital accommodation for the isolation of infectious diseases.

When the adjourned discussion was resumed, the lines of M. Brouardel's programme were followed, the first point relating to the sanitary measures to be adopted at ports of departure.

A.—Mesures d'Assainissement au Point de Départ.

On this subject a series of 18 resolutions (Nos. 16-33) were formulated, some of them being arranged in the Procès-Verbaux under a separate heading, viz.:—"Prophylaxie Sanitaire Maritime. Mesures sanitaires générales." The majority of these latter dealt with matters which, in principle, are already carried out in the ports of this country; they therefore received the support of the British delegation, and were unanimously adopted. They related, 1°, to the importance of maintaining in all ports conditions favourable to a high standard of health, and a sanitary authority from whom information as to the state of health could be obtained; 2°, to the provision of facilities for isolating cholera patients, and for disinfection by steam under pressure in such vessels as carried passengers; and 3°, to the need for medical examination and cleansing of vessels before the commencement of lading, to the medical examination of passengers, and to the exclusion from vessels of sick persons and infected articles. Another Conclusion relating to the desirability of requiring all passenger vessels to carry a medical officer was adopted with two dissentients only. But a Conclusion (No. 22) to the effect that "The consul of the country to which a vessel is destined shall have the right to take part in the sanitary inspections of vessels which are made by the agents of the land authority" was opposed by the British delegation, and was only carried by eight votes to six, there being eight abstentions. As regards another resolution, which proposed that all the clothing, &c., of every person sailing from a port where cholera was prevalent should be disinfected before departure, I pointed out that such a measure would be impracticable, as, for example, in the large ports of the United Kingdom; and a similar objection having been taken by the Indian delegation, the proposal was in the end rejected; a modification, limiting such action to the clothing, &c., of persons actually suffering from cholera, being agreed to.

At a later stage a distinction was drawn between vessels carrying a medical officer on board and those not so provided; the former were termed "Grands Navires," the latter "Petits Navires," and as regards the precautions necessary in the case of Petits Navires at ports of departure, a few additional restrictions (Conclusions 29-33) were proposed, and were adopted with all but complete unanimity.

B.—Mesures d'Assainissement pendant la Traversée.

The health precautions to be taken during the sea voyage next came on for discussion. With regard to (a.) *Suspected Ships*,* three resolutions, Nos. 34-36, relating to the frequent cleansing and disinfection of soiled linen and of the closets, and to the maintenance of cleanliness and ventilation during the passage, were unanimously assented to. As to (b.) *Infected Ships*,* two resolutions (Nos. 37 and 38), relating to the

* These terms were not defined by the Technical Commission. During its thirteenth sitting the Russian delegate (Dr. Eck) presented a document containing an elaborate explanation of the terms; but it was felt that since the acceptance of the definitions proposed might involve re-consideration, by some of the delegates, of Conclusions in which those terms had been embodied, the proposition had better be withdrawn.

measures of isolation, cleansing, and disinfection to be adopted on board on the occurrence of cholera, were unanimously assented to, but the British delegates, not desiring to impose restrictions which they believed would be impracticable of execution in the case of large vessels, such as troopships, abstained from voting on a subsequent resolution (No. 39), which went to prohibit for the remainder of the voyage the use by any healthy persons of the compartments (*les locaux*) in which attacks of cholera had taken place. Two special resolutions (Nos. 40 and 41), applicable to "Petits Navires," and relating to the same subject, were also adopted. One of these dealt with the need of supplying to masters of such vessels a code of instructions as to the action to be taken in the circumstances referred to.

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C.—Dispositions Spéciales pour la Mer Rouge.

At this stage the report of a Sub-Committee on the special measures to be adopted in the Red Sea was brought up, and the first paragraph, which laid it down that all steamships coming from cholera-infected ports beyond the Straits of Babel-Mandeb should be subjected to medical inspection in the Red Sea (Conclusion No. 42), led to a lengthened discussion. With the exception of the delegates for Spain and Brazil, who objected to the proposal on the ground that inspection was an insufficient precaution, the Commission were evidently unanimous in assenting to the principle of medical inspection. But viewing the report of the Sub-Committee as a whole, I pointed out to the Commission that the medical inspection proposed could only be regarded as a preliminary step to the imposition of quarantine, and this whenever the medical officer of the port, who was to be "independent" (Conclusion No. 43), chose to regard any case on board as suspect. Under these circumstances the British delegation felt it their duty to oppose the proposal. (The word "independent" as applied to this officer was intended to suggest that the appointment should be made by an International Commission.) During the course of the debate it was pointed out by the British and Indian delegations that no instance could be cited in which cholera had been communicated to Europe by means of a British vessel from India, and that, therefore, so far as British vessels were concerned, the proposal could not be shown to be necessary. Both delegations were ready to give their assent to any system of inspection which had for its object the acquiring of information as to the sanitary state of the vessel, and I pointed out that such information might be communicated by the representatives of the various countries to their respective Governments; who could, in turn, either refuse to admit the vessels concerned into their ports, or subject them to such measures of detention as they thought fit; but that England, having elected to carry out the system of medical inspection as formulated at Vienna, would decline to be a party to the imposition of any system of quarantine.

At this stage Sir Guyer Hunter made a definite proposal with regard to English vessels sailing direct to British ports. The proposal was to the following effect: "Les navires anglais, marchands, troupiers, postaux et autres, qui ne communiquent ni avec l'Égypte ni avec aucun port de l'Europe devront pouvoir traverser toujours le Canal de Suez sans inspection,* comme bras de mer," but the proposal only received the support of Great Britain and India, there being two abstentions, namely, Japan and Russia.

* It will be seen from what has already been stated that the objection to inspection which is involved in this proposal, had reference solely to such inspection as was aimed at in the Conclusions of the Technical Commission, and which is referred to in the footnote on page 40.

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1. *Suspected Vessels.*

In the end, a series of Conclusions was adopted (Conclusions Nos. 42-46), under the heading of "Suspected Vessels," relating to the proposed inspection and to its results. One Conclusion (No. 44) laid it down that if the medical officer of such a ship certified that sanitary precautions and measures of disinfection had been observed, and that there had been no case or suspicion of cholera on board during the sea passage, and if the port medical officer was satisfied that there was no suspicion of cholera on board, free pratique should at once be granted. Others were to the effect that suspected vessels not disembarking passengers in the Red Sea or in Egypt, need only be subjected to one medical inspection near Suez, but that if the contrary were the case there should be a first inspection near the Straits of Babel-Mandeb, and a second at the first port touched at.

2. *Infected Vessels.*

As regards "Infected Vessels," that is to say, vessels on which there was or had been during the voyage any case of cholera, several Conclusions (Nos. 47-50) were come to requiring that all the passengers should be landed and isolated in groups, each numbering as few as was found possible, that the sick should be further separately isolated under medical supervision, that the ship and all articles of clothing, &c., should be disinfected, and that the passengers and crew should be subjected to detention under "observation" for five days, it being understood that the five days would be repeated as regards each group every time a fresh case suspected to be cholera occurred.

The British delegation, having opposed the inspection which was intended to precede the imposition of quarantine detention, abstained from voting on all the Conclusions (Nos. 43-46, and Nos. 48, 50, and 51) relating to the appointment of the officer who was to carry out these several regulations as to suspected and infected vessels, and as to the method in which they were to be performed, excepting only the one (No. 47) which actually prescribed the landing of all the passengers, healthy as well as sick, if any, and the one (No. 49) which defined the period of detention. These they opposed. The latter Conclusion (No. 49) may be regarded as the crucial one of the Technical Commission, and it is noteworthy that it was only adopted by a majority of four (13 ayes, 9 noes), the minority being made up of the delegates for Great Britain and India, who objected in principle to quarantine detentions; of the delegate for the United States of America, who opposed the application of any arbitrary time quarantine; and of the delegates for Brazil, Spain, Mexico, Roumania, Servia, and Turkey, who regarded the restriction as inadequate. Five of the latter States formed the minority in an amendment, which was rejected, to the effect that the detention should be of 10 days' duration.

During the course of this discussion a point relating to the attitude of the British and Indian delegations was raised. It amounted to a protest by the French and German delegations to the application of the word "quarantaine" to this measure of detention under "observation."* As to this I would observe:—1. That speaking for the

* M. Rochard (France), in addressing the Commission, at its eighth sitting, said:—"M. Thorne assimile la visite médicale à un commencement de quarantaine. On était convenu de ne pas prononcer ce mot. Si les délégués français avaient voulu en parler, ils l'auraient fait d'une façon ouverte." And Dr. Koch (Germany), at the same sitting, said: "Je proteste contre la dénomination de 'quarantaine' donnée à une observation de cinq jours." See "Procès-Verbaux," pp. 172 and 183.

delegation from France, M. Brouardel, who was the reporter for the Sub-Committee on "Dispositions spéciales pour la Mer Rouge," had previously stated at the third sitting of the Technical Commission that the French delegation had come to the Conference with conciliatory views, on the basis of limiting, as far as possible, the duration of quarantine, "prête à limiter les quarantaines autant que possible;" and 2. That the word "quarantaine" has hitherto always been applied to such detentions. As to this I would refer to one of the Conclusions arrived at by the Constantinople Conference, and which is to this effect: "Relativement à la quarantaine d'observation et à la quarantaine de rigueur, la Conférence est d'avis que la différence entre ces deux régimes consiste en ce que la quarantaine d'observation est un temps d'épreuve, de simple surveillance, tandis que la quarantaine de rigueur consiste dans le débarquement au lazaret avec désinfection, et comprend toutes les mesures applicables à une provenance cholérique." So also, at the Vienna Conference, detentions for the purposes of "observation" were included under the heading "Système des Quarantaines," as opposed to the "Système de l'Inspection Médicale," and the process is referred to as "la quarantaine d'observation." In short, the system of "observation" advocated by the Technical Commission corresponds not only with that of quarantine, but is in fact the "quarantaine de rigueur" of the Constantinople Conference.

The preponderance of opinion in favour of quarantine detentions, both as regards the Red Sea and, as will be seen later on, as regards all Ports of Arrival, which was exhibited by the Technical Commission was, I believe, much larger than that which was anticipated prior to the assembling of the Conference; and I have been unable altogether to dissociate this result from the change of name above referred to. As already indicated (see footnote, p. 30) the word quarantine had not only become distasteful to certain members of the Commission, but, so far as could be judged, some of the delegates regarded the Conclusions arrived at on this subject as aimed at superseding the quarantine system. Indeed, the President of the Technical Commission, in addressing the Italian Minister of Foreign Affairs on the conclusion of the labours of the Commission, wrote in the opening sentence of his communication*:—"La Conférence . . . se distingue des conférences précédentes en ce qu'elle a rejeté, sans réserve, les quarantaines. Non seulement la Commission Technique, dans son travail préparatoire, a déclaré inutiles les quarantaines de terre, et les cordons sanitaires, mais, en outre, elle a proposé de transformer les quarantaines maritimes en inspections et observations." I have already explained that the change referred to was, in my opinion, one of nomenclature only. And inasmuch as the detention approved by the Commission is in all essentials a rigorous quarantine, I shall continue throughout this report to designate it accordingly.

At the close of the discussion as to the restrictions referred to, the Russian delegate who had personal experience of the state of the quarantine stations in the Red Sea, proposed a resolution which, amongst other things, expressed the opinion that the restrictions should not be applied until arrangements had been made to carry them out. The motion was declared to be out of order, on the ground that it dealt with a question of administration, but it may here be observed that, although the necessity for providing the requisite organisation for

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* "L'Œuvre de la Conférence Sanitaire de Rome, par M. Jac. Moleschott." See reprint in "La Revue Scientifique," 12th September 1885. [The italics are mine.—R. T. T.]

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enforcing quarantine restrictions in the Red Sea was laid down at Constantinople in 1866, and again at Vienna in 1874, the Egyptian delegate, at the last sitting of the Plenary Conference, submitted a "Mémoire," in which he pointed out that, in so far as measures of isolation and disinfection in that sea were concerned, they were applied in a manner which was altogether insufficient and untrustworthy ("tou à fait insuffisante et illusoire"), and this because the means for their proper application did not exist. He went on to express the view that, under these circumstances, the passage of the Suez Canal in quarantine appeared to be the only possible and practical solution of the question.*

D.—Mesures d'Assainissement à l'Arrivée.

A Sub-Committee having been appointed to prepare a code of regulations as to the measures which it was necessary to adopt at ports of arrival, the resulting report indicated a want of unanimity amongst the members; and the Technical Commission having rejected a proposal of the majority of the Committee to impose more stringent quarantine detentions at ports of arrival than those which had been regarded as sufficing in the case of the Red Sea, new members were added to the Sub-Committee, and later on a fresh report was presented. The first two Conclusions of the enlarged Sub-Committee (Nos. 68 and 69) dealt with the inspection of Suspected Vessels on arrival, and to the granting of free pratique to the passengers in vessels in which no case or suspicion of cholera had existed during the voyage, and where proper sanitary measures had been in force. These were adopted by large majorities. But with regard to a third Conclusion (No. 70), which required vessels similarly free from all suspicion of infection to be subjected to a detention of 24 hours, together with certain processes of disinfection, and this simply because the voyage had been of less than 10 days' duration, I urged that the medical inspection for the purposes of dealing with any actually sick should suffice, and that the detention, under such circumstances, of healthy persons was not only vexatious but useless. The resolution was, however, adopted, there being 11 votes for, 6 against, and 4 abstentions.

With reference to Infected Vessels, it was unanimously decided that any cases of cholera found on board should at once be landed and isolated, and that measures of disinfection should be adopted (Conclusions Nos. 71 and 72). But on the further proposal that all the passengers and crew should also be isolated (Conclusion No. 73) during a period of five days (Conclusion No. 74), considerable want of unanimity was exhibited, and the latter Conclusion was only adopted by 11 ayes, against 8 noes, there being 2 abstentions. As in the case of the Red

* A recent example of the impracticability of carrying out the measures which are professedly in operation in the Red Sea occurred in the autumn of 1885. Two French transports, the "Chateau Yquem" and the "Nive," from Tonquin, were ordered into quarantine at Tor under the Cholera Regulations. The "Chateau Yquem" reached that place on October 29th, the passengers and 90 men of the crew were landed, about a dozen being accommodated in a hut, and the remainder under canvas. The "Nive" arrived there on November 3rd, and on her arrival the Director of Encampment pointed out that if all were compelled to land under the existing climatic conditions and in view of the character of the accommodation available, the result would be to aggravate the then prevailing sickness, and to lead to an increased mortality. In the end, some of the more healthy amongst the passengers were sent ashore, but those who were really ill (the cases are then described as dysentery, fever, &c.) were left on board; the adoption of sanitary measures being in the main relied on.

Sea quarantine, the minority was made up of the delegates of Great Britain and India, who objected altogether to the detention of the healthy, and of those of States (Brazil, Spain, Mexico, Roumania, Servia, and Turkey) who wished for more severe restrictions, and who also in this case unsuccessfully endeavoured to carry a resolution imposing a 10 days' quarantine. The requirement embodied in Conclusion No. 74 was to some extent modified by a subsequent Conclusion (No. 75), according to which a detention under "observation" for 24 hours was to suffice in the case of a vessel the medical officer of which should certify that no case of cholera had existed on board within 10 days. Conclusions (Nos. 76 and 77) were next adopted for dealing with the passengers landed, and for securing measures of disinfection, &c.; neither the British nor the Indian delegation taking any part in the vote.

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E.—Dispositions Spéciales à la Méditerranée.

The Sub-Committee which had reported on the measures to be taken at the several ports of arrival, also submitted a series of resolutions special to ports in the Mediterranean, those in the Black Sea and the Sea of Marmora being also included. These resolutions had to do with: 1. Suspected Ships; and 2. Infected Ships.

1. Suspected Ships.

The first Conclusion submitted (No. 79) required the landing in isolated and specially constructed buildings of all the passengers and crews of suspected vessels, and it at once became evident that there was great diversity of opinion amongst the delegates of those States which, bordering on the Mediterranean, would have to apply the regulation to their own ports. The adoption of this Conclusion was opposed by the British delegation, but it was ultimately adopted by 10 votes to 4 in a meeting represented by 21 States. When, however, length of detention came to be dealt with, a series of amendments, having for their respective objects either to increase or to lessen its severity, were proposed, and when ultimately it was decided that the detention should last either three or six full days, according as the vessel carried a medical officer or not, the Conclusion dealing with this point (No. 80) was only adopted by 6 ayes to 5 noes, there being no less than 10 abstentions. The majority included two Mediterranean Powers. A further Conclusion (No. 81), to the effect that the length of the voyage should be deducted from the period of detention, was also carried by a majority of one vote only. The British delegation took no part in these votes, on the ground that they had already opposed the landing and detention of persons from vessels which were not even regarded as infected.

2. Infected Ships.

As regards Infected Ships it was decided (Conclusion No. 82) that they were to be subjected in Mediterranean ports to the same general regulations as applied to infected vessels at ports of arrival.

These regulations, it will be remembered, involved a detention under isolation of five days' duration; whereas the Conclusion (No. 80) as to suspected vessels in the Mediterranean, which was opposed by the British delegation, admitted, in certain cases, of a similar detention of six days' duration. In other words, a suspected vessel might come to be detained longer than one actually infected, in so far as Mediterranean ports are concerned.

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F.—Prophylaxie Sanitaire de la Mer Caspienne.

As to the Caspian, it was held that the application to that sea of the measures proposed with regard to other seas, would suffice. *See Conclusion No. 83.*

In connexion with the prevention of cholera the Technical Commission also discussed the following questions :

1. The Mecca Pilgrimage ; 2. River Measures of Sanitation ; 3. Land Measures of Sanitation ; and 4. Disinfection.

III.—THE MECCA PILGRIMAGE.

The Conclusions arrived at with reference to this subject were in the main the result of the labours of a Sub-Committee on which Dr. Timothy Lewis sat, and the majority of them met with the unanimous support of the Technical Commission. The first Conclusion (No. 52) laid it down as desirable that every pilgrim should be required to possess the necessary means for his support before being allowed to start. This practice is already adopted in the Dutch colonies, and at the request of the Turkish delegate the Conclusion was so worded as to declare that such a requirement is in conformity with the Musulman religious precepts. The next six Conclusions (Nos. 53–58) dealt with measures of sanitary precaution in connexion with the embarkation of pilgrims, on the lines already adopted by Her Majesty's Indian Government; indeed one of the Conclusions (No. 58) definitely recommends, for general observance in States from whence pilgrims commence their voyage, the measures adopted by that Government in connexion with the transport of pilgrims to and from the Red Sea. The next Conclusion (No. 59) did not meet with similar unanimity. It dealt with the disembarkation of all passengers and the crew at the sanitary station in the Red Sea, with a view to the cleansing and disinfection of the vessel, &c., and to the medical inspection on shore of all on board. Subject to certain conditions, it was ultimately decided that, in the absence of any suspicion of cholera, the vessel and all on board could proceed to the Hedjaz after 24 hours' detention; but in the case of the vessel not being provided with a medical officer, or in the event of any suspicion of cholera having occurred amongst either crew or passengers, a detention on shore of five days was decided on, the detention to be renewed as regards any groups in which any suspicion of cholera might arise during the period of seclusion. This Conclusion was opposed by certain delegates who desired to lengthen the quarantine detention, but it was ultimately carried by 16 to 5, and it received the support of the British and Indian delegations. The next Conclusion (No. 60) dealt with the arrival of the vessel at a port in the Hedjaz, and it required, amongst other things, the return of the vessel to the sanitary station in case of any cholera having appeared on board since the date of medical inspection at that station. Two other Conclusions (Nos. 61 and 62) relating to the movement of pilgrims inland were adopted. The first laid it down as necessary that the medical officers attached to the pilgrims or to the vessels should accompany the worshippers throughout their pilgrimage, and take all necessary precautions to secure their welfare and prevent the spread of disease; and the second urged that sanitary measures should be largely applied to the resting places of the pilgrims, and above all to the holy cities of the Hedjaz. No opposition was offered to either of these Conclusions, but the Turkish delegate abstained from voting on the second one. As regards the next two Conclusions (Nos. 63, 64), dealing with the passage

of the pilgrim vessels to Mediterranean ports, the British delegation, together with the Indian, acting on the same principles as dictated their action when dealing with quarantine restrictions in the Red Sea, abstained from voting; and they observed the same attitude as regards Conclusions Nos. 65 and 67, which related to certain restrictions to be imposed on "petits navires," and to the promulgation of an International Penal Code dealing with contraventions of the regulations formulated as to the Red Sea. One other Conclusion (No. 66) relating to this subject made reference to two places in the Red Sea as being suitable for the establishment of the requisite sanitary stations; namely, the Island of Camaran to the south, and the neighbourhood of Aioun Ouna and the coast of Attaka to the north.

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There is at first sight an apparent inconsistency in the attitude which, with the assent of my colleague, Sir Guyer Hunter, and with the support of the Indian delegation, I took in being party to a vote which gave sanction to a five days' quarantine detention of all pilgrims, healthy as well as sick, under the conditions specified in Conclusion No. 59, when compared with the refusal to assent to a similar regulation in the case of the ordinary traffic from the Red Sea into and through the Mediterranean. The attitude taken was, however, I venture to submit, entirely consistent. The opposition taken by myself and my colleague to Conclusion No. 49 was based on the demand which was made on behalf of Great Britain that she should deal as she saw fit with such vessels as sailed to her own ports without touching elsewhere during the voyage, and I took occasion to point out during the debates on this subject that Great Britain, in demanding the free passage of the Suez Canal as an arm of the sea, made no demand which was exceptional to herself, but maintained that each country should be allowed to deal as it chose (*i.e.*, by medical inspection or by the imposition of quarantine restrictions) and where it chose with regard to vessels bound for its own ports, and both Sir Joseph Fayrer and Sir Guyer Hunter took the opportunity, during the discussion on the Mecca Pilgrimage restrictions, to point to this principle as guiding us in our votes. But in dealing with the disembarkation of pilgrims, we had to remember that Turkey desired quarantine restrictions at its ports in the Red Sea, and just as we maintained our right to be free from such restrictions as regards vessels sailing to our own ports, so we felt it due to Turkey not to oppose her wishes as regards those bound for her ports. But directly it was attempted to impose similar restrictions to pilgrim vessels which were bound to Mediterranean ports of no specific nationality, we felt that we could not take any part in imposing on the Mediterranean Powers restrictions to which we had made objections on the ground that they were vexatious and useless in so far as British ports are concerned.

IV.—RIVER MEASURES OF SANITATION.

An unsuccessful attempt having been made to declare sanitary cordons as applicable to the shores of great rivers, two Conclusions relating to rivers (Nos. 14 and 15) were assented to without opposition. The first laid it down that river ports to which sea-going vessels had access ought to be subject to the same regulations as sea ports; and the second urged the adoption of rigorous sanitary measures, and the prevention of overcrowding in the case of river shipping, and advocated the appointment of a medical officer, and the provision of means of isolation at each principal point of call (*point de relâche*). The Conclusions in question aim at the appointment at the river ports

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of all countries of medical officers of health, such as already exist in all sanitary districts, whether port, riparian, or other, throughout England and Wales, and at securing the construction of hospitals for the immediate isolation of the infectious sick, such as have been provided to so large an extent by the local authorities in this country; and as such they received the support of the British delegation.

V.—SANITARY MEASURES ON LAND.

The Technical Commission having at an early sitting expressed the conviction that land measures of quarantine were useless (Conclusion No. 6), a Sub-Committee, of which I was a member, was appointed to prepare a series of resolutions for submission to the Commission as to the precautions which might usefully be taken to prevent the spread of cholera on land, and when these came on for discussion, I took the opportunity of explaining at some length what had been the attitude of England in this respect since the date of the last Conference at Vienna in 1874.

Recalling the measures taken on our coast line in connexion with the system of medical inspection, and referring to these as constituting our first line of defence, I pointed out the great importance which was attached throughout the country to the improvement of the sanitary circumstances under which the people lived, and especially to the provision of wholesome water-supply, of efficient means of sewerage and house drainage, of healthy dwellings, and of small local hospitals for the isolation of first attacks of all cases of dangerous infectious diseases, including cholera. I then referred to the action taken by the Local Government Board, through the agency of its staff of Inspectors and otherwise, in urging the importance of these matters on the Local Sanitary Authorities, and having explained that in this country the cost of all such measures was borne exclusively by the local authorities, I furnished some statistics as to loans which such authorities had, with the sanction of the Board, incurred for sanitary purposes since the date of the Vienna Conference. [When I was in Rome the materials at my disposal, as to loans raised by sanitary authorities, were limited to those with which the Local Government Board have had concern. But quite apart from these, large sums are raised year by year under private Acts, and without the sanction of the Board; and since my return I have had opportunity of ascertaining that, including loans raised both under private and public Acts for purposes mainly of a sanitary character, the average amount for the period 1875-76* to 1883-84 exceeded 6½ millions sterling per annum. It is true that in certain years the loans so raised have included considerable sums for objects such as gasworks; but on the other hand, no account has been taken of loans raised under the Artizans and Labourers Dwellings Acts, and the cost of many public works of water-supply has been defrayed by private companies, whose operations are not included in the above estimate. And not only so, but examination of the current expenses of sanitary authorities shows that during an ordinarily typical year, the cost of measures essentially sanitary in their influence exceeds 2½ millions; this amount leaving altogether out of consideration the payment of principal and interest on loans, and, in almost all cases, also of the salaries of sanitary officers. And, further, the above-named figures relate solely to the provinces and take no account of the large loans and current sanitary expenses of the metropolis. Lastly, I would note that I took occasion to explain to the

* This is the first period for which the necessary statistics are available.

Technical Commission that expenditures such as I have referred to are, with only very trivial exceptions, voluntarily incurred in the interests of public health.]

I then went on to show, in connexion with this expenditure, that the average annual mortality for England and Wales was now only 19 as opposed to 22 per thousand in the decennial period 1861-70, and this notwithstanding increase in population of some 5 millions; and taking the continued fever mortality of this country as that which, in point of causation, most nearly resembled cholera, I pointed out that whereas in the five years 1865-69, this mortality was at the rate of 934 per million living, it had steadily fallen to 428 per million during the period 1880-82, and that it was now only 307 per million. Referring to the allegation which has at times been made to the effect that the views of Great Britain on the quarantine question were largely influenced by commercial and financial considerations, I maintained that there was no country where a higher value was set on human life, and that if England had really believed in the efficacy of quarantine measures, the financial burden which it involved would have been borne in the interests of the community as readily as had been the expenditure above referred to in connexion with the alternative system of coping with disease, whether imported or otherwise, by an efficient sanitary administration. Finally, I maintained that many of the most important sanitary measures adopted in England had been brought about in anticipation of the possible importation of cholera; that no such saving of life as had been effected would have been secured if the English people had been led to put their trust in quarantine restrictions; and that the substitution of the system of quarantine which the Technical Commission desired to urge upon the Conference, in replacement of the system which has been elaborated in this country, could only have a disastrous effect.

The Conclusions arrived at in connexion with the precautionary measures to be observed on land (Nos. 6 to 13) affirmed principles already held in view in this country as to the prime importance of antecedent sanitary measures, the need for an organized system of sanitary administration in every district, the notification of disease, the immediate isolation of the sick, and the disinfection of infected articles. It was also laid down as desirable that the health authorities of the different countries should be in direct communication with each other as to all international measures of urgency; and certain special regulations were agreed to as to the precautions to be taken on the great lines of land traffic, and as to international trains. Some of the latter appeared to the British delegation as superfluous, but recognizing the right of each country to adopt such internal measures of precaution as it saw fit, we gave a general support to the conclusions in question.

VI.—DISINFECTION.

Another Sub-Committee dealt with the question of disinfection, and the conclusions submitted to the Commission were assented to with almost complete unanimity. The Conclusions in question (No. 5, I.-IX.) were dealt with *en bloc*; they do not pretend to deal with the subject of disinfection in an exhaustive manner, but rather to indicate the measures of disinfection and cleansing, as also the methods of their application, which may be regarded as available, in the case of articles or persons that have actually been soiled or come in contact with cholera patients, under the circumstances of a sea voyage.

A further Conclusion (No. 84), relating to the general application to yellow fever of the principles laid down with regard to the prevention

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of cholera, was adopted by 17 votes. There were, however, three abstentions, and these included the British delegation, not because any contrary view was entertained, but because we regarded the instructions under which we acted as limited to the consideration of cholera only.

GENERAL REVIEW.

Review of the labours of the Technical Commission goes to show that in some respects the Conclusions arrived at indicate progress since the Conferences of Constantinople and Vienna, in regard to the measures which may be properly applied towards the prevention of cholera. Thus:—

I. On no occasion has the value of the adoption of sanitary measures as the principal safeguard against cholera been more prominently recognised than was the case at Rome. This point is set out in one form or other, in nearly every group of Conclusions arrived at by the Commission, and it was formally adopted in Conclusion No. 4 as a governing principle.

II. In the matter of disinfection it was for the first time distinctly laid down that it is not necessary to consider articles as infected merely because they come from a country where cholera prevails; that only persons or articles that have actually been soiled by choleraic discharges, and articles that have been worn by persons suffering from cholera, ought to be subjected to such process; and that in the case of individuals, disinfection by means of baths ought alone to be resorted to; fumigations being thus incidentally condemned as useless. The Conclusions relating to this subject, and especially Nos. 11 and 12, may in this respect be contrasted with those embodied under the Conclusions formulated in §§ 4 and 5, "Système de l'Inspection Médicale" at Vienna. See pages 84 and 85.

III. The restrictions which the majority of the Technical Commission deemed it requisite to apply to the sea traffic from the East into the Mediterranean by means of the Red Sea and the Suez Canal, are in certain respects less stringent than those which were adopted at Vienna.

These restrictions may be summarized as follows:—

Vienna 1874.

METHOD ALTERNATIVE TO MEDICAL INSPECTION.

(a.) VESSELS FROM SUSPECTED PORTS. *Five days' quarantine.*

(b.) VESSELS FROM INFECTED PORTS. *Seven days' (or in certain exceptional cases ten days') quarantine.* Towards the several periods of 5, 7, and 10 days the duration of the voyage is to reckon, subject, however, to a detention of 24 hours even when no suspicious case of cholera has arisen on board.

(c.) INFECTED VESSELS. If any case or suspected case has arisen during the voyage, *seven days' quarantine.*

Rome 1885.

NO ALTERNATIVE METHOD ADOPTED.

(a.) SUSPECTED VESSELS.

Medical inspection near Suez. If the officer making it is satisfied that there is an absence of all suspicion, free pratique to be immediately granted.

(b.) INFECTED VESSELS.

Five days' quarantine.

As to vessels which are not regarded as suspect or infected, the difference is, however, more apparent than real, for the inspection required by the Rome Conclusion, in order to enable the port medical officer to grant free pratique, would of necessity occupy some hours, and this especially in the case of night arrivals, when the passengers would be in bed, and it is only in so far as the number of hours occupied in the inspection might fall short of the 24 hours' detention prescribed by the Vienna Conclusion that there would be any gain. Indeed, in the absence of the staff necessary to make the proper inspections, the existing authorities at present accept, in the case of such ships as troop and mail steamers carrying a European medical officer, and having undergone a sea voyage of not less than 10 days, the declaration of that officer and of the captain, and even the detention of 24 hours, is thus, in practice, avoided. As regards infected vessels the minimum period of quarantine detention is reduced from seven to five days.*

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The reduction in stringency amounts, therefore, 1°, in the case of non-suspected vessels, at the most to a few hours; and 2°, in the case of infected vessels, to 48 hours. This gain is, of course, very trivial; and in view of the recent experience we have had of the failure of the existing regulations to protect Europe from invasion by cholera, it is difficult to understand how any different result could be expected, were the slight modifications suggested by the Technical Commission carried into effect. Their main, if not only, value lies in the fact that by once more diminishing the duration of quarantine detentions, they may constitute a further step towards their entire abandonment.

But in dealing with the action to be taken at ports of arrival, and especially at ports in the Mediterranean, the action of the Conference had a distinctly retrograde tendency. The Vienna Conference, whilst laying down regulations as to quarantine detentions for those countries which preferred to retain the quarantine system, recommended the system of Medical Inspection for adoption in European ports, this system involving the isolation and detention only of such persons as are found on arrival to be suffering from or suspect of cholera; the healthy being admitted to free pratique after certain processes of disinfection have been carried out. But in the Conclusions of the Technical Commission of the Rome Conference, medical inspection finds no place, except in so far as this term may stand for a formality preliminary: 1, to a detention of 24 hours in cases where the sea voyage from suspected ports has lasted less than 10 days, and this not only in cases where cholera, though not then present, has prevailed on board within the previous 10 days, but also when no suspicion whatever exists of cholera either being or having occurred on board; and 2°, to the imposition of a quarantine detention varying in duration from three to six days on sick and healthy alike. It has already been explained that although the initial period of detention might, in the case of Suspected Vessels, extend to six days, it was limited as regards Infected Vessels to five days.

The attitude of the British delegation was, as already explained, adverse to all these quarantine restrictions, and in opposing them I was strongly influenced by the knowledge of the great benefits and saving of life which in this country had followed on the system of sanitary administration which had replaced restrictions on the movements of healthy persons, and by the renewed experience of 1884, as to the

* The restrictions as to "Petits Navires" are more stringent, in so far as two medical inspections, instead of one, are required.

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impossibility of preventing the development of cholera in Europe by means of the quarantine restrictions in force both in the Red Sea and in Mediterranean ports. I was also impressed with the fact that, whereas the authorities and inhabitants of sanitary districts have, in this country, indicated their belief in a system of sanitary administration on which they rely for the prevention of cholera and other preventible diseases by voluntarily incurring a large expenditure in their efforts to mature it, there was, as regards many countries which professed to trust in the value of quarantine measures an absence of any evidence to show that the authorities so far believed in their efficacy as to have prepared themselves beforehand with the necessary means for the efficient enforcement of those restrictions.

It will be observed that no proposition was submitted by the British delegation with a view of securing the recognition by the Technical Commission of the system of medical inspection as an alternative to that of the quarantine detentions which had been decided on. The point was carefully considered, but it was felt that since the Conclusions arrived at by the Commission were provisional only, the matter could best be dealt with on the re-assembling of the Plenary Conference. The adjournments which took place when that event occurred have, hitherto, prevented any action being taken in that direction.

One important outcome of the Rome Conference still calls for notice. Just before the date at which it was intended that the Conference should re-assemble, a "*Mémoire sur la Conférence Sanitaire Internationale de Rome*" was issued by the Italian Foreign Office, and it was shortly afterwards supplied to the delegates. Dealing, in the first instance, with the Conclusions of the Technical Commission and referring to the "*Régime Sanitaire*" of the Red Sea and the Suez Canal, the *Mémoire* premises that an understanding between the several Governments on this subject is imperatively called for. It next refers to the existing Egyptian control, and it explains that since the sanitary stations at the Wells of Moses and at El Tor are absolutely deficient in the arrangements on shore which would be necessary for the carrying out of the processes of isolation and disinfection, no attempts are, as a matter of fact, made to carry these processes into effect. Proceeding to review the action which the Technical Commission proposed to substitute for the existing one, it next points out certain reforms which are necessary in the sanitary regulations of the passage of the Suez Canal, and which would have the effect of expediting that passage and of preventing communication with the shores; and then, in an important chapter entitled "*Solution de la Question Sanitaire*," it proceeds to state that such reforms in the Canal Service as have been indicated in the *Mémoire* would render possible the acceptance, as also the extension to other nations, of the proposal of the British delegation, which was rejected by the Technical Commission, to the effect that British ships, whether merchant vessels, troopships, postal steamers, or others, which neither communicate with Egypt or any foreign port of Europe, should at all times be permitted to pass through the Suez Canal without inspection, as through an arm of the sea. The *Mémoire* then goes on to indicate the desirability of accepting the British proposal, subject, however, to inspection in the Red Sea.*

* As to this I would point out that the opposition of the British delegation to inspection was clearly defined by me during the sittings of the Technical Commission as being limited solely to such "inspection" as was, in effect, a process preliminary to the imposition of quarantine.

The views expressed in this Mémoire must be regarded as of considerable importance, and this the more so, because they indicate a very considerable advance beyond those which are embodied in the Conclusions of the Technical Commission relating to the subject in question.

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Papers referred to in the above Report.

CIRCULAIRE ADRESSÉE PAR SON EXCELLENCE LE MINISTRE DES
AFFAIRES ÉTRANGÈRES DE SA MAJESTÉ LE ROI D'ITALIE AUX
AMBASSADEURS ET MINISTRES DE SA MAJESTÉ.

MONSIEUR,

Rome, 21 avril 1885.

Par mon télégramme d'hier, je vous ai prié d'inviter officiellement le gouvernement auprès duquel vous êtes accrédité à prendre part à la Conférence sanitaire internationale, qui, sur l'initiative du gouvernement royal, doit se réunir à Rome le 15 du mois prochain.

La pensée qui nous a suggéré cette initiative est bien simple.

La Conférence de Constantinople de 1866 avait discuté plus particulièrement le côté technique du problème concernant la santé publique internationale, selon les résultats des études accomplies jusqu'alors, surtout en vue des conditions de propagation et de transmissibilité du choléra.

La Conférence de Vienne de 1874, prenant comme point de départ les conclusions techniques de la Conférence de Constantinople, s'était efforcée de faire un pas plus loin; elle s'était proposé, en effet, de considérer et de décider quelles mesures devaient être regardées, au point de vue administratif, comme opportunes et répondant aux desiderata de la science, tels que ceux-ci avaient été éclaircis et arrêtés par la Conférence précédente.

Après la Conférence de Vienne on a essayé plusieurs fois et de différentes manières de transformer les délibérations que cette Conférence avait adoptées à titre purement consultatif, en vrais accords internationaux, destinés à fournir à chaque gouvernement la règle constante et uniforme pour les mesures à adopter en prévision de toute menace d'épidémie.

Ces tentatives ont cependant échoué complètement jusqu'ici.

L'anarchie la plus complète a continué à régner en matière de quarantaines; à chaque apparition d'épidémie, il a fallu échanger mutuellement, entre les différents gouvernements, des explications embarrassantes et des réclamations au sujet des mesures de précaution adoptées par les uns envers les autres sans entente préalable, et avec des conséquences désastreuses pour le commerce, livré par suite de la diversité des régimes sanitaires au hasard de contrats incertains et de désordres artificiels.

Le gouvernement italien a voulu remédier à cet état de choses en proposant une Conférence sanitaire, au sein de laquelle des fonctionnaires compétents et des hommes ayant la pratique de ces questions, pourront, en profitant, dans la mesure qu'ils jugeront opportune, des études précédentes, envisager le problème sous ses multiples aspects sans aucune idée préconçue et avec entière liberté d'appréciation, pour aboutir à une série de conclusions aptes à former l'objet d'accords internationaux, dès que chaque gouvernement aura pu les examiner et les approuver.

La Conférence de Rome a nécessairement un double objectif d'études.

Son premier soin devra être de rechercher par quels moyens on pourrait prévenir ou étouffer le fléau dans les pays d'origine ou aux premières étapes de sa marche.

Ensuite dans la prévision du cas où, malgré les mesures préventives, le choléra ou une autre maladie contagieuse viendrait à se développer, la Conférence devrait étudier et proposer une série de moyens efficaces pour en empêcher la diffusion dans les autres pays en établissant, sur des bases rationnelles, des règles acceptées d'un commun consentement, et dictées par des principes uniformes, soit quant à la durée et à la forme des quarantaines, soit pour tout autre emploi de moyens de préservation et de défense.

Avant qu'on eût adhéré à notre invitation, une négociation spéciale avait été entamée entre différentes puissances et l'Égypte relativement à la composition et aux attributions du conseil sanitaire international d'Alexandrie. Ces négociations, surtout pour ce qui concerne les mesures dont l'application pourrait devenir urgente, ne sauraient être ni retardées, ni entravées par suite du programme beaucoup plus étendu dont la Conférence internationale est saisie. Il reste donc entendu que cette négociation poursuivra son cours et que son objet restera étranger aux matières soumises à la Conférence. Celle-ci pourra, toutefois, comprendre les accords qui viendraient à résulter de la négociation dont il s'agit, dans l'ensemble des mesures à proposer pour la préservation internationale de la santé publique.

Veuillez porter sans retard, ce qui précède, à la connaissance du gouvernement de et lui présenter le mémoire ci-joint. Vous aurez soin en même temps de le prévenir que les vues du gouvernement italien au sujet du programme de la Conférence ne sauraient préjuger la liberté entière et absolue des gouvernements qui y prendront part, et par conséquent du gouvernement italien lui-même, de donner à leurs délégués les instructions qu'ils estimeraient les plus convenables. Réserve expresse est également faite aux gouvernements respectifs d'examiner et apprécier en son temps les conclusions de la Conférence, pour en faire l'objet d'un accord formel.

Agréez, etc.

(Signé) MANCINI.

MÉMOIRE.

I.—Le Gouvernement italien a été amené, dès 1883, à prendre l'initiative d'une Conférence sanitaire internationale à la suite de l'épidémie cholérique qui a alors désolé l'Égypte. Les maux et la crise économique dont le choléra a été, l'année passée, la cause n'ont fait que le confirmer dans son initiative.

Les Conférences sanitaires précédentes, de Paris en 1851-52 et en 1859, de Constantinople en 1866, de Vienne en 1874, et de Washington en 1881, avaient été également convoquées après des invasions épidémiques.

Au moment d'inviter les États intéressés à prendre part à la Conférence de Rome, le Gouvernement du Roi ne pouvait avoir autre motif d'hésitation, sauf la pensée que l'on pût mettre en doute l'utilité de semblables Conférences.

Aussi a-t-il eu soin de rechercher avec la plus grande attention de quels résultats pratiques, aussi bien que scientifiques, on est redevable aux Conférences précédentes; cet examen a pu le convaincre que les Gouvernements auxquels en revient l'initiative, ainsi que ceux qui y ont participé, n'ont pas fait œuvre stérile.

Il est bien vrai qu'une seule Conférence, la première, a été suivie d'une convention internationale. Cette convention, signée le 3 février 1852 à Paris par les plénipotentiaires de cinq Etats, n'a été ensuite ratifiée que par les Gouvernements de France, de Sardaigne et de Toscane; en 1866, lors de l'épidémie cholérique et à la suite des réclamations des populations, elle fut dénoncée par l'Italie, de sorte qu'à partir du 3 avril 1867, elle n'était plus en vigueur. Il est également vrai que les quatre Conférences successives ont été tenues sans qu'aucune convention sanitaire ne s'ensuivit. Il y a lieu toutefois de croire que, si l'empressement de la part des gouvernements à accepter l'invitation pour ces Conférences ne s'est pas maintenu alors qu'il s'agissait de contracter diplomatiquement l'engagement d'en appliquer les résolutions, cela ne doit pas être attribué à la nature de cette matière, qu'on a pu présumer ne pas être apte à former l'objet de stipulations internationales, mais plutôt à la circonstance que les Gouvernements, le moment critique passé, distraits par des préoccupations bien plus pressantes, ont cessé d'être portés à restreindre, à cet égard, leur liberté d'action en vue de se prémunir contre des dangers éloignés et incertains.

Notre époque est caractérisée par le très-grand nombre de stipulations que les Etats concluent entre eux pour régler une foule de leurs rapports, non seulement commerciaux par les traités de commerce et de navigation, mais aussi de toute autre espèce, des accords existant désormais pour presque chaque groupe assez important d'intérêts sociaux et matériels des peuples. Toutes sortes de conventions règlent les communications postales, télégraphiques et par chemins de fer, embrassant à peu près l'univers entier, ainsi que les Unions monétaires et métriques, pour la protection de la propriété littéraire et industrielle et pour toute forme d'assistance réciproque. Il y a donc lieu de s'étonner que le soin de la santé publique, matière dont l'importance est extrême, car elle vise à la sauvegarde de la vie humaine, n'ait pas formé l'objet jusqu'ici d'une entente internationale.

Cependant, si l'on n'est pas encore arrivé, comme résultat, à des stipulations diplomatiques, on est autorisé à espérer que ce but pourra maintenant être atteint, les Conférences précédentes ayant considérablement aplani la voie aux accords futurs.

Un aperçu historique de l'œuvre de ces Conférences suffira à la démontrer.

II.—La Conférence de Paris, en 1859, devait reviser, en les simplifiant, les dispositions adoptées en 1852, et présenter un projet de convention susceptible d'être plus facilement accepté. Si elle ne put atteindre son but, c'est que les graves événements politiques de cette année et de l'année suivante empêchèrent l'adoption du nouveau projet de convention rédigé par ses soins.

La Conférence de Constantinople, provoquée par l'invasion du choléra en 1865, après avoir entrepris et achevé, au point de vue scientifique, l'étude générale du problème, devait en outre proposer, et proposa en effet, des mesures pratiques en vue d'empêcher le retour de l'épidémie. Ce fut grâce aux résolutions qu'elle avait adoptées, au sujet des précautions à prendre pour préserver l'Égypte de l'invasion du choléra par la voie de l'Hedjaz, qu'un service sanitaire et quarantenaire put être organisé d'une manière plus satisfaisante dans la Mer Rouge. Les dispositions prises par cette Conférence, en ce qui concerne les lazarets destinés aux pèlerins, purent également être mises en pratique quelque temps après.

La Conférence de Vienne, en 1874, ayant soumis à un nouvel examen les questions scientifiques, soigneusement étudiées par la Conférence

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précédente, s'occupa aussi de plusieurs mesures spéciales et immédiates de préservation. Pour ce qui a trait aux quarantaines maritimes, elle approuva les mesures recommandées par la Conférence de Constantinople, et notamment l'institution de quarantaines dans la Mer Rouge et dans la Mer Caspienne, en ajoutant qu'elles devaient être établies et organisées d'une façon complète et satisfaisante, selon les principes les plus rigoureux de l'hygiène. Par contre, et pour le cas où le choléra pénétrerait en Europe, elle suggéra l'adoption d'un système d'inspections médicales, en même temps qu'elle indiquait les bases d'un règlement quarantenaire pour les Etats qui préféreraient maintenir les quarantaines; elle déconseilla les quarantaines terrestres et fluviales et proposa la création d'une Commission internationale permanente pour les épidémies.

L'œuvre de la Conférence de Vienne fut donc d'une grande utilité et doit être justement appréciée. Elle donna lieu à des discussions très importantes, lesquelles, consignées dans les procès-verbaux, offrent une source abondante de sérieuse et profonde doctrine, et fournissent en même temps la réponse aux problèmes les plus ardu de la science sanitaire et des épidémies, ainsi qu'une nombreuse série de conseils pratiques et d'application administrative. C'est un travail qui ne pouvait, certes, être fait que par une assemblée composée d'hommes spéciaux et hautement compétents en fait de politique, d'administration et de médecine.

La Conférence de Washington eut enfin plus particulièrement le but de préparer un système international d'informations périodiques sur l'état sanitaire des ports et des localités placées sous la juridiction des puissances représentées dans cette réunion, ainsi que des navires partant de ces mêmes ports.

Le Gouvernement du Roi pense que ces données historiques, toutes sommaires qu'elles sont, suffisent pour témoigner des bienfaits que de pareilles réunions ont pu rendre. Bien qu'elles n'aient abouti, ni à la stipulation d'accords diplomatiques, ni à la réalisation d'effets immédiats, elles ont toutefois établi les arrêts de la science, de l'expérience et de la pratique administrative, en ce qui concerne les questions sanitaires. Les Gouvernements et les médecins ont pu et pourront y puiser d'utiles enseignements et une règle précieuse alors qu'ils seront appelés à assumer la responsabilité inséparable de l'adoption ou de la réforme de toute mesure sanitaire.

III.—Quant au programme des travaux de la Conférence désormais convoquée pour le 15 mai, il convient de rappeler le précédent de la Conférence de Constantinople, dont le programme fut tracé par un comité, choisi parmi ses membres et chargé par elle de ce soin. Tout en se réservant d'énoncer son opinion sur ce point dès que la Conférence se trouvera réunie, le Gouvernement du Roi croit devoir dès à présent donner l'indication sommaire de sa manière de voir à l'égard du programme.

Le mandat de la Conférence, l'objet de ses études, sera nécessairement double: son travail aura une partie *technico-scientifique* et une autre partie *diplomatico-administrative*.

Quant à la partie technique et scientifique, la Conférence pourrait reprendre en examen les conclusions des Conférences sanitaires précédentes, et notamment de celle de Vienne, pour voir ce qu'il y a lieu d'en conserver ou d'en modifier, ce qu'il convient d'en retrancher ou d'y ajouter. Cette révision offrirait déjà, à elle seule, à la Conférence un vaste champ d'activité, si l'on veut tenir compte des progrès réalisés dans les sciences médicales et sanitaires, et de l'expé-

rience successivement acquise par les administrations des différents Etats.

Passant ensuite à examiner, dans le domaine diplomatique et administratif, la question des moyens préventifs à adopter, eu égard aussi aux intérêts du commerce et à la liberté de la navigation, la Conférence aurait à arrêter les bases d'un accord international acceptable par tous les gouvernements. Cet accord devrait avoir pour but, soit d'étouffer, si possible, la maladie à ses débuts, ou d'en enrayer la marche dès ses premières manifestations, soit encore de prévoir le cas où, se développant malgré toutes les précautions prises, le choléra ou toute autre maladie contagieuse comporterait l'adoption de mesures spéciales, aptes à en empêcher la diffusion. On établirait ainsi, sur des bases rationnelles et d'après des principes uniformes, les règles à suivre par rapport, soit à la durée et au système des quarantaines, soit à l'emploi d'autre moyens de préservation et de défense.

La Conférence pourrait enfin formuler les règles pratiques et positives pour l'application immédiate du système international d'informations sanitaires, suggéré par la Conférence de Washington, et auquel se rattache la question de l'établissement, dans une localité opportune, d'une Agence officielle, où les nouvelles sanitaires de source sûre seraient concentrées, et d'où elles seraient transmises aux Gouvernements faisant partie d'une Union sanitaire internationale et contribuant aux frais qui en résulteraient. L'Union serait, elle-même, constituée avec des attributions et d'après des principes fixés par la Conférence.

Telles sont les vues du Gouvernement italien au sujet des lignes générales du programme à adopter. Ces vues ne sauraient, cependant, prejurer la liberté entière et absolue des Gouvernements qui interviendront à la Conférence, et par conséquent du Gouvernement italien lui-même, de donner à leurs délégués les instructions qu'ils estimeraient les plus convenables, ainsi que d'apprécier, en son temps, les propositions et les conclusions de la Conférence.

Rome, 20 Avril 1885.

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On the Proceedings of the International Conference held at Rome, 1885 by Dr. Thorne Thorne.

RELEVÉ DES CONCLUSIONS ADOPTÉES PAR LA COMMISSION TECHNIQUE DE LA CONFÉRENCE SANITAIRE INTERNATIONALE DE ROME (1885).

I.

INFORMATION SANITAIRE.

1. Il est nécessaire que, dans chaque pays, il existe un bureau central d'informations et d'avertissements sanitaires; tous ces bureaux échangeront, entre eux, des correspondances et des communications régulières.

Adoptée par 18 oui, contre 1 non (Suisse) et 1 abstention (Pays-Bas).

2. La Commission technique exprime le vœu que la Conférence internationale affirme la nécessité de publier un bulletin de statistique internationale pour chaque ville importante, bulletin ayant une base et une formule uniformes et faisant connaître, chaque semaine, le total des décès et le nombre de morts causées par chacune des maladies épidémiques et en particulier par le choléra et la fièvre jaune.

Adoptée à l'unanimité, sauf les délégués de la Russie et de la Turquie, qui se sont abstenus.

3. En ce qui concerne le choléra et la fièvre jaune, les premiers cas qui éclateront dans les différentes localités et spécialement dans les ports maritimes, devront être notifiés directement, par voie télégraphique, aux différents Gouvernements.

Adoptée à l'unanimité.

II.

PROPHYLAXIE SANITAIRE DU CHOLÉRA.

Règle générale de Prophylaxie.

4. L'assainissement et l'isolement réel et complet, dans la mesure indiquée par la science, de tout ce qui peut apporter le choléra, sont les meilleurs moyens d'en empêcher l'importation et la propagation.

Adoptée en principe.

Désinfection.

5. La Sous-Commission recommande comme moyens de désinfection contre les épidémies de choléra, outre la destruction :

- 1° la vapeur à 100° ;
- 2° l'acide phénique, le chlorure de chaux ;
- 3° l'aération.

On préparera chaque fois des solutions aqueuses d'acide phénique et de chlorure de chaux :

- Faibles de 2 % d'acide phénique,
de 1 % de chlorure de chaux,
- Fortes de 5 % d'acide phénique,
de 4 % de chlorure de chaux.

L'application de ces moyens serait comme suit :

I. Pour la désinfection des personnes, lavages et bains avec l'une des solutions faibles ;

II. Pour la désinfection des linges, des habits, des couvertures et d'autres effets du même genre :

- (a) La destruction ;
- (b) La vapeur qu'on fait passer à travers ces objets pendant une heure ;
- (c) L'ébullition pendant 30 minutes ;
- (d) L'immersion pour 24 heures dans l'une des solutions faibles ;
- (e) L'aération (la sereine) pendant trois ou quatre semaines, mais seulement pour les cas où aucun des autres moyens n'est applicable.

Les objets en cuir, comme malles, bottes, etc., seront ou détruits ou lavés à plusieurs reprises avec l'une des solutions faibles.

III. Les vomissements et les déjections seront mêlés avec l'une des solutions fortes. Les pièces de linge, d'habits, de couvertures et de literie, récemment souillées, qui ne peuvent être immédiatement soumises à la vapeur, seront de suite plongées dans les mêmes solutions fortes et y resteront 4 heures.

IV. Les cadavres ne doivent pas être lavés. On les enveloppera soigneusement de draps trempés d'une des deux solutions fortes, et on les mettra immédiatement dans le cercueil.

V. La désinfection des marchandises et des colis de poste est superflue. (La vapeur sous pression serait le seul moyen, si on voulait désinfecter les chiffons en gros.)

VI. Pour la désinfection des navires pendant la traversée, on désinfectera le pont et la classe, où l'accident cholérique ou suspect a eu lieu ; on lavera les parois de la cabine, ou du local, au moins deux fois, avec l'une des solutions faibles, puis on les soumettra à l'aération.

Dans le cas où des objets de grande valeur n'auraient pas été en contact immédiat avec l'accident cholérique ou suspect et une désinfection rigoureuse amènerait une perte de ce mobilier, qui ne serait pas justifiée, le médecin du bord arrêtera les mesures qui devront suffire à sauvegarder l'intérêt sanitaire.

L'eau des cales sera pompée et remplacée par l'eau de mer au moins deux fois à chaque désinfection.

Les water-closets seront bien lavés avec les solutions fortes, au moins deux fois, par jour.

VII. Si l'eau potable est suspecte, on doit la faire bouillir avant de s'en servir et, si on ne l'utilise qu'après 24 heures, l'ébullition doit être répétée.

Tous les aliments suspects seront ou détruits, ou au moins cuits de nouveau.

VIII. Pour les hôpitaux à terre, toutes les parois des salles seront lavées avec l'une des solutions faibles, puis aérées, puis nettoyées, enfin repeintes, en séparant, autant que possible, des autres la salle sujette à la désinfection.

Les latrines seront désinfectées, au moins deux fois par jour, en y versant des solutions fortes en quantité au moins égale à celle des déjections recueillies depuis la dernière désinfection.

IX. Les habits du personnel resteront toujours à l'hôpital et seront régulièrement désinfectés. Pour ses lavages, le personnel se servira des solutions faibles.

Adoptée à l'unanimité, sauf le délégué de la Turquie, qui a voté contre.

(A) PROPHYLAXIE SANITAIRE TERRESTRE.

6. Les quarantaines de terre et les cordons sanitaires sont inutiles.

Adoptée par 20 oui, contre 1 non (Turquie).

7. Pour prévenir le développement du choléra et sa propagation par les communications terrestres, il faut :

1°. Assainir partout et en tout temps, isoler les premiers cas et désinfecter. Les moyens d'isolement et de désinfection doivent être préparés d'avance, sur l'avis de l'autorité sanitaire ;

2°. Dénoncer immédiatement chaque cas déclaré ou suspect de choléra, à qui de droit, selon les règles du pays, et faire constater par des médecins compétents la nature de la maladie ou les causes de la mort au moyen de l'autopsie ;

3°. Qu'il y ait dans chaque pays un service médical hygiénique organisé. Des fonctionnaires devront être établis dans les districts et les principales villes en nombre suffisant pour qu'aucun point habité ne reste en dehors de cette surveillance hygiénique ;

4°. Que les autorités d'hygiène publique des différents pays puissent se mettre en communication directe, sans intermédiaire, chaque fois qu'elles en auront besoin, pour se renseigner ou pour s'entendre, sur des mesures d'urgence à prendre.

Adoptée à l'unanimité.

En temps de choléra :

8. Une attention toute particulière est due aux grands chemins, sur lesquels peuvent voyager des malades cholériques et aux points d'arrivée principaux, afin de pouvoir appliquer, en temps utile, l'assainissement, isoler le malade et opérer la désinfection.

Adoptée à l'unanimité.

9. Sur les grandes routes terrestres, que parcourent des masses d'ouvriers ou d'émigrants, seront placés, autant que possible, aux stations principales, des médecins pour prêter leurs soins aux malades.

Adoptée à l'unanimité.

10. Les trains directs parcourant plusieurs pays devront être changés au passage d'un pays contaminé dans un pays indemne. Ils devront être accompagnés d'un médecin qui prendra les mesures nécessaires dans le cas où un voyageur tomberait malade pendant le trajet.

Une propreté rigoureuse sera observée sur les trains et aux stations des

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chemins de fer. Chaque station devra avoir au moins une chambre séparée des autres, pour recevoir provisoirement le malade.

Adoptée par 10 oui (Autriche, Hongrie, Brésil, Danemark, Espagne, Italie, Mexique, Portugal, Serbie, Suisse), contre 6 non (Allemagne, France, Pays-Bas, Roumanie, Suède, Norvège) et 5 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Russie, Turquie).

11. La désinfection des personnes ne doit se faire qu'au moyen de lavages désinfectants, et seulement dans les cas, où elles seraient souillées de déjections cholériques.

Adoptée à l'unanimité, moins une abstention (Espagne).

12. Toute provenance d'un pays, où existe le choléra, n'étant pas nécessairement infectée, on ne désinfectera que ce qui est souillé, ou peut avoir été à l'usage des cholériques, et particulièrement les linges, les habits et les chiffons.

Adoptée à l'unanimité, moins une abstention (Turquie).

13. Les règles d'hygiène générale, surtout en ce qui concerne les agglomérations d'individus, l'approvisionnement des marchés, les vivres, l'eau potable, le transport des malades, l'enterrement des cadavres, etc., etc., applicables en tout temps, devront être encore plus rigoureusement suivies en temps de choléra.

Adoptée à l'unanimité.

(B) PROPHYLAXIE SANITAIRE FLUVIALE.

14. Les ports des fleuves, où abordent des navires traversant la mer, doivent être soumis au même régime que les ports de mer.

Adoptée à l'unanimité.

15. Les bateaux qui desservent les grands fleuves devront être soumis à une hygiène rigoureuse. L'encombrement des passagers sera strictement interdit.

Un médecin sera attaché à chaque point de relâche important et, dans chaque station, une chambre convenablement isolée devra être préparée.

Adoptée à l'unanimité, moins une abstention (Turquie).

(C) PROPHYLAXIE SANITAIRE MARITIME.

MESURES SANITAIRES GÉNÉRALES.

Ports.

16. Il est de l'intérêt de chaque nation d'assurer la salubrité de ses ports de mer. Elle évitera souvent ainsi l'invasion de son sol par les maladies exotiques, et surtout elle ne transportera que rarement sur ses vaisseaux les maladies endémiques.

Adoptée à l'unanimité.

17. Dans chaque port il serait nécessaire qu'il y eût toujours une autorité sanitaire ayant mission de fournir aux consuls des informations officielles sur l'état sanitaire de ce port.

Adoptée à l'unanimité.

18. Il sera accordé aux consuls la faculté de puiser aux bureaux d'hygiène leurs renseignements sur l'état sanitaire des ports et des villes.

Adoptée par 10 oui (Autriche, Hongrie, États-Unis de l'Amérique du Nord, France, Italie, Mexique, Pays-Bas, Portugal, Russie, Suisse), contre 2 non (Roumanie, Turquie) et 8 abstentions (Allemagne, Brésil, Danemark, Grande-Bretagne, Inde, Japon, Suède, Norvège).

19. Chaque navire, destiné au transport des voyageurs, qui part d'un port suspect devra être convenablement construit et posséder des locaux qui permettent l'isolement des cholériques.

Adoptée à l'unanimité.

20. Les paquebots provenant des pays où règne le choléra, seront tenus d'avoir une étuve de désinfection par la vapeur.

Adoptée à l'unanimité.

21. Les bâtiments à vapeur, destinés au transport des voyageurs provenant de pays où règne le choléra, seront tenus d'avoir à bord un médecin, nommé par le gouvernement, auquel appartient le bateau, ou bien par l'autorité sanitaire, révocable seulement par ce gouvernement ou cette autorité, et complètement indépendant des compagnies de navigation et des armateurs des bateaux.

Adoptée par 19 oui, contre 2 abstentions (Suède, Norvège).

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MESURES SANITAIRES SPÉCIALES.

§ 1.

MESURES D'ASSAINISSEMENT AU POINT DE DÉPART.

Grands Paquebots.

22. Le consul du pays de destination aura le droit d'assister aux inspections sanitaires du navire qui seront faites par les agents de l'autorité territoriale, conformément aux règles qui seront établies par des conventions ou des traités.

Adoptée par 8 oui (Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Italie, Pays-Bas, Portugal, Suède), 8 abstentions (Allemagne, Brésil, Espagne, France, Mexique, Norvège, Russie, Suisse), 6 non (Grande-Bretagne, Inde, Japon, Roumanie, Serbie, Turquie).

23. Le chargement du navire ne commencera que lorsque son nettoyage aura été opéré, soit par les moyens ordinaires, soit par un procédé spécial de désinfection, si cela aura été jugé nécessaire. Il sera visité, à cet effet, par le capitaine et le médecin du bord. Le résultat de la visite sera relaté sur le registre du bord.

Adoptée à l'unanimité.

24. Le médecin examinera les passagers qui se présenteront pour embarquer, provenant d'un port où règne le choléra. Il refusera ceux qui lui paraîtront suspects de choléra.

Adoptée à l'unanimité, moins une abstention (Turquie).

25. Pour ceux qui lui sembleront dans de bonnes conditions, il veillera à ce qu'ils n'introduisent pas à bord des linges, des hardes ou des objets de literie, souillés ou suspects.

Adoptée à l'unanimité.

26. Les vêtements et les objets de literie ayant servi aux individus morts du choléra ne devront jamais être acceptés.

Adoptée à l'unanimité.

27. Lorsque le choléra se montre à bord du navire pendant le séjour dans un port contaminé, les malades chez lesquels les premiers symptômes de cette affection auront été constatés, seront immédiatement dirigés sur l'hôpital, et tous leurs effets, ainsi que les objets de literie, qui leur auront servi, seront détruits ou désinfectés. En outre, l'endroit dans lequel le cholérique se trouvait, sera immédiatement désinfecté.

Adoptée à l'unanimité.

28. Les sacs renfermant les vêtements d'individus ayant succombé à l'étranger seront désinfectés avant le départ.

Adoptée à l'unanimité.

Petits Navires.

29. Au point de vue sanitaire, il faut distinguer deux sortes de navires : ceux qui ont un médecin et ceux qui n'en ont pas. On doit

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considérer ces derniers comme petits navires, quels que soient leur tonnage et le chiffre de leur équipage, qu'ils soient à voile ou à vapeur.

Adoptée à l'unanimité, moins l'Espagne qui a voté non.

30. A bord des petits navires, le capitaine doit s'adresser au consul du pays de destination du navire, pour qu'il fasse visiter son navire par un médecin avant le chargement et pour que ce dernier examine les passagers. Cette visite est indépendante de l'inspection, qui relève de l'autorité sanitaire du port.

Adoptée par 20 oui, contre 1 non (Brésil) et 1 abstention (Turquie).

31. Le résultat de cette visite, ainsi que l'indication des mesures de propreté et de désinfection, seront consignés sur le registre du bord.

Adoptée à l'unanimité moins une abstention (Turquie).

32. Le lest ne doit jamais être constitué par de la terre ou des matériaux poreux.

Adoptée à l'unanimité.

33. Le capitaine veillera à ce qu'on n'introduise ni linge, ni hardes, ni objets de literie souillés ou suspects.

Adoptée à l'unanimité.

§ 2.

MESURES D'ASSAINISSEMENT PENDANT LA TRAVERSÉE.

GRANDS PAQUEBOTS.

Navires Suspects.

34. Le linge de corps des passagers et de l'équipage, sali ou souillé, sera lavé le jour même, après avoir été plongé dans l'eau bouillante ou dans une solution désinfectante.

Adoptée à l'unanimité.

35. Les lieux d'aisance seront lavés et désinfectés, au moins deux fois par jour.

Adoptée à l'unanimité.

36. Une propreté rigoureuse, une ventilation active seront maintenues, pendant toute la traversée, à bord des navires suspects.

Adoptée à l'unanimité.

Navires Infectés.

37. Dès que le médecin constatera les premiers signes du choléra il avisera immédiatement le capitaine et prendra, de concert avec lui, les mesures nécessaires pour isoler les malades du reste du personnel.

Adoptée à l'unanimité.

38. Les locaux ayant été occupés par des cholériques seront immédiatement désinfectés.

Adoptée à l'unanimité.

39. Autant que possible, les locaux ainsi désinfectés resteront largement ouverts et isolés, et ne recevront aucun autre passager en santé pendant toute la traversée.

Adoptée par 19 oui, contre 1 non (Espagne) et 2 abstentions (Grande-Bretagne et Inde).

Petits Navires.

40. Pendant la traversée, le capitaine devra prendre toutes les mesures nécessaires pour la désinfection du linge des passagers et de l'équipage, pour l'isolement des malades, en cas d'infection cholérique et pour la désinfection des locaux. Il consigne le tout sur le registre du bord.

Adoptée à l'unanimité.

41. Pour le mettre à même de remplir ces fonctions, il lui sera remis au départ, par le consul de sa nation, une instruction sanitaire, claire et concise, qui sera ultérieurement rédigée. Cette instruction sera traduite en différentes langues, offerte aux divers Gouvernements et distribuée.

Adoptée à l'unanimité, moins une abstention (Brésil).

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DISPOSITIONS SPÉCIALES POUR LA MER ROUGE.

GRANDS PAQUEBOTS.

Navires Suspects.

42. Tous les bâtiments à vapeur provenant des ports infectés de choléra au delà du détroit de Bab-el-Mandeb subiront, dans la Mer Rouge, une inspection médicale.

Adoptée par 16 oui, contre 4 non (Brésil, Espagne, Grande-Bretagne, Inde) et 2 abstentions (États-Unis de l'Amérique du Nord, Japon).

43. Cette visite sera faite par un médecin du port, indépendant.

Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon).

44. Si le médecin du navire certifie que les mesures d'assainissement ont été prises au point de départ, que les mesures d'assainissement et de désinfection ont été observées pendant la traversée, qu'il n'y a eu, pendant le voyage, ni mort, ni malade, ni suspect de choléra, enfin si l'examen médical fait par le médecin du port lui permet de constater qu'il n'existe personne atteint ou suspect de cette maladie, la libre pratique immédiate sera accordée.

Adoptée par 17 oui, contre 1 non (Espagne) et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon).

45. Les bâtiments qui ne laisseront pas de voyageurs dans les ports de la Mer Rouge, ni en particulier et Égypte, subiront une seule inspection médicale près de Suez.

Adoptée par 16 oui, contre 2 non (Espagne, Turquie) et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon).

46. Les bâtiments qui auront des passagers à destination de l'Égypte ou de tout autre port de la Mer Rouge, subiront une première inspection près du détroit de Bab-el-Mandeb, et une seconde au premier port d'arrivée.

Adoptée par 17 oui, contre 1 non (Espagne) et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon).

Navires Infectés.

47. Si le navire est infecté, c'est-à-dire s'il y a, ou s'il y a eu à bord un ou plusieurs cholériques, les passagers seront débarqués et isolés, séparés par groupes chacun aussi peu nombreux que possible.

Adoptée par 18 oui, contre 2 non (Grande-Bretagne, Inde) et 2 abstentions (Brésil, Japon).

48. Le navire, les vêtements et les effets d'usage des gens de l'équipage et des passagers seront désinfectés.

Adoptée par 19 oui et 3 abstentions (Grande-Bretagne, Inde, Mexique).

49. Les passagers et les gens de l'équipage seront soumis à une observation de cinq jours.

Adoptée par 13 oui (Allemagne, Autriche, Hongrie, Danemark, France, Italie, Japon, Pays-Bas, Portugal, Russie, Suède, Norvège, Suisse), contre 9 non (Brésil, Espagne, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Mexique, Roumanie, Serbie, Turquie).

50. Les malades seront isolés, remis aux soins et placés sous la responsabilité des médecins.

Adoptée par 18 oui, contre 1 non (Brésil) et 2 abstentions (Grande-Bretagne, Inde).

Petits Navires.

51. Les petits navires venant de l'Océan indien et entrant dans la Mer Rouge, s'ils débarquent des passagers dans la Mer Rouge, devront être traités comme les grands navires, qui sont dans le même cas; lorsqu'ils ne font que parcourir cette mer pour passer de l'Océan indien dans la Méditerranée, ils subiront une double visite, l'une à l'entrée de la Mer Rouge, l'autre à Suez. S'ils sont indemnes, ils continueront leur chemin; s'ils ont eu de des cholériques, ils seront traités comme les grands navires infectés.

Adoptée par 17 oui, contre 1 non (Espagne) et 4 abstentions (Brésil, Grande-Bretagne, Inde, Turquie).

PÉLERINAGE À LA MECQUE.

52. Il est désirable que chaque pèlerin possède les ressources nécessaires pour être à l'abri des privations pendant son pèlerinage à la Mecque, ce qui d'ailleurs est conforme aux prescriptions religieuses musulmanes et adopté par le gouvernement des Indes néerlandaises. Cette mesure préviendra la misère, une des causes les plus importantes de l'extension du choléra parmi les pèlerins.

Adoptée à l'unanimité.

53. Chaque navire à pèlerins et chaque caravane seront accompagnés par un nombre suffisant de médecins, désignés par le gouvernement du pays où se forme le convoi.

Adoptée à l'unanimité.

54. Un navire sera considéré comme navire à pèlerins, s'il a à bord plus de trente pèlerins.

Adoptée à l'unanimité.

55. Dans les ports où existe le choléra, avant l'embarquement des pèlerins, le navire sera nettoyé et désinfecté, visité par son médecin et, en outre, par l'autorité sanitaire du port. Le médecin du navire examinera chaque personne; il n'admettra que celles qui ne sont ni malades, ni suspectes de choléra. Il veillera à ce que l'on n'introduise pas à bord des linges, des hardes, des objets de literie ou autres effets du même genre souillés ou suspects. Tous les effets provenant d'endroits contaminés ou suspects de choléra seront désinfectés avant l'embarquement. Les vêtements et objets de literie ayant servi aux malades cholériques ne seront jamais admis à bord.

Si le choléra se manifeste à bord, les malades seront de suite dirigés sur l'hôpital et l'endroit qu'ils occupaient dans le navire sera immédiatement désinfecté.

Adoptée à l'unanimité.

56. L'autorité sanitaire du port d'embarquement et le médecin du bord veilleront à ce qu'il n'y ait pas d'encombrement. Un navire à vapeur doit avoir dans les entreponts au moins 9 pieds de surface et 54 pieds cubes d'espace, pour chaque passager. A bord des voiliers chaque passager doit avoir 12 pieds de surface et 72 pieds cubes d'espace.

Adoptée à l'unanimité.

57. Pendant la traversée, le médecin du bord veillera à ce qu'une propreté rigoureuse et une ventilation active soient maintenues, à ce que tout linge sali ou souillé soit lavé le même jour et désinfecté, et

à ce que les lieux d'aisance soient lavés et désinfectés au moins deux fois par jour.

Adoptée à l'unanimité.

58. En général, toutes les mesures adoptées par le Gouvernement de l'Inde britannique relativement à l'embarquement et au transport des pèlerins des Indes dans la Mer Rouge, sont recommandées à l'adoption de tous les pays d'où partent des pèlerins.

Adoptée à l'unanimité.

59. Tout navire à pèlerins, arrivé dans la Mer Rouge, fera escale à la station sanitaire, où il subira une inspection médicale rigoureuse. La visite des passagers et de l'équipage sera faite à terre. Le navire et les effets des passagers et de l'équipage seront désinfectés, puis le capitaine prendra les mesures nécessaires pour assurer le nettoyage complet du navire, le lavage des effets des passagers et de l'équipage.

Si le médecin du bord certifie que toutes les mesures d'assainissement et de désinfection ont été prises avant le départ, que les mesures d'assainissement et de désinfection ont été observées pendant la traversée, qu'il n'y a eu pendant le voyage ni mort, ni malade, ni suspect de choléra, enfin si l'examen médical, fait deux fois pendant 24 heures, par le médecin de la station sanitaire, permet de constater qu'il n'existe personne atteint ou suspect de choléra, le navire pourra réembarquer et se rendre au port de sa destination définitive au Hedjaz.

Si le navire est sans médecin, ou s'il y a eu des accidents de choléra, ou des cas suspects à bord pendant la traversée, ou si ces mêmes accidents surviennent à l'arrivée du navire à la station sanitaire, il sera isolé pendant cinq jours et désinfecté ainsi que tous les effets des passagers et de l'équipage. Les passagers et les gens de l'équipage seront isolés à terre pendant cinq jours. Les malades et les suspects seront isolés par groupes séparés. Les valides seront répartis en groupes dont chacun ne pourra s'embarquer qu'après cinq jours sans aucun accident, comptés depuis la séparation du dernier malade, s'il y en a eu.

Le navire sera autorisé à se rendre au port de sa destination définitive au Hedjaz, quant il aura embarqué tous les groupes de passagers, sauf les personnes qui ont été isolées pour cause de contamination et qui n'ont pas encore subi le temps d'observation réglementaire.

Adoptée par 16 oui, contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie).

60. À son arrivée au Hedjaz, le navire subira de nouveau une inspection médicale rigoureuse. Un délai de 24 heures sera accordé au médecin du port, s'il le juge nécessaire, pour formuler le résultat de ses constatations sanitaires. Si le médecin de bord certifie qu'il n'y a eu aucun accident cholérique ou suspect depuis que le navire a quitté la station sanitaire, et si l'inspection faite par le médecin du port permet de constater qu'il n'y a eu ni mort, ni cas de choléra, le navire aura de suite libre pratique.

Si, au contraire, il y a eu des cas cholériques ou suspects, le navire devra immédiatement retourner à la station sanitaire pour y subir de nouveau toutes les mesures d'observation, d'isolement et de désinfection décrites dans l'article précédent.

Adoptée à l'unanimité.

61. Les médecins présents, ceux qui auront été délégués ou envoyés en mission, ainsi que ceux qui seront arrivés avec les navires, ou avec les caravanes, suivront les pèlerins pendant toute la durée du pèlerinage. Ils seront chargés d'assurer le service sanitaire, de façon à prévenir le développement du choléra parmi les pèlerins et, si l'épidémie éclatait, ils

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devront soigner les malades et avertir, le plus rapidement possible, les Gouvernements intéressés.

Adoptée à l'unanimité.

62. Il est de nécessité absolue que les mesures d'assainissement soient largement appliquées aux lieux où séjournent les pèlerins, et surtout aux villes saintes du Hedjaz.

Adoptée à l'unanimité, moins une abstention (Turquie).

63. Si pendant toute la durée du pèlerinage, il n'y a pas eu d'accident cholérique, les navires à pèlerins subiront à leur retour une inspection médicale rigoureuse au port d'embarquement du Hedjaz. Les navires à destination de l'Égypte et ceux qui doivent passer par le canal maritime dans la Méditerranée, subiront une seconde inspection, les premiers dans ports égyptiens, et les autres (ceux à destination de la Méditerranée) près de Suez. Cette deuxième inspection décidera si ces navires peuvent être considérés comme nets, ou s'ils doivent être soumis à l'observation et à la désinfection.

Adoptée à l'unanimité, moins deux abstentions (Grande-Bretagne et l'Inde).

64. Si pendant le pèlerinage, il y a eu des accidents cholériques, les navires à destination des ports de l'Égypte et de la Méditerranée seront envoyés à la station sanitaire, où ils subiront une observation de cinq jours à compter de l'isolement des malades et la désinfection complète des effets et des navires, dans les conditions indiquées pour l'arrivée des navires infectés ou suspects; puis ils subiront une seconde inspection médicale dans les ports d'arrivée en Égypte ou près de Suez.

Adoptée par 14 oui, contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie) et 2 abstentions (Grande-Bretagne, Inde).

65. Les petits navires venant de l'Océan Indien, et entrant dans la Mer Rouge, s'ils sont chargés de pèlerins, subiront le régime spécial des navires à pèlerins.

Adoptée par 17 oui, contre 1 non (Espagne) et 4 abstentions (Brésil, Grande-Bretagne, Inde, Turquie).

66. La Commission technique n'a pas autorité pour fixer les lieux où seront établies les stations sanitaires et ceux où se feront les inspections médicales, mais les renseignements qu'elle possède lui permettent de croire que, sous le rapport sanitaire, l'île de Camaran pour les navires à pèlerins venant du sud, Aioun Ouna et la côte d'Attaka pour ceux qui reviennent du pèlerinage de la Mecque et qui se dirigent vers les ports de l'Égypte ou de la Méditerranée, présentent des conditions convenables.

Adoptée à l'unanimité

CODE PÉNAL SANITAIRE POUR LA MER ROUGE.

67. La Commission technique exprime le vœu que la Conférence sanitaire internationale pose les bases d'un code pénal international applicable aux contraventions sanitaires commises dans la Mer Rouge.

Adoptée à l'unanimité sauf deux abstentions (Grande-Bretagne, Inde).

§ 3.

MESURES D'ASSAINISSEMENT À L'ARRIVÉE.

Navires Suspects.

68. La libre pratique ne sera accordée qu'après une inspection sanitaire faite de jour et par un médecin du port d'arrivée, inspection qui devra établir l'état sanitaire exact des passagers et de l'équipage et

constater que les mesures d'assainissement et de désinfection ont été rigoureusement exécutées, au point de départ et pendant la traversée.

Adoptée par 17 oui, 2 non (Brésil, Espagne) 2 abstentions (Danemark, Portugal).

69. Les passagers recevront libre pratique, s'il n'y a, ou s'il n'y a eu, à bord ni mort, ni malade, ni suspect de choléra.

Adoptée par 15 oui, 3 non (Brésil, Espagne, Mexique), 3 abstentions (Danemark, Grande-Bretagne, Inde).

70. Dans le cas où la traversée a duré moins de dix jours, il y aura une observation de 24 heures et une désinfection à bord du linge sale et des effets à usage.

Adoptée par 11 oui, 6 non (Brésil, Espagne, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Mexique), 4 abstentions (Autriche, Danemark, Serbie, Turquie).

Navires Infectés.

Malades.

71. Les malades seront immédiatement débarqués dans un local isolé. Adoptée à l'unanimité, moins le délégué de la Turquie, qui s'est abstenu.

72. La désinfection aura lieu, comme il est dit dans les articles qui règlent la désinfection.

Adoptée à l'unanimité.

Passagers et Equipage.

73. Les passagers et l'équipage seront isolés.

Adoptée par 17 oui, contre 2 non (Grande-Bretagne, Inde), et 2 abstentions (États-Unis de l'Amérique du Nord, Russie).

74. Cet isolement durera cinq jours.

Adoptée par 11 oui, contre 8 non (Brésil, Espagne, Grande-Bretagne, Inde, Mexique, Roumanie, Serbie, Turquie), et 2 abstentions (Danemark, États-Unis de l'Amérique du Nord).

75. Dans le cas où, d'après le certificat du médecin du bord, il n'y aurait pas eu à bord des cas de choléra depuis dix jours, l'observation pourra être réduite à 24 heures.

Adoptée par 10 oui (Allemagne, Autriche, Hongrie, France, Italie, Pays-Bas, Russie, Suède, Norvège, Suisse), contre 7 non (Brésil, Espagne, Mexique, Portugal, Roumanie, Serbie, Turquie), et 4 abstentions (Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde).

76. Les passagers seront divisés par groupes, chacun aussi peu nombreux que possible, de façon à ce que, si des accidents se montraient dans un groupe, la durée de l'isolement ne fût pas augmentée pour tous.

Adoptée par 18 oui, contre 3 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde).

77. L'autorité sanitaire prendra les mesures qu'elle jugera nécessaires pour la désinfection, et prescrira les moyens prophylactiques dont les principes ont été adoptés par la Conférence.

Adoptée par 18 oui, contre 3 abstentions (Danemark, Grande-Bretagne, Inde).

Navires.

78. Le navire sera désinfecté suivant les règles données dans les articles consacrés à la désinfection. Toutes les opérations de désinfection du navire seront faites en présence et sous la responsabilité du chef de l'autorité sanitaire du port d'arrivée.

Adoptée à l'unanimité.

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DISPOSITIONS SPÉCIALES A LA MÉDITERRANÉE.

Navires Suspects.

79. Les passagers et l'équipage seront débarqués dans un local isolé, construit dans ce but avec toutes les conditions nécessaires pour réaliser la désinfection et l'isolement.

Adoptée par 10 oui (Brésil, Danemark, Espagne, France, Italie, Mexique, Portugal, Roumanie, Serbie, Turquie), contre 4 non (Autriche, Hongrie, Grande-Bretagne, Inde), et 7 abstentions (Allemagne, États-Unis de l'Amérique du Nord, Pays-Bas, Russie, Suède, Norvège, Suède).

80. Cet isolement variera de trois à six jours pleins, suivant les conditions du navire, qu'il s'agisse d'un grand paquebot ou d'un petit navire, qu'il y ait, ou non, un médecin à bord.

Adoptée par 6 oui (France, Italie, Norvège, Pays-Bas, Portugal, Suisse), contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie), et 10 abstentions (Allemagne, Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Portugal, Russie, Suède).

81. On déduira de la durée d'isolement celle de la traversée.

Adoptée par 7 oui (France, Italie, Pays-Bas, Portugal, Suède, Norvège, Suisse), contre 6 non (Brésil, Espagne, Mexique, Roumanie, Serbie, Turquie), et 8 abstentions (Allemagne, Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Portugal, Russie, Suisse).

Navires Infectés.

82. Les navires infectés seront soumis, dans les ports de la Méditerranée, aux règles générales applicables aux navires infectés dans les ports d'arrivée.

Adoptée par 12 oui, contre 2 non (Espagne, Mexique) et 7 abstentions (Brésil, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Russie, Turquie).

PROPHYLAXIE SANITAIRE DE LA MER CASPIENNE.

83. Les mesures suffisantes pour la Mer Caspienne se trouvent dans les mesures établies par les autres mers.

Adoptée à l'unanimité.

III.

PROPHYLAXIE SANITAIRE DE LA FIÈVRE JAUNE.

84. Les mesures recommandées contre le choléra sont, en général, applicables à la fièvre jaune et aux autres maladies, qui règnent épidémiquement sous l'influence des mauvaises conditions sanitaires et qui sont transmises par l'intermédiaire de l'homme.

Les moyens les plus efficaces pour empêcher la propagation des maladies de cette classe sont :

L'assainissement des villes et des vaisseaux partant des ports infectés, l'isolement des malades et la désinfection des effets et des locaux infectés ou suspects.

Adoptée par 17 oui, contre 3 abstentions (Grande-Bretagne, Inde, Turquie).

CHOLERA.

CONCLUSIONS OF THE INTERNATIONAL SANITARY CONFERENCE
OF CONSTANTINOPLE, 1866 ; OF THE INTERNATIONAL
SANITARY CONFERENCE OF VIENNA, 1874 ; AND OF THE
TECHNICAL COMMISSION OF THE INTERNATIONAL SANITARY
CONFERENCE OF ROME, 1885.

No. 3.

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>I.</p> <p>ORIGINE ET GENÈSE DU CHOLÉRA; ENDÉMICITÉ ET ÉPIDÉMICITÉ DE CETTE MALADIE DANS L'INDE.</p> <p>CONCLUSIONS.</p> <p>Le choléra asiatique, celui qui à diverses reprises a parcouru le monde, a son origine dans l'Inde où il a pris naissance et où il existe en permanence à l'état endémique.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 14, page 4.</p> <p>La Conférence considère comme démontré que le choléra asiatique, envahissant, ne s'est jamais développé spontanément et n'a jamais été observé à l'état d'endémie (qu'il faut bien distinguer des foyers secondaires plus ou moins tenaces) dans aucun des pays qui viennent d'être énumérés (Europe, &c.), et qu'il y est toujours venu du dehors. Quant aux pays voisins de l'Inde, tout en admettant comme probable que le choléra n'y existe pas à l'état endémique, la Conférence ne se croit pas autorisée à conclure formellement à cet égard.</p> <p>Adoptée par 19 voix contre 2. Procès-verbal, No. 16, page 11.</p>	<p>I.</p> <p>ORIGINE ET GENÈSE DU CHOLÉRA; ENDÉMICITÉ ET ÉPIDÉMICITÉ DE CETTE MALADIE DANS L'INDE.</p> <p>Le choléra asiatique, susceptible de s'étendre (épidémique), se développe spontanément dans l'Inde, et c'est toujours du dehors qu'il arrive, quand il éclate dans d'autres pays.</p> <p>Adopté à l'unanimité. Procès-verbaux, pages 26-379.</p> <p>Il ne revêt pas le caractère endémique dans d'autres pays que l'Inde.</p> <p>Adopté à l'unanimité. Procès-verbaux, pages 26-379.</p>	
<p>La Conférence sans rejeter la possibilité que le choléra ne vienne à s'acclimater dans nos pays, regarde le fait comme problématique.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 16, page 11.</p> <p>Le choléra asiatique ne paraît pas avoir dans le Hejaz de foyer originel, mais il semble y avoir été jusqu'ici toujours importé du dehors.</p> <p>Adoptée par 19 voix, contre 0. MM. Dickson, Goodeve, et Monlau se sont abstenus. Procès-verbal, No. 17, page 9</p>		

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Relativement à l'endémicité du choléra dans l'Inde, la Conférence ne peut que répondre qu'il y a dans l'Inde certaines localités, comprises principalement dans la vallée du Gange, où le choléra est endémique, sans qu'il soit possible de les préciser toutes, ni d'affirmer qu'elles aient le privilège exclusif de donner naissance à la maladie. Adoptée à l'unanimité. Procès-verbal, No. 17, page 9.</p> <p>Relativement aux causes de l'endémie cholérique, la Conférence répond que nous ne connaissons pas les conditions spéciales sous l'influence desquelles le choléra naît dans l'Inde et y règne dans certaines localités à l'état endémique. Adoptée à l'unanimité. Procès-verbal, No. 17, page 9.</p> <p>Relativement aux circonstances qui concourent au développement et à la propagation des épidémies de choléra dans l'Inde, la Conférence conclut que les pèlerinages sont, dans l'Inde, la plus puissante de toutes les causes qui concourent au développement et à la propagation des épidémies de choléra. Adoptée à l'unanimité. Procès-verbal, No. 17, page 10.</p>	<p>Relativement à l'endémicité du choléra dans l'Inde, la Conférence ne peut que répondre qu'il y a dans l'Inde certaines localités, comprises principalement dans la vallée du Gange, où le choléra est endémique, sans qu'il soit possible de les préciser toutes, ni d'affirmer qu'elles aient le privilège exclusif de donner naissance à la maladie. Adoptée à l'unanimité. Procès-verbal, No. 17, page 9.</p> <p>Relativement aux causes de l'endémie cholérique, la Conférence répond que nous ne connaissons pas les conditions spéciales sous l'influence desquelles le choléra naît dans l'Inde et y règne dans certaines localités à l'état endémique. Adoptée à l'unanimité. Procès-verbal, No. 17, page 9.</p> <p>Relativement aux circonstances qui concourent au développement et à la propagation des épidémies de choléra dans l'Inde, la Conférence conclut que les pèlerinages sont, dans l'Inde, la plus puissante de toutes les causes qui concourent au développement et à la propagation des épidémies de choléra. Adoptée à l'unanimité. Procès-verbal, No. 17, page 10.</p>	
<p>TRANSMISSIBILITÉ ET PROPAGATION DU CHOLÉRA.</p> <p>1^o PREUVES DE LA TRANSMISSIBILITÉ TIRÉES DE LA MARCHÉ DES ÉPIDÉMIES DE CHOLÉRA CONSIDÉRÉES EN GÉNÉRAL.</p> <p>CONCLUSION.</p> <p>Tous les faits énoncés ne démontrent ils pas jusqu'à la dernière évidence que le choléra est propagé par l'homme et avec une vitesse d'autant plus grande que ses propres migrations se sont activées et sont devenues plus rapides? La Conférence n'hésite pas à répondre affirmativement.</p> <p>Adoptée à l'unanimité moins 1 abstention. Procès-verbal, No. 18, page 7.</p>	<p>II.</p> <p>QUESTIONS DE TRANSMISSIBILITÉ.</p> <p>1 TRANSMISSIBILITÉ PAR L'HOMME.</p> <p>La Conférence accepte la transmissibilité du choléra par l'homme d'un milieu infecté; elle ne considère l'homme comme pouvant être la cause spécifique, qu'en dehors de l'influence de la localité infectée; en outre, elle le regarde comme le propagateur du choléra, lorsqu'il vient d'un endroit où le germe de la maladie existe déjà.</p> <p>Adopté à l'unanimité. Procès-verbaux, pp. 28, 379.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>2° PREUVES TIRÉES DE FAITS ÉTABLISSANT LA PROPAGATION DU CHOLÉRA PAR IMPORTATION.</p> <p>3° PREUVES TIRÉES DE LA PROGRESSION DES ÉPIDÉMIES DE CHOLÉRA DANS LES LOCALITÉS ATTEINTES.</p> <p>4° PREUVES TIRÉES DE L'EFFICACITÉ DE CERTAINES MESURES PRÉVENTIVES.</p> <p>Texte relatif à ces preuves adopté par 21 voix contre 0 et 5 abstentions. Procès-verbal, No. 18, page 8.</p>	<p>7° TRANSMISSIBILITÉ PAR L'ATMOSPHÈRE SEULE.</p> <p>Aucun fait n'est venu prouver jusqu'ici que le choléra puisse se propager au loin par l'atmosphère seule, dans quelque condition qu'elle soit; en outre, c'est une loi, sans exception, que jamais une épidémie de choléra ne s'est propagée d'un point à un autre dans un temps plus court que celui nécessaire à l'homme pour s'y transporter.</p> <p>L'air ambiant est le véhicule principal de l'agent générateur du choléra; mais la transmission de la maladie par l'atmosphère reste, dans l'immense majorité des cas, limitée à une distance très rapprochée du foyer d'émission. Quant aux faits cités de transport par l'atmosphère à un ou plusieurs milles de distance, ils ne sont pas suffisamment concluants.</p> <p>Adoptée à l'unanimité. Procès-verbaux, pp. 43, 381</p>	
<p>CONCLUSION GÉNÉRALE DU CHAPITRE.</p> <p>La Conférence conclut que la transmissibilité du choléra asiatique est une vérité incontestable, prouvée par des faits qui n'admettent aucune autre interprétation.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 18, page 8.</p> <p>Sur la possibilité de la propagation du choléra par l'atmosphère la Conférence répond qu'aucun fait n'est venu prouver jusqu'ici que le choléra puisse se propager au loin par l'atmosphère seule, dans quelque condition qu'elle soit; et qu'en outre c'est une loi, sans exception, que jamais une épidémie de choléra ne s'est propagée d'un point à un autre dans un temps plus court que celui nécessaire à l'homme pour s'y transporter.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 18, page 8.</p>		

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>COMMENT S'OPÈRE L'IMPORTATION DU CHOLÉRA ET QUELS SONT LES AGENTS DE LA TRANSMISSION ?</p> <p>L'homme atteint de choléra est, par lui-même, le principal agent propagateur de cette maladie, et un seul cholérique peut donner lieu au développement d'une épidémie.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 18, page 8.</p> <p>La Conférence a été amenée à conclure que certains faits tendent à prouver qu'un seul individu (à plus forte raison plusieurs) venant d'un lieu contaminé, et souffrant de diarrhée, peut suffire à donner lieu au développement d'une épidémie cholérique, ou, en d'autres termes, que la diarrhée dite prémonitoire peut transmettre le choléra.</p> <p>Adoptée à l'unanimité, moins 1 contre. Procès-verbal, No. 18, page 9.</p>		
<p>DURÉE DE L'INCUBATION.</p> <p>CONCLUSION.</p> <p>Dans presque tous les cas où la période d'incubation, c'est-à-dire le temps écoulé entre le moment où un individu a pu contracter l'intoxication cholérique et le début de la diarrhée prémonitoire ou du choléra confirmé, ne dépasse pas quelques jours. Tous les faits cités d'une incubation plus longue se rapportent à des cas qui ne sont pas concluants, ou bien parce que la diarrhée prémonitoire a été comprise dans la période d'incubation, ou bien parce que la contamination a pu avoir lieu après le départ du lieu infecté.</p> <p>Adoptée à la majorité de 20 voix, contre 1, et 4 abstentions. Procès-verbal, No. 18, page 10.</p>	<p>DURÉE DE L'INCUBATION.</p> <p>Dans presque tous les cas, la période d'incubation, c'est-à-dire le temps écoulé entre le moment où un individu a pu contracter l'intoxication cholérique et le début de la diarrhée prémonitoire ou du choléra confirmé, ne dépasse pas quelques jours. Tous les faits cités d'une incubation plus longue se rapportent à des cas qui ne sont pas concluants, ou bien parce que la diarrhée prémonitoire a été comprise dans la période d'incubation, ou bien parce que la contamination a pu avoir lieu après le départ du lieu infecté.</p> <p>L'observation montre que la durée de la diarrhée cholérique, dite prémonitoire, qu'il ne faut pas confondre avec toutes les diarrhées qui existent en temps de choléra, ne dépasse pas quelques jours.</p> <p>Les faits cités comme exceptionnels ne prouvent pas que les cas de diarrhée qui se prolongent au delà appartiennent au choléra et soient susceptibles de transmettre la maladie, quand l'individu atteint a été soustrait à toute cause de contamination.</p> <p>Résultat du vote: 13 oui, 1 non, 4 abstentions. Procès-verbaux, pages 43, 45, 382.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>En ce qui concerne les cadavres de cholériques, la Conférence a répondu : Bien qu'il ne soit pas prouvé par des faits concluants que les cadavres de cholériques puissent transmettre le choléra, il est prudent de les considérer comme dangereux.</p> <p>Adoptée par 22 voix, contre 0, et 1 abstention. Procès-verbal, No. 20, page 5.</p>	<p>TRANSMISSIBILITÉ PAR LES CADAVRES CHOLÉRIQUES.</p> <p>Bien qu'il ne soit pas prouvé par des faits concluants que les cadavres de cholériques puissent transmettre le choléra, il est prudent de les considérer comme dangereux.</p> <p>Adoptée à l'unanimité. Procès-verbaux, pages 42-381.</p>	
<p>DE L'INFLUENCE DES MOYENS DE COMMUNICATIONS.</p> <p>La Conférence est d'avis que les communications maritimes sont, par leur nature, les plus dangereuses : que ce sont elles qui propagent le plus sûrement au loin le choléra, et qu'ensuite viennent celles par chemins de fer qui, dans un temps très court, peuvent porter la maladie à grande distance.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 20, page 5.</p> <p>Quant à l'influence des déserts, la Conférence, s'en tenant aux faits établis par l'expérience, conclut que les grands déserts sont une barrière très efficace contre la propagation du choléra, et elle reconnaît qu'il est sans exemple que cette maladie ait été importée en Egypte ou en Syrie, à travers le désert, par les caravanes parties de la Mecque.</p> <p>Adoptée par 22 voix, contre 0. 3 abstentions. Procès-verbal, No. 20, page 13.</p>	<p>DE L'INFLUENCE DES AGGLOMÉRATIONS.</p> <p>La Conférence répond d'une manière générale que toute agglomération d'hommes—parmi laquelle s'introduit le choléra—est une condition favorable à l'extension rapide de la maladie, et—si cette agglomération se trouve dans de mauvaises conditions hygiéniques—à la violence de l'épidémie parmi elle ;</p> <p>Qu'en pareil cas la rapidité de l'extension est proportionnée à la concentration de la masse agglomérée, tandis que la violence de l'épidémie est—toutes choses égales d'ailleurs—d'autant plus prononcée que les individus composant l'agglomération ont moins subi déjà l'influence cholérique, ou en sont restés vierges ; c'est-à-dire, en d'autres termes, que les individus qui ont déjà subi l'influence d'un foyer cholérique jouissent d'une sorte d'immunité relative et temporaire qui contre-balance les fâcheux effets de l'agglomération ;</p> <p>Qu'enfin dans une masse agglomérée, plus l'extension est rapide plus aussi la cessation de l'épidémie est prompte, à moins que de nouveaux arrivages sains ne viennent fournir un nouvel aliment à la maladie et ainsi l'entretenir.</p> <p>Adoptée par 20 voix contre 0. 2 abstentions. Procès-verbal, No. 20, page 15.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>En ce qui concerne les navires, la Conférence conclut que l'intensité des épidémies de choléra à bord des navires encombrés d'hommes est, en général, proportionnée à l'encombrement et est d'autant plus violente, toutes choses égales d'ailleurs, que ces hommes ne sortent pas d'un foyer cholérique où ils ont séjourné; que sur les navires encombrés la marche des épidémies de choléra est d'ordinaire rapide; enfin la Conférence ajoute que le danger d'importation par les navires et celui de donner lieu à une épidémie grave ne sont pas entièrement subordonnés à l'intensité, ni même à l'existence des accidents cholériques constatés à bord pendant la traversée.</p> <p>Adoptée par 19 voix contre 0, et une abstention. Procès-verbal No. 20, page 18.</p>	<p>Relativement aux lazarets la Conférence conclut, que l'agglomération d'individus provenant d'un lieu où règne le choléra, dans un lazaret, n'a pas pour effet de produire parmi les quaranténaires une grande extension de la maladie, mais qu'une telle agglomération n'en est pas moins très dangereuse pour le voisinage, en ce qu'elle est propre à y favoriser la propagation du choléra.</p> <p>Adoptée par 15 voix contre 0, et 1 abstention. Procès-verbal, No. 20, page 20.</p>	<p>Par rapport aux grandes agglomérations d'hommes, la Conférence conclut que les grandes agglomérations d'hommes (armées, foires, pèlerinages) sont un des plus sûrs moyens de propagation du choléra; qu'elles constituent de grands foyers épidémiques qui, soit qu'ils marchent à la manière d'une armée, soit qu'ils se disséminent comme les foires et les pèlerinages, importent la maladie dans les pays qu'ils traversent; que ces agglomérations, après avoir subi, d'une manière ordinairement rapide, l'influence du choléra, y deviennent beaucoup moins sensibles et que celle-ci y disparaît même très-promptement, à moins que de nouveaux-arrivés ne viennent entretenir la maladie.</p> <p>Adoptée à l'unanimité (22 voix). Procès-verbal, No. 21, page 6.</p>
<p>Relativement à l'influence de la dissémination la Conférence conclut que la dissémination d'une masse agglomérée, opérée en temps opportun, peut rendre moins violente une épidémie de choléra qui vient d'y apparaître et même en arrêter l'extension; mais que cette dissémination ferait naître au contraire un grand danger de propagation, si elle était accomplie au sein de localités encore indemnes.</p> <p>Adoptée à l'unanimité (22 voix). Procès-verbal, No. 21, page 9.</p>	<p>Quant au rôle du pèlerinage de La Mecque, la Conférence conclut que le rôle du pèlerinage de La Mecque, comme agent propagateur du choléra par rapport aux contrées voisines de l'Europe (les seules à l'égard desquelles nous ayons des renseignements positifs), a été l'importation de cette maladie en Égypte, deux fois, à 34 ans d'intervalle, pendant la saison chaude.</p> <p>Adoptée à l'unanimité (22 voix). Procès-verbal, No. 21, page 9.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>En conclusion, la Conférence reconnaît que les conditions hygiéniques et autres qui en général prédisposent une population à contracter le choléra et par suite favorisent l'intensité des épidémies, sont : la misère avec toutes ses conséquences, l'accumulation des individus, l'état malade de ceux-ci, la saison chaude, le défaut d'aérage, les exhalaisons d'un sol poreux imprégné de matières organiques, surtout si ces matières proviennent de déjections cholériques.</p> <p>En outre, la Conférence opine que, comme il paraît démontré par l'expérience que les déjections des cholériques renferment le principe générateur du choléra, il est légitime d'admettre que les égouts, les lieux d'aisance et les eaux contaminées d'une ville peuvent devenir des agents de propagation de la maladie.</p> <p>La Conférence ajoute qu'il semble résulter de certains faits que le sol d'une localité, une fois imprégné de détritus cholériques, a pu conserver pendant un temps assez long la propriété de dégager le principe de la maladie et d'entretenir ainsi une épidémie, ou même de la régénérer alors qu'elle était éteinte.</p> <p>Adoptée à l'unanimité (19 voix). Procès-verbal, No. 21, page 14.</p>	<p>DE L'INFLUENCE DES CONDITIONS HYGIÉNIQUES.</p> <p>En conclusion, l'immunité dont jouissent certaines localités, c'est-à-dire la résistance, permanente ou temporaire, générale ou partielle, opposée par ces localités au développement du choléra dans leur circonscription, est un fait qui n'exclut pas la transmissibilité, mais qui indique que certaines conditions locales, non encore toutes déterminées, sont un obstacle au développement de la maladie.</p> <p>De même l'immunité plus ou moins complète et plus ou moins durable dont jouissent le plus grand nombre des personnes placées au milieu d'un foyer cholérique, immunité qui atteste la résistance individuelle au principe toxique, est une circonstance dont il faut tenir le plus grand compte.</p> <p>Au point de vue du développement épidémique, elle est le correctif de la transmissibilité, et sous le rapport de la prophylaxie, elle met sur la voie des moyens propres à restreindre les ravages de la maladie.</p> <p>Adoptée à la majorité de 21 voix contre 1, et 3 abstentions. Procès-verbal, No. 22, page 15.</p>	<p>DÉDUCTIONS RELATIVES AUX ATTRIBUTS DU PRINCIPE GÉNÉRATEUR DU CHOLÉRA.</p> <p>En résumé, selon la Conférence, dans l'état actuel de la science, on ne peut émettre que des hypothèses sur la nature du principe générateur du choléra ; nous savons seulement qu'il est originaire de certaines contrées de l'Inde et qu'il s'y maintient en permanence ; que ce principe se régénère dans l'homme, et l'accompagne dans ses pérégrinations ; qu'il peut ainsi être propagé au loin, de pays en pays, par des régénérations successives, sans jamais alors se reproduire spontanément en dehors de l'homme.</p> <p>Adoptée à l'unanimité (25 voix), moins 1 abstention. Procès-verbal, No. 22, page 15.</p>

Conclusions of the International Sanitary Conference of Rome, 1885.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the International Sanitary Conference of Constantinople, 1866.
	<p>ACTION DE L'AIR SUR LA TRANSMISSIBILITÉ.</p> <p>Il résulte de l'étude des faits qu'à l'air libre le principe générateur du choléra perd rapidement son activité morbifique, telle est la règle; mais, dans certaines conditions particulières de confinement, cette activité peut se conserver pendant un temps indéterminé.</p> <p>Le choléra peut être transmis par les effets à usage provenant d'un lieu infecté et spécialement par ceux qui ont servi aux cholériques; et même il résulte de certains faits que la maladie peut être emportée au loin par ces mêmes effets renfermés à l'abri du contact de l'air libre.</p> <p>Les grands déserts sont une barrière très-efficace contre la propagation du choléra, et il est sans exemple que cette maladie ait été emportée en Égypte ou en Syrie, à travers le désert, par les caravanes parties de La Mecque.</p> <p>Adoptée à l'unanimité. Procès-verbaux, pp. 43, 381.</p> <p>TRANSMISSIBILITÉ PAR LES ALIMENTS ET LES BOISSONS.</p> <p>(a.) Aliments: La Conférence ne possédant pas de preuves concluantes pour la transmission du choléra par les aliments, ne se croit pas autorisée à prendre une décision à cet égard.</p> <p>Résultat du vote: 11 oui, 7 non. Procès-verbaux, pages 33, 380.</p> <p>(b.) Boissons: "Le choléra peut être propagé par les boissons, particulièrement par l'eau."</p> <p>Adoptée à l'unanimité. Page 380.</p>	<p>Relativement aux véhicules du principe générateur du choléra, la Conférence conclut que l'air ambiant est le véhicule principal de l'agent générateur du choléra; mais la transmission de la maladie par l'atmosphère reste, dans l'immense majorité des cas, limitée à une distance très-rapprochée du foyer d'émission. Quant aux faits cités de transport par l'atmosphère à un ou plusieurs milles de distance, ils ne sont pas suffisamment concluants.</p> <p>Adoptée à la majorité de 24 voix contre 0 et 1 abstention. M. Goodeve a fait une réserve quant à la distance. Procès-verbal No. 22, page 16.</p> <p>Selon la Conférence, l'eau et certains ingesta peuvent aussi servir de véhicules à l'introduction dans l'organisme du principe générateur du choléra. Cela posé, il s'en suit pour ainsi dire nécessairement que les voies par lesquelles l'agent toxique pénètre dans l'économie sont principalement les voies respiratoires et très probablement aussi les voies digestives. Quant à la pénétration par la peau, rien ne tend à l'établir.</p> <p>Adopté à l'unanimité (26 voix). Procès-verbal No. 22, page 17.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Quant aux principaux réceptacles du principe cholérique, la Conférence conclut que la matière des déjections cholériques étant incontestablement le principal réceptacle de l'agent morbifique, il s'en suit que tout ce qui est contaminé par ces déjections devient aussi un réceptacle d'où le principe générateur du choléra peut se dégager, sous l'influence des conditions favorables; il s'ensuit encore que la genèse du germe cholérique a lieu très probablement dans les voies digestives, à l'exclusion, peut-être, de tout autre appareil de l'organisme.</p> <p>Adoptée à l'unanimité (26 voix). Procès-verbal, No. 22, page 17.</p> <p>Par rapport à la durée de l'activité morbifique du principe hors de l'organisme, la Conférence répond qu'il résulte de l'étude des faits qu'à l'air libre le principe générateur du choléra perd rapidement son activité morbifique et que telle est la règle; mais que, dans certaines conditions particulières de confinement, cette activité peut se conserver pendant un temps indéterminé.</p> <p>Adoptée à l'unanimité (25 voix). Procès-verbal, No. 22, page 17.</p> <p>Par rapport à la durée de la diarrhée cholérique, la Conférence déclare que l'observation montre que la durée de la diarrhée cholérique, dite prémonitoire, — qu'il ne faut pas confondre avec toutes les diarrhées qui existent en temps de choléra, — ne dépasse pas quelques jours.</p> <p>Les faits cités comme exceptionnels ne prouvent pas que les cas de diarrhée qui se prolongent au delà appartiennent au choléra et soient susceptibles de transmettre la maladie, quand l'individu atteint a été soustrait à toute cause de contamination.</p> <p>Adoptée par 15 voix contre 4, et 3 abstentions. MM. de Lallemand et Maccas ont fait une réserve sur la 2^{me} partie de la conclusion.</p>	<p>RAPPORT SUR LA MARCHÉ ET LE MODÈ DE PROPAGATION DU CHOLÉRA EN 1865.</p> <p>CONCLUSIONS ADOPTÉES PAR LA CONFÉRENCE.</p> <p>Des faits observés en 1865, il résulte: 1° que la propagation du choléra s'effectue par le mouvement des hommes, quels que soient d'ailleurs les moyens de locomotion dont ils se servent; 2° que la propagation en est d'autant plus à craindre que les moyens de locomotion sont plus rapides et plus multipliés; 3° que, toutes choses égales d'ailleurs, une grande masse infectée ou un seul individu malade peuvent propager le choléra à de grandes distances.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>TROISIÈME GROUPE DE QUESTIONS.</p> <p>I.</p> <p>MESURES HYGIÉNIQUES.</p> <p>CONCLUSIONS.</p> <p>Dans l'opinion de la Conférence, nous ne connaissons pas des moyens directs pour éteindre les foyers endémiques du choléra, mais on peut espérer d'y parvenir par un ensemble de mesures parmi lesquelles le rôle le plus important reviendra aux mesures hygiéniques.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 24, page 11.</p>	<p>Quant à l'hygiène navale, la Conférence est d'avis que l'on devrait :</p> <p>1^o Ouvrir des concours, et décerner des prix aux auteurs des découvertes ou perfectionnements dont le résultat immédiat serait un progrès quelconque dans l'assainissement des navires, dans l'amélioration des conditions hygiéniques des équipages, ou dans le bien-être des passagers.</p> <p>2^o Publier un manuel d'hygiène navale à l'usage de la marine marchande de chaque pays. L'exécution des prescriptions les plus importantes de ce manuel serait obligatoire pour les capitaines ou patrons.</p> <p>3^o Encourager par des primes et des récompenses ceux des armateurs, capitaines ou patrons de navire qui se seraient distingués dans le bon entretien de leurs bâtiments et de leurs équipages.</p> <p>Adoptée à l'unanimité et 4 abstentions. Procès-verbal, No. 29, page 4.</p> <p>Pendant le choléra surtout il faut éviter, suivant la Conférence, les inconvénients et les dangers provenant d'une mauvaise place de mouillage, de l'eau potable et des provisions mal choisies, de l'encombrement, de l'état sanitaire des hommes embarqués, de l'état des effets à usage, de la qualité des marchandises, du manque de séparation des malades, du défaut de ventilation du navire et de l'aération des effets à usage et surtout du manque de propreté des lieux d'aisance.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 29, page 4.</p>	<p>No. 4. L'assainissement et l'isolement réel et complet dans la mesure indiquée par la science, de tout ce qui peut apporter le choléra, sont les meilleurs moyens d'en empêcher l'importation et la propagation.</p> <p>Adoptée en principe. Procès-verbaux, page 168.</p>
		<p>See Conclusions, Nos. 23, 24, and 25, page 88.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1874.
<p>La Conférence est d'avis que l'assainissement des ports, avec défense d'y faire aboutir les égouts de la ville, leur dragage périodique et leur bonne police sanitaire intérieure, sont des mesures hygiéniques de la plus haute importance pour la préservation des maladies transmissibles en général et du choléra en particulier.</p> <p>L'assainissement des quartiers, attenant aux ports de mer, et leur police sanitaire la plus sévère sont aussi des mesures de préservation très importantes.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 25, page 8.</p> <p>Dans l'opinion de la Conférence, l'assainissement des villes est un moyen préventif de premier ordre pour s'opposer à la réception du choléra, et en mitiger les ravages.</p> <p>Cet assainissement doit être basé principalement sur un ensemble de mesures qui tendent à maintenir la pureté de l'air, à approvisionner les villes d'une eau saine et abondante et à empêcher l'infection du sol par des matières organiques.</p> <p>La désinfection sur place, et l'enlèvement immédiat des matières excrémentielles, est une mesure hygiénique d'une importance capitale, surtout en temps de choléra.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 25, page 11.</p> <p>Suivant la Conférence, une sage organisation de l'assistance publique, les visites préventives générales, ou, à leur défaut, les visites médicales dans les maisons envahies,—les secours immédiats aux attaqués,—la publication des Instructions populaires,—l'encouragement qui naît de la confiance dans la promptitude et l'étendue des secours, et de la publication de l'état véritable de l'épidémie, ainsi que l'installation d'hôpitaux spéciaux et de maisons de refuge temporaire pour abriter les familles des malades pauvres, sont des mesures hygiéniques et administratives très efficaces pour entraver la propagation du choléra, et pour en diminuer les ravages, dans les localités envahies.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 26, page 20.</p> <p>Suivant la Conférence, l'interruption temporaire des communications avec les lieux infectés, pourvu qu'elle puisse être absolue, est le préservatif le plus sûr contre la transmission du choléra.</p> <p>Le déplacement opportun et la dissémination méthodique des agglomérations mobiles (caravanes, corps de troupes, etc.) sont des mesures hygiéniques très efficaces pour prévenir le choléra d'éclater parmi elles, ainsi que pour en arrêter l'extension ou en adoucir la violence.</p> <p>L'émigration opportune et la dissémination bien réglée peuvent donner lieu au même résultats favorables dans les agglomérations fixes (localités, établissements publics).</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 27, page 4.</p>	<p>See Conclusions, Nos. 16, 17, and 18, page 86.</p> <p>See Conclusion, No. 4, page 68.</p> <p>See Conclusion, No. 7, page 81.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>n est d'avis que a désinfection appliquée au choléra, d'après une méthode rationnelle et avec persévérance, s'offre comme un puissant auxiliaire :</p> <p>1° Pour diminuer la réceptivité d'une localité menacé par le choléra ;</p> <p>2° Pour détruire le germe de la maladie importé dans une localité ; et</p> <p>3° Pour limiter dans certaines circonstances favorables, l'extension de l'épidémie.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 2^s, page 10.</p>	<p>QUESTIONS DE LA DÉSINFECTION.</p> <p>1° Connait-on des moyens ou des procédés de désinfection, grâce auxquels le principe générateur ou contagieux du choléra peut sûrement être détruit ou perdre de son intensité ?</p> <p>Résultat du vote : 12 non, 7 abstentions. Procès-verbaux, pages 66, 382.</p> <p>2° Connait-on des moyens ou des procédés de désinfection, grâce auxquels le principe générateur ou contagieux du choléra peut avec quelque chance de succès être détruit ou perdre de son intensité ?</p> <p>Résultat : 13 oui, 5 non. Procès-verbaux, pages 67, 383.</p> <p>3° La science ne connaît pas encore de moyens désinfectants certains et spécifiques : en conséquence, la Conférence reconnaît une grande valeur aux mesures hygiéniques telles que : aération, lotions profondes, nettoyage, etc., combinées avec l'emploi des substances regardées actuellement comme désinfectantes.</p> <p>Adoptée à l'unanimité. Procès-verbaux, pages 77, 383.</p>	<p>DÉSINFECTION.</p> <p>No. 5. La Sous-Commission recommande comme moyens de désinfection contre les épidémies de choléra, outre la destruction : —</p> <p>1° La vapeur à 100° ;</p> <p>2° L'acide phénique, le chlorure de chaux ;</p> <p>3° L'aération.</p> <p>On préparera chaque fois des solutions aqueuses d'acide phénique et de chlorure de chaux : —</p> <p>faibles de 2 % d'acide phénique, de 1 % de chlorure de chaux,</p> <p>fortes de 5 % d'acide phénique, de 4 % de chlorure de chaux,</p> <p>L'application de ces moyens serait faite comme suit : —</p> <p>I Pour la désinfection des personnes, lavages et bains avec l'une des solutions faibles ;</p> <p>II. Pour la désinfection des linges, des habits, des couvertures et autres effets du même genre.</p> <p>(a.) La destruction ;</p> <p>(b.) La vapeur qu'on fait passer à travers ces objets pendant une heure ;</p> <p>(c.) L'ébullition pendant 30 minutes ;</p> <p>(d.) L'immersion pour 24 heures dans l'une des solutions faibles ;</p> <p>(e.) L'aération (la séreine) pendant trois ou quatre semaines, mais seulement pour le cas où aucun des autres moyens n'est applicable.</p> <p>Les objets en cuir, comme malles, bottes, etc., seront ou détruits ou lavés à plusieurs reprises avec l'une des solutions faibles.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p>III. Les vomissements et les déjections seront mêlés avec l'une des solutions fortes. Les pièces de linge, d'habits, de couvertures et de literie, récemment souillées qui ne peuvent être immédiatement soumises à la vapeur, seront de suite plongées dans les mêmes solutions fortes et y resteront 4 heures.</p> <p>IV. Les cadavres ne doivent pas être lavés. On les enveloppera soigneusement de draps trempés d'une des deux solutions fortes, et on les mettra immédiatement dans le cercueil.</p> <p>V. La désinfection des marchandises et des colis de poste est superflue. (La vapeur sous pression serait le seul moyen, si on voulait désinfecter les chiffons en gros.)</p> <p>VI. Pour la désinfection des navires pendant la traversée, on désinfectera le pont et la classe où l'accident cholérique ou suspect a eu lieu; on lavera les parois de la cabine, ou du local, au moins deux fois avec l'une des solutions faibles, et puis on les soumettra à l'aération.</p> <p>Dans le cas où des objets de grande valeur n'auraient pas été en contact immédiat avec l'accident cholérique ou suspect et une désinfection rigoureuse amènerait une perte de ce mobilier, qui ne serait pas justifiée, le médecin du bord arrêtera les mesures qui devront suffire à sauvegarder l'intérêt sanitaire.</p> <p>L'eau des cales sera pompée et remplacée par l'eau de mer au moins deux fois à chaque désinfection.</p> <p>Les "water-closets" seront bien lavés avec les solutions fortes, au moins deux fois par jour.</p> <p>VII. Si l'eau potable est suspecte, on doit la faire bouillir avant de s'en servir et, si on ne l'utilise qu'après 24 heures, l'ébullition doit être répétée.</p> <p>Tous les aliments suspects seront ou détruits, ou au moins cuits de nouveau.</p> <p>VIII. Pour les hôpitaux à terre, toutes les parois des salles seront lavées avec l'une des solutions faibles, puis aérées, puis nettoyées, enfin repeintes, en séparant, autant que possible, des autres la salle sujette à la désinfection.</p> <p>Les latrines seront désinfectées au moins deux fois par jour, en y versant des solutions fortes en quantité au moins égale à celle des déjections recueillies depuis la dernière désinfection.</p> <p>IX. Les habits du personnel resteront toujours à l'hôpital et seront régulièrement désinfectés.</p> <p>Pour ses lavages, le personnel se servira des solutions faibles.</p> <p>Adoptée à l'unanimité, sauf le délégué de la Turquie qui a voté contre. Procès-verbaux, pages 204, 212.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p style="text-align: center;">II.</p> <p style="text-align: center;">MESURES À PRENDRE EN ORIENT POUR PRÉVENIR DE NOUVELLES INVASIONS DU CHOLÉRA EN EUROPE. QUESTIONS PRÉLIMINAIRES.</p> <p style="text-align: center;">CONCLUSIONS.</p> <p>La Conférence est d'avis que les mesures restrictives, connues d'avance et appliquées convenablement, sont beaucoup moins préjudiciables pour le commerce et les relations internationales que la perturbation qui frappe l'industrie et les transactions commerciales à la suite d'une invasion de choléra.</p> <p>Adoptée par 20 voix contre 0, et 3 abstentions. Procès-verbal, No. 30, page 8.</p> <p>La Conférence est d'avis que plus les mesures de quarantaine et les autres moyens prophylactiques contre le choléra seront appliqués près du foyer originel de la maladie, moins ces mesures seraient onéreuses et plus on pourrait compter sur leur efficacité (en supposant une application convenable) au point de vue de la préservation de l'Europe.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 30, page 17.</p> <p style="text-align: center;">MESURES À PRENDRE DANS L'INDE.</p> <p style="text-align: center;">CONCLUSIONS.</p> <p>La Conférence ne considère pas comme impossible qu'on puisse parvenir à éteindre le choléra évanissant dans l'Inde, et elle croit qu'en tout cas on peut y restreindre son développement épidémique. Pour atteindre ce double but, elle admet la nécessité d'études suivies, ayant pour objet de déterminer les conditions spéciales qui produisent et entretiennent l'endémie cholérique, ainsi que les rapports existant entre cette endémie et les explosions épidémiques, tout en poursuivant les améliorations hygiéniques déjà commencées. Quant aux particularités sur lesquelles devraient porter ces études, la Conférence s'en réfère à ce qui a été dit précédemment à ce sujet.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 30, page 19.</p>		

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Relativement aux pèlerinages indiens, la Conférence est d'avis que pour combattre l'influence des pèlerinages indiens sur le développement du choléra, il importerait: 1^o de s'appliquer à restreindre le nombre des pèlerins en les obligeant, s'il est possible, à se pourvoir, avant le départ, d'une autorisation qui ne serait délivrée qu'à celui qui aurait prouvé avoir les moyens de subvenir à ses besoins pendant le voyage;</p> <p>2^o d'instituer sur tous les lieux de pèlerinage une police sanitaire comprenant l'application des mesures d'hygiène déjà pratiquées et complétées selon les enseignements de l'expérience acquise;</p> <p>3^o en cas de choléra parmi les pèlerins, de n'autoriser le retour de la masse contaminée, toutes les fois qu'une telle mesure serait praticable, qu'après la cessation complète de l'épidémie dans cette masse, et une désinfection générale.</p> <p>Adoptée à l'unanimité, moins M. Goodeve pour 1^{re} conclusion. Procès-verbal, No. 31, page 6.</p> <p>Selon la Conférence, il est de la plus haute importance de chercher à prévenir l'exportation maritime du choléra de l'Inde.</p> <p>Dans ce but, le règlement promulgué en 1858, sous le titre de NATIVE PASSENGER ACT, serait un des moyens principaux, si l'application en était faite indistinctement à tous les pavillons et dans tous les pays, et s'il était complété au point de vue des précautions sanitaires.</p> <p>En outre, il importerait que tout navire partant d'un port indien fût muni d'une patente de santé délivrée par une autorité sanitaire constituée ad hoc, qui serait en même temps chargée de veiller à l'exécution des règlements relatifs à l'embarquement des pèlerins.</p> <p>De plus, la Commission croit qu'il y a lieu d'examiner les questions de savoir si, en cas d'épidémie sur un point de l'Inde, il y aurait possibilité, soit de supprimer, soit de différer, soit de restreindre l'embarquement des pèlerins sur ce point; et enfin si, à l'exemple du gouvernement hollandais pour ses possessions indiennes, il n'y aurait pas, pour les autorités de l'Inde anglaise, possibilité d'exiger de chaque pèlerin musulman la preuve qu'il a les moyens de subvenir aux dépenses de son voyage, et à l'entretien de sa famille pendant son absence.</p> <p>Adoptée à l'unanimité. M. Goodeve a fait des réserves sur certains points du texte. Procès-verbal, No. 31, page 11.</p>	<p>See Conclusion, No. 52, page 75.</p> <p>See Conclusion, No. 58, page 76.</p> <p>See Conclusion, No. 52, page 75.</p>	

<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>
<p>MESURES À PRENDRE DANS LES PAYS INTERMÉDIAIRES ENTRE L'INDE ET L'EUROPE.</p> <p>A.—MESURES CONTRE L'IMPORTATION DU CHOLÉRA DE L'INDE PAR LA VOIE MARITIME.</p> <p>1^o Convenance d'un établissement sanitaire à l'entrée de la Mer Rouge.</p> <p>Admise à l'unanimité, moins 1 (M. Goodeve). Procès-verbal, No. 31, page 14.</p> <p>2^o Quel serait le caractère de cet établissement ?</p> <p>La Conférence croit que le caractère international est une condition sine qua non de l'établissement dont il s'agit. Resterait aux gouvernements intéressés à s'entendre sur la forme et la mesure à donner à l'intervention de chacun. On conçoit très bien, par exemple, que la Porte ou le gouvernement égyptien pourrait avoir la direction, mais sous le contrôle et avec l'assistance de l'Europe.</p> <p>Adoptée par 15 voix contre 3 (MM. Goodeve, Dickson, et Bykov), et 2 abstentions. Procès-verbal, No. 32, page 10.</p> <p>3^o Dans quels cas, comment et par qui seraient appliquées les mesures ?</p> <p>La Conférence conclut que les mesures seraient appliquées en vertu d'un règlement international qui spécifierait les cas, et par une autorité soumise au contrôle des gouvernements intéressés.</p> <p>Adoptée par 17 voix, contre 2. Procès-verbal, No. 32, page 13.</p>	<p>MESURES À PRENDRE EN DEHORS DE L'EUROPE.</p> <p>En vue de prévenir de nouvelles invasions du choléra en Europe, la Conférence approuve les mesures recommandées par la Conférence de Constantinople, notamment les quarantaines dans la Mer Rouge et dans la Mer Caspienne.</p> <p>Ces quarantaines devront être instituées et organisées d'une manière complète et satisfaisante, selon les maximes d'hygiène le plus rigoureuses.</p> <p>Procès-verbaux, pp. 282, 385.</p>	<p>See Conclusions, Nos. 42 and 46, page 91.</p> <p>No. 83. Les mesures suffisantes pour la Mer Caspienne se trouvent dans les mesures établies pour les autres mers.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 303.</p>

<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>
<p>QUESTION DU PÈLERINAGE DE LA MECQUE.</p> <p>I. Organisation du service sanitaire sur le littoral de la Mer Rouge.</p> <p>Dans l'opinion de la Conférence, le service sanitaire à organiser sur le littoral de la Mer Rouge comprendrait, outre le projet d'un lazaret international avec arraisonnement obligatoire au détroit de Bab-el-Mandeb.</p> <p>1^o Des postes de médecins sanitaires, savoir : trois sur le littoral Africain, à Koséir, à Souakin, à Massowah, et deux, pour le moment, sur la côte arabique, dont le principal serait à Djeddah et l'autre à Yambo ;</p> <p>2^o Deux lazarets, dont l'un, à El-Wesch, serait affecté exclusivement aux pèlerins, et l'autre à Tor, serait destiné à la quarantaine des arrivages ordinaires atteints de choléra ;</p> <p>3^o Une direction, siégeant à Suez, assistée d'une Commission internationale qui déciderait de toutes les questions concernant le service sanitaire de la Mer Rouge.</p> <p>Les deux premières conclusions ont été adoptées par 14 voix dont 2, celles de MM. Goodeve et Dickson avec réserve au sujet de Tor. À la séance suivante plusieurs membres absents ont adhéré à ces deux conclusions.</p> <p>La 3^{me} conclusion a été adoptée par 18 voix contre 4, celles de MM. Goodeve, Dickson, Keun et Bykov. MM. Millingen, Malcom et Salih effendi se sont abstenus. Procès-verbaux, No. 32, page 15, et No. 33, page 4.</p>		<p>PÈLERINAGE À LA MECQUE.</p> <p>No. 52. Il est désirable que chaque pèlerin possède les ressources nécessaires pour être à l'abri des privations pendant son pèlerinage à la Mecque, ce qui d'ailleurs est conforme aux prescriptions religieuses musulmanes et adopté par le gouvernement des Indes néerlandaises. Cette mesure préviendra la misère, une des causes les plus importantes de l'extension du choléra parmi les pèlerins.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 228.</p> <p>No. 53. Chaque navire à pèlerins et chaque caravane seront accompagnés par un nombre suffisant de médecins, désignés par le gouvernement du pays où se forme le convoi.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 228.</p> <p>No. 54. Un navire sera considéré comme navire à pèlerins, s'il a à bord plus de trente pèlerins.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 228.</p> <p>No. 55. Dans les ports où existe le choléra, avant l'embarquement des pèlerins, le navire sera nettoyé et désinfecté, visité par son médecin et, en outre, par l'autorité sanitaire du port. Le médecin du navire examinera chaque personne ; il n'admettra que celles qui ne sont ni malades ni suspectes de choléra. Il veillera à ce que l'on n'introduise pas à bord des linges, des hardes, des objets de literie ou autres effets du même genre souillés ou suspects. Tous les effets provenant d'endroits contaminés ou suspects de choléra seront désinfectés avant l'embarquement. Les vêtements et objets de literie ayant servi aux malades cholériques ne seront jamais admis à bord.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>2° Conditions pour le départ et précautions relatives à l'embarquement des pèlerins. Adoptées à l'unanimité, avec quelques réserves par MM. Goodeve et Dickson. Procès-verbal, No. 33, pages 5 et 6.</p> <p>3° Mesures d'hygiène à mettre en pratique dans les lieux où s'accomplit le pèlerinage. Adoptée à l'unanimité. Procès-verbal, No. 33, page 6.</p> <p>4° Y aurait-il quelque mesure à prendre dans le Hedjaz contre l'importation du choléra par mer ou par terre ? La Conférence ne compte aucunement sur les mesures de quarantaine qui seraient prises dans le Hedjaz contre l'importation du choléra parmi les pèlerins. Adoptée à l'unanimité. Procès-verbal, No. 33, page 6.</p> <p>5° Mesures à prendre contre les provenances du Hedjaz, si le choléra s'y manifestait pendant le pèlerinage. La Conférence est d'avis que, dans le cas où le choléra se manifesterait dans le Hedjaz à l'époque du pèlerinage, il y aurait lieu d'interrompre temporairement, c'est-à-dire pendant la durée de l'épidémie, tout communication maritime entre les ports arabiques et le littoral égyptien. L'application convenable de cette mesure suppose l'existence d'un service sanitaire organisé sur le littoral de la Mer Rouge, comme il a été exposé précédemment, et de plus la présence d'une force militaire suffisante, tant pour maintenir le bon ordre parmi les pèlerins, que pour la police maritime. À ce dernier point de vue, il serait à désirer que les gouvernements intéressés s'entendissent à l'effet d'assurer l'exécution des mesures prescrites.</p>		<p>Si le choléra se manifeste à bord, les malades seront de suite dirigés sur l'hôpital, et l'endroit qu'ils occupaient dans le navire sera immédiatement désinfecté. Adoptée à l'unanimité. Procès-verbaux, page 228.</p> <p>No. 56. L'autorité sanitaire du port d'embarquement et le médecin du bord veilleront à ce qu'il n'y ait pas d'encombrement. Un navire à vapeur doit avoir dans les entreponts au moins 9 pieds de surface et 54 pieds cubes d'espace, pour chaque passager. À bord des voiliers chaque passager doit avoir 12 pieds de surface et 72 pieds cubes d'espace. Adoptée à l'unanimité. Procès-verbaux, page 229.</p> <p>No. 57. Pendant la traversée, le médecin du bord veillera à ce qu'une propreté rigoureuse et une ventilation active soient maintenues, à ce que tout linge sali ou souillé soit lavé le même jour et désinfecté, et à ce que les lieux d'aisance soient lavés et désinfectés au moins deux fois par jour. Adoptée à l'unanimité. Procès-verbaux, page 229.</p> <p>No. 58. En général, toutes les mesures adoptées par le Gouvernement de l'Inde britannique relativement à l'embarquement et au transport des pèlerins des Indes dans la Mer Rouge, sont recommandées à l'adoption de tous les pays d'où partent des pèlerins. Adoptée à l'unanimité. Procès-verbaux, page 229.</p> <p>No. 59. Tout navire à pèlerins, arrivé dans la Mer Rouge, fera escale à la station sanitaire, où il subira une inspection médicale rigoureuse. La visite des passagers et de l'équipage sera faite à terre. Le navire et les effets des passagers et de l'équipage</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Cela étant, la Conférence pense qu'il pourrait être procédé à l'exécution de la manière suivante, sauf les modifications qui, sans altérer le principe fondamental de la mesure, seraient jugées, par la Commission internationale siégeant à Suez, propres à en faciliter l'application ;</p> <p>1° En cas de manifestation du choléra parmi les pèlerins, les médecins sanitaires du Hedjaz signaleraient le fait aux autorités locales, ainsi qu'aux navires de guerre stationnés à Djeddah et à Yambo. De plus, tout en mentionnant le fait sur la patente de santé, ils en expédieraient l'avis en Égypte et à El-Wesch.</p> <p>2° Sur la déclaration des médecins susmentionnés, les autorités informeraient les pèlerins que ceux d'entr'eux qui voudraient s'embarquer pour l'Égypte auraient, avant d'y aborder, à faire quarantaine à El-Wesch, et les préviendraient en même temps qu'ils sont libres de suivre la voie de terre.</p> <p>3° Les embarquements se feraient sous la surveillance de l'autorité sanitaire, dans les conditions déterminées par elle, et dans les ports qu'elle aurait désignés.</p> <p>4° Les navires de guerre concourraient à assurer l'exécution des mesures prescrites, ils feraient la police de mer, et exerceraient une surveillance aussi exacte que possible à l'effet d'empêcher tout départ clandestin.</p> <p>5° Sur l'avis reçu de la présence du choléra parmi les pèlerins, les autorités sanitaires égyptiennes interdiraient l'entrée de tous les ports d'Égypte à toutes provenances de la côte arabe, et elles renouvelleraient les navires déliquants, après les avoir ravitaillés au besoin, sur un point de la</p>		<p>seront désinfectés, puis le capitaine prendra les mesures nécessaires pour assurer le nettoyage complet du navire, le lavage des effets des passagers et de l'équipage.</p> <p>Si le médecin du bord certifie que toutes les mesures d'assainissement et de désinfection ont été prises avant le départ, que les mesures d'assainissement et de désinfection ont été observées pendant la traversée, qu'il n'y a eu pendant le voyage ni mort, ni malade, ni suspect de choléra, enfin si l'examen médical, fait deux fois pendant 24 heures, par le médecin de la station sanitaire, permet de constater qu'il n'existe personne atteint ou suspect de choléra, le navire pourra réembarquer et se rendre au port de sa destination définitive au Hedjaz.</p> <p>Si le navire est sans médecin, ou s'il y a eu des accidents de choléra, ou des cas suspects à bord pendant la traversée, ou si ces mêmes accidents surviennent à l'arrivée du navire à la station sanitaire, il sera isolé pendant cinq jours et désinfecté ainsi que tous les effets des passagers et de l'équipage. Les passagers et les gens de l'équipage seront isolés à terre pendant cinq jours. Les malades et les suspects seront isolés par groupes séparés. Les valides seront répartis en groupes dont chacun ne pourra s'embarquer qu'après cinq jours sans aucun accident, comptés depuis la séparation du dernier malade, s'il y en a eu.</p> <p>Le navire sera autorisé à se rendre au port de sa destination définitive au Hedjaz, quand il aura embarqué tous les groupes de passagers, sauf les personnes qui ont été isolées pour cause de contamination et qui n'ont pas encore subi le temps d'observation réglementaire.</p> <p>Adoptée par 16 oui, contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie). Procès-verbaux, page 232.</p>

<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>côte arabe, soit à El-Wesch, soit ailleurs, où il purgeraient quarantaine, conformément aux règles adoptées.</p> <p>6° Les pèlerins transportés à El-Wesch y seraient tenus en quarantaine et ils ne seraient autorisés à repartir pour l'Égypte que quinze jours après la disparition du choléra parmi eux et après désinfection de leurs hardes et bagages. En quittant El-Wesch, les navires qui les transporteraient seraient—pour ceux qui se rendent à Suez—dans l'obligation de toucher à Tor où ils seraient soumis à une observation de 24 heures et à une visite médicale dans le but de constater leur état sanitaire. La patente nette et l'autorisation de continuer leur route ne leur seraient délivrées que tout autant que l'état sanitaire du bord aurait été reconnu exempt de danger.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>
<p>7° Quant à la caravane pour l'Égypte, elle s'arrêterait selon l'usage dans l'endroit ordinaire de sa station, près d'El-Wesch; elle y subirait une visite médicale et elle ne recevrait l'autorisation de continuer sa route qu'après avoir été exempté de choléra depuis quinze jours.</p>	<p>8° Relativement aux pèlerins à destination de l'Inde ou d'autres pays au delà de la Mer Rouge, ils seraient autorisés à s'embarquer pour retourner chez eux, mais en se soumettant aux règles prescrites par l'autorité sanitaire du port d'embarquement.</p>	<p>9° Les communications maritimes entre le Hedjaz et l'Égypte ne pourraient être rétablies que quinze jours au moins après la cessation de tout indice de choléra dans le Hedjaz, déclarée officiellement par l'autorité sanitaire de Djeddah.</p>	<p>No. 60. A son arrivée au Hedjaz, le navire subira de nouveau une inspection médicale rigoureuse. Une délai de 24 heures sera accordé au médecin du port, s'il le juge nécessaire, pour formuler le résultat de ses constatations sanitaires. Si le médecin de bord certifie qu'il n'y a eu aucun accident cholérique, ou suspect depuis que le navire a quitté la station sanitaire, et si l'inspection faite par le médecin du port permet de constater qu'il n'y a eu ni mort, ni cas de choléra le navire aura de suite libre pratique. Si, au contraire, il y a eu des cas cholériques ou suspects, le navire devra immédiatement retourner à la station sanitaire pour y subir de nouveau toutes les mesures d'observation, d'isolement et de désinfection décrites dans l'article précédent.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 233.</p>
<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>No. 61. Les médecins présents, ceux qui auront été délégués ou envoyés en mission, ainsi que ceux qui seront arrivés avec les navires, ou avec les caravanes, suivront les pèlerins pendant toute la durée du pèlerinage. Ils seront chargés d'assurer le service sanitaire, de façon à prévenir le développement du choléra parmi les pèlerins et, si l'épidémie éclatait, ils devront soigner les malades et avertir, le plus rapidement possible, les Gouvernements intéressés.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 232.</p>	<p>No. 62. Il est de nécessité absolue que les mesures d'assainissement soient largement appliquées aux lieux où séjournent les pèlerins, et surtout aux villes saintes du Hedjaz.</p> <p>Adoptée à l'unanimité, mais une abstention (Turquie). Procès-verbaux, page 233.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Mais alors, et même en tout temps, les navires chargés de pèlerins à destination de Suez, seraient toujours dans l'obligation de toucher à Tor, et d'y stationner 24 heures, pour y subir une visite médicale comme il a été dit plus haut. L'autorité sanitaire de Suez pourrait renvoyer à Tor tout navire qui n'aurait pas rempli cette formalité.</p> <p>10^o Un règlement des pénalités encourues, pour toutes les infractions aux mesures prescrites, devrait être formulé par la Commission internationale. Le règlement anglais (Native Passenger Act) serait, sur ce point, un excellent modèle à suivre.</p> <p>Toutes ces conclusions ont été adoptées à l'unanimité, moins certaines réserves de MM. Goodeve et Dickson. M. Gomès a voté pour que la durée de la quarantaine fût de 10 jours. Procès-verbal, No. 33, page 8.</p> <p>Dans le cas où une épidémie de choléra, venant par la Mer Rouge, se manifesterait en Égypte, l'Europe et la Turquie étant d'ailleurs indemnes, ne conviendrait-il pas d'interrompre temporairement les communications maritimes de l'Égypte avec tout le bassin de la Méditerranée?</p> <p>Le Conférence a répondu affirmativement, par 13 voix contre 3. Il y a eu 4 abstentions. Procès-verbal, No. 33, page 15.</p>	<p>No. 63. Si pendant toute la durée du pèlerinage, il n'y a pas eu d'accident cholérique, les navires à pèlerins subiront à leur retour une inspection médicale rigoureuse au port d'embarquement du Hedjaz. Les navires à destination de l'Égypte et ceux qui doivent passer par le canal maritime dans la Méditerranée, subiront une seconde inspection, les premiers dans les ports égyptiens, et les autres (ceux à destination de la Méditerranée) près de Suez. Cette deuxième inspection décidera si ces navires peuvent être considérés comme nets, ou s'ils doivent être soumis à l'observation et à la désinfection.</p> <p>Adoptée à l'unanimité, moins deux abstentions (Grande-Bretagne et l'Inde). Procès-verbaux, page 234.</p> <p>No. 64. Si, pendant le pèlerinage, il y a eu des accidents cholériques, les navires à destination des ports de l'Égypte et de la Méditerranée seront envoyés à la station sanitaire, où ils subiront une observation de cinq jours à compter de l'isolement des malades et la désinfection complète des effets et des navires, dans les conditions indiquées pour l'arrivée des navires infectés ou suspects; puis ils subiront une seconde inspection médicale dans les ports d'arrivée en Égypte, ou près de Suez.</p> <p>Adoptée par 14 oui, contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie), et 2 abstentions (Grande-Bretagne, Inde). Procès-verbaux, page 235.</p> <p>No. 65. Les petits navires venant de l'Océan Indien, et entrant dans la Mer Rouge, s'ils sont chargés de pèlerins, subiront le régime spécial des navires à pèlerins.</p> <p>Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (Brésil, Grande-Bretagne, Inde, Turquie). Procès-verbaux, page 198.</p> <p>No. 66. La Commission technique n'a pas autorité pour fixer les lieux où seront établies les stations sanitaires et ceux où se feront les inspections médicales, mais les renseignements qu'elle possède lui permettent de croire que, sous le rapport sanitaire, l'île de Camaran pour les navires à pèlerins venant du sud, Aïoun Ouna et la côte d'Autaka pour ceux qui reviennent du pèlerinage de la Mecque et qui se dirigent vers les ports de l'Égypte ou de la Méditerranée, présentent des conditions convenables.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 235.</p>	<p>CODE PÉNAL SANITAIRE POUR LA MER ROUGE.</p> <p>No. 67. La Commission technique exprime le vœu que la Conférence sanitaire internationale pose les bases d'un code pénal international applicable aux contraventions sanitaires commises dans la Mer Rouge.</p> <p>Adoptée à l'unanimité sauf deux abstentions (Grande-Bretagne, Inde). Procès-verbaux, page 235.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>B.—MESURES CONTRE L'IMPORTATION DU CHOLÉRA DE L'INDE EN EUROPE PAR LA VOIE DE TERRE.</p> <p>Mesures à prendre en Perse : organisation d'un système sanitaire ; précautions concernant les pèlerinages, le transport des cadavres, etc.</p> <p>Mesures conseillées dans le rapport adoptées à l'unanimité. Mirza-Malkom Khan et M. Sawas votent sous réserve. Procès-verbal, No. 34, page 14.</p> <p>MESURES À PRENDRE SUR LA FRONTIÈRE TURCO-PERSANE.</p> <p>Mesures conseillées dans le rapport adoptées par 15 voix contre 0, et 6 abstentions. Procès-verbal, No. 35, page 7.</p> <p>MESURES CONTRE L'IMPORTATION DU CHOLÉRA PAR LA BOUKHARIE ET LES STEPPES DE LA TARTARIE.</p> <p>Texte du rapport adopté, avec quelques rectifications, à l'unanimité. Procès-verbal, No. 35, page 8.</p> <p>MESURES À PRENDRE SUR LA FRONTIÈRE RUSSO-PERSANE.</p> <p>Texte du rapport adopté à l'unanimité. Procès-verbal, No. 35, page 8.</p> <p>Résumé du rapport adopté par la Conférence à l'unanimité, moins 1 abstention. Procès-verbal, No. 35, page 8.</p> <p>III.</p> <p>MESURES QUARANTENAIRES.</p> <p>APPLICABLES AUX PROVENANCES CHOLÉRIQUES.</p> <p>CONSIDÉRATIONS GÉNÉRALES SUR LA QUESTION DES MESURES RESTRICTIVES.</p> <p>CONCLUSIONS.</p> <p>Relativement aux mesures restrictives employées jusqu'ici contre le choléra, la Conférence est d'avis que les enseignements à tirer de l'expérience de cette première époque des quarantaines n'ont pas une valeur concluante. Adoptée par 18 voix contre 2, et 3 abstentions. Procès-verbal, No. 37, page 12.</p> <p>La Conférence conclut cependant, d'après les faits cités dans le rapport, qu'il est incontestable que des quarantaines établies sur des bases rationnelles et conformes aux progrès de la science peuvent servir de barrière efficace contre l'envahissement du choléra.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 37, page 13.</p> <p>Les bases du système de prophylaxie devraient consister, suivant la Conférence : 1° à combattre les germes de la maladie dans ses foyers primitifs, avant qu'ils ne se disséminent et ne se propagent au dehors ; 2° à établir des quarantaines en accord avec les principes aujourd'hui admis sur la transmissibilité du choléra et son mode de propagation.</p> <p>Adoptée à l'unanimité. M. Goodeve vote sous réserve. Procès-verbal, No. 38, page 12.</p>		

<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>
<p>CORDONS SANITAIRES, ISOLEMENT, INTERRUPTION ET RESTRICTIONS DES COMMUNICATIONS.</p> <p>CONCLUSIONS.</p> <p>La Conférence est d'avis que les cordons sanitaires, employés au milieu de populations nombreuses et serrées, sont d'un effet incertain et souvent sont dangereux; que par contre, employés dans des localités ou des contrées dont la population est clair-semée, comme dans certain pays asiatiques, les cordons sont appelés à rendre de grands services contre la propagation de la maladie.</p> <p>Adoptée à l'unanimité, moins M. Goodeve qui s'est abstenu. Procès-verbal, No. 38, page 17.</p> <p>La Conférence opine: 1° que l'isolement partout où il peut être appliqué aux premiers cas qui marquent le début d'une épidémie, est une mesure de prudence qu'aucun pays ne devrait négliger de prendre pour son salut; 2° que l'isolement d'une localité atteinte de choléra est d'autant plus praticable et plus utile que la population du pays est plus clair-semée et que la séquestration a lieu plus près du début d'une épidémie; 3° que l'isolement des foyers initiaux est la mesure capitale de prophylaxie contre les envahissements du choléra.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 39, page 5.</p> <p>La Conférence est d'avis que l'interruption est le meilleur moyen d'isoler les foyers cholériques, que par conséquent, il y a lieu de l'employer toutes les fois que les circonstances se prêtent à une exécution rigoureuse; mais que cette mesure, applicable seulement à des points circonscrits, devient impraticable et inefficace lorsque l'épidémie s'est propagée sur un grand espace.</p>	<p>QUARANTAINES DE TERRE.</p> <p>Considérant que les quarantaines de terre sont inéxécutables et inutiles, vu les nombreux moyens de communication qui augmentent de jour en jour; considérant en outre qu'elles portent des atteintes graves aux intérêts commerciaux, la Conférence rejette les quarantaines de terre.</p> <p>Résultat du vote: 13 oui, 4 non, 2 abstentions.</p> <p>Procès-verbaux, pages 82, 384.</p>	<p>PROPHYLAXIE SANITAIRE TERRESTRE.</p> <p>No. 6. Les quarantaines de terre et les cordons sanitaires sont inutiles.</p> <p>Adoptée par 20 oui, contre 1 non (Turquie).</p> <p>Procès-verbaux, page 93.</p> <p>No. 7. Pour prévenir le développement du choléra et sa propagation par les communications terrestres il faut:—</p> <p>1° Assainir partout et en tout temps, l'isoler les premiers cas et désinfecter. Les moyens d'isolement et de désinfection doivent être préparés d'avance, sur l'avis de l'autorité sanitaire.</p> <p>2° Dénoncer immédiatement chaque cas déclaré ou suspect de choléra à que de droit, selon les règles du pays, et faire constater par des médecins compétents, la nature de la maladie ou les causes de la mort au moyen de l'autopsie.</p> <p>3° Qu'il y ait dans chaque pays un service médical hygiénique organisé. Des fonctionnaires devront être établis dans les districts et les principales villes en nombre suffisant pour qu'aucun point habité ne reste en dehors de cette surveillance hygiénique.</p> <p>4° Que les autorités d'hygiène publique des différents pays puissent se mettre en communication directe, sans intermédiaire, chaque fois qu'elles en auront besoin, pour se renseigner ou pour s'entendre, sur des mesures d'urgence à prendre.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 291.</p> <p>En temps de choléra:</p> <p>No. 8. Une attention toute particulière est due aux grands chemins, sur lesquels peuvent voyager des malades cholériques et aux points d'arrivée principaux, afin de pouvoir appliquer, en temps utile, l'assainissement, isoler le malades et opérer la désinfection.</p> <p>Adoptée à l'unanimité. Procès-verbaux, p. 292.</p> <p>No. 9. Sur les grandes routes terrestres que parcourent des masses d'ouvriers ou d'émigrants, seront placés, autant que possible, aux stations principales, des médecins pour prêter leur soins aux malades.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 299.</p> <p>No. 10. Les trains directs parcourant plusieurs pays devront être changés au passage d'un pays contaminé dans un pays indemne. Ils devront être accompagnés d'un médecin qui prendra les mesures nécessaires dans le cas où un voyageur tomberait malade pendant le trajet.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Adoptée à la majorité de 19 voix contre 2, celles de MM. Goodeve et Dickson. MM. le C^{te} de Lallemand, Fauvel, Mühlbig ont voté pour sous réserves. Procès-verbal, No. 39, page 7.</p> <p>La Conférence est d'opinion qu'il y a lieu : 1^o de restreindre l'émigration dans la circonscription de la ville infectée ; 2^o de fixer par un règlement le nombre des personnes que chaque navire pourrait embarquer, proportionnellement à sa capacité ; 3^o de soumettre les personnes et leurs effets à des précautions préalables, telles qu'une visite médicale, la purification des hardes et effets, etc.</p> <p>Adoptée à l'unanimité, moins une voix, celle de M. Millingen qui s'abstient. Procès-verbal, No. 39, page 9.</p>	<p>Une propreté rigoureuse sera observée sur les trains et aux stations des chemins de fer. Chaque station devra avoir au moins une chambre séparée des autres, pour recevoir provisoirement le malade.</p> <p>Adoptée part 10 oui (Autriche, Hongrie, Brésil, Danemark, Espagne, Italie, Mexique, Portugal, Serbie, Suisse), contre 6 non (Allemagne, France, Pays-Bas, Roumanie, Suède, Norvège) et 5 abstentions (États Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Russie, Turquie).</p> <p>Procès-verbaux, page 297.</p> <p>No. 11. La désinfection des personnes ne doit se faire qu'au moyen de lavages désinfectants, et seulement dans les cas, où elles seraient souillées de déjections cholériques.</p> <p>Adoptée à l'unanimité, moins une abstention (Espagne).</p> <p>No. 12. Toute provenance d'un pays, où existe le choléra, n'étant pas nécessairement infectée, on ne désinfectera que ce qui est souillé ou peut avoir été à l'usage des cholériques, et particulièrement les linges, les habits et les chiffons.</p> <p>Adoptée à l'unanimité, moins une abstention (Turquie). Procès-verbaux, p. 300.</p> <p>No. 13. Les règles d'hygiène générale, surtout en ce qui concerne les agglomérations d'individus, l'approvisionnement des marchés, les vivres, l'eau potable, le transport des malades, l'enterrement des cadavres, etc., etc., applicables en tout temps, devront être encore plus rigoureusement suivies en temps de choléra.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 301.</p>	
	<p>QUESTION DES LAZARETS.</p> <p>CONCLUSIONS.</p> <p>En ce qui concerne les établissements quaranténaires, la Conférence propose :—</p> <p>1^o Que les lazarets soient établis, autant que possible, dans des îles dépourvues de population, et à défaut d'îles, dans des localités isolées et éloignées de plusieurs milles des villes, villages et autres lieux habités. Que l'air de ces localités soit salubre, le terrain de consistance rocheuse, l'eau abondante, le mouillage facile, sûr et spacieux.</p> <p>2^o Que les édifices composant l'ensemble des lazarets soient construits d'après les principes de l'article VII. du présent rapport, et de manière à assurer la séparation rigoureuse des différentes catégories de quaranténaires, suivant la nature de la provenance et la date de</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>l'arrivée. Que l'isolement de l'hôpital des cholériques, des logements des quaranténaires, des buanderies, des magasins et hangars, des habitations du personnel du service, etc., soit complet. Que la distance entre tous ces édifices, impossible à préciser d'avance, soit en rapport avec les indications consignées dans le paragraphe 13 du rapport.</p> <p>3° Que les cabinets d'aisance soient organisés d'après le système des fosses mobiles chargées de désinfectants. Que les égouts et les fosses communes soient proscrits. Que les matières des déjections soient versées dans des fosses creusées dans le sol et recouvertes de chaux vive, de terre argileuse ou de poussier de charbon végétal.</p> <p>4° Que chaque lazaret ait deux débarcadères, dont l'un de contumace, l'autre de libre pratique, un office de santé, des logements pour l'administration, un corps de garde, un dépôt de literie et d'ameublement, un dépôt de vivres, une hôtellerie.</p> <p>Adoptée à l'unanimité. M. Moulau a voté la 3^{me} conclusion sous réserve. Procès-verbal, No. 41, page 10.</p> <p>5° Que les parloirs des lazarets soient supprimés pour les visiteurs, et les visites aux quaranténaires interdites, sauf dans des cas exceptionnels et avec l'autorisation spéciale de l'autorité sanitaire; qu'il soit toutefois permis aux personnes qui le demanderaient d'entrer au lazaret et d'y rester en se soumettant, dans ce cas, au régime des quaranténaires avec lesquels ils seraient en communication.</p> <p>La première partie de cette conclusion est adoptée par 10 voix contre 9, celles de MM. Dickson, Vernoni, Bosi, Keun, Sawas, Mühlrig, Stenersen, Hübsch, Bartoletti. La seconde partie est adoptée à l'unanimité, moins 1 contre et 1 abstention. Procès-verbal, No. 41, page 12 et 13.</p> <p>6° Que la direction des établissements quaranténaires soit confiée à des médecins, et qu'en outre chaque lazaret soit pourvu de trois médecins, au moins, dont l'un attaché à l'hôpital, l'autre au service des quaranténaires, le troisième chargé du service du port et de l'extérieur du lazaret.</p> <p>7° Que le nombre des lazarets pour la quarantaine de rigueur soit limité proportionnellement au mouvement maritime et à l'étendue du littoral de chaque État; mais qu'il y ait cependant des postes secondaires pour les provenances soumises à la quarantaine d'observation.</p> <p>8° Que, dans des cas d'urgence, on établisse des lazarets temporaires, des campements, ou des lazarets flottants, selon les circonstances particulières à chaque localité.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 41, page 13.</p> <p>9° Tout en admettant, dans certains cas, l'opportunité de lazarets internationaux administrés sous le contrôle de conseils mixtes, la Conférence est d'avis qu'en général l'institution de ces établissements n'est pas recommandable.</p> <p>Adoptée par 9 voix contre 8, et 1 abstention. Procès-verbal, No. 41, page 14.</p>		

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>MESURES À PRENDRE DANS LES PORTS DE L'EUROPE.</p> <p>Lorsque le choléra a fait invasion en Europe, la Conférence recommande le système d'inspection médicale, mais pour les États qui préfèrent maintenir les quarantaines, elle établit les bases d'un règlement quarantenaire.</p> <p>A. SYSTÈME DE L'INSPECTION MÉDICALE.</p> <p>§ 1.</p> <p>Il y aura, dans chaque port ouvert au commerce, une autorité sanitaire composée de médecins et d'administrateurs, aidés par un personnel de service. Le nombre des membres de ces différentes catégories variera dans chaque port, selon l'importance du mouvement maritime, mais il devra être suffisant pour pouvoir accomplir dans toutes les circonstances et avec rapidité, les mesures exigées pour les navires, les équipages et les passagers.</p> <p>Le chef de ce service sera toujours tenu au courant par des communications officielles, de l'état sanitaire de tous les ports infectés de choléra.</p>	<p>See Conclusion, No. 17, page 86.</p>
<p>Les navires provenant d'un port net, n'ayant (d'après la déclaration sous serment du capitaine) touché dans leur voyage aucun port intermédiaire suspect, ni communiqué directement avec aucun navire suspect, et sur lesquels durant le voyage on n'aura constaté aucun cas suspect ou confirmé de choléra, auront la libre pratique.</p>	<p>§ 2.</p> <p>Les navires provenant d'un port suspect ou infecté, et ceux provenant de ports non suspects, mais qui ont eu dans le voyage des relations intermédiaires compromettantes, ou sur lesquels il y a eu durant la traversée des cas suspects de maladie ou de mort de choléra, seront soumis dès leur arrivée à une visite médicale rigoureuse, pour constater l'état sanitaire du bord.</p>	<p>§ 3.</p> <p>§ 4.</p>
<p>Les navires provenant d'un port suspect ou infecté, et ceux provenant de ports non suspects, mais qui ont eu dans le voyage des relations intermédiaires compromettantes, ou sur lesquels il y a eu durant la traversée des cas suspects de maladie ou de mort de choléra, seront soumis dès leur arrivée à une visite médicale rigoureuse, pour constater l'état sanitaire du bord.</p>	<p>§ 3.</p> <p>§ 4.</p>	<p>S'il résulte de la visite médicale qu'il n'existe parmi les hommes de l'équipage et les passagers aucun cas suspect de maladie ou de mort de choléra, le navire, avec tout ce qu'il renferme, sera admis à la libre pratique. Mais si des cas de choléra ou de nature suspecte se sont manifestés à bord durant la traversée, le navire, les vêtements et les effets à usage des gens de l'équipage et des passagers seront soumis d'abord à une désinfection rigoureuse, bien que l'équipage et les passagers aient été trouvés indemnes du choléra dans le port.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>
<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p>

§ 5.

S'il y a à l'arrivée des cas suspects de maladie ou de mort de choléra, les malades seront immédiatement transportés dans un lazaret, ou dans un local isolé, pouvant en tenir lieu et prêt à les recevoir ; les cadavres seront jetés à la mer avec les précautions d'usage, ou ensevelis après avoir été convenablement désinfectés ; les passagers et l'équipage seront soumis à une désinfection rigoureuse et le navire lui-même sera désinfecté, après qu'on en aura éloigné les passagers et la partie du personnel de l'équipage qui n'est pas nécessaire à la désinfection et à la surveillance.

Les vêtements et les effets à usage des malades et même des passagers sains seront assujettis, dans un local spécial et sous le contrôle rigoureux de l'autorité sanitaire, à une radicale désinfection.

Après cette désinfection, les effets seront rendus aux passagers et aux personnes de l'équipage qui seront admis à libre pratique.

§ 6.

Les marchandises débarquées seront admises à libre pratique, à l'exception des chiffons et autres objets susceptibles, que l'on devra soumettre à une radicale désinfection.

Procès-verbaux, pages 282, 283.

RÉGIME QUARANTAIRE ET DÉSINFECTION.

CONCLUSIONS.

Relativement à la quarantaine d'observation et à la quarantaine de rigueur, la Conférence est d'avis que la différence entre ces deux régimes consiste en ce que la quarantaine d'observation est un temps d'épreuve, de simple surveillance, tandis que la quarantaine de rigueur consiste dans le débarquement au lazaret avec désinfection, et comprend toutes les mesures applicables à une provenance cholérique.

Adoptée par 21 voix, contre 0 (MM. Maccas et Pélikan ont voté pour, avec réserve), 3 abstentions. Procès-verbal, No. 42, page 17.

La Conférence est d'avis : 1° que la quarantaine de rigueur applicable aux personnes venant d'un lieu contaminé soit fixée, en règle générale, à dix jours pleins, et que cette quarantaine commence, pour les personnes, au moment de leur entrée au lazaret. Que si pendant le cours de la quarantaine il se produisait parmi elles des cas de choléra ou de diarrhée cholérique, les personnes saines, après la séparation des malades, devraient recommencer la quarantaine de dix jours pleins.

2° Qu'il y a lieu de considérer comme suspectes les personnes affectées de diarrhée, de les isoler des personnes bien portantes, ainsi que des malades de choléra, et de ne leur accorder la pratique, au bout de la quarantaine réglementaire, qu'à la suite de l'observation médicale constatant la nature non-cholérique de la diarrhée.

Adoptée par 17 voix, contre 0. (4 adhésions conditionnelles, 2 voudraient que la quarantaine fût portée à 15 jours, 2 à 17 jours.) Procès-verbal, No. 42, page 26.

<p>Conclusions of the International Sanitary Conference of Constantinople, 1866.</p>	<p>La Conférence est d'avis; 1° d'appliquer aux navires supposés contaminés la quarantaine de rigueur, fixée à 10 jours pleins à dater de l'arrivée; 2° d'admettre une différence entre les navires à bord desquels se serait manifesté le choléra ou la diarrhée cholérique, et les navires qui n'auraient pas eu d'accidents cholériques pendant la traversée: dans le premier cas seraient applicables toutes les mesures de rigueur, d'isolement et de désinfection; dans le second cas, les navires pourraient être exemptés du déchargement des marchandises non sujettes à purification, et ne seraient soumis qu'à des mesures générales d'hygiène sans désinfection proprement dite; 3° de soumettre à des précautions exceptionnelles les navires encombrés et à bord desquels il se serait manifesté une épidémie grave de choléra, précautions qui consisteraient à un isolement plus complet, à la désinfection par les agents les plus actifs et même à la prolongation et au redoublement, selon les cas, de la durée de la quarantaine; 4° de réduire à 5 jours la quarantaine applicable aux navires dont la traversée aurait duré de 15 à 30 jours sans aucun accident cholérique, et à 24 heures lorsque la durée de la traversée dépasserait 30 jours; dans les deux cas, désinfection des marchandises susceptibles, des effets et des parties suspectes, mais sans déchargement total.</p> <p>Adoptée à l'unanimité, moins une voix, celle de M. Goodeve, qui s'abstient. M. Pélikan fait ses réserves pour la 1^{re} conclusion. Procès-verbal, No. 43, page 7.</p> <p>Relativement aux navires qui ont à bord un médecin commissionné et qui sont soumis pendant la traversée à des mesures d'hygiène et de désinfection, la Conférence s'est prononcée de la manière suivante:—</p>	<p>Conclusions of the International Sanitary Conference of Vienna, 1874.</p> <p>B.—SYSTÈME DES QUARANTAINES.</p> <p>PROVENANCES DE PORTS INFECTÉS.</p> <p>1° Les provenances de ports infectés sont soumises à une observation variant de 1 à 7 jours pleins selon les cas. Dans les ports des États orientaux de l'Europe, et ailleurs dans certains cas exceptionnels seulement, la durée de l'observation peut être portée à 10 jours.</p> <p>Navires 2° Si l'autorité sanitaire à la preuve suffisante qu'aucun cas de choléra ou de nature suspecte n'a eu lieu à bord durant la traversée, la durée de l'observation est de 3 à 7 jours à dater de l'inspection médicale.</p> <p>Si, dans ces conditions, la traversée a duré au moins 7 jours, l'observation est réduite à 24 heures pour les constatations et les désinfections qui pourraient être jugées nécessaires.</p> <p>Dans les cas de cette catégorie, la quarantaine d'observation peut être purgée à bord, tant qu'aucun cas de choléra ou d'accidents suspects ne s'est manifesté et si les conditions hygiéniques du navire le permettent.</p> <p>Dans ces cas déchargement du navire n'est point obligatoire.</p> <p>Navires 3° En cas de choléra ou d'accidents suspects soit durant la traversée, soit après l'arrivée, la durée de l'observation pour les personnes non malades est de 7 jours pleins, à dater de leur isolement dans un lazaret ou dans un endroit pouvant en tenir lieu.</p> <p>Les malades sont débarqués et reçoivent les soins convenables dans un</p>	<p>Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.</p> <p>PROPHYLAXIE SANITAIRE MARITIME.</p> <p>MESURES SANITAIRES GÉNÉRALES.</p> <p>PORTS.</p> <p>No. 16. Il est de l'intérêt de chaque nation d'assurer la salubrité de ses ports de mer. Elle évitera souvent ainsi l'invasion de son sol par les maladies exotiques, et surtout elle ne transportera que rarement sur ses vaisseaux les maladies endémiques.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 114.</p> <p>No. 17. Dans chaque port il serait nécessaire qu'il y eût toujours une autorité sanitaire ayant mission de fournir aux consuls des informations officielles sur l'état sanitaire de ce port.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 115.</p> <p>No. 18. Il sera accordé aux consuls la faculté de puiser aux bureaux d'hygiène leurs renseignements sur l'état sanitaire des ports.</p> <p>Adoptée par 10 oui (Autriche-Hongrie, États-Unis de l'Amérique du Nord, France, Italie, Mexique, Pays-Bas, Portugal, Russie, Suisse), contre 2 non (Roumanie, Turquie), et 8 absents (Allemagne, Brésil, Danemark, Grande-Bretagne, Inde, Japon, Suède, Norvège).</p> <p>No. 19. Chaque navire, destiné au transport des voyageurs, qui part d'un port suspect devra être convenablement construit et posséder des locaux qui permettent l'isolement des cholériques.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 140.</p> <p>No. 20. Les paquebots provenant des pays, où règne le choléra, seront tenus d'avoir une étuve de désinfection par la vapeur.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 206.</p>
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Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.																																																
<p>Les navires en patente brute de choléra qui auront rempli les conditions spécifiées dans le cours de cet article, pourront compter les jours de la traversée comme jours de quarantaine jusqu'à concurrence de 9 jours. Ils feront au port d'arrivée une quarantaine d'observation calculée de manière à accomplir la quarantaine réglementaire de 10 jours pleins.</p> <p>Comme cependant la traversée des navires n'a pas toujours la même durée et que celle-ci peut varier de 1 à 9 jours et plus, la Conférence a établi l'échelle suivante comme règle à observer dans l'application de la mesure proposée :</p> <p>Après 24 heures de traversée 9 jours de quarantaine d'observation.</p> <table><tr><td>"</td><td>2 jours</td><td>"</td><td>8</td><td>"</td><td>"</td></tr><tr><td>"</td><td>3</td><td>"</td><td>"</td><td>7</td><td>"</td></tr><tr><td>"</td><td>4</td><td>"</td><td>"</td><td>6</td><td>"</td></tr><tr><td>"</td><td>5</td><td>"</td><td>"</td><td>5</td><td>"</td></tr><tr><td>"</td><td>6</td><td>"</td><td>"</td><td>4</td><td>"</td></tr><tr><td>"</td><td>7</td><td>"</td><td>"</td><td>3</td><td>"</td></tr><tr><td>"</td><td>8</td><td>"</td><td>"</td><td>2</td><td>"</td></tr><tr><td>"</td><td>9</td><td>"</td><td>"</td><td>24 heures</td><td>"</td></tr></table> <p>Pour les navires dont la traversée aurait dépassé 9 jours la quarantaine d'observation serait toujours d'au moins 24 heures.</p> <p>Adoptée par 12 voix contre 9 et 5 abstentions.</p> <p>Procès-verbal, No 43, page 9.</p> <p>La Conférence est d'avis que la contumace peut se faire à bord des navires dans les cas de quarantaine d'observation et quelquefois de quarantaine de rigueur dans des circonstances de force majeure; mais dans tous les cas, l'autorité sanitaire aura soin de faire éviter l'encombrement et exercera une surveillance attentive sur la santé des quaranténaires.</p>	"	2 jours	"	8	"	"	"	3	"	"	7	"	"	4	"	"	6	"	"	5	"	"	5	"	"	6	"	"	4	"	"	7	"	"	3	"	"	8	"	"	2	"	"	9	"	"	24 heures	"	<p>Navires local isolé et séparé des personnes en infectés.</p> <p>Le navire et tous les objets susceptibles sont soumis à une désinfection rigoureuse, après laquelle les personnes restées à bord du navire sont assujetties à une observation de 7 jours.</p> <p>Procès-verbaux, pages 284-386.</p> <p>PROVENANCES DE PORTS SUSPECTS.</p> <p>4° Les provenances des ports suspects, c'est-à-dire voisins d'un port où règne le choléra et ayant des relations libres avec ce port, peuvent être soumises à une observation, qui n'excédera pas 5 jours, si aucun accident suspect ne s'est produit à bord.</p> <p>DISPOSITIONS DIVERSES.</p> <p>5° Les navires chargés d'émigrants, de pèlerins, et, en général, tous les navires jugés particulièrement dangereux pour la santé publique, peuvent, dans les conditions mentionnées précédemment, être l'objet de précautions spéciales que déterminera l'autorité sanitaire du port d'arrivée.</p> <p>6° Lorsque les ressources locales ne permettent pas d'exécuter les mesures ci-dessus prescrites, le navire infecté est dirigé sur le plus prochain lazaret, après avoir reçu tous les secours que réclame sa position.</p> <p>7° Un navire provenant d'un port infecté, qui a fait escale dans un port intermédiaire et y a reçu libre pratique sans avoir fait de quarantaine, est considéré et traité comme provenant d'un port infecté.</p> <p>8° Dans le cas de simple suspicion, les mesures de désinfection ne sont pas de rigueur, mais elles peuvent être pratiquées toutes les fois que l'autorité sanitaire le juge convenable.</p>	<p>No. 21. Les bâtiments à vapeur, destinés au transport des voyageurs provenant de pays où règne le choléra, seront tenus d'avoir à bord un médecin nommé par le Gouvernement, auquel appartient le bateau, ou bien par l'autorité sanitaire, révoquant seulement par ce gouvernement ou cette autorité, et complètement indépendant des compagnies de navigation et des armateurs de bateaux.</p> <p>Adoptée par 19 oui, contre 2 abstentions (Suède, Norvège). Procès-verbaux, page 124.</p>
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Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Adoptée à l'unanimité moins une abstention. M. Dickson vote avec réserve. Procès-verbal, No. 43, pages 9 et 10.</p> <p>La Conférence propose une quarantaine de 8 jours pleins pour toutes les provenances de terre, à l'exception des pèlerinages et des déplacements de troupes dont le régime serait plus sévère. Toutefois il est entendu que si les provenances de terre partaient d'un foyer rapproché d'un à trois jours de marche la quarantaine serait de 10 jours pleins. Adoptée par 15 voix, 5 abstentions. Procès-verbal, No. 43, page 11.</p>	<p>9° Un port où le choléra règne épidémiquement ne doit plus appliquer de quarantaine proprement dite, mais doit pratiquer seulement des mesures de désinfection.</p> <p>Procès-verbaux, pp. 285, 387.</p>	
	<p style="text-align: center;">MESURES D'ASSAINISSEMENT AU POINT DE DÉPART.</p> <p>No. 22. Le consul du pays de destination aura le droit d'assister aux inspections sanitaires du navire qui seront faites par les agents de l'autorité territoriale, conformément aux règles qui seront établies par des conventions ou des traités.</p> <p>Adoptée par 8 oui (Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Italie, Pays-Bas, Portugal, Suède); 8 abstentions (Allemagne, Brésil, Espagne, France, Mexique, Norvège, Russie, Suisse); 6 non (Grande-Bretagne, Inde, Japon, Roumanie, Serbie, Turquie).</p> <p>Procès-verbaux, page 129.</p> <p>No. 23. Le chargement du navire ne commencera que lorsque son nettoyage aura été opéré, soit par les moyens ordinaires, soit par un procédé spécial de désinfection, si cela aura été jugé nécessaire. Il sera visité, à cet effet, par le capitaine et le médecin du bord. Le résultat de la visite sera relaté sur le registre du bord.</p> <p>Adopté à l'unanimité. Procès-verbaux, page 129.</p> <p>No. 24. Le médecin examinera les passagers qui se présenteront pour embarquer, provenant d'un port où règne le choléra. Il refusera ceux qui lui paraîtront suspects de choléra.</p> <p>Adoptée à l'unanimité, moins une abstention (Turquie). Procès-verbaux, page 131.</p> <p>No. 25. Pour ceux qui lui semblent dans de bonnes conditions, il veillera à ce qu'ils n'introduisent pas à bord des linges, des hardes ou des objets de literie, souillés ou suspects.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 131.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
		<p>No. 26. Les vêtements et objets de literie ayant servi aux individus morts du choléra ne devront jamais être acceptés. Adoptée à l'unanimité. Procès-verbaux, page 132.</p> <p>No. 27. Lorsque le choléra se montre à bord du navire pendant le séjour dans un port contaminé, les malades chez lesquels les premiers symptômes de cette affection auront été constatés, seront immédiatement dirigés sur l'hôpital, et tous leurs effets, ainsi que les objets de literie qui leur ont servi, seront détruits ou désinfectés. En outre, l'endroit dans lequel le cholérique se trouvait, sera immédiatement désinfecté. Adoptée à l'unanimité. Procès-verbaux, page 134.</p> <p>No. 28. Les sacs renfermant les vêtements d'individus ayant succombé à l'étranger seront désinfectés avant le départ. Adoptée à l'unanimité. Procès-verbaux, page 134.</p> <p style="text-align: center;">PETITS NAVIRES.</p> <p>No. 29. Au point de vue sanitaire, il faut distinguer deux sortes de navires : ceux qui ont un médecin et ceux qui n'en ont pas. On doit considérer ces derniers comme petits navires, quel que soit leur tonnage et le chiffre de leur équipage, qu'ils soient à voile ou à vapeur. Adoptée à l'unanimité, moins l'Espagne, qui a voté non. Procès-verbaux, page 195.</p> <p>No. 30. A bord des petits navires, le capitaine doit s'adresser au consul du pays de destination du navire, pour qu'il fasse visiter son navire par un médecin avant le chargement, et pour que ce dernier examine les passagers. Cette visite est indépendante de l'inspection, qui relève de l'autorité sanitaire du port. Adoptée par 20 oui, contre 1 non (Brésil), et 1 abstention (Turquie). Procès-verbaux, page 197.</p> <p>No. 31. Le résultat de cette visite, ainsi que l'indication des mesures de propreté et de désinfection seront consignés sur le registre du bord. Adoptée à l'unanimité moins une abstention (Turquie).</p> <p>No. 32. Le lest ne doit jamais être constitué par de la terre, ou des matériaux poreux. Adoptée à l'unanimité.</p> <p>No. 33. Le capitaine veillera à ce qu'on n'introduise ni linge, ni hardes, ni objets de literie souillés ou suspects. Adoptée à l'unanimité. Procès-verbaux, page 197.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p style="text-align: center;">MESURES D'ASSEMBLEMENT PENDANT LA TRAVERSÉE.</p> <p style="text-align: center;">GRANDS PAQUEBOTS.</p> <p style="text-align: center;">NAVIRES SUSPECTS.</p> <p>No. 34. Le linge de corps des passagers et de l'équipage, sali ou souillé, sera lavé le jour même, après avoir été plongé dans l'eau bouillante ou dans une solution désinfectante. Adoptée à l'unanimité. Procès-verbaux, page 136.</p> <p>No. 35. Les lieux d'aisance seront lavés et désinfectés au moins deux fois par jour. Adoptée à l'unanimité. Procès-verbaux, page 136.</p> <p>No. 36. Une propreté rigoureuse, une ventilation active seront maintenues, pendant toute la traversée, à bord des navires suspects. Adoptée à l'unanimité. Procès-verbaux, page 138.</p> <p style="text-align: center;">NAVIRES INFECTÉS.</p> <p>No. 37. Dès que le médecin constatera, les premiers signes du choléra, il avisera immédiatement le capitaine et prendra, de concert avec lui, les mesures nécessaires pour isoler les malades du reste du personnel. Adoptée à l'unanimité.</p> <p>No. 38. Les locaux ayant été occupés par des cholériques seront immédiatement désinfectés. Adoptée à l'unanimité. Procès-verbaux, page 140.</p> <p>No. 39. Autant que possible, les locaux ainsi désinfectés resteront largement ouverts et isolés, et ne recevront aucun autre passager en santé, pendant toute la traversée. Adoptée par 19 oui, contre 1 non (Espagne), et 3 abstentions (Grande-Bretagne et Inde). Procès-verbaux, page 142.</p> <p style="text-align: center;">PETITS NAVIRES.</p> <p>No. 40. Pendant la traversée, le capitaine devra prendre toutes les mesures nécessaires pour la désinfection du linge des passagers et de l'équipage, pour l'isolement des malades, en cas d'infection cholérique, et pour la désinfection des locaux. Il consigne le tout sur le registre du bord. Adoptée à l'unanimité. Procès-verbaux, page 197.</p> <p>No. 41. Pour le mettre à même de remplir ces fonctions, il lui sera remis, au départ, par le consul de sa nation, une instruction sanitaire claire et concise, qui sera ultérieurement rédigée. Cette instruction sera traduite dans différentes langues, offerte aux différents Gouvernements, et distribuée. Adoptée à l'unanimité, moins une abstention. (Brésil.)</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>See also "A.—Mesures contre l'importation du choléra de l'Inde par la Voie maritime," page 74.</p>	<p>See also "Mesures à prendre en dehors de l'Europe," page 74.</p>	<p>DISPOSITIONS SPÉCIALES POUR LA MER ROUGE.</p> <p>GRANDS PAQUEBOTS.</p> <p>NAVIRES SUSPECTS.</p> <p>No. 42. Tous les bâtiments à vapeur provenant des ports infectés de choléra au delà du détroit de Bab-el-Mandeb subiront, dans la Mer Rouge, une inspection médicale.</p> <p>Adoptée par 16 oui, contre 4 non (Brésil, Espagne, Grande-Bretagne, Inde) et 2 abstentions (États-Unis et Japon). Procès-verbaux, page 176.</p>
	<p>No. 43. Cette visite sera faite par un médecin du port, indépendant.</p> <p>Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde et Japon). Procès-verbaux, page 177.</p> <p>No. 44. Si le médecin du navire certifie que les mesures d'assainissement ont été prises au point de départ, que les mesures d'assainissement et de désinfection ont été observées pendant la traversée, qu'il n'y a eu, pendant le voyage, ni mort, ni malade, ni suspect de choléra, enfin si l'examen médical fait par le médecin du port lui permet de constater qu'il n'existe personne atteint ou suspect de cette maladie, la libre pratique immédiate sera accordée.</p> <p>Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon). Procès-verbaux, page 178.</p> <p>No. 45. Les bâtiments qui ne laisseront pas de voyageurs dans les ports de la Mer Rouge, ni en particulier en Égypte, subiront une seule inspection médicale près de Suez.</p> <p>Adoptée par 16 oui, contre 2 non (Espagne, Turquie), et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon). Procès-verbaux, page 179.</p> <p>No. 46. Les bâtiments qui auront des passagers à destination de l'Égypte ou de tout autre port de la Mer Rouge, subiront une première inspection près du détroit de Bab-el-Mandeb et une seconde au premier port d'arrivée.</p> <p>Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Japon). Procès-verbaux, page 180.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>See "Régime Quarantenaire, &c. Conclusions," pages 85-87.</p>	<p>See "Système de Quarantaines. Provenances de Ports Infectés," page 86.</p>	<p style="text-align: center;">NAVIRES INFECTÉS.</p> <p>No. 47. Si le navire est infecté, c'est-à-dire s'il y a, ou s'il y a eu à bord un ou plusieurs cholériques, les passagers seront débarqués et isolés, séparés par groupes chacun aussi peu nombreux que possible.</p> <p>Adoptée par 18 oui, contre 2 non (Grande-Bretagne, Inde), et 2 abstentions (Brésil, Japon). Procès-verbaux, page 180.</p> <p>No. 48. Le navire, les vêtements et les effets d'usage des gens de l'équipage et des passagers, seront désinfectés.</p> <p>Adoptée par 19 oui et 3 abstentions (Grande-Bretagne, Inde, Mexique). Procès-verbaux, page 190.</p> <p>No. 49. Les passagers et les gens de l'équipage seront soumis à une observation de cinq jours.</p> <p>Adoptée par 13 oui (Allemagne, Autriche-Hongrie, Danemark, France, Italie, Japon, Pays-Bas, Portugal, Russie, Suède, Norvège, Suisse), contre 9 non (Brésil, Espagne, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Mexique, Roumanie, Serbie, Turquie). Procès-verbaux, page 185.</p> <p>No. 50. Les malades seront isolés, remis à la disposition et placés sous la responsabilité des médecins.</p> <p>Adoptée par 18 oui, contre 1 non (Brésil), et 2 abstentions (Grande - Bretagne, Inde). Procès-verbaux, page 194.</p> <p style="text-align: center;">PETITS NAVIRES.</p> <p>No. 51. Les petits navires venant de l'Océan indien et entrant dans la Mer Rouge, s'ils débarquent des passagers dans la Mer Rouge, devront être traités comme les grands navires qui sont dans le même cas; lorsqu'ils ne font que parcourir cette mer, pour passer de l'Océan indien dans la Méditerranée, ils subiront une double visite, l'une à l'entrée de la Mer Rouge, l'autre à Suez. S'ils sont indemnes, ils continueront leur chemin; s'ils ont eu des cholériques, ils seront traités comme les grands navires infectés.</p> <p>Adoptée par 17 oui, contre 1 non (Espagne), et 4 abstentions (Brésil, Grande-Bretagne, Inde, Turquie). Procès-verbaux, page 198.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p>MESURES D'ASSAINISSEMENT À L'ARRIVÉE.</p> <p>NAVIRES SUSPECTS.</p> <p>No. 68. La libre pratique ne sera accordée qu'après une inspection sanitaire faite de jour et par un médecin du port d'arrivée, inspection qui devra établir l'état sanitaire exact des passagers et de l'équipage et constater que les mesures d'assainissement et de désinfection ont été rigoureusement exécutées, au point de départ et pendant la traversée. Adoptée par 17 oui, 2 non (Brésil, Espagne), 2 abstentions (Danemark, Portugal). Procès-verbaux, page 237.</p> <p>No. 69. Les passagers recevront libre pratique s'il n'y a, ou s'il n'y a eu, à bord ni mort, ni malade, ni suspect de choléra. Adoptée par 15 oui, 3 non (Brésil, Espagne, Mexique), et 3 abstentions (Danemark, Grande-Bretagne, Inde). Procès-verbaux, page 237.</p> <p>No. 70. Dans le cas où la traversée a duré moins de dix jours, il y aura une observation de 24 heures et une désinfection à bord, du linge sale et des effets à usage. Adoptée par 11 oui, 6 non (Brésil, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Mexique), 4 abstentions (Autriche, Danemark, Serbie, Turquie). Procès-verbaux, page 239.</p> <p>NAVIRES INFECTÉS.</p> <p>MALADES.</p> <p>No. 71. Les malades seront immédiatement débarqués dans un local isolé. Adoptée à l'unanimité, moins le délégué de Turquie, qui c'est abstenu. Procès-verbaux, page 239.</p> <p>No. 72. La désinfection aura lieu, comme il est dit dans les articles qui réglementent la désinfection. Adoptée à l'unanimité. Procès-verbaux, page 239.</p> <p>PASSAGERS ET ÉQUIPAGE.</p> <p>No. 73. Les passagers et l'équipage seront isolés. Adoptée par 17 oui, contre 2 non (Grande-Bretagne, Inde), et 2 abstentions (États-Unis de l'Amérique du Nord, Russie). Procès-verbaux, page 240.</p> <p>No. 74. Cet isolement durera cinq jours. Adoptée par 11 oui, contre 8 non (Brésil, Espagne, Grande-Bretagne, Inde, Mexique, Roumanie, Serbie, Turquie), et 2 abstentions (Danemark, États-Unis de l'Amérique du Nord). Procès-verbaux, page 241.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p>No. 75. Dans la cas où, d'après le certificat du médecin du bord, il n'y aurait pas eu à bord des cas de choléra depuis dix jours, l'observation pourra être réduite à 24 heures.</p> <p>Adoptée par 10 oui (Allemagne, Autriche, Hongrie, France, Italie, Pays-Bas, Russie, Suède, Norvège, Suisse), contre 7 non (Brésil, Espagne, Mexique, Portugal, Roumanie, Serbie, Turquie), et 4 abstentions (Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde). Procès-verbaux, page 242.</p> <p>No. 76. Les passagers seront divisés par groupes chacun aussi peu nombreux que possible, de façon à ce que, si des accidents se montraient dans un groupe, la durée de l'isolement ne fût pas augmentée pour tous.</p> <p>Adoptée par 18 oui, contre 3 abstentions (États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde). Procès-verbaux, page 243.</p> <p>No. 77. L'autorité sanitaire prendra les mesures qu'elle jugera nécessaire pour la désinfection, et prescrira les moyens prophylactiques dont les principes ont été adoptés par la Conférence.</p> <p>Adoptée par 18 oui, contre 3 abstentions (Danemark, Grande-Bretagne, Inde). Procès-verbaux, page 243.</p> <p style="text-align: center;">NAVIRES.</p> <p>No. 78. Le navire sera désinfecté suivant les règles données dans les articles consacrés à la désinfection. Toutes les opérations de désinfection du navire seront faites en présence et sous la responsabilité du chef de l'autorité sanitaire du port d'arrivée.</p> <p>Adoptée à l'unanimité. Procès-verbaux, page 251.</p> <p style="text-align: center;">DISPOSITIONS SPÉCIALES À LA MÉDITERRANÉE.</p> <p style="text-align: center;">NAVIRES SUSPECTS.</p> <p>No. 79. Les passagers et l'équipage seront débarqués dans un local isolé, construit dans ce but avec toutes les conditions nécessaires pour réaliser la désinfection et l'isolement.</p> <p>Adoptée par 10 oui (Brésil, Danemark, Espagne, France, Italie, Mexique, Portugal, Roumanie, Serbie, Turquie), contre 4 non (Autriche, Hongrie, Grande-Bretagne, Inde), et 7 abstentions (Allemagne, États-Unis de l'Amérique du Nord, Pays-Bas, Russie, Suède, Norvège, Suisse). Procès-verbaux, page 255.</p> <p>No. 80. Cet isolement variera de trois à six jours pleins, suivant les conditions du navire, qu'il s'agisse d'un grand paquebot ou d'un petit navire; qu'il y ait, ou non, un médecin à bord.</p> <p>Adoptée par 6 oui (France, Italie, Norvège, Pays-Bas, Portugal, Suisse), contre 5 non (Brésil, Espagne, Mexique, Serbie, Turquie), et 10 abstentions (Allemagne, Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Roumanie, Russie, Suède). Procès-verbaux, page 257.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p>No. 81. On déduira de la durée de l'isolement, celle de la traversée. Adoptée par 7 oui (France, Italie, Pays-Bas, Portugal, Suède, Norvège, Suisse), contre 6 non (Brésil, Espagne, Mexique, Roumanie, Serbie, Turquie), et 8 abstentions (Allemagne, Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Portugal, Russie, Suisse). Procès-verbaux, page 258.</p> <p style="text-align: center;">NAVIRES INFECTÉS.</p> <p>No. 82. Les navires infectés seront soumis, dans les ports de la Méditerranée, aux règles générales applicables aux navires infectés dans les ports d'arrivée. Adoptée par 12 oui, contre 2 non (Espagne, Mexique), et 7 abstentions (Brésil, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Russie, Turquie). Procès-verbaux, page 259.</p> <p style="text-align: center;">QUARANTAINES FLUVIALES.</p> <p>Toutes les raisons produites, pour démontrer que les quarantaines par terre sont impraticables et inutiles pour empêcher la propagation du choléra, sont également valables pour les quarantaines dans le cours des fleuves.</p> <p>Toutefois les mesures recommandées dans le système de l'inspection médicale adopté par la Conférence peuvent y être appliquées aux navires ayant le choléra à bord.</p> <p>Quant aux ports de l'embouchure, ils rentrent dans la catégorie des ports maritimes, et par conséquent les mêmes mesures y sont applicables.</p> <p>Résultat du vote : 19 oui. 3 abstentions (Serbie, Turquie, Égypte). Procès-verbaux, pages 298, 388.</p>	<p>No. 81. On déduira de la durée de l'isolement, celle de la traversée. Adoptée par 7 oui (France, Italie, Pays-Bas, Portugal, Suède, Norvège, Suisse), contre 6 non (Brésil, Espagne, Mexique, Roumanie, Serbie, Turquie), et 8 abstentions (Allemagne, Autriche, Hongrie, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Portugal, Russie, Suisse). Procès-verbaux, page 258.</p> <p style="text-align: center;">NAVIRES INFECTÉS.</p> <p>No. 82. Les navires infectés seront soumis, dans les ports de la Méditerranée, aux règles générales applicables aux navires infectés dans les ports d'arrivée. Adoptée par 12 oui, contre 2 non (Espagne, Mexique), et 7 abstentions (Brésil, Danemark, États-Unis de l'Amérique du Nord, Grande-Bretagne, Inde, Russie, Turquie). Procès-verbaux, page 259.</p> <p style="text-align: center;">PROPHYLAXIE SANITAIRE FLUVIALE.</p> <p>No. 14. Les ports des fleuves où abordent des navires traversant la mer, doivent être soumis au même régime que les ports de mer. Adoptée à l'unanimité. Procès-verbaux, page 299.</p> <p>No. 15. Les bateaux qui desservent les grands fleuves devront être soumis à une hygiène rigoureuse. L'encombrement des passagers sera strictement interdit.</p> <p>Un médecin sera attaché à chaque point de relâche important et, dans chaque station, une chambre convenablement isolée devra être préparée.</p> <p>Adoptée à l'unanimité, moins une abstention (Turquie). Procès-verbaux, page 298.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p align="center">QUESTION DE LA DÉSINFECTION. CONCLUSIONS.</p> <p>Suivant l'opinion de la Conférence, la désinfection consiste dans l'emploi de différents moyens propres à assainir les lieux et les objets contaminés par le germe cholérique. Ces moyens sont l'air, l'eau, le feu dans certains cas, ainsi que les substances chimiques recommandées par la science et signalées dans le Rapport des mesures hygiéniques.</p> <p>La désinfection s'applique : 1° aux navires provenant de lieux infectés et à bord desquels se serait manifestée soit une épidémie grave de choléra, soit des cas isolés de cette maladie ou seulement des cas de diarrhée cholérique.</p> <p>2° Elle s'applique aux hardes et effets à usage des cholériques ainsi que des personnes qui subissent le régime de la quarantaine de rigueur tant au lazaret qu'à bord des navires.</p> <p>3° Elle s'applique en outre aux marchandises supposées contaminées telles que les drilles, les chiffons, les peaux, les cuirs, les plumes et autres débris animaux, ainsi que les laines et autres substances non emballées provenant d'un lieu infecté ou d'un navire sujet lui-même à la désinfection. Les lettres et dépêches seront enfermées dans une boîte et désinfectées par le dégagement de chlore sans être percées. Quant aux marchandises en général, sortant des fabriques et bien emballées, elles sont réputées non contaminées et conséquemment non sujettes à la désinfection.</p> <p>4° Enfin la désinfection s'applique aux animaux vivants, par l'aération ou l'immersion dans l'eau, lorsque les autorités sanitaires le jugeront convenable.</p> <p>Adoptée à l'unanimité moins M. Goodeve qui s'abstient ; 4 votent sous diverses réserves. Procès-verbal, No. 43, page 12 et 13.</p>	<p>La désinfection soit des effets à usage, soit des navires, sera opérée par les procédés que les autorités compétentes de chaque pays jugeront les mieux appropriés aux circonstances.</p> <p>La Conférence adopte : 21 oui. 1 abstention (Espagne). Procès - verbaux, pages 285, 388.</p> <p>See also "Questions de la Désinfection," page 70.</p>	<p>See "Désinfection," pages 70 and 71.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p style="text-align: center;">LA PATENTE DE SANTÉ ET L'ARRAISSEMENT.</p> <p style="text-align: center;">CONCLUSIONS :</p> <p>Dans l'opinion de la Conférence, il y a lieu de supprimer la qualification de patente suspecte et de maintenir celle de patente nette et de patente brute, l'une témoignant de l'absence du choléra, l'autre attestant sa présence ainsi que le degré de sa manifestation.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 43, page 13.</p> <p>La Conférence exprime le vœu que le mot sporadique soit supprimé sur les patentes où l'on se bornerait, suivant le cas, à mentionner l'existence du choléra asiatique, ou du choléra nostras.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 43, page 14.</p> <p>La Conférence est d'avis que la patente de santé doit faire mention du choléra asiatique depuis le premier cas de sa manifestation jusqu'au dernier accident qui marque la fin de l'épidémie ; que les autorités sanitaires ne devront accorder la libre pratique aux provenances d'un lieu où a régné une épidémie que 15 jours après la date de sa complète disparition.</p> <p>Adoptée à l'unanimité. Procès-verbal, No. 43, page 14.</p> <p>La Conférence opine qu'il est d'absolue nécessité, comme garantie de la santé publique, qu'un navire n'ait qu'une patente délivrée par l'autorité sanitaire du point du départ ; qu'il est également nécessaire que cette patente ne soit pas changée jusqu'à l'arrivée du navire à destination définitive, et qu'en conséquence les autorités sanitaires doivent se borner à viser la patente primitive sans la remplacer par une nouvelle patente jusqu'au voyage de retour.</p> <p>La Conférence émet le vœu que les gouvernements qui attachent une importance particulière au maintien de la patente consulaire veuillent bien consentir, dans l'intérêt de la santé publique, à la remplacer par un visa sur la patente délivrée par l'autorité sanitaire.</p> <p>Adoptée à l'unanimité, moins une abstention. Procès-verbal, No. 43, page 14.</p>		

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>La Conférence est d'avis que l'arraisonnement est un acte de la plus haute importance en temps de choléra. Les réticences, les fausses déclarations, rendent illusoire le système restrictif le mieux combiné et compromettent la santé publique. Elles doivent être sévèrement punies par les lois de chaque pays.</p> <p>À ce propos la Conférence émet le vœu que le gouvernement ottoman promulgue dans le plus bref délai un code pénal contre les infractions aux règlements sanitaires.</p> <p>Adoptée à l'unanimité, une abstention. Procès-verbal, No. 43, page 14.</p>	<p>C. DISPOSITIONS COMMUNES AUX DEUX SYSTÈMES. (INSPECTION MÉDICALE.—QUARANTAINES.)</p> <p>§ 1.</p> <p>Le capitaine, le médecin, et les officiers du bord sont tenus de déclarer à l'autorité sanitaire tout ce qu'ils peuvent savoir d'apparition suspecte de maladie parmi l'équipage et les passagers.</p> <p>En cas de fausse déclaration, ou de réticence calculée, ils sont passibles des peines édictées par les lois sanitaires. Il serait à désirer qu'une entente internationale s'établît à ce sujet. Procès-verbaux, pages 285, 387.</p> <p>La Conférence exprime le vœu qu'une loi pénale, applicable aux contraventions sanitaires, soit édictée dans l'Empire Ottoman.</p> <p>Résultat du vote: 15 oui, 4 non, 3 abstentions. Procès-verbaux, pages 286, 388.</p>	<p>See "Code Pénale Sanitaire pour la Mer Rouge," page 79.</p>
	<p>TROISIÈME PARTIE.</p> <p>PROJET DE CRÉATION D'UNE COMMISSION INTERNATIONALE PERMANENTE DES ÉPIDÉMIES.</p> <p>I.</p> <p>(BUT. UTILITÉ.)</p> <p>Il sera institué à Vienne une Commission Sanitaire Internationale permanente ayant pour objet l'étude des maladies épidémiques.</p>	<p>DE L'INFORMATION SANITAIRE.</p> <p>No. 1. Il est nécessaire que dans chaque pays il existe un bureau central d'informations et d'avertissements chargé de réunir tous les renseignements sanitaires.</p> <p>Tous ces bureaux échangeront entre eux des correspondances et des communications régulières.</p> <p>Adoptée par 18 oui, contre 1 non (Suisse) et 1 abstention (Pays Bas).</p> <p>Procès-verbaux, page 304.</p>

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
	<p style="text-align: center;">II. (ATTRIBUTIONS.)</p> <p>Les attributions de cette Commission seront purement scientifiques; elle pourra être consultée dans les questions scientifiques.</p> <p>La Commission aura pour tâche principale l'étude du choléra, au point de vue de l'étiologie et de la prophylaxie.</p> <p>Néanmoins elle pourra comprendre dans ses études les autres maladies épidémiques.</p> <p>A cet effet, elle tracera un programme comprenant les recherches devant être entreprises d'une manière uniforme par tous les États contractants, sur l'étiologie et la prophylaxie du choléra et des autres maladies épidémiques.*</p> <p>Elle fera connaître le résultat de ses travaux.</p> <p>Enfin elle pourra proposer la convocation de Conférences sanitaires internationales, et elle sera chargée d'élaborer le programme de ces Conférences.</p> <p style="text-align: right;">* Voir quelques exemples à l'annexe.</p>	<p>No. 2. La Commission technique exprime le vœu que la Conférence internationale affirme la nécessité de publier un bulletin de statistique internationale pour chaque ville importante, bulletin ayant une base et une formule uniforme et faisant connaître chaque semaine le total des décès par chacune des maladies épidémiques et en particulier pour le choléra et la fièvre jaune,</p> <p>Adoptée à l'unanimité sauf les délégués de Russie et de Turquie, qui se sont abstenus.</p> <p>Procès-verbaux, page 306.</p> <p>No. 3. En ce qui concerne le choléra et la fièvre jaune, les premiers cas qui éclateront dans les différentes localités et spécialement dans les ports maritimes, devront être notifiés directement par voie télégraphique aux différents Gouvernements.</p> <p>Adoptée à l'unanimité.</p> <p>Procès-verbaux, page 304.</p>
	<p style="text-align: center;">III. (COMPOSITION. FONCTIONNEMENT.)</p> <p>La Commission sera composée de médecins délégués par les Gouvernements participants. Il y aura au siège de la Commission un bureau à résidence fixe, chargé de centraliser les travaux et de donner suite aux délibérations de la Commission générale. La nomination et la composition de ce bureau sont laissées aux soins de la Commission générale. Les gouvernements des États participants donneront à leurs autorités sanitaires et à leurs conseils d'hygiène publique les instructions nécessaires, pour fournir à la Commission internationale tous les renseignements relatifs aux questions qui rentrent dans le cercle de ses études.</p> <p>Dans les pays où des conseils sanitaires internationaux sont établis, ceux-ci fourniront tous les renseignements qu'ils possèdent, et prescriront les recherches nécessaires.</p>	

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.			
	<p style="text-align: center;">IV.</p> <p style="text-align: center;">(VOIES ET MOYENS.)</p> <p>Les frais nécessités pour le fonctionnement de la Commission internationale seront répartis entre les divers États intéressés, et seront réglés par voie diplomatique.</p> <p style="text-align: center;">V.</p> <p style="text-align: center;">(POSTES ET MISSIONS.)</p> <p>Dans les pays où il n'y a pas de service sanitaire organisé, les études seront faites, avec l'assentiment du gouvernement local, par des missions temporaires, ou par des médecins en résidence fixe.</p> <p>Ces missions et ces postes sanitaires fixes, institués par voie internationale, seront créés d'après les indications de la Commission internationale, recevront d'elle leurs instructions, et lui rendront compte de leurs travaux.</p> <p style="text-align: center;">(ARTICLE ADDITIONNEL.)</p> <p>Il serait à désirer qu'un Conseil de santé international, analogue à ceux qui fonctionnent avec tant d'avantage à Constantinople et à Alexandrie, fut institué en Perse.</p> <p>Un tel conseil contribuerait beaucoup par l'autorité de ses avis, donnés en connaissance de cause, à améliorer les conditions sanitaires de ce pays, et serait en même temps un puissant moyen de protection contre l'invasion des épidémies en Europe.</p> <p>Procès-verbaux, pages 330, 331.</p> <p style="text-align: center;">ANNEXE À L'ARTICLE II. DU PROJET DE CRÉATION D'UNE COMMISSION INTERNATIONALE DES ÉPIDÉMIES.</p> <p>Comme premières recherches, la Commission pourrait s'occuper des questions suivantes :</p> <p>1^o L'étude régulière et suivie de la quantité de pluie et de la quantité d'eau d'évaporations pendant l'année dans les stations suivantes.</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Bender-Bouschir, Ispahan, Téhéran,</td><td style="text-align: center;">Tauris, Suez, Alexandrie,</td><td style="text-align: center;">Astrakan, Bakou, Tiflis.</td></tr> </table> <p>2^o L'étude scientifiques des conditions telluriques de ces différentes villes.</p> <p>3^o L'examen plus exact, et entrepris avec plus d'esprit d'analyse, qu'il ne l'a été jusqu'ici, de l'apparition et de la propagation du choléra sur les vaisseaux.</p>	Bender-Bouschir, Ispahan, Téhéran,	Tauris, Suez, Alexandrie,	Astrakan, Bakou, Tiflis.	
Bender-Bouschir, Ispahan, Téhéran,	Tauris, Suez, Alexandrie,	Astrakan, Bakou, Tiflis.			

Conclusions of the International Sanitary Conference of Constantinople, 1866.	Conclusions of the International Sanitary Conference of Vienna, 1874.	Conclusions of the Technical Commission of the International Sanitary Conference of Rome, 1885.
<p>Les recherches porteront provisoirement sur quelques lignes très-fréquentées:</p> <p>Calcutta-Maurice, Alexandrie-Malte, Alexandrie-Marseille, Southampton-Amérique du Nord, Hambourg-New York, Singapour-Aden-Djeddah, Calcutta-Aden-Djeddah, Bombay-Aden-Djeddah, Naples-Venise.</p> <p>4° Faire constater les premiers cas de chaque épidémie de choléra qui éclate dans les différentes localités et spécialement dans les ports maritimes de l'Europe, et réunir tous les éléments d'une statistique complète relative à la marche du choléra en Europe.</p> <p>5° Déterminer par des faits scientifiques la durée précise de l'incubation du choléra.</p> <p>Adoptée à l'unanimité. Procès-verbaux, pp. 390, 391.</p>	<p>La Conférence a entendu plusieurs communications sur la fièvre jaune, mais elle a décidé à l'unanimité que cette question devait être renvoyée à la Commission internationale permanente des épidémies, dont elle a proposé la création.</p>	<p>PROPHYLAXIE SANITAIRE DE LA FIÈVRE JAUNE.</p> <p>No. 84. Les mesures recommandées contre le choléra sont, en général, applicables à la fièvre jaune et aux autres maladies, qui règnent épidémiquement sous l'influence des mauvaises conditions sanitaires et qui sont transmises par l'intermédiaire de l'homme.</p> <p>Les moyens les plus efficaces pour empêcher la propagation des maladies de cette classe, sont :</p> <p>L'assainissement des villes et des vaisseaux partant des ports infectés, l'isolement des malades et la désinfection des effets et des locaux infectés ou suspects.</p> <p>Adoptée par 17 oui, contre 3 abstentions (Grande-Bretagne, Inde, Turquie). Procès-verbaux, page 303.</p>

APP. No. 4.
General Cholera
Order.

No. 4.

To all PORT SANITARY AUTHORITIES, except the Port Sanitary Authority for the Port of London; to all Urban and Rural Sanitary Authorities whose districts include or abut on any part of a customs port, which part is not within the jurisdiction of any Port Sanitary Authority; to all Officers of Customs; to all Medical Officers of Health of the Sanitary Authorities aforesaid; to all Masters of Ships; and to all others whom it may concern.

WHEREAS We, the Local Government Board, by an Order bearing date the 17th day of July, 1873, made certain rules and regulations with a view to the treatment of persons affected with cholera, and for preventing the spread of the disease;

And whereas cholera is now prevalent in certain parts of Egypt with which this country has communication, and it is expedient that in place of the rules and regulations made by the said Order, other rules and regulations as herein-after contained should be made:

Now therefore, We, the Local Government Board, do hereby rescind the said Order, except in so far as it may apply to any proceedings now pending, and We do, by this Our Order, and in exercise of the power conferred on Us by Section 130 of the Public Health Act, 1875, and every other power enabling Us in this behalf, make the following rules and regulations, and declare that they shall be enforced and executed by the authorities herein-after named:—

Definitions.

Art. 1.—In this order—

The term “ship” includes vessel or boat;

The term “Officer of Customs” includes any person acting under the authority of the Commissioners of Customs;

The term “master” includes the officer or person for the time being in charge or command of a ship;

The term “cholera” includes choleraic diarrhoea;

The term “sanitary authority” means every port sanitary authority except the Port Sanitary Authority for the Port of London, and every urban or rural sanitary authority whose district includes or abuts on any part of a customs port, which part is not within the jurisdiction of a port sanitary authority;

The term “Medical Officer of Health” includes any duly qualified medical practitioner appointed by a sanitary authority to act in the execution of this Order;

For the purposes of this Order,—

- (1.) So much of a customs port abutting on an urban or rural sanitary district as is nearer to such district than to any other, and is not included within the jurisdiction of any port sanitary authority, shall be deemed to be within such district;
- (2.) Every ship shall be deemed infected with cholera, in which there is or has been during the voyage or during the stay of such ship in a port in the course of such voyage, any case of cholera.

I.—Regulations as to Detention by Officers of Customs.

Art. 2.—If any Officer of Customs, on the arrival of any ship, ascertain from the master of such ship or otherwise, or have reason to suspect, that the ship is infected with cholera, he shall detain such ship, and

order the master forthwith to moor or anchor the same in such position as such Officer of Customs shall direct; and thereupon the master shall forthwith moor or anchor the ship accordingly.

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General Cholera
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Art. 3.—Whilst such ship shall be so detained, no person shall leave the same.

Art. 4.—The Officer of Customs detaining any ship as aforesaid shall forthwith give notice thereof, and of the cause of such detention, to the sanitary authority of the place where the ship shall be so detained.

Art. 5.—Such detention by the Officer of Customs shall cease as soon as the ship shall have been duly visited and examined by the Medical Officer of Health; or, if the ship shall, upon such examination, be found to be infected with cholera, as soon as the same shall be moored or anchored in pursuance of Art. 10 of this Order.

Provided, that if the examination be not commenced within 12 hours after notice given as aforesaid, the ship shall, on the expiration of the said 12 hours, be released from detention.

II.—*Regulations as to Sanitary Authorities.*

Art. 6.—Every port sanitary authority, except as aforesaid, and every other sanitary authority within whose district persons are likely to be landed from any ship coming foreign shall, as speedily as practicable, with the approval of the Chief Officer of Customs of the port, fix some place within the jurisdiction or district of the sanitary authority where any ship may be moored, or anchored, for the purpose of Art. 10; and shall make provision for the reception of cholera patients and persons suffering from illness removed under Arts. 13 and 14.

Art. 7.—The sanitary authority, on notice being given to them by an Officer of Customs, under this Order, shall forthwith cause the ship in regard to which such notice shall have been given, to be visited and examined by their Medical Officer of Health for the purpose of ascertaining whether she is infected with cholera.

Art. 8.—The Medical Officer of Health, if he has reason to believe that any ship within the jurisdiction or district of the sanitary authority, whether examined by the Officer of Customs or not, is infected with cholera, shall, or if she have come from a place infected with cholera may, visit and examine such ship, for the purpose of ascertaining whether she is so infected; and the master of such ship shall permit the same to be so visited and examined.

Art. 9.—If the Medical Officer of Health on making such examination as aforesaid (whether under Art. 7 or 8), shall be of opinion that the ship is infected, he shall give a certificate in duplicate in the following form, or to the like effect, and shall deliver one copy to the master and retain the other or transmit it to the sanitary authority.

Certificate.

_____ day of _____ 188 .

Sanitary Authority of _____.

I hereby certify that I have examined the ship _____ of
 , now lying in the port of _____ [or detained at
] and that I find that she is infected with cholera.

Medical Officer of Health [or Medical Practitioner
 appointed by the Sanitary Authority.

Art. 10.—The master of every ship so certified to be infected with cholera shall thereupon moor or anchor her at the place fixed for that

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General Cholera
Order.

purpose under Art. 6, and she shall remain there until the requirements of this Order have been duly fulfilled.

Art. 11.—No person shall leave any such ship until the examination herein-after mentioned shall have been made.

Art. 12.—The Medical Officer of Health shall, as soon as possible after any such ship has been certified to be infected with cholera, examine all persons on board of the same, and all persons who shall not be certified by him, as hereafter mentioned, shall be permitted to land immediately on their giving their names and the places of their destination.

Art. 13.—Every person certified by the Medical Officer of Health to be suffering from cholera, shall be dealt with under any regulations that may have been made by the sanitary authority under Section 125 of the Public Health Act, 1875; or, where no such regulations shall have been made, shall be removed, if the condition of the patient admit of it, to some hospital or place previously appointed for that purpose by the said authority; and no person so removed shall leave such hospital or place until the Medical Officer of Health shall have certified that such person is free from the said disease.

If any person suffering from cholera cannot be removed, the ship shall remain subject, for the purposes of this Order, to the control of the Medical Officer of Health; and the infected person shall not be removed from or leave the ship, except with the consent in writing of the Medical Officer of Health.

Art. 14.—Any person certified by the Medical Officer of Health to be suffering from any illness which such Officer suspects may prove to be cholera, may either be detained on board the ship for any period not exceeding two days, or be taken to some hospital or other place previously appointed by the sanitary authority, and detained there, for a like period, in order that it may be ascertained whether the illness is or is not cholera.

Any such person who, while so detained, shall be certified by the Medical Officer of Health to be suffering from cholera, shall be dealt with as provided by Art. 13 of this Order.

Art. 15.—The Medical Officer of Health shall in the case of every ship certified to be infected, give directions, and take such steps as may appear to him to be necessary, for preventing the spread of infection, and the master of the said ship shall forthwith carry into execution such directions as shall be so given to him.

Art. 16.—In the event of any death from cholera taking place on board of such ship while so detained, the master shall, as directed by the sanitary authority or the Medical Officer of Health, either cause the dead body to be taken out to sea, and committed to the deep, properly loaded to prevent its rising, or shall deliver it into the charge of the said authority for interment; and the authority shall thereupon have the same interred.

Art. 17.—The master shall cause any articles that may have been soiled with cholera discharges to be destroyed, and the clothing and bedding and other articles of personal use likely to retain infection which have been used by any person who may have suffered from cholera on board such ship, or who, having left such ship, shall have suffered from cholera during the stay of such ship in any port, to be disinfected or (if necessary) destroyed; and if the master shall have neglected to do so before the ship arrives in port, he shall forthwith, or upon the direction of the sanitary authority or the Medical Officer of Health, cause the same to be disinfected or destroyed, as the case may require; and if the said master neglect to comply with such direction within a

reasonable time, the authority shall cause the same to be carried into execution.

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Order.

Art. 18.—The master shall cause the ship to be disinfected and every article therein, other than those last described, which may probably be infected with cholera, to be disinfected or destroyed, according to the directions of the Medical Officer of Health.

Given under the seal of Office of the Local Government Board, this twelfth day of July, in the year one thousand eight hundred and eight-three.

(L.S.)

CHARLES W. DILKE,
President.

HUGH OWEN,
Secretary.

NOTICE.—The Public Health Act, 1875, provides by section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that section, shall be liable to a penalty not exceeding *Fifty pounds*.

Date of publication in the "London Gazette,"

13th July 1883.

SPECIMEN of BOARD'S ORDERS as to RAG-IMPORTATION.

To all Port Sanitary Authorities, to all Urban and Rural Sanitary Authorities, to all Officers of Customs, to all Officers of Health of the Sanitary Authorities aforesaid, to all masters of ships, and to all others whom it may concern.

WHEREAS cholera is now prevalent in certain parts of Spain, and it is expedient that regulations should be made with reference to ships having on board bales of rags from that country:

Now therefore, We, the Local Government Board, do, by this Our Order, and in exercise of the power conferred on Us by section 130 of the Public Health Act, 1875, and every other power enabling Us in this behalf, make the following regulations, and declare that they shall be enforced and executed by the authority or authorities herein-after specified:—

ARTICLE 1.—In this Order—

The term “sanitary authority” means port sanitary authority, urban sanitary authority, or rural sanitary authority;

The term “ship” includes vessel or boat;

The term “Officer of Customs” includes any person acting under the authority of the Commissioners of Customs;

The term “master” includes the officer or person for the time being in charge or command of a ship.

ARTICLE 2.—From and after the date of this Order, and until the first day of November, 1885, no rags from Spain shall be delivered overside, except for the purpose of export, nor landed in any port or place in England or Wales.

ARTICLE 3.—If any rags shall be delivered overside or landed in contravention of this Order, they shall, unless forthwith exported, be destroyed by the person having control over the same, with such precautions as may be directed by the Medical Officer of Health of the sanitary authority within whose jurisdiction or district the same may be found.

ARTICLE 4.—All masters of vessels, consignees, and other persons having control of any rags prohibited under this Order from being delivered overside, except for the purpose of export, or landed, are required to obey these regulations.

ARTICLE 5.—All Officers of Customs are empowered to prevent the delivery overside or landing of rags in contravention of this Order.

ARTICLE 6.—It shall be the duty of the sanitary authority to take proceedings against masters of ships, consignees, or other persons having control over any rags, who shall wilfully neglect or refuse to obey or carry out, or shall obstruct the execution of any of these regulations.

Given under the seal of office of the Local Government Board, this twenty-third day of June, in the year one thousand eight hundred and eighty-five.

(L.S.)

CHARLES W. DILKE,
President.

HUGH OWEN,
Secretary.

NOTICE.—The Public Health Act, 1875, provides by section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that section shall be liable to a penalty not exceeding *Fifty pounds*.

Precautions against the Infection of Cholera.

APP. No. 6.

1. The Order of the Local Government Board, of July 12, 1883, now in force, gives certain special powers to the Sanitary Authorities of the sea coast, enabling them to deal with any cases of cholera brought into port, so as to prevent as far as possible the spread of the disease into the country. But as cases of choleraic infection have widely different degrees of severity, it is possible that some such cases, slightly affected, will, notwithstanding the vigilance of local authorities, be landed without particular notice in English sea-board towns, whence they may advance to other, and perhaps inland, places.

Precautions
against the
Infection of
Cholera.

2. Former experience of cholera in England justifies a belief that the presence of imported cases of the disease at various spots in the country will not be capable of causing much injury to the population, if the places receiving the infection have had the advantage of proper sanitary administration; and, in order that all local populations may make their self-defence as effective as they can, it will be well for them to have regard to the present state of knowledge concerning the mode in which epidemics of cholera (at least in this country) are produced.

3. Cholera in England shows itself so little contagious, in the sense in which small-pox and scarlatina are commonly called contagious, that, if reasonable care be taken where it is present, there is almost no risk that the disease will spread to persons who nurse and otherwise closely attend upon the sick. But cholera has a certain peculiar infectiveness of its own, which, *where local conditions assist*, can operate with terrible force, and at considerable distances from the sick. It is characteristic of cholera (and as much so of the slight cases where diarrhœa is the only symptom as of the disease in its more developed and alarming forms) that *all matters which the patient discharges from his stomach and bowels are, or can become, infective*. Probably, under ordinary circumstances, the patient has no power of infecting other persons except by means of these discharges; nor any power of infecting even by them except in so far as particles of them are enabled to taint the food, water, or air, which people consume. Thus, when a case of cholera is imported into any place, the disease is not likely to spread, unless in proportion as it finds, locally open to it, certain facilities for spreading by *indirect infection*.

4. In order rightly to appreciate what these facilities must be, the following considerations have to be borne in mind:—*first*, that any choleraic discharge, cast without previous thorough disinfection into any cesspool or drain, or other depository or conduit of filth, has a faculty of infecting the excremental matters with which it there mingles, and probably, more or less, the effluvia which those matters evolve; *secondly*, that the infective power of choleraic discharges attaches to whatever bedding, clothing, towels, and like things, have been imbued with them, and renders these things, if not thoroughly disinfected, as capable of spreading the disease in places to which they are sent (for washing or other purposes) as, in like circumstances, the patient himself would be; *thirdly*, that if, by leakage or soakage from cesspools or drains, or through reckless casting out of slops and washwater, any taint (however small) of the infective material gets access to wells or other sources of drinking water, it imparts to enormous volumes of water the power of propagating the disease. When due regard is had to these possibilities of indirect infection, there will be no difficulty in understanding that even a single case of cholera, perhaps of the slightest

degree, and perhaps quite unsuspected in its neighbourhood, may, if *local circumstances co-operate*, exert a terribly infective power on considerable masses of population.

5. The dangers which have to be guarded against as favouring the spread of cholera-infection are, particularly, two. First, and above all, there is the danger of water-supplies which are in any (even the slightest) degree tainted by house refuse or other like kinds of filth: as where there is outflow, leakage, or filtration, from sewers, house-drains, privies, cesspools, foul ditches, or the like, into springs, streams, wells, or reservoirs from which the supply of water is drawn, or into the soil in which the wells are situate; a danger which may exist on a small scale (but, perhaps, often repeated in the same district) at the pump or dip-well of a private house, or, on a large or even vast scale, in the source of public waterworks. And secondly, there is the danger of breathing air which is foul with effluvia from the same sorts of impurity.

6. Information as to the high degree in which those two dangers affect the public health in ordinary times, and as to the special importance which attaches to them at times when any diarrhoeal infection is likely to be introduced, has now for so many years been before the public, that the improved systems of refuse-removal and water-supply by which those dangers are permanently obviated for large populations, and also the minor structural improvements by which separate households are secured against them, ought long ago to have come into universal use.

So far, however, as this wiser course has not been adopted in any sanitary district, security must, as far as practicable, be sought in measures of a temporary and palliative kind.

(a.) Immediate and searching examination of sources of water supply should be made in all cases where the source is in any degree open to the suspicion of impurity; and the water both from private and public sources should be examined. Where pollution is discovered, everything practicable should be done to prevent the pollution from continuing, or, if this object cannot be obtained, to prevent the water from being drunk. Cisterns should be cleaned, and any connexions of waste-pipes with drains should be severed.

(b.) Simultaneously, there should be immediate thorough removal of every sort of house refuse and other filth which has accumulated in neglected places; future accumulations of the same sort should be prevented: attention should be given to all defects of house-drains and sinks through which offensive smell are let into houses; thorough washing and lime washing of uncleanly premises, especially of such as are densely occupied, should be practised again and again.

7. It may fairly be believed that, in considerable parts of the country, conditions favourable to the spread of cholera are now less abundant than at any former time; and in this connexion, the gratifying fact deserves to be recorded that during recent years enteric fever, the disease which in its methods of extension bears the nearest resemblance to cholera, has continuously and notably declined in England. But it is certain that in many places such conditions are present as would, if cholera were introduced, assist in the spread of that disease. It is to be hoped that in all these cases, the local sanitary authorities will at once do everything that can be done to put their districts into a wholesome state. Measures of cleanliness, taken beforehand, are of far more importance for the protection of a district against cholera than removal or disinfection of filth after the disease has actually made its appearance.

8. It is important for the public very distinctly to remember that pains taken and costs incurred for the purposes to which this memorandum refers cannot in any event be regarded as wasted. The local conditions which would enable cholera, if imported, to spread its infection in this country, are conditions which, day by day, in the absence of cholera, create and spread other diseases; diseases, which, as being never absent from the country, are in the long run, far more destructive than cholera; and the sanitary improvements which would justify a sense of security against any apprehended importation of cholera, would, to their extent, though cholera should never re-appear in England, give amply remunerative results in the prevention of those other diseases.

APP. No. 6.

Precautions
against the
Infection of
Cholera.

GEORGE BUCHANAN,
Medical Officer of the Board.

Local Government Board,
July 21, 1885.

No. 7.

APP. No. 7.

On Sanitary
Survey made in
anticipation of
Cholera; by
Dr. Ballard.

GENERAL REPORT upon the RESULTS of the SANITARY SURVEY made in anticipation of CHOLERA, 1885-86; by DR. BALLARD.

Cholera
epidemics of
former years;

IN 1884, introduction of cholera into the country being more immediately threatened, it was thought by the Board desirable that a special inquiry should be instituted with a view to ascertain our state of preparedness to resist the introduction of the disease or its spread. The last occasion on which epidemic cholera obtained a footing and spread among our communities was in 1866. Before that we had suffered from three epidemics, viz., in 1832, 1849, and 1854. As to these four epidemics, it may suffice here to say that each succeeding one, taking the kingdom as a whole, gathered fewer victims than the preceding. It is not necessary to go far to discover the reason of this progressive immunity. To the outbreak of 1832 no known means of defence could be opposed; the disease was new to the experience of Europe; but, as panic subsided, the practical English mind set itself to discover the causes of the epidemic, and the conditions of its extension. Each succeeding epidemic brought fresh minds into contact with the problem, and collateral investigations were stimulated, the joint result of the whole being the gradual building up (on very ancient foundations indeed) of a progressive science, which we now call "sanitary science," and which is the guide of the Medical Department of the Board in its dealings with matters relating to public health. As regards cholera, the order of our scientific acquisitions was somewhat of this kind. The first thing that became apparent was its special connexion with filthiness of person and surroundings, bad housing, lowness and unwholesomeness of site, and misery. Its spread in localities where it had been introduced and in families was at first thought to indicate a contagious element about it; later on this interpretation became more definitely shaped to the doctrine now held, that under certain circumstances the evacuations of the sick are an element of danger; then followed, during the epidemic of 1854, the remarkable and shrewd observations of the late Dr. Snow, demonstrating incontrovertibly the connexion of cholera with a consumption of specifically polluted water, startling the profession by the novelty of his doctrine, and inaugurating a new epoch of etiological investigation. Each step of scientific advance has been a firm one, each has served to give clearer insight into the signification of earlier observations, and, which is more to the purpose, each step of scientific advance has been associated with a parallel advance in preventive medical art.

their teaching:

resulting
legislation:

The wisdom of Parliament has led to such consecutive legislation as has given effect to these several advances of our knowledge. In due order the country has been provided with such statutes as the Nuisances Removal and Diseases Prevention Acts, the Metropolis Local Management Acts, and other local Acts applicable to certain large towns, the Sanitary Act of 1866, and lastly, the Public Health Acts of 1872, 1875, and subsequent years, together with other collateral statutes all bearing in the same direction. With all this, and in great part as a consequence of this legislation, the public mind has been instructed, some amount at least of sanitary knowledge has filtered down to the lower strata of society, and a popular interest is manifested at the present time even in the more delicate and abstruse investigations of professional inquirers. How different is all this from the condition of affairs when cholera made its first incursion into England in 1832; and, which is again much more

to the purpose, how very different is the sanitary condition of England now from what its condition was in 1832! Then every man did that which was right in his own eyes, not knowing any better guide than his own ignorant beliefs and those of advisers who were at that time as ignorant in such matters as himself. Now, throughout the length and breadth of England and Wales, organizations for the sanitary improvement of the country have been established by Parliament, provided with official medical advisers who at least have some definite rules to guide them; and, taking the kingdom as a whole, an amount of what we are accustomed to call sanitary work has been accomplished which, looking back to 1832, has made it almost a new country from this point of view, and has removed from our midst to a very great extent the most serious of those unwholesome conditions on which, as we now know, the spread of epidemic cholera is dependent. Panic should now be impossible, except indeed where neglect has preceded it, and we can look forward with less dread than perhaps the population of any other European country to the introduction of epidemic cholera. We have faith in our system of prevention, and have grounds of experience for our faith in it. And it is because of their faith in it that this Board have thought it right to ascertain, with such precision as was practicable, the position of England and Wales as regards general and special preparedness against a possible invasion of cholera.

It was clear that with the medical staff at the disposal of the Department a comprehensive inquiry would not be practicable, nor, indeed, was it contemplated. The first thing to be done obviously was to see that the port sanitary districts were in a due state of defence, and this was the work of 1884. The inquiry was conducted by Dr. Blaxall, with the temporary assistance of Dr. de Chaumont. The list of port sanitary districts visited on that occasion is given at p. 136 of the last Report of the Medical Officer of the Board. The inquiry was continued in 1885, and many of these ports were re-visited by the same inspectors, and by Dr. D. S. Davies, whose temporary services were then engaged. In 1884, the preparedness of the principal port sanitary authorities for action was the object of the inquiry, but, incidentally and complementarily, some inquiries were instituted into the preparedness of the corresponding urban sanitary districts. This part of the inquiry was, however, subsidiary to the principal object, and was limited in its scope. Later on, in the early months of 1885, the Board had observed the need for more systematic inquiry in the port sanitary districts, and also had thought it expedient to extend the inquiry to sanitary districts not connected with ports: accordingly further temporary additions were made to the medical staff of the Department, and for the special work of the cholera survey, now thoroughly organised, Dr. Blaxall, Dr. Airy, Mr. Spear, Dr. Page, Dr. D. S. Davies, and myself were detailed. The direction of the survey generally was committed to me, Dr. Blaxall, however, being left as before in special charge of the port survey, for which he had peculiar qualifications, and to this survey was now added an inquiry as to the preparedness for action of the riparian authorities who had, under the Public Health Act of 1885, had functions and corresponding duties, conferred on them, in respect of shipping. A report of the proceedings of the Department as respects port and riparian authorities is being prepared by Dr. Blaxall. The present report has reference only to the proceedings of the Department in respect of urban and rural sanitary authorities, whose districts (together with some waterside districts of the metropolis) have been brought under survey from the commencement of 1885 to about March 1886.

APP. No. 7.

On Sanitary
Survey made in
anticipation of
Cholera; by
Dr. Ballard.
sanitary
organization
and improve-
ments.

Recent action
of Board in
reference to
cholera.

Preliminary
investigation:
ports,

more extended
survey,

of urban and
rural districts.

APP. No. 7.

On Sanitary
Survey made in
anticipation of
Cholera; by
Dr. Ballard.

Selection of
districts.

Plan of inquiry
uniform.

Number of
districts in-
spected.

In the selection of districts for earliest survey, the considerations which have guided the Department have been the following:—

1. The safe-guarding of our first or littoral line of defence.
2. Our experience of the behaviour of the epidemic of 1866 in its incidence on certain districts in England and Wales.
3. Our experience of the special incidence of enteric fever during late years upon various districts of the country—enteric fever being known to spread through agencies similar to those which cholera favours. In a less degree, our experience of the incidence of the ordinary annual epidemic diarrhœa of this country has similarly been taken into account.

In addition to these guiding considerations, the Department made use of the special information in its possession as to the varying energy of local authorities, and as to the competence and efficiency of their medical officers of health. There was no departure from these principles; the only apparent departures having been on the rare occasions when the last of the above considerations was given exceptional weight.

From the time that I took charge of the survey, the instructions given to the inspectors engaged upon it, and which I followed myself in the very few inspections which I made personally, were definite. All wrought upon precisely the same lines; definite points of inquiry were specified, and a form of report under several headings was drawn up with a view to secure uniformity and to enable the Board to ascertain readily the condition of each district as to any one of the various points included in the inquiry. Naturally, in the course of the inspector's survey, he was brought into immediate personal and official relationship with the executive officers of each authority, and especially into free communication with the medical officers of health. The very high advantages of the last-mentioned fact I shall have occasion to refer to at a later period of this report. Finally, there was that which was held to be the most important instruction of all—namely, that before finally quitting a district the inspector who had made its survey was to seek an interview with the sanitary authority, or, where this was not expedient or conveniently practicable, with its chairman and executive officers, and on that occasion to talk over with them the sanitary condition of the district, pointing out in general (and occasionally in special) terms the defects he had observed, and stating (again in general or occasionally in special terms) the remedies which in his opinion ought to be applied; to instruct them, where necessary, as to their special duties in the event of the appearance of cholera in the district; and lastly to leave with the authority a written memorandum embodying the advice which he had given in conference.

The total number of sanitary districts brought under survey and reported upon during the period to which this report has reference was 285, namely 188 urban sanitary districts, 87 rural sanitary districts, and 8 waterside districts within the metropolitan area. In appendix to this report (pp. 201–353) will be found arranged in a tabular form a précis of the most important points in relation to protection against cholera brought to light by the survey, points which have reference, 1°, to general sanitary condition, and 2°, to sanitary administration. This tabular statement (in which the districts surveyed are arranged in counties) will enable me to curtail the general observations I may have to make, and will usefully serve as the text or basis of them. The circumstances of urban and rural sanitary districts differ in such a way that I have thought it well to keep separate the parts of the précis which refer to them and, to some extent, they are distinguished from each other in the remarks which now follow.

In the first place, however, the remark must be made that there is an artificiality about the distribution of sanitary districts into urban and rural which is actual, although not at first sight apparent. Taking each kind of district as thus designated *en masse*, it is the fact that urban districts consist mainly of populations gathered together into towns, and rural districts of populations scattered broadcast over a country district, or gathered into small village groupings. But actually, not only do urban districts differ very greatly among themselves in the size of their really town aggregations, but in some of them the populations are not gathered into anything that deserves the name of "town" at all, or at the most into small communities to which the term "village" would be properly applied. On the other hand, there are rural sanitary districts which contain important town populations, sometimes towns which are market towns of no inconsiderable size or aggregations of industrial populations for which only proper designation is the term "town." As illustrations of the former may be mentioned Chorley Urban District in Cheshire and South Cave and Wallingfen in Yorkshire. As illustrations of the latter may be mentioned the rural districts of Tavistock in Devon, Stourbridge in Worcestershire, and Woodbridge in Suffolk:—populous places, virtually with urban populations, these have come to be deprived of advantages which are granted by the Public Health Act to some village populations (constituted urban districts) which have far less need for them. Of the two errors, the latter is to my mind the more serious. It is better in any case to have more advantages than are absolutely needed than too few.

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Anomalies noted.

The points to which special attention was directed during the survey are the following, viz.:—1°. The generally cleanly condition of the roadways, especially the back and narrower roadways and courts, and also of domestic premises and immediate surroundings of houses. 2°. The drainage of the place, that is to say, the provision made for carrying liquid slops or sewage matters safely away from domestic premises and roadways and their proper disposal without creating nuisance, and the general efficiency of the whole system. 3°. The provisions in use for dealing with the excrement of the population, and the existence or non-existence of excremental nuisances, the class of nuisances most closely associated with the spread of cholera. 4°. The efficiency with which non-liquid refuse matters, such as decomposable domestic refuse commonly mixed in receptacles with ashes and other non-decomposable refuse, is dealt with for removal so as to avoid dangerous nuisances. 5°. The water supply, its sufficiency in quantity and its quality or liability to dangerous pollution, especially to excremental pollution. 6°. The general condition of the dwellings of the poor and labouring classes, especially as regards cleanliness or uncleanness (often necessarily associated with structural defects or dilapidations), dryness or dampness, and provision for due ventilation. 7°. The prevalence of crowding of poor dwellings upon insufficient area, the result of which is to deprive the inhabitants of the amount of free air movement and of light which is essential to their well-being and health, and to intensify the malignant influence of excremental and other filth nuisances about them; and 8°. The prevalence of *unwholesome* crowding of individuals in single houses, which I take it is the true meaning of the term "overcrowding." In addition, the inspector was required to report upon the efficiency of the sanitary administration and upon the quality of the work done by the Medical Officer of Health and by the Inspector of

Conditions
specially in-
quired about.

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Nuisances, and as to the special provision made for dealing with spreading diseases and as to special preparation made for the advent of cholera.

The general results of the inquiry may be summarised as follows:—

1. *General Cleanliness*.—There has been observed little to complain of in the cleanliness of the main streets of towns, whether large or small. These at all events are usually kept in decent repair and fairly scavenged. And in the larger towns inspected the same may be said generally about back streets and courts and domestic premises, the exceptions in these towns being chiefly the localities where a low class of labouring population, especially Irish population, exists. The habits of such people are often dirty, and they give much trouble to sanitary officers. Some metropolitan waterside populations of foreign immigrants are similarly complained of by Dr. de Chaumont. It is in the smaller towns, and especially in those within rural sanitary districts, that most complaint of uncleanness has been made, and chiefly in those towns, whether within urban or rural districts, which contain the largest proportion of a labouring population, and where sewerage works had been neglected, or the removal of refuse matters had not been undertaken by the sanitary authority as part of their own proper functions. The keeping of pigs in the close yards of houses is often regarded with leniency by the sanitary authorities of small towns, and pig-nuisances are often not sought to be dealt with under appropriate byelaws in urban districts, nor under the provisions of the Public Health Act relating to nuisances in rural districts. Still, I think, on a review of the whole survey, it may fairly be said that there has been observed less general uncleanness in and about dwellings, especially the dwellings of the poor, than might have been observed 10 or 20 years ago. If it were to be asked where the uncleanness of the surroundings of domestic premises is most remarkable, there can be but one reply, namely, that it is most remarkable in the agricultural villages in some rural districts, especially in those most distant from large centres of population and on soils which are naturally retentive of moisture or boggy. Natural difficulties of this kind are often not efficiently grappled with. Mining villages used to have a bad name, but the improvement of cleanliness in them of late years has been marvellous. This improvement is very striking in the county of Durham and in South Wales. These are colliery districts, and the reason of the improvement is to be found in this, that the colliery owners, who also usually own the villages where their workpeople reside, have of late years in many instances, on the opening of a new mine, been at the expense of erecting convenient dwellings laid out in well-arranged rows or streets, and have undertaken to provide them with all the appliances for decent living. Similar honourable mention may be made of the owners of other large industrial works, such as iron works, in different parts of the country. I mention the fact as a healthy sign of the times.

Sewerage and
drainage.

2. *Drainage*.—Nearly all the towns in the urban districts visited were found to be provided with sewers of some kind. But the quality of the sewers varied considerably. Of course it was to be expected that the older towns sewerage many years ago, when the principles of efficient sewerage were less understood than they are now, would be found provided for less satisfactorily than those sewerage more recently. But in some towns the old sewerage is (as described) so defective as to be almost more an injury to the place than an advantage, and a wholesome method of removing liquid sewage can only be attained by complete reconstruction. In other towns, while an old and defective

system, long ago provided, has been retained in the older parts, more approved methods have been introduced into newer parts. Apart from such original faults of construction as undue flatness, the absence of due provision against regurgitation from tidal influx of water (when the discharge is into the sea or into a tidal river), &c., and apart from defects due to age and consequent dilapidation, the fault most commonly found with town sewers has been an absence of due provision for their ventilation and for requisite flushing. An inadequate notion of the importance of these provisions seems largely to prevail, and hence either no provision for them is made at all, or provision to an extent far below the requirements of the case. Indeed, so far has this inadequacy proceeded sometimes, that ventilators originally provided have been permitted to be stopped up by inhabitants, or have been actually closed again by the sanitary authorities themselves, with a view to remedy offensive odours complained of as proceeding from them, and this occasionally against the expressed advice of the medical officer of health. The proceeding has been a most dangerous one, especially dangerous when cholera is threatened. The authorities have not perceived, or have been unwilling perhaps to understand, that offensive odours from a ventilator indicate a dangerous foulness of the air within the sewer, due to some cause which ought to be sought out and remedied, and that sewer air thus specially foul is specially dangerous also to the inhabitants of houses into which or into the immediate vicinity of which it is driven by the denial to it of a safer mode of discharge. The most common of the faults causing this foulness of the sewer air complained of as issuing from the ventilators has been observed to be the retention and deposit of sewage matters in the sewers from defects of construction or want of due flushing; the discharge into the sewers of overflows from privy or closet cesspools; the want of due flushing, by means of proper apparatus, of closets communicating with house drains, which thus become permanent depositories of old excremental matters; and the construction in the sewers themselves, beneath the manholes, of catchpits for excrement and more solid matters, with the object of keeping the intermediate portion of the sewage system clear with a minimum of trouble. Whenever these faults have been committed, the inspector making the survey has not failed to express these views to the authority. But sometimes when complaints of ventilators have been made, the sanitary authority have made a compromise more dangerous still, more dangerous because delusive and productive of a false sense of security. They have introduced charcoal boxes into the ventilating openings. This is only another mode of stopping up the ventilators and arresting the ventilation. In small towns, and especially in those which are under the control of rural authorities, the sewerage was often found very defective. Sometimes there were no sewers provided at all, or those that had been put in were only partially provided and piecemeal without any systematic method, having their outfalls into some convenient watercourse (perhaps within the town itself) or into some neighbouring ditches, in either case creating nuisance. Sometimes superficial highway drains, roughly constructed, and never intended to carry anything but surface water, were found to receive domestic sewage, the overflows of cesspools, or the discharges from waterclosets or cesspools sometimes multiple. Cesspools placed even beneath occupied dwellings were found to be the habitual recipients of all kinds of domestic liquid filth. And while this was commonly the case with small towns, the villages in rural districts were naturally found to be still worse off in the matter of sewers. Either there was found no attempt at sewerage at all, or only a few pipes were introduced here and there for the drainage of some group of

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dwelling into some neighbouring ditch or watercourse. No doubt there were exceptions to all this, exceptions due to unusual activity of the sanitary authority or else to the action of some wealthy landowner who had sewered a town or village wholly or mainly on his own property at his own private expense: in this respect, again, a word of commendation must be given to the owners of many new colliery villages in Durham and South Wales.

And here I must interpolate a remark of concurrence with the impression left on the minds of the inspectors who have made the survey in colliery villages, to the effect that under some exceptional circumstances the absence of deep sewers is not altogether to be deprecated: a good system of surface drainage by well-constructed surface channels has, where the channels have been carefully and daily cleansed under local supervision, appeared to answer well, and even to be preferable to the provision of sewers.

In towns where the sewers are old and defective, or where there are no sewers at all, the house drainage has been found correspondingly defective and bad, sometimes very dangerously so. And similar defects have been found even in towns which are satisfactorily sewered. The money collected from the ratepayers as a body or borrowed for public works, to be repaid by instalments, has been expended in the public sewerage; but work that had to be done at private expense, and which should have been done concurrently with sewer construction or improvement, has not been enforced,—under a mistaken but common notion of leniency. In many towns it was found that the efforts of the medical officers of health had proved effectual in cutting off internal sink communications with house drains, but in some instances this was only done in the case of new houses. In other towns no attempt to do it had been made at all. Again, in some well-sewered towns, cesspools were found still existent for the reception of domestic slops and the discharges from waterclosets, but in very many they had been systematically abolished when the sewers were constructed. The due ventilation of the soil pipes of waterclosets was found quite exceptional or provided for only in houses recently erected. In villages without due provision for drainage, especially in villages situated upon an impervious soil, such as clay, sewage nuisances about domestic premises were ordinary matters of observation.

Still, on the whole, it may be said that, in the matter of drainage and removal and safe disposal of liquid filth, the country (so far as the results of present survey may be taken as a criterion) is in a far safer condition than it was at the period of the cholera epidemic of 1866. The towns, especially the larger towns, are much safer (of course with some sad exceptions), and even the smaller towns and villages have, on the whole, been somewhat improved.

Excrement
disposal.

3°. *Excrement Conservancy and Disposal*.—Since the period of the last cholera epidemic great efforts have been made by the Board to gather and diffuse information popularly upon this important subject, and on the whole with some success. The great obstacle to improvement has been local tradition. Perhaps there is no branch of sanitation in which local customs and traditions have had a more baleful influence in hindering improvements than this. There is none in which prejudice has been more obstructive. The revolutionising of a system of dealing with excrement is a work which can only be successfully undertaken by resolute men, working with clear ideas about what is wanted. Thus it has come to pass that much of the improvement effected has been of the nature of a compromise. In the north of England, where

the old-fashioned type of midden privy, often large enough to hold a year's accumulation, deep sunk in the earth, open and so arranged as to receive all the rain drippings from the privy roofs, the utmost that has commonly been obtained has been moderate reduction in size, covering of the ashpit, sometimes raising of its floor, and occasionally removal to a somewhat greater distance from the house than before, while an attempt has been improperly made to remedy the wetness and offensiveness of its contents by draining it into the house drains. Sometimes even where a water-carriage system has been introduced for closets within houses, the old midden privies have been left for out-door or servants' use. The abolition of "privy-pits" in districts where this system has prevailed has been perhaps still more difficult of accomplishment, especially where the soil is very porous or deeply fissured, as in some kinds of rocky or in chalk districts. The convenience of a pit which rarely, if ever, requires to be emptied, is fully appreciated. In respect of both these systems, the midden system and the privy-pit system, the nuisance is intensified where either of these contrivances is placed in confined situations, as in back yards closely built round, or in close courts, and where their systematic cleansing is not undertaken by the local sanitary authority. The very act of cleansing them is often a source of intolerable nuisance; of course it is so where there is no access to the midden or privy-pit except through a dwelling-house; but in some places a practice prevails which is a nuisance, not merely to the inhabitants of an individual house, but also to the entire neighbourhood, namely, the shooting down of the midden privy contents in the roadway, and leaving them there until it be found convenient to cart them away. It is in small towns and villages that this last kind of nuisance mostly occurs, but large towns are frequently found where the midden privy system prevails, and houses, sometimes many, sometimes few, can only get their privies emptied by transport of their filth through the house. The absence of any kind of privy accommodation at all is certainly becoming less frequently observed than it used to be. But still it is met with in parts of some large towns and in many rural villages. Mostly where this fault was observed, it has been in places where cottages are closely crowded together, back-to-back or one above another on a hill side, and without any yard space at all about them. Some Cornish coast fishing villages and small towns furnish notable examples of this. The men habitually discharge their bowels on the beach, but the excrement of the women and children is retained in vessels within the houses until a definite hour in the day, when it is all carried to some accustomed place on the shore, or to some shoot provided on the beach, as at St. Ives. Sanitary authorities are slow to deal with such a practice as this, but at Padstow a system of collection has been organised, which to some extent obviates the resultant evils. I think it may be said that in the direction of wholesome dealing with excrement less has been accomplished, especially in small towns and in rural villages, of recent years than in any other direction of sanitary amendment. Indeed, in some rural districts the condition of things in this respect is still most deplorable.

4°. *Removal of solid Refuse; Vegetable or Animal Refuse, and Domestic Dust or Ashes.*—Where the midden privy system prevails these solid matters are habitually cast into the midden, and there await the time, when, together with the privy matter, it is convenient to cart them away. In some of the towns visited bins of varying size are provided on domestic premises for their reception, and in some towns, as Merthyr and Dowlais, large iron receptacles are provided in poor localities for

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public use, and are systematically emptied by the authority. At Cambridge and some other towns the retention at all of such matter on domestic premises for any length of time is discouraged, and inhabitants are required to put them outside their doors in portable vessels of some kind, and they are collected daily, or on certain fixed days, in the several districts of the town by the town scavengers. This is altogether an admirable arrangement, indeed, it is the best conceivable, and in towns where adopted it has been found perfectly practicable, and to work well in keeping the towns clean, and domestic premises free from litter. Even in the Irish quarters of such a town as Cardiff where this arrangement is adopted, I have seen nothing of the nature of decomposable litter. But there are towns, and those not of inconsiderable size, in which either there are no receptacles at all, or they have been permitted to fall into such a state of disrepair that decomposable refuse has to be heaped in any odd corner of back yards, passages, or courts: hence, by the absence of any proper systematic scavenging, such refuse has been permitted by the authorities to become a permanent, or recurring, source of nuisance. Cardiff has been mentioned as an example of what can be done in a fairly large town. Swansea is a not very far distant town from it, and the same thing might be accomplished there, but I had reason to complain in Swansea of much nuisance from such accumulations. In country villages where there is abundant garden space about houses, the nuisance of decomposable refuse accumulation is little observable, but in towns, even in small towns, it is often noticeable where the sanitary authority do not themselves undertake removal. But even in towns where the authority do undertake removal of refuse, back places or places not immediately accessible are apt to be neglected, especially in poor localities where the inhabitants are unwilling or unable to fee the scavengers. But it is not to be inferred from the observation just made about rural villages that it is of no consequence whatever whether a rural authority see to the proper disposal of the littering filth, or do not see to it even in such isolated places as farm-houses and premises. It may matter very greatly. A filthy farmyard littered with animal manure and vegetable refuse, with possibly (nay, probably often) human excrement in addition, may not only be a cause of serious and repeated disease, or even mortality, in the adjoining dwelling, but may endanger persons, or even towns, at a distance. An example of this occurred during last year's survey at Swansea, where an alarming epidemic of enteric fever broke out in the town, and where the town water supply came from a reservoir gathering drainage water from some distant hills, part of which water was polluted by the drainage from some isolated farms where enteric fever had not only shortly before broken out, but where it had been recurrent year after year. The premises of the most important of these farms were disgustingly filthy and had long been so, yet had remained undealt with by the rural authority in whose district it lay. The water supply of the town of Tenby, which I visited almost immediately after Swansea, was found liable during part of the year to precisely similar endangerments. And it is not only a danger which relates to enteric fever. It is to be recollected that cholera contagion moves in parallel lines with this disease.

Water supplies.

5°. *Water Supply*.—A very cursory glance at col. 6 of the appended tables will suffice to show that nearly all of the urban districts included in the survey, so far as it has gone, were found to be now independent of local sources of domestic water supply, and to be

provided with a supply from some extraneous source.* Few of the results of the survey are more gratifying than this, when it is kept in mind that the urban districts particularly referred to are principally the districts along the coast, or in closest relation with the coast, and with our ports; and when, in this connection it is remembered that the most serious extensions of cholera have in former years been brought about through the agency of specifically polluted drinking water. It is specially gratifying to notice how generally external supplies have taken the place of house-wells in the colliery districts of South Wales and Durham. It is observable too that the supplies, where given, have usually been extended to all parts of an urban district, that the supplies are almost universally upon the "constant" system and abundant in quantity, and that concurrently with the giving of a public supply, measures have been taken to abolish such dangerous local supplies to domestic premises as shallow wells. Indeed in very many districts such sources as shallow wells are now non-existent; in other urban districts, where they have not been as yet totally abolished, a progressive abolition of them is in hand. Nor, as a rule, have the inspectors engaged upon the survey found much occasion to complain of the quality of the water, or of pollutions, or suspicion of pollution at its source, or in the course of its distribution, but there are some notable and very serious exceptions to the rule.

The tale told by the inspectors about the rural districts is very different. The provision of a public supply to small towns and villages within the jurisdiction of rural authorities is the exception and not the rule, and even where there has been found anything deserving the name of public supply, it has been provided usually by some local proprietor for his own tenants alone, and by no effort made by the rural authority in behalf of the populations under their sanitary care. As a rule these small towns and villages, neglected often in other respects (*e.g.*, in their scavenging and drainage), are still left, as during former cholera years, to draw their domestic water supplies from shallow wells sunk in a soil sodden with soakings from privies and leaky drains, from some streams polluted either with the drainage of the place itself, or of parts higher up, and in some few places even from such filthy sources as ponds and ditches. Again I am bound to add that in many of the colliery villages in rural districts of Durham, where the mine workings are sunk through the magnesian limestone, the good water struck during the sinkings has been made available by the owners for the domestic use of their tenants, by conveying it by pipes into their villages. It will be perceived then, from what has preceded, that the Public Health (Water) Act, 1878, which it was hoped would greatly ameliorate the condition of the rural districts of the country in this respect, and which in many parts has so ameliorated it, has frequently failed in its object. For any notice that has been taken of the Act in some of the rural districts visited during the survey the statute might just as well not have been passed.

* Whenever the term "public supply" is used it signifies that water is laid on to the place and available to the inhabitants generally by stand pipes or public taps, or supplied to individual houses or convenient groups of houses, sometimes from works the property of the sanitary authority, at other times from the works of some public or private company, and now and then by the owners of the place (acting in their private capacity) from extraneous sources of their own. It has not been considered necessary to distinguish between these several modes of supply in the tabular précis, although specific information on the subject has been given in the several inspectors' full reports.

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In some few towns with a public supply it was observed to be the practice to flush the sewers from the water mains through a direct communication between the two. In every town where these things are done or permitted, the danger of the practice was pointed out by the inspector. For the most part in watercloseted towns with a public water supply, the supply to the cistern closet is given through the medium of a special flushing tank; but in some it was found that direct communication of the mains with the closet pans was permitted. These were the ordinary faults, where fault was discovered, in the method of distribution on the constant system. In the few instances of intermittent supply, the fault of using the same storage cistern for the closet and for the supply of drinking water was not unusual. In rural districts it was not uncommon to find that the water brought from springs at a distance was unprotected in its course or some part of its course.

Before concluding what I have to say about water supplies, it may be well to allude to a difficulty experienced at Swansea, and which was pointed out to me by the town clerk there in connexion with the outbreak of enteric fever above referred to. The waterworks and reservoirs are the property of the Urban Sanitary Authority of Swansea, but the gathering ground of the reservoir which became specifically polluted is a wide range of moorland at a distance, which moorland is dotted over with farm homesteads and cottages, the whole being out of the sanitary jurisdiction of the Urban authority, and within the jurisdiction of a rural authority which has no particular interest in safe-guarding the town supply, and evidently, in this instance, took no trouble in the matter. The unwholesome condition of these farmsteads, and especially of that one which did the most mischief last year, was well known to the medical officer of Swansea, and to the urban authority, and had been so known for a long time before last year's outbreak. Nor was last year the first year in which danger had arisen of pollution of the Swansea water from these places. It was a constant danger, and an especial danger in time of heavy rain, of which all were well aware. Yet the urban authority have been throughout powerless to obviate it, except by the purchase of the whole tract of land and the farms upon it, or by abandoning a large part of their gathering grounds and so contracting the water supply of their rapidly growing urban district. Some effectual remedy against such a state of things ought to exist.

Housing of
population.

6°. *Condition of the Dwellings of the Poor and Labouring Classes, Overcrowding upon Area, and Overcrowding in Dwellings.*—The recently issued Report of the Royal Commission on the Housing of the Poor, of which a late President of the Board was the Chairman, relieves me of the necessity of making many remarks upon this element of the survey. For the most part the tabulated précis appended to this report may be left to speak for itself. It may suffice generally to say that with the exception of newly formed urban districts consisting mainly of newly erected dwellings built in accordance with good bye-laws, few urban or rural districts are completely free from faults under these headings. All authorities show a disposition to deal tenderly with the private interests involved in interference with structural faults; and looking at the difficulties which surround much of such interference, it is not easy to say that tenderness of dealing with them is not to some extent justifiable. But the maintenance of cleanliness and such small structural amendments as are conducive to cleanliness, as, for example, the remedying of defects of flooring and paving (which defy all the efforts of a housekeeper at keeping a dwelling clean), improvements of house ventilation, the remedying of dampness by due rain spouting

by paving and surface drainage about a house and the like, which are covered by the powers given to sanitary authorities by the Public Health Act, there is no excuse for sanitary authorities neglecting. Yet such simple matters are neglected, and greatly neglected too, not only in rural places, but in some poorer parts of considerable towns. Neither is there any justification for neglecting the unwholesome condition of the surroundings of such dwellings as it is neglected sometimes. *A fortiori* there is no excuse whatever to be made for such a sanitary authority as the Corporation of Tenby who permit and take rent for the continued occupation of premises which are their own property and are wholly unfit for human habitation. These things have all their bearing upon liability to extension of cholera, since it has long ago been known that it is in places thus generally neglected that cholera once introduced is apt to spread most freely. But there are two faults so common over the Welsh districts, one of construction and the other of occupation, that they deserve special mention. The first is one very common indeed in the hilly districts of South Wales, namely, the construction of houses in this way: a house, say, of three floors, is arranged thus—the two upper floors looking frontwise up the hill are entered from a roadway on this side, but the lower floor has no connexion whatever (except structurally) with this part of the dwelling, being entered from a roadway or pathway at the rear some 10 or 12 feet lower down the hill, and as it backs upon the earth beneath the upper roadway is altogether without due ventilation, and is necessarily very damp and dark. It is in fact little better than a bricked cave. An abundance of such dwellings may be seen in the older parts of Merthyr Tydfil, and I have seen such as far west as Tenby—dwellings the continued occupation of which has over and over again been protested against by the medical officer of health, now on the general ground of their unwholesomeness and now on the ground of their having actually conduced to the fatal issue of disease. Yet there they remain as samples of a traditional mode, and so in the eyes of the authority a justifiable mode, of constructing dwellings in hilly parts. They are dealt with as tenderly as any other private property.—The other fault is a sub-species as it were of “overcrowding.” So far as I know, it is a Welsh speciality and is met with principally if not solely in newly opened mining districts where there is for the time insufficient house accommodation for the number of miners and labourers who suddenly flock into it. The miners working by shifts, it is found convenient to take into a cottage two sets of lodgers who occupy all the beds in the dwelling not at night only, but both by night and by day; one set entering and lying down to sleep in the same room and in the same bed that had been vacated just previously by other lodgers. It is an arrangement the ludicrous side of which has been represented in the stage play of “Box and Cox,” but the tragic side of which was dwelt on many years ago by the present Medical Officer of the Board when investigating an epidemic of typhus fever at Festiniog. I am not aware of any attempt having been at any time made by a sanitary authority to deal with this sort of occupation. The dangers attending it are enhanced when the bunk or fixed bed found in many Welsh cottages, as in many cottages in the rural parts of Scotland, is the kind that is in use.

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7°. *Sanitary Administration.*—One result of the survey has been to bring prominently into notice some points in relation to the sanitary administration of local authorities established by the Public Health Act, 1872, which it may not be out of place to refer to here. One is the very varying degree of efficiency of their administration. This is the first thing that must strike a reader of the reports, and by the use of various

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brief terms it has been endeavoured to represent the variety in the appended tabular précis. The same general fact may be gathered in a measure, as a matter of inference, from the several columns of the précis. Many sanitary authorities have been working and are still working earnestly for the improvement of the districts in their charge, not in one direction only but in all directions of importance. Others have since their constitution done no efficient work, or little of primary importance in the way of necessary improvement. Indeed, some of these latter authorities, it will be seen, evince no desire even to be properly instructed as to the sanitary requirements of their districts, asking for no reports from their medical officers of health, and paying little or no regard to them when presented. And, unfortunately (though this is only what was to be expected), it is the very districts which are in the most unwholesome condition in which this sanitary apathy of the authorities is most observable. Among the urban districts thus neglected in many important matters the following (not including all such, however) may be specially mentioned (see footnote): *Dartford*; *Sandwich*; *Chichester*;* *Havant*; *Alverstoke* (*Gosport*); *Norwich*; *Huntingdon*; *Ramsay*; *Godmanchester*; *Gainsborough*;* *Exeter*;* *Crediton*;* *Bridgwater*; *South Cave* and *Wallingfen*; *Pickering*; *Whitby*; *Hinderwell*; *Guisborough*; *Redcar*; *Stanhope*; *Durham*; *Gateshead*; *Walker*; *Cowpen*; *Bedlingtonshire*; *Alnwick and Canongate*; *Holywell*; *Mold*;* *Pontypridd*; *Bridgend*;* *Pembroke*;* *Tenby*; *Haverfordwest*;* and *Cardigan*. It will be observed that the majority of these urban places are either on the coast or close to it, and thus (if we are to judge by former experience) more liable than inland places to suffer from cholera should it unhappily invade this country, and also to suffer earlier than they. The list includes three cathedral cities, one of which is a university city also. Among the several rural districts brought under survey, the following may similarly be specially mentioned: *Dartford*; *Tonbridge*; *Maidstone*; *Westbourne*;* *Havant*; *Fareham*; *Isle of Wight*; *Thrapston*; *Chesterton*; *Orsett*; *Rochford*; *Woodbridge*; *Sherborne*; *St. Thomas (Devon)*;* *Crediton*; *St. Germans*; *Helston*; *Hemsworth*; *Thorne*; *Howden*; *Malton*; *Pickering*; *Whitby*; *Castle Ward*; *Belford*; *Berwick*; *Carmarthen*;* *Pembroke*;* *Haverfordwest*; and *Holywell*.* There is yet a third class of authorities, the most numerous of all, especially in the rural districts, which is intermediate between these extremes, where laxity and tardiness is the rule of the administration, a laxity and tardiness which shows itself in a variety of ways (as exhibited in the several columns of the précis), not the least infrequent of which is a tenderness in dealing with private premises, and with recurring nuisances on and about them, and in the neglect of the conditions under which the poorer part of their population live, that part of the population least capable of self-help.

That on the whole there should be more laxity of administration in rural than in urban districts is due, as I am inclined to believe, to a

* The districts marked * were amongst those which appear to have suffered most heavily from cholera in the epidemic of 1866, so far as can be judged from the Registrar-General's Report on the cholera epidemic of that year.

The districts printed in italics are districts which had been on one or more former occasions inspected by the Board's Medical Inspectors, and the sanitary authorities of which had on each such occasion been officially advised as to the sanitary requirements of their districts. In some of these districts nothing whatever or only an insignificant amount of work has been done to carry into effect the Board's recommendations, in others one or two of the permanent works recommended were accomplished after the inspection, the sanitary authority subsequently falling again into neglectful ways.

combination of causes, sometimes one sometimes another of which is predominant. Among these causes may be suggested—the large amount and the variety of administrative work now thrown by the Legislature upon boards of guardians; the fact that the elected members of the sanitary authorities in agricultural districts are principally farmers, to whom repeated or prolonged attendances at board meetings is often very inconvenient; the obstacles which among this class of persons arise out of old traditional convictions and habits of thought and practice and hinder the utilization by them of modern sanitary knowledge; and the too frequent abstention of the more cultured class of *ex-officio* members. In short, the broad result of the experience of the Medical Department, confirmed by the results of this survey, is that sanitary administration is often distasteful to existent rural authorities. And this distastefulness and impatience with sanitary work shows itself in a variety of ways familiar to the Board's inspectors. One of these is a not uncommon practice of the retirement of members from board meetings as soon as the sanitary business commences; and another is a practice of referring important matters to parochial committees as the surest way of shelving them, thus virtually (in a way which certainly the Legislature never contemplated) reinstating the evils of the vestry administration under the Sanitary Act of 1866, which sort of administration it was one of the objects of the Public Health Acts of 1872 and 1875 to put an end to. The sanitary administration in the Isle of Wight Rural District is a typical example of the practices I am referring to; and, since the survey report of Mr. Spear states that, notwithstanding the recommendations of the Board on the occasion of my own inspection of the district in 1880, the objectionable practices described in my report on that inspection have not been abandoned, it may not be out of place to reprint what I then said upon the subject:—

“ The rural authority, which is the board of guardians (with a few exceptions) of the Isle of Wight Union, consists of 53 elected and 20 ex-officio members. Their meetings take place fortnightly. The guardians meet as the rural sanitary authority after all their business as guardians of the poor has been completed. They meet for poor law business at 10.30 a.m., and this business usually occupies them for about four hours. The average time subsequently occupied by sanitary business is, I am informed, on an average of 1½ hours, but sometimes it is a much longer time. The guardians who happen to come to the poor law sitting are those who subsequently transact the sanitary business. It is not customary for members who have not come to the former to come for attendance at the latter. The ex-officio guardians, with the exception of about four of them, who are pretty regular attendants, very rarely come to the sanitary meetings. At these meetings the entries made by the medical officers of health in their journals are read, and also the reports made by the inspectors of nuisances in their report books; and the statements thus read are initialed by the chairman, or directions are given to the inspectors upon them. Now, no doubt it is in a certain sense convenient to the members and to the clerk that the sanitary business should thus be appended to the poor law business of the board; but it is only natural that interest should flag after four hours' continuous work, with its attendant fatigue, and that a disposition should be felt on the part of all concerned to shorten as far as possible the sittings as the sanitary authority. That this feeling does operate to some extent is shown by the habitual departure of a number of those who have attended the guardians' meeting, as soon as the sanitary business comes on.

“ This feeling indicates itself in another way, namely, by the apparent tendency of the authority to delegate its functions of inquiry in any important local matter to parochial committees, such committees consisting of members of the authority, together with other persons qualified

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“ so to act. Such a proceeding is perfectly legal, and in accordance with
“ the 202nd section of the Public Health Act. But the exercise of this
“ power of delegation to a parochial committee is liable to be carried to
“ excess, and if not carefully guarded may lead to a virtual reinstating,
“ under shadow of the above section, of much the same sort of vestry
“ administration which was in force before the Public Health Act of 1872
“ was passed: while the authority as a whole, losing their proper interest
“ in principles of action, may come to think they have done their work
“ when they have accepted as matter of course the conclusions of their
“ local committees. This is especially likely to be the case when the
“ questions referred to a parochial committee involve the expenditure of
“ money.”

The following two examples of the bad working of the system under the same authority are given :—

“ Some few years ago the deficiency of water in a place called Tinker’s
“ Lane was brought prominently under the notice of the authority, and
“ the subject was referred to a parochial committee. The deficiency was
“ only too obvious, many of the poor cottagers there getting their water
“ from a polluted and muddy stream of water at the bottom of the lane,
“ the only available source of supply. Nothing in the way of efficient
“ action resulting from the appointment of the committee, Dr. Wm.
“ Hoffmeister, the medical officer of health, repeated his complaint, and
“ a letter was written by the Local Government Board to the authority
“ upon the subject. This letter was referred to the parochial committee.
“ Nothing came of all this until January 1878, when it was discovered
“ that a supply of water was available in the neighbourhood, and in May
“ 1878 a tender was accepted for the erection of a reservoir to store this
“ water, and to lay the necessary supply pipes. In August 1878 a vestry
“ meeting, called for the purpose, sent in a protest against the scheme,
“ and three weeks later the parochial committee came to the following
“ resolution: ‘ That in consequence of an Act of Parliament being passed,
“ ‘ entitled the “ Public Health Water Act, 1878,” making it compulsory
“ ‘ on the owners of property to supply their houses with water, which
“ ‘ will come into force on the 25th March 1879, it is not desirable to
“ ‘ proceed with any further steps to supply Tinker’s Lane with water
“ ‘ until after that date.’ In this resolution it would appear the rural
“ authority coincided, although they had been informed by circular
“ letter from the Local Government Board that the passing of the Act did
“ not relieve rural authorities of the duties imposed on them by the
“ Public Health Act to provide their districts with a supply of water.
“ From that time to this nothing further has been done to remedy the
“ deficiency either under the Public Health Act or the Public Health
“ (Water) Act.

“ Another illustration of administrative miscarriage resulting from
“ delegation of an important question to a parochial committee is afforded
“ by the case of Carisbrooke (at the outskirts of Newport) the cesspool
“ nuisances of which place have been for many years notorious. The
“ subject was in the hands of a parochial committee for six years. The
“ steps consisted in the admission of the evil and recognition of the only
“ effectual remedy; consultation with an eminent engineer, Mr. Bailey
“ Denton, who suggested two alternative proceedings, either of them
“ practicable; a vestry meeting of the inhabitants which protested against
“ any costly scheme of drainage; the immediate abandonment of the
“ project; and, finally, the construction of additional cesspools, which
“ the authority has not undertaken to empty, and has neglected ever
“ since.”*

Still there is this broad result which may be regarded with gratification, namely, that in many of the districts which suffered more or less

* I have the less hesitation in reproducing these instances, from the fact that up to the present time, after a lapse of six years, the rural authority have taken no action in improving the conditions of these two places as stated in my Report. The conditions are precisely the same as they were when I made my inspection.

heavily from cholera in 1866, improvement has been effected under the provisions of the Public Health Acts, which, by the establishment of definite sanitary authorities has stimulated local interest in such matters, and has afforded facilities for sanitary work which have been largely used, even though not always to the fullest possible extent. A great deal of very good work has been done, especially in the urban districts constituted by the Act of 1872; it may not be too much to say (considering the time which has elapsed, and the difficulty of surmounting traditional prejudice, and of indoctrinating the masses with modern scientific sanitary notions, and creating faith in them), as much as could fairly have been anticipated. This remark especially applies to some of the colliery districts of South Wales, which altogether suffered more severely from cholera in 1866 than almost any other part of the kingdom.

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8°. *Medical Officers of Health.*—The generally satisfactory manner in which the institution by the Public Health Act of 1872 of medical officers of health in the several sanitary districts of the kingdom has worked, where the efforts of these officers have been seconded by those of the authorities which they serve, is one of the points brought out by the survey. Considering the large demand suddenly made for skilled advice by the Act of 1872, and the inadequacy of medical education in respect of sanitary matters at that time, this result is creditable to the profession, inasmuch as it shows that it could raise itself to the requirements of the day in an unaccustomed branch of study and practice. Many of these officers have exhibited much courage and boldness in pressing their good advice upon authorities little disposed to adopt it, and often in distinct disparagement of their own individual interests as private medical practitioners. The office is one which often demands the exercise of tact as well as the power of practically applying hygienic knowledge; and perhaps the failure of some of the medical officers of health to exercise influence over their authorities has resulted as much from the lack of the former as from the lack of the latter qualification. Medical officers of health are exposed too, in some instances, to discouragements which they find it difficult to fight against. One form which this discouragement takes is illustrated by what is reported as having taken place in the Whitby Rural District of the North Riding of Yorkshire. And it certainly is not conducive to efficiency of administration that the district medical officers of an union should be made as it were *ex officio* medical officers of health, and compensated by a mere trifling addition to their poor law salaries. I am far from saying that such a combination of offices always works badly. The result of the survey, so far as it has gone, is not to this effect, and in some instances of extensive scattered population there is scarcely an alternative, but there are reasons for believing that the work would in many cases be better done under other arrangements. The most unsatisfactory working of the institution is in some of those exceptional districts where the medical officer of health is, under existing circumstances, not under the Board's Order, and consequently is not under obligation to forward a copy of his annual report to the Board. Some, however, of the medical officers of health thus situated are amongst the best and most active in the kingdom, and regularly make and forward to the Board annual reports. Others, however, either make no annual reports at all, or if they do make them, do not forward copies: in this case the sanitary state of the district is withdrawn from the cognizance of the Board unless on occasion of some special inquiry instituted by the Medical Department. Instances of this state of things and of the evil

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results of it are Exeter Urban, and Norwich Urban, two important cathedral cities, the bad sanitary administration and unwholesome conditions of which were unknown officially to the Board until the survey was made. I may perhaps be permitted to suggest that the rectification of this inconvenient anomaly will be worthy of consideration when any general legislation in sanitary matters may next be contemplated.

9°. *Work of the Inspectors of Nuisances.*—In such a general statement as this it is not easy to separate what it is desirable to say about the work of inspector of nuisances and the abatement and prevention of nuisances, from what it is desirable to say about the general sanitary administration of the districts by the sanitary authority. Where the former is inefficient the latter can scarcely fail to be so too, inasmuch as under the Public Health Act the term "nuisance" embraces nearly every evil of primary importance as a cause of general unhealthiness of a population. But instances will be found in the tabular précis where the best efforts of an active and intelligent inspector of nuisances to do good work have been thwarted by the apathy of the sanitary authority. The best work has been done in those districts where the medical officer of health is trusted, and his advice respected, and where the inspectors of nuisances have been working systematically under the habitual direction of such an officer. Unfortunately, however, this has not always been the case, and the inspector of nuisances has been regarded especially in rural districts as a person who had no concern with anything not absolutely made the subject of complaints, or with any thing but what the members of the authority have thought fit themselves to regard as nuisances, irrespectively of the definition of the word "nuisances" given in the Public Health Act. It is probably due in part to such ignorance of the legal signification of the term, that the appointment of persons devoid of any previous training or of any special qualifications for the post, and indeed occasionally of quite unfit persons, has been in some instances made—such persons for instance as "a watchmaker" in Newhaven Urban District, "a grocer in the town" in Budleigh Salterton, "a dairyman and milkseller" in Sherborne Urban, "an auctioneer" in Crowle Urban and Pickering Rural, "a beershop-keeper" in Barnard Castle Urban, "an elderly man without experience" in Cowpen Urban, "the editor of a newspaper" in Cardigan Urban, "and a publican" in Pontypridd Rural District. It is scarcely necessary to add that these appointments were not productive of satisfactory results. The greatest and most frequent inefficiency in the dealing with nuisances was observed in the rural districts, and this was especially the case with recurring nuisances, such nuisances as commonly require for their prevention some structural works, the provision of sewers or some public provision for removing excrement and refuse from villages, which provisions rural authorities are often slow to make.

Hospitals.

10°. *Hospital Provision, &c.*—In comparatively few districts visited in the course of this survey has provision been made to carry into effect the sections of the Public Health Act which enable sanitary authorities to provide isolation hospitals and other public appliances for dealing with diseases of an infectious character; and in some, where hospital provision has been ostensibly made, it is of such an imperfect character as to be scarcely of any practical value. But there appears in some districts to be a disposition to make this provision. As might have been anticipated, the urban districts are better supplied in this respect than the rural, the sanitary authorities of which appear sometimes to consider that they have done all that is requisite for this purpose when they have made provision for paupers at the union workhouse. I may

add, however, that in many instances where hospital provision has been made, the hospital is at too great a distance to be safely available for the reception of cholera patients who cannot without risk to life be conveyed far even in a hand-borne litter. A most curious and unique miscomprehension of the intention of the Legislature and misapplication of a section of the Public Health Act relating to hospitals came to light during the survey of Gainsborough. The section referred to is section 132, which empowers a local authority to exact payment from a patient using the hospital. About eight years ago the Gainsborough urban authority obtained a loan of 1,500*l.* for the erection of a hospital, which was accordingly built, at a distance of about a mile from town. But having built the hospital the authority arranged to take in no case gratuitously, but in every case to make a charge for maintenance, the lowest charge for an adult being 2*l.* per week, a less amount, however, for children. There was also a disinfecting apparatus provided at the hospital. The result of this strange conduct of the sanitary authority has been that up to the time of Dr. Airy's survey not one patient had been received into the hospital, that the building itself is being permitted to fall into decay, and that the disinfecting apparatus is being consumed with rust.

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11°. *Special Preparation in anticipation of Cholera.*—In but few of the districts visited had any special preparation been made in anticipation of cholera. In some there was last year an unusual spirit of activity manifested in dealing with ordinary nuisances, and copies of the Board's memorandum on precautions against cholera had been distributed in the district. Where no hospitals have been provided, perhaps this is as much as might have been anticipated until the disease shall be more immediately threatened; but there is reason to hope, and indeed to believe, that when that event happens, the medical officers of health will, as a body, be prepared to advise their several authorities, and to deal actively and judiciously with cholera, should it break out. This, without doubt, is the case in those coast urban districts which have been inspected, and in many of the riparian rural districts.

Cholera pre-
cautions

12°. *Subsequent inquiries by the Board.*—As respects the large majority of the districts included in the survey, inquiry has been subsequently made by the Board as to the result of the inspector's interview with the sanitary authority and as to the action taken by them to carry into effect the recommendations which he made for the improvement and safeguarding of their district. Col. 17 of the tabular précis is devoted to this subject. It may be left to speak for itself in respect of individual districts. All that need here be said generally on the matter is that it would appear that the survey is likely in many districts to be productive of good results, one evidence of which is the applications which have in a number of instances been made for the Board's sanction to the contracting of loans for important improvements the need of which has been pointed out by the inspector. In those instances in which nothing or little of precise importance for the safeguarding of a district has been undertaken on the inspector's recommendation, the blame of any future evil consequences will not rest on the Board, but upon the local sanitary authority who may have neglected to take advantage of an exceptional opportunity of enlightenment, and to perform essential duties clearly laid before them.

Further action
by Board.

I cannot properly bring these observations to a close without alluding to one incidental advantage which has accrued from the survey. I allude to the encouragement which the personal interview with the Board's inspectors has afforded to many medical officers of health, who

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under multiform difficulties, discouragements, and impediments have been anxious and have striven to perform their duties efficiently and for the benefit of the communities in their charge. The inspectors engaged upon the survey have all told me of the gratification at the inspector's visit experienced and expressed by these gentlemen and of their thankfulness for the advice given them personally as to the best methods of discharging their functions and of attaining the ends they have in view. Especially has this been the case with medical officers of health newly appointed, who, when they have not filled a similar post before, and have not been specially prepared for it, have been most grateful for the opportunity thus afforded them of acquiring a kind of knowledge which they could scarcely acquire in any other way or in any way so effectually.

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APP. NO. 8.

REPORT on the SANITARY SURVEY of PORT and PRINCIPAL RIPARIAN
SANITARY DISTRICTS, 1885-6; by DR. BLAXALL.On the Port
and Riparian
Sanitary Districts
of England and
Wales; by Dr.
Blaxall.Cause of inquiry
1884.

IN 1884, when the danger of the introduction of cholera into this country appeared imminent by reason of that disease prevailing extensively in France and other parts of the Continent in frequent maritime intercommunication with this country, the Local Government Board instituted inquiry at the principal seaports of England and Wales, with a view to ascertain how far the several authorities were prepared to give effect to the Cholera Regulations, and to act promptly upon the appearance of the disease. These inquiries were carried out by myself and Dr. de Chaumont, who was temporarily employed for the purpose.

In 1885 the inquiries were renewed on a more extensive scale, embracing all the Port and Riparian Districts of England and Wales.

1885.

Dr. de Chaumont and Dr. Davies, temporary inspectors, and Dr. Airy, Dr. Page, Mr. Spear, and myself, of the permanent medical staff, were employed on this duty as well as on the inspection of inland districts.

Before proceeding to report on the results of these inquiries, it will be well to give some account of the constitution of the several port sanitary authorities, together with the duties devolving upon them, the mode of procedure commonly observed in respect of vessels arriving from foreign and colonial ports, and the line of action laid down by the Cholera Regulations, 1883.

Preliminary.

Constitution of Port and Riparian Sanitary Districts.

In 1872 the Local Government Board constituted certain of the Customs ports, or parts of such ports, into Port Sanitary Districts, appointing the pre-existing local sanitary authorities (urban or rural, as the case might be, and singly or in combination) Port Sanitary Authorities for the administration of business appertaining to health.

Constitution of
port sanitary
districts.

Some of the port sanitary districts were constituted permanently, others temporarily only, subject to reconstitution year by year.

The administration in some instances is vested in a single local authority, upon whom devolves the cost of administration. In other instances the Port Sanitary Authority is formed by the amalgamation of the several urban or rural authorities whose districts abut on the river or harbour concerned, the cost of administration being defrayed by contribution from the said districts. In other instances, again, the riparian authorities contribute, but are not represented, the administration being centred in the chief local authority.

The constitution of Port Sanitary Districts, and the administration thereof, had for their object the twofold purpose of—(1) forming in concert with the Customs authority the first line of defence against the introduction and spread of dangerous infectious disease, and (2) the preservation of the health of crews and passengers by securing that vessels should be kept in a wholesome condition.

Duties of port
sanitary
authorities.

With a view to carry these purposes into effect each Port Sanitary Authority is required to appoint a medical officer of health and an inspector of nuisances; the Board (when applied to) paying half the salaries of these officers out of moneys voted by Parliament. It is the duty of the authority to make due hospital provision for cases of infectious disease, and with the aid of the above-mentioned officers, to carry into operation in respect of shipping in the port the several

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clauses of the Public Health Act relating to nuisances, disease prevention, &c.

The Port Sanitary Districts thus constituted by no means embrace all the ports, harbours, creeks, rivers, and shores where shipping traffic is carried on, but here health questions have not been lost sight of, since under the Public Health Act, 1875 (sec. 110), the several Riparian authorities of England and Wales, being the Urban and Rural local sanitary authorities of the kingdom, are responsible for administering such clauses of the Act as relate to vessels. Until the passing of the Public Health (Ships) Act, 1885, the powers of these authorities were limited to the dealing with nuisances; now, however, their powers extend to the clauses relating to disease prevention, hospital provision, &c. The Board's Cholera Regulations, 1883, are incumbent alike upon port and riparian sanitary authorities.

With regard to the usual Mode of Procedure in respect of Vessels arriving from Foreign or Colonial Ports.

At each Customs port a station or stations have been appointed by the Commissioners of Customs for the boarding of vessels arriving from foreign or colonial ports; and captains are required on arrival to take their vessels with despatch to these stations without touching at any intermediate place, and not to remove therefrom except with the knowledge of the Customs officer.

The primary duty of the Customs officer is to guard the revenue; but he is further required to exercise certain functions in respect of the health of ships. Besides such duties, hardly more than nominal, imposed on him by the Quarantine laws, he has more important duties in respect of indigenous infections and of cholera. He has to make inquiry as to the health of the port whence the vessel has come, and as to the health of the crew and passengers during the voyage home, and at the time of arrival. In the event of infectious sickness being reported to him he is, in compliance with instructions from the Commissioners of Customs (General Order, 20th April 1861), to acquaint the local authority (Port or Riparian as the case may be) of the circumstance. Upon this authority will then devolve the responsibility of taking steps to prevent the introduction and spread of the disease. For this purpose, the Medical Officer of Health is to board the vessel, and should he find the sickness to be of an infectious character, his duty is to take steps to secure the isolation of the sick, together with efficient disinfection of the vessel, bedding, clothes, etc., and to satisfy himself as to the health of the rest of the persons on board.

Cholera Regula-
tions,

The above mode of procedure has special reference to the infectious diseases that are usually present in this country, such as small-pox, measles, scarlatina, diphtheria, and "fever." But with regard to cholera, which is not epidemic here except when introduced from without, the Local Government Board in 1883, when this disease prevailed in Egypt, the more effectually to guard against the danger of its introduction, issued *Cholera Regulations*, imposing additional duties on the Customs Boarding Officer, and also on port or riparian authorities, and granting them increased and more defined powers.

Thus, should the boarding officer on the arrival of any ship ascertain from the master or otherwise, or have reason to suspect that the ship is infected with cholera, he is to detain such ship (Art. II.), and forthwith to give notice thereof, and of the cause of such detention, to the sanitary authority (Art. IV.).

Port sanitary authorities are required to appoint, with the approval of the Customs, stations for mooring infected vessels (Art. VI.); to isolate cases of cholera; to examine all persons on board, detaining suspicious

cases under observation (healthy persons being allowed to leave the ship, their names and places of destination having first been noted); and to secure the disinfection of the vessel, articles of clothing, &c., &c. (Arts. VIII.-XVIII.). Further, Art. VIII. provides that "the Medical Officer of Health, if he have reason to believe that any ship, whether examined by the officer of customs or not, is infected with cholera, shall, or if she have come from a place infected with cholera, may visit and examine such ship for the purpose of ascertaining whether she is so infected, &c."

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Recent Medical Survey.

We have now to consider the particulars and general teaching of the recent medical survey around the coast of England and Wales, as gathered from the reports of the several medical inspectors employed on that duty, an abstract of whose reports will be found in the Appendix (pp. 158-200).

Medical survey around the coast of England and Wales.

The survey of the year 1885 included 13 permanent and 34 temporary port sanitary districts; and 38 riparian districts, making a total of 85 districts inspected.

Of the 47 port sanitary districts, 29 are administered by a single authority, and eight by a joint board, while the remaining 10 districts have their sanitary administration performed by a single authority, though the district extends beyond the area of that authority's jurisdiction. In these last cases, the outlying districts sometimes contribute towards the Port authority's expenses.

Evidence was forthcoming of much good work done, as will be presently shown, in the way of sanitary administration with reference to measures adopted, both to prevent the spread of disease and to insure a wholesome condition of vessels.

On the other hand many weak points were revealed, together with much neglect of sanitary administration. The riparian authorities had, as a rule, omitted to carry out the duties imposed upon them, owing generally, it would seem, to ignorance of the requirements of the Public Health Acts.

The opportunity offered by these inquiries for personal intercommunication between the medical inspectors and local health authorities proved of essential service in enabling the authorities to apprehend the nature and importance of the duties devolving upon them as administrators of the Public Health Acts and Cholera Regulations, and to inform themselves on a variety of points which they had before neglected or had imperfectly understood.

THE several questions of port sanitary administration may well be considered under the following heads:—

- (1.) Position and boundaries of districts.
- (2.) Boarding stations and Customs inquiry.
- (3.) Mooring stations.
- (4.) Appointment of port medical officers of health and inspectors of nuisances.
- (5.) Prevention of introduction of infectious disease under (a) the Public Health Act, (b.) the Cholera Regulations, (c.) Rag Orders, and (d.) Quarantine Acts.
- (6.) Sanitary Inspection of vessels.
- (7.) Port Sanitary Administration.

(1.) Position and Boundaries of Districts.

The boundaries of a port sanitary district should be defined in such a manner as to admit of the provisions of the Public Health Act and Cholera

Defining of Districts.

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Regulations, together with the duties connected with the Customs boarding, being carried out within the limits of such district, in order to avoid disputes and uncertainty of action which are apt to ensue where two or more authorities are concerned. The inconvenience of defects in these arrangements is seen in the case of Harwich and Ipswich, and recently also of Hull and Goole. In each case the respective two districts are situated on the same river and have the same boarding station situated in the district nearer of the two to the mouth of the river, giving rise to the question as to the responsible authority for carrying out administration, in the way of preventing the introduction of infectious disease. Other districts similarly circumstanced are at the present time working harmoniously, but questions may arise at any moment to disturb this unanimity.

Again, in certain localities the close juxtaposition and intermingling of riparian districts is such that vessels pass quickly to and from the jurisdiction of one authority to that of another, thereby affording opportunity for Masters of vessels to evade inquiry and inspection besides rendering efficient sanitary administration very difficult if not impracticable. Such difficulty was exemplified at Fowey (Liskeard and St. Austell riparian authorities), and again on the river Blyth.

To obviate the evils here noted it would seem desirable that the several riparian authorities so circumstanced should be either constituted Port Sanitary Authorities under a joint board, or be made contributory, and the responsibility of administration centred in the principal authority.

Where the extent and boundaries of a district are definitely settled there are certain advantages gained by granting it a permanent constitution; such as increased facilities for obtaining borrowing powers and for making isolation hospital provision, while the annual work of reconstitution is avoided.

The Tyne and Swansea port sanitary authorities afford examples of efficient sanitary administration of ports composed of several coast districts, the one on the joint board system (River Tyne Port Sanitary Authority), the other on the contributory system, administered by the principal authority (Swansea Town Council).

(2.) *Boarding Stations.*

Boarding
Stations.

In considering this subject it must be borne in mind that the position of the boarding stations is primarily a Customs and shipping-trade question; such stations having been designed mainly for the protection of the revenue without causing undue hindrance to trade. At the same time the fact of the Customs inquiry being concerned also with the health of the crews and passengers of ships renders these stations important in a health point of view as a means of affording protection against the introduction of infectious disease. And in this connexion it is important they should be sufficiently removed from inhabited dwellings and from the vicinity of shipping so as to prevent risk of inter-communication being had with newly arrived vessels before the health inquiry shall have taken place.

Here it may be noted that under the Quarantine Acts and Regulations the Commissioners of Her Majesty's Customs are authorised to appoint places at which vessels coming from America, the West Indies, or elsewhere at any time when yellow fever or plague is supposed to prevail in those parts, shall anchor, for the purpose of having the state of health of their respective crews ascertained. But with regard to cases of indigenous infectious disease (small-pox, measles, scarlatina, fever, &c.), the question of introduction by vessels would appear hitherto to have been deemed of not sufficient importance to be regarded in

determining the position of the boarding stations. With cholera, however, threatening our shores, this was a point not to be overlooked by our survey: special attention was therefore directed to the subject in the course of the port inquiries. It was then found that these stations were not infrequently situated either in the docks or along-side quays in the vicinity of shipping and dwellings. Moreover, vessels entering the docks were subject to become tide-locked, so that, in the event of cholera being present on board any vessel so detained, her immediate removal to the mooring station appointed for infected vessels would be impracticable.

The Board brought the danger here indicated under notice of the Commissioners of Customs, and temporary arrangements were made at certain ports for the boarding by the Customs officer to take place at a distance from the docks.

Further, as a weak point in our line of defence against the introduction of disease into this country, I find that Mr. Spear reports that, on the south coast, vessels arriving from foreign ports (specially yachts and fishing boats) may, and sometimes do communicate with the shore before undergoing inquiry at the hands of the Customs. This has since received the attention of the Commissioners of Her Majesty's Customs, who issued a notice, dated 4th August 1885, requiring "all yachts on arrival at any port in the United Kingdom from any foreign country or the Channel Islands to bring to at the appointed boarding station of such port, to be boarded by the proper officers of Customs, as directed by the 5th section of the Act 46 and 47 Vict. cap. 55." I am informed that at Falmouth traders of various descriptions intercept vessels for the purpose of selling their goods before they enter our ports or have been communicated with by the Customs officer.

So again, in my own experience at Preston, I found there was neither coastguard nor Customs officer stationed along the banks of the river Ribble; as a consequence vessels may pass the town of Lytham and so reach Preston before being overhauled. True, the foreign trade of Preston is very inconsiderable, amounting to some two or three vessels only per annum: still, the facilities here offered for the introduction of infectious disease demand notice.

(3.) *Mooring Stations for Infected Vessels.*

In selecting a mooring station for infected vessels the chief points for consideration are safe anchorage combined with a position sufficiently isolated, and at the same time convenient of access for the medical officer of health, in order that he may be enabled to supervise the carrying out of disinfection, &c. In many of the districts the mooring stations fulfil these requirements; and this is specially so in respect of ports situated on rivers. But it is otherwise where the ports are on the coast, and where the shipping trade is carried on wholly in dock, as at Hartlepool, Maryport, Workington, and Whitehaven; for here the anchorages are exposed, and ships have not infrequently to run elsewhere for shelter.

The Customs officers were found at our inspection to be invariably acquainted with the requirements of the Cholera Regulations as to the appointment of mooring stations by sanitary authorities, but at certain places that came under observation the sanitary authorities and the Customs had come to no arrangement on the subject; while at other places again the authorities proposed sending infected vessels miles out of their districts, a proceeding for which they had no justification.

We found that personal communication with the authorities concerned conduced to the immediate adoption of measures to remedy these

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Mooring Stations.

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several shortcomings. Where mooring stations were found wanting, the Customs officer and the authorities were brought together, and stations appointed forthwith; and, with regard to unsafe anchorages, it was explained that the Cholera Regulations did not propose to establish hard-and-fast rules at the risk of involving danger to infected ships; but that, in the event of threatening weather, it was at the discretion of the captain to decide whether to run to other anchorages or not, with the proviso that if he elected to run, he was to signal to the authority on shore his intention to do so and the proposed place of destination, in order that the authority of the port to which he was going might be advised as to the advent of the infected ship.

Again, as to the proposal to send infected ships *out* of the district for isolation purposes, it was explained that the Cholera Regulations provide that the authority, on being made aware of the arrival within its district of an infected vessel, shall take immediate action to secure the removal of the infected person to hospital (if the sufferer be in a condition to admit of it), and shall then order the infected vessel to the mooring station and proceed to carry out disinfection. It was explained that this provision put it out of the power of the authority to send the vessel *out* of the district, which course would indeed be attended with risk of life to the sick as well as to the rest of the crew. Further, it was explained, that, if the Cholera Regulations were intelligently carried out, there would be no necessity for the infected ship to be removed to any great distance.

(4.) *Appointment of Port Medical Officers of Health and Inspectors of Nuisances.*

Appointment of
Officers.

In certain port sanitary districts (Newcastle, Sunderland, Bristol, Cardiff, Swansea, Newport (Mon.), &c.), the urban medical officer of health is appointed also for the port district, either on a fixed salary to include payment for both urban and port duties, or receiving an increment of salary for the latter. Generally speaking, there is decided advantage in the responsibility being thus centred in one officer, seeing how closely interwoven are the town and shipping interests in regard to health questions. In other districts, London and Weymouth for example, a medical officer of health is appointed specially for port purposes, on a fixed salary; the officer of London devoting his whole time to the duty.

In other port-districts the authorities instruct the urban medical officer of health, or some local practitioner to board vessels when requisite, paying him a fee for such duty. This mode of remuneration by fee is found to work very unsatisfactorily, failing to secure that systematic and efficient performance of the duties of the office which is required by the Public Health Act and Cholera Regulations, besides placing the medical officer of health in a delicate and unpleasant position: for, should he neglect to board a vessel, the public health might suffer, or, on the other hand, should he board and no disease be found present he lays himself open to animadversion for the sake of his fee for boarding.

In some instances the medical officer of health, urban or rural, as the case may be, is required to perform port duties without any arrangement being made for special remuneration.

In addition to the arrangements above noted, certain authorities have appointed medical officers of health for the special purpose of carrying out the Cholera Regulations, for example as at Swansea and Bristol.

This diversity in respect of the appointment of port medical officers of health obtains also in respect of that of port inspectors of nuisances. Certain authorities have selected these officers from the seafaring class,

to wit, Liverpool, Hull, Tyne ports, and Sunderland. In this they have shown a wise discretion, for it is desirable that these officers should be acquainted with the internal economy and fitting of ships, and be accustomed to deal with sailors.

In other districts the urban inspectors hold the office, receiving extra remuneration for the same; whilst in one or two instances the harbour-master is appointed port inspector of nuisances on a fixed salary. In the less busy ports, where his duties as harbour-master admit of it, this appointment possesses advantages from the circumstance that it is his duty as harbour-master to board vessels as they enter the harbour, and an opportunity is thus afforded him for immediate inquiry into the health of the crews.

Again, instances were met with where the urban inspector of nuisances was expected to perform any port duties that might be required of him, in the way of boarding vessels reported by the Customs to have sickness on board, receiving no extra remuneration for the same, or perhaps only a small increase of salary.

(5.) *Prevention of introduction of infectious disease by means of vessels under the (a) Public Health Act; (b) Cholera Regulations (including Isolation Hospital Provision); (c) Rag Orders; and (d) Quarantine Acts.*

Foremost in importance among the measures to be adopted to guard against the introduction of infectious disease into this country may be mentioned *prompt detection* of the presence of such disease, with consequent immediate isolation of the infected sick: then follows the destruction or disinfection of infected bedding, articles of clothing, &c., and disinfection of the vessel with reference specially to the sleeping berths, closets and bilges.

In order that action in these directions may be efficient, regard must be had to the different incubating periods of certain diseases, and to the different channels by which they are spread. Whereas for example, in scarlatina, the interval between the exposure to infection and the development of symptoms varies from two or three to five or six days; in small-pox and typhoid fever the latent period is longer, namely from 10 to 14 days. Again, small-pox and scarlatina are spread by infected clothing or by personal intercommunication between infected and healthy, but typhoid fever and cholera mainly through the agency of specifically contaminated water or air. Hence it is obvious that, without a competent knowledge of these characteristics, there can be but small hope of preventive measures being attended with success; for which reason it is advisable that port sanitary authorities should look to their medical officers of health to guide them in such matters.

With regard to PREVENTIVE MEASURES:—

(a'.) *Under the Public Health Act.*—Among the several clauses of this Act relating to disease prevention may be mentioned section 125, by which port and riparian sanitary authorities are empowered to make regulations requiring masters to notify the presence of infectious disease on board their vessels,—a very useful provision, but one of which hitherto the authorities of London, Bristol, and Tyne ports alone have availed themselves.

The Customs officers at the various ports are instructed, agreeably to the Customs Order No. 35/1861 (herein-before referred to, page 130) “in the event of the arrival of a vessel in which there is any case of cholera, small-pox, typhus or typhoid fever, or in which any disease whatever is extensively prevalent, forthwith to report the same to the

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Preventive measures.

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" local authorities, in order that they may take such measures as they see fit for the protection of the public health within their jurisdiction, observing, however, the greatest discretion in the mode of conveying the information in order that no avoidable alarm may be created." The Order goes on to say: " In the event of a vessel arriving with plague or yellow fever on board the officers are to be guided by the order, already issued in respect of placing such vessel under the restraint of quarantine."

In 1881 a further Order (No. 35/1881), was issued by the Customs extending the application to all infectious diseases, as follows:

" The Lords of the Council having signified to the Board, that in consideration of the importance of taking every possible precaution for the protection of the public health, their Lordships are of opinion that the instructions under which the officers of customs apprise the local authorities of the existence of certain infectious diseases on board vessels arriving in the United Kingdom, might be advantageously extended to every disease of an infectious nature except those which are quarantinable in this country, viz., yellow fever and plague;

" I am desired by the Board to direct you to instruct the officers under your survey to carry out the wishes of the Lords of the Council, and in reporting to the local authorities the existence of any infectious disease on board vessels, the officers are to follow a like course to that laid down in General Order No. 35/1861.

" I am to add that in the opinion of the Lords of the Council, chicken-pox should be included in the category of infectious diseases."

It will be seen by the provisions of the Public Health Act, 1875, and by the orders above cited that the responsibility of carrying out the measures for the prevention of the introduction unawares of infectious diseases devolves in the first instance on the Customs. The health authorities, whether acting at the instance of the Customs or in the performance of their duty under section 92 of the Act of 1875, are charged to take such action as is wanted for secluding the infectious sick, and to take such other measures as are required for preventing the spread of infectious disease.

In practice, however, we have found that many health authorities do not directly concern themselves about the health of vessels either on their arrival in our waters or previously during the passage home, such inquiry with regard to vessels from foreign or colonial ports being left to the Customs, while coastwise vessels for the most part go altogether unchallenged.

These health authorities are empowered to deal with any infringement of the Public Health Act by exposure of infected persons or things; and to remove infected persons from vessels to hospitals, vessels for the purposes of the Act being considered in the light of dwellings. They have not sufficiently executed these functions; principally it would seem through their not having held in view the difference of vessels and dwellings in respect of their locomotion from place to place, carrying infection it may be with them, and so introducing disease into previously healthy localities.*

* An analogy to this state of things may be found in the manner in which canal boats have been observed to spread disease, as was instanced a short time since on the Humber, where a canal boat was the means of spreading small-pox in several localities (1) through the master of the boat going on shore and mixing with others when his son at the time was on board the boat suffering from small-pox, and (2) through persons visiting the infected boat. My inquiry revealed in this instance 6 cases in "kiels" and 27 at certain localities, all traceable to the canal boat.

It will be evident that these local sanitary authorities have functions of their own which are independent of and are much more extensive than any inspection by Customs officers. Moreover, even as regards functions which they share with the Customs, it is to be remembered that the Customs inquiry is conducted by officers not primarily concerned with health questions, and so having comparatively little interest in the matter; and is made by hailing from a boat, tug, &c., instead of by personal inquiry on board the vessel.

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During the time that cholera prevailed at Marseilles the s.s. "Niagara" called in at that port, and watered there. On her subsequent arrival at Liverpool the Customs officer hailed the captain of the vessel from the tug as to the health of the ship, and received a satisfactory reply: he, however, went on board the vessel accompanied by others, including Dr. Taylor, the medical officer of health, who had gone off in the tug by special invitation of the owners of the "Niagara." Subsequently, on Dr. Taylor questioning the captain as to the health of the ship during the voyage home, he learned that diarrhoea of a suspicious character broke out soon after leaving Marseilles, and continued for some days, until the captain, attributing the diarrhoea to the water he had taken on board at Marseilles, took the precaution to have it boiled before issuing it for drinking purposes, with the result that the diarrhoea ceased.

Under these circumstances it is no matter of surprise that sanitary authorities from time to time find, landed in their midst, cases of infectious disease that had escaped detection by the Customs officer.

Notable examples of this have occurred during the present year (1885), Dr. Taylor informing me of nine vessels that had arrived last autumn at Liverpool from the United States and Canada with small-pox on board, and in three only of which was the presence of the disease ascertained by the Customs, seven persons incubating or actually suffering from small-pox having been landed from the remaining six vessels.

The history of these seven cases is as follows:—

One sufferer landed from the "Circassia," and travelled to Glasgow, where he was received into hospital two days after landing.

Two others landed from the "Lake Winipeg," and travelled the one to Bolton and the other to Birkenhead, at which places they were respectively received into hospital.

The fourth case landed from the "Toronto," and presented himself at the Southern Hospital, Liverpool, but was not admitted there. He then crossed by ferry to Birkenhead, where he was taken into the isolation hospital. This man stated that he had had the eruption out upon him three days before he landed at Liverpool. I am informed that this man's case has been brought under notice of the Commissioners of Customs, with a view to proceedings being taken.

The fifth sufferer landed at Bootle, and was there attended by a medical man, but had shipped again before Dr. Taylor heard of the case. Indeed, it came to his knowledge only through his tracing another case of small-pox to communication had with this infected man.

The sixth case went to Walton workhouse, when he was observed to be suffering from small-pox ("his body covered with crusts and scales"), and so was sent to the Bootle Isolation Hospital. It was ascertained upon inquiry that this man landed from the "Celtic" on October 25th, that he had been ill on board for the seven previous days, but had not complained to the doctor. On landing he proceeded to his home at Bootle, and there sent for a doctor, who attended him until he was able to go about, when he caught cold, and on November 23rd went to the workhouse at Walton, as above stated.

The seventh case was a passenger who landed from the "Nova Scotia," and travelled to his home at Penistone, Yorkshire, arriving there that same evening very ill, with the eruption just showing.

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To what extent these cases have been instrumental in spreading the disease it is impossible to say, but it is noteworthy that in November last 80 cases of small-pox came under Dr. Taylor's notice at Liverpool.

Two other recent examples of the kind may be mentioned. A sailor landed from the "Texas" at Avonmouth, travelled by train to Bristol, where he slept two nights at a friend's house with one of the children; the following day he was accidentally detected at the Railway Station, Hotwells, Bristol, with small-pox eruption full upon him, and was at once taken to the hospital, where he has since died.

Again, on October 23rd last the smack "Queen" arrived at Shoreham from the French coast, reported "All well" to the Customs, and the Master, L. Williams, signed the declaration. Three days after this (October 26th) Dr. Fuller was called in to see Williams, when he found him suffering from diarrhoea, and on the 29th he died of exhaustion. Subsequently (November 9th) the Foreign Office forwarded to the Board information they had received from the British Consul at Havre, to the effect that the said L. Williams was taken ill with diarrhoea while off the French coast. This case suggests the necessity of increased vigilance on our part lest cholera should in a similar way be introduced into this country.

The two following examples may be given to illustrate the value of prompt detection of the presence of infectious sickness and of immediate isolation of the sufferer, and of the danger involved where the infected persons are overlooked and allowed to land.

(1.) The port inspector of nuisances at Portsmouth on two occasions when boarding vessels on their arrival, in performance of his duty as harbour-master, detected the presence of small-pox in vessels from Seaham where the disease at the time was prevailing. The infected men were immediately removed from the ships and taken to hospital, with the result that there was no spread of the disease.

(2.) On the other hand in the adjoining riparian district of Havant a similarly infected vessel arrived and no precautionary measures were observed. The infected man landed and went to his home, where he became the centre of infection to others, six cases being known to have followed in his house and the locality.

Cholera Regula-
tions.

(b.) *Under the Cholera Regulations.*—It has been shown in this report that in certain instances the position of the boarding stations was not adapted to meet the danger of cholera invasion; and that on the matter being brought by the Board under notice of the Customs temporary arrangements were made to rectify the same. Also, that stations for mooring infected vessels (Art. 6) had, as a rule, been appointed, and where exceptions to this were met with the Customs and port sanitary authorities on being brought together had forthwith complied.

We found the Customs officers prepared to give effect to the Cholera Regulations to detain any vessel on arrival which they had reason to suspect was infected with cholera (Art. 2), and to give immediate information thereof and of the cause of such detention to the local health authority (Art. 4).

But at Liverpool a *quarantine* medical officer is appointed, and here information of the kind had been sent direct to him instead of to the local health authority, thereby occasioning delay. The Board represented this to the Customs and afterwards to the Lords of the Privy

Council, with the result that compliance with the requirements of the Cholera Regulations (Art. 4) was enjoined on the officers of Customs at Liverpool.

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With regard to the special precautions provided by Art. VIII. (hereinbefore referred to, page 131), viz., that "The medical officer of health, " if he have reason to believe that any ship within the jurisdiction or " district of the sanitary authority, whether examined by the officer of " Customs or not, is infected with cholera, shall, or if she have come " from a place infected with cholera may, visit and examine such ship, " for the purpose of ascertaining whether she is so infected," the following observations are requisite.

In December 1884 the schooner "Caroline" from Barcelona arrived at Newcastle-on-Tyne and was reported to the port sanitary authority by the Customs as having no quarantine "bill of health." Whereupon the assistant medical officer of health boarded the vessel, and finding no sickness or infection left her before she was formally admitted to pratique by the Customs. The Commissioners of Customs on being informed of this wrote to the port medical officer of health, observing that this was contrary to the Quarantine Act, 6 Geo. IV. cap. 78; and 39 & 40 Vict. cap. 36. The port medical officer of health then applied to this Board for instructions for his future guidance, the provision of the said Acts and the instructions laid down by Art. 8 Cholera Regulations appearing to him to involve some contradiction. In a medical point of view the Port Medical Officer of Health in boarding this vessel and satisfying himself by personal inquiry as to her state of health pursued a very proper course; and if the circumstance of his leaving her again, when he found no sickness or infection on board, was, as is here stated, in contravention of the Quarantine Act, that Act, it would seem, demands amendment.

I have brought this case under notice as it appears to me that it involves one amongst other points that demand consideration with a view to being placed beyond the region of doubt or uncertainty. The value of the provisions of Art. 8 can scarcely be over-rated when regard is had to the insidious way in which vessels may prove the channels of infection, either through the medium of infected persons or things or through the medium of contaminated water.

In regard to the first-named danger: "*infected persons.*" A sufferer may have contracted the disease at an infected port, or subsequently on board (from drinking infected water, or by exposure to infection in other ways), and the symptoms may not manifest themselves until after the Customs inquiry on arrival at one or other of our ports (the incubating period of cholera varying from a few hours to six or eight days, or more). For example: in 1866, a small French vessel from St. Malo, where cholera was prevailing, entered the port of Cowes, and seven days afterwards a medical man was called in to see one of the crew. He found the man had been ill for some days, and was then in an advanced stage of cholera, his bedding saturated with the watery evacuations as they passed from him, and he was lying in a small deck-house shared by four others of the crew.

This case points to the advisability of vessels from cholera-infected ports being kept under medical supervision for some days after arrival, specially after a short passage.

Again, in regard to the second-named danger: "*contaminated water.*" Water taken on board at an infected port is open to suspicion of *specific* contamination, and it is to be desired that the water supply of such

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ships should, on the ship's arrival, be made the subject of special examination and her tanks be emptied and thoroughly cleansed.*

As emphasising the importance of this precaution, the following cases possess peculiar interest:—

During the year 1884, 10 ships arrived at Liverpool from the cholera-infected port of Marseilles, three out of the 10 watered at that port, and suffered during the passage home from cholera or choleraic diarrhoea, whereas the remaining seven that did not water there were exempt from the disease.

These examples are not advanced to prove that the water and appearance of cholera in these three ships were related as cause and effect, for it is possible for the disease to have been contracted at Marseilles: still the broad fact remains, that cholera or choleraic diarrhoea did appear in three ships that took water on board at the infected port to the exclusion of seven others that did not water there and escaped.

The isolation of cholera cases (Art. 13) will be presently considered when treating of Hospital Provision. The remaining provisions of the Cholera Regulations relating to detention for observation of cases of suspicion, to disinfection and destruction of infected clothing, etc., disinfection of infected ships, interment of infected dead, were fully discussed at our conferences with the various authorities, stress being laid on the importance attaching to the several measures, and on the urgent necessity of being in a state of preparedness to give effect to the same immediately occasion should arise.

The foreign emigration traffic of Hull and Liverpool call for special mention, since it lays these towns specially open to the introduction of cholera should that disease be present at the places on the continent whence the emigrants take their departure (*via* this country) for America, or other places of destination. The attention of the port and urban sanitary authorities of Hull and Liverpool was specially directed to this danger, and, in pursuance of instructions from the Board, I met representatives of the shipping companies engaged in emigration trade at Liverpool, and advised them as to the precautionary measures to be adopted: (1.) By their continental agents, to prevent their granting passages to infected persons. (2.) During the passage from the Continent to our ports. (3.) During their stay in this country; and (4.) On their outward passage to America or elsewhere.†

ISOLATION HOSPITAL PROVISION:—(a". *Under the Public Health Act.*)—The early detection of the presence of infectious disease can avail little to prevent its introduction and spread unless means are ready at command for the immediate isolation of the infected persons. Certain of the port sanitary authorities recognising this fact, have provided isolation hospitals of their own, for example, London, Tyne Ports,

Hospital
provision.

* The Board of Trade have drawn up and supplied to the Customs printed instructions (in various languages) for distribution to masters of ships for their guidance when out of the reach of medical assistance, in case of any cholera or danger of cholera on board. These instructions deal with the treatment of persons suffering from diarrhoea or cholera, also with certain precautionary measures under the following heads, viz.:—"Overcrowding," "Dampness," "Dirt," "Contagion," "Food," "Water-supplies"; observing with reference to the water that "the greatest care should be paid to having a supply of pure water." "If the water is suspected of being impure, it should be boiled before drinking, and should not be drunk later than 24 hours after such boiling."

† When at Hull I called upon the firm of Messrs. Wilson, the shipping company principally concerned in this transit traffic, and invited their co-operation in the way of instructing the officers and stewards of their steamers to keep a vigilant eye upon the passengers, in order to detect any signs of illness of a suspicious character, such as repeated visits to the closets, &c.; all which they promised to do.

Weymouth, Hartlepool, Newport (Mon.), while other authorities (Sunderland, Hull, Portsmouth, Southampton) are dependent upon the urban sanitary hospitals for the isolation of their port cases; and the same is the case as regards a few of the riparian authorities, Grimsby and Goole for example.

On the other hand many riparian authorities (*e.g.*, Fleetwood, Cowes, Dartmouth, &c.), are altogether unprovided with means of isolation: having none for the use either of town or port.

It is foreign to the purpose of this report to enter into details respecting the construction and internal economy of isolation hospitals, but their *position* is a matter of importance in regard to their fitness or otherwise for the reception of cholera cases removed from vessels. For while we have reason to believe that cholera excrements can under some conditions give rise to infection of sewers with the disease, it is manifestly unwise to encounter any needless risk by placing cholera cases from ship-board in a town hospital drained into common sewers. Imperfections in such sewers, even though ordinarily harmless, might become serious if cholera discharges were received into the sewers and decomposed there.

(*b'*. *Under the Cholera Regulations.*)—The Regulations require port and riparian authorities to isolate cases of cholera from ship-board within their respective districts.

Certain of the authorities are ready prepared to carry this into effect. *Liverpool*, for example, has provided a permanent cholera hospital; *Tyne* ports a floating hospital; *Swansea* a temporary iron building; *Cardiff* a tent on the Flatholm; *Newport* (Mon.) a wooden hospital; the riparian district of *Llanelly* a Dæcker's tent to be put up at any moment.

The several riparian authorities on the river Tees being apprehensive of the introduction of cholera in 1884, agreed to provide a hospital between them, and for this purpose purchased a vessel which they fitted up for the reception of cases, and anchored in a suitable spot. [During the present year (1885), however, some misunderstanding having arisen, the amalgamation was abandoned and the Board held a public inquiry with the result that a joint port sanitary authority was constituted.]

But our inquiries revealed the fact that a considerable proportion of the authorities had made no hospital provision whatever, some of them stating that, should occasion arise, they would then get tents or huts; others that they proposed to retain the cases on board the vessels by which they were brought.

Care was taken to impress upon these authorities that the all-important point was to be prepared beforehand with the means of dealing promptly with any vessel having cholera on board, and it was pointed out to them that any delay or want of decision in taking efficient action with such a vessel might be attended with serious consequences and would certainly lead to alarm and mistrust. Further it was pointed out that the authorities would not be justified in keeping an infected person on board the ship as if the ship were a hospital provided by themselves.

In the course of the present inquiry, it appeared that the several health authorities of the Solent had no isolation hospitals suitable for the reception of cholera cases that might arrive in vessels. Accordingly, in pursuance of instructions from the Board, it was suggested to them that they should amalgamate for the purpose of making such provision. They took some preliminary action with this object and certain of the authorities concerned applied to the Admiralty for the loan of the "*Edgar*," a fine line-of-battle-ship well adapted for a hospital, and forming part of the quarantine establishment at the

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Motherbank. The Port Sanitary Authority of Portsmouth received a reply from the Admiralty to the effect that the Admiralty declined to lend the ship for the purpose, but were willing to sell her. The authorities were not disposed to make the purchase, and so the matter fell through. This is much to be regretted, for the "Edgar" would fulfil the purpose of an efficient hospital for the several port and riparian districts of the Solent, while it might continue to serve for the isolation of troops if any arrived home infected with cholera or other foreign infectious disease.

Rag Order.

(c.) *Action under the Rag Order.*—In 1883 when cholera prevailed in Egypt, and again in 1884 when the disease was present in France and Italy, the Local Government Board issued regulations prohibiting the importation of rags from the infected countries except under the following conditions as laid down in Art. 2, viz.: "Provided that nothing in this Article shall be deemed to prohibit the delivery overside or landing of any rags which may have been previously proved to the satisfaction of the sanitary authority into whose jurisdiction or district the same may be brought, or any officer duly authorised by the sanitary authority for that purpose, and certified accordingly by such authority or officer not to have come either directly or indirectly from any place where cholera has occurred during the present year": thereby giving to the sanitary authority certain discretionary power in the matter. This discretionary power, however, was found not to work well, for while certain sanitary authorities deemed it impossible to ascertain whence the rags were collected, and considered the fact of their coming from a cholera-infected country sufficient reason for preventing, by all means in their power, the rags being landed in their districts, other less scrupulous authorities placed little or no restriction on importation of such rags. This was notably the case with the port sanitary authority of Southampton, and on the circumstance being brought under notice of the Board I was instructed to inquire into the matter. I found that rags from Havre had been landed at Southampton, although cholera was at the time prevailing at Yport, about 10 or 12 miles from Havre. Upon obtaining a return of the amount of rags brought from France and delivered at Southampton in the months of November and December 1883 and 1884, it was found that the number of bales had increased from 384, imported during November and December 1883, to 2,128 during the corresponding months of 1884. So that Southampton it would appear was admitting rags that had been refused entrance at other of our ports.

Profiting by this experience, the Board have, in their later orders prohibiting the importation of rags, omitted the provision which conferred a discretionary power upon sanitary authorities.

Quarantine Acts.

(d.) *Action under the Quarantine Acts.*—This report would be incomplete without reference to the quarantinable diseases, yellow fever and plague, which are the two diseases specially excluded by the Customs Order 35/1861 from among those required to be reported by the Customs to the local sanitary authority, the responsibility of taking precautions against the introduction of those diseases continuing to devolve upon the Imperial Government under the quarantine Acts and Regulations. But inasmuch as the Government possesses neither quarantine establishments nor isolation hospitals for the purpose, it is obvious it is not in a position to deal efficiently with any case of such disease. Having regard to this, and in view of the rapid steam communication maintained between the United Kingdom and the countries subject to yellow fever, it seems to me a matter of serious importance that the line of action to be adopted in the event of a vessel arriving home with yellow fever on board should be defined without delay. It should include

isolation of the infected, together with supervision of cases of suspicion, isolation, and disinfection of the ship, destruction or disinfection of infected bedding, articles of clothing, and the like. In my judgment these several measures could best be carried out by the local health authority in case of yellow fever as in the case of cholera.

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Attention has recently been directed to this subject in consequence of the arrival at Liverpool from Jamaica of a vessel which was said to have lost three of her crew from yellow fever during the passage home. The Customs reported this circumstance to the quarantine medical officer. He went on board the vessel and concluded the men had died of yellow fever. But he considered the vessel had fulfilled the requirements of the Quarantine Regulations, and accordingly he admitted her to pratique and she entered the docks without any communication whatever to the Local Sanitary Authority or its officers. Now, had the same course been pursued in hot weather instead of in mid-winter there is much doubt whether it would have proved effectual to prevent the spread of the disease to shore.

(6.) *Sanitary Inspection of Vessels.*

Under the Public Health Act vessels are considered in the light of dwellings, and port and riparian authorities are required to inspect them with a view of insuring their being kept in a wholesome condition, with reference specially to the closets, water-storage, bilges, ventilation of sleeping berths, and other conditions generally likely to exercise an influence upon health (sections 91—111).

Inspection of
vessels.

Among the port sanitary authorities that have done good work in securing obedience to this law may be mentioned—London, Tyne Ports, Sunderland, Liverpool, Hull, Swansea, and Cardiff. On the other hand, a notable number of authorities, some of them acting for districts with a considerable amount of shipping trade, were found to have done nothing in the way of inspection of vessels. Plymouth, Hartlepool, Harwich, Ipswich, Fleetwood, and Cowes, belong to this category. And the riparian authorities generally have taken no means to ensure the wholesome condition of their vessels.

The value of these inspections may be inferred from the beneficial results that have attended them where they have been made, for, whereas at their commencement in various ports from 50 to 60 per cent. of the vessels examined were found faulty in one particular or another, now after the inspections have been carried on for some few years the number of vessels so reported are reduced to from 5 to 20 per cent. And perhaps one of the most satisfactory features in connexion with this improvement is the willingness which masters and shipowners manifest to carry out the recommendations of the port sanitary authorities.*

* I annex, in the form of headings for a report book, a note of the principal points which the inspector of nuisances to a port or riparian sanitary authority has commonly to observe:—

Date of Inspection.	Anchorage or Dock.	Nationality.	Name of Vessel.	Steam.	Sailing.	Where from.	Cargoes.	Name of Master and Owners.	No. of Crew.	No. of Passengers.
Sickness observed.	Condition of Food.	Water Supply. How stored. Condition of water, water-tanks, &c.	Condition of Quarters of Crew as to Ventilation, Lighting, Dampness, Cleanliness, &c.	Condition of Bilges.	Condition of Closets, Heads, &c.	Nature of Action taken.	Result.			

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We endeavoured to impress the above facts upon the attention of the authorities that had hitherto neglected to carry out the required inspections, explaining to them that in having thus been unmindful of the obligation imposed upon them by the Legislature, they had missed a point which materially conduces to the health of our sailors.

It is gratifying to be able to report that certain of the defaulting authorities have since carried out the required inspections.

(7.) *Port Sanitary Administration.*

Port sanitary
administration.

Under this heading it seems desirable to enter into detail respecting the sanitary administration at a few specified ports, by way of illustrating, on the one hand, the efficient performance of the duties appertaining thereto, and on the other hand the shortcomings and failures in this respect. First of ports that have done more or less of good sanitary work :—

(1.) *London* was constituted a port sanitary district in 1872, and, as befitting the port of the metropolis, the newly-formed authority were among the first to recognise the importance of the duties imposed upon them. They early appointed a medical officer of health, the late Mr. Harry Leach, and, on the death of that able officer, Dr. Collingridge, the present medical officer, succeeded to the office.

The authority have also appointed 4 inspectors of nuisances, besides providing a steam launch for boarding purposes and a floating hospital for the reception of cases of infectious disease; but on the floating hospital becoming unseaworthy they built a hospital on shore below Gravesend.

Further, they have obtained powers under section 125 of the Public Health Act to compel masters and owners of vessels to notify the presence of infectious disease.

This port sanitary district is very extensive, including the Thames from Teddington Lock to the Nore, and part of the Medway, but by judicious arrangement, the four inspectors being stationed one at Gravesend, a second at Greenwich, and the remaining two in charge of the Docks, the medical officer is able to report that vessels passing up the river, as well as those in the Docks, come under inspection.

The number of vessels thus examined in the year 1884 amounted to 25,534, with the result that in eight of these the presence of infectious disease was detected, and in 1,648 unwholesome conditions of one kind or another, besides 17 or 18 vessels in which meat unfit for human consumption was found amongst the cargoes.

Dr. Collingridge reports that the staff would be quite unequal to the duties were it not for the hearty co-operation of the Customs, police, and dockyard officials.

Dr. Collingridge is quite prepared to carry out Art. VIII. as to examination of vessels from infected ports, but he apprehends possible danger from transmigrants from various parts of the Continent who take a passage to this country for transshipment to America or elsewhere. Nor are his fears on this score groundless, for it will be remembered that in my report on the health aspect of emigration and immigration I adduced evidence of cholera and other disease being introduced into the country in this way; and I advised that steps should be taken to secure medical examination of transmigrants on their disembarkation.

(2.) *Tyne Ports.*—The joint board of the Tyne Ports affords a typical example of efficient administration. The authority have established a well-organised staff for carrying out the duties of the port, including the medical officer of health, Mr. Armstrong (also appointed for the urban district), a master mariner as inspector of nuisances, and two assistants;

together with a steam launch to facilitate boarding; and two floating isolation hospitals, viz., one for port purposes which was supplemented in 1884 by a second for cholera cases; and they are now erecting a new hospital on a novel design to take the place of the old one which is fast becoming rotten and unfit for use.

The proposed hospital is to consist of an administrative block, and three ward blocks, erected on a platform placed on floating iron cylinders; and so far as I can judge it gives good promise of fulfilling the requirements of a port isolation hospital.

The authority have likewise obtained powers under section 125 to require masters and owners to notify the presence of infectious disease on board their vessels, and as an additional precaution the inspector of nuisances makes an abstract from the "Shipping Gazette" of all vessels sailing from what are known to be cholera-infected ports, that he may be enabled to keep a vigilant look out for all such vessels arriving in the Tyne.

In 1884 the number of vessels inspected amounted to 12,078 out of a total of 15,290 that entered the port. Mr. Armstrong reports as the result of the inspections that the sanitary conditions of vessels was as follows:—"Good, 9,425." "Passable, 2,152." "Defective, 501." "Total inspected, 12,078." Of the 501 defective 123 had structural defects. The requirements of the port sanitary authority to remedy the several defects were carried out in all but 48 vessels, which left the port before they could be revisited. In respect of these Mr. Armstrong remarks: "Note is taken of these vessels, which, when they return, will be looked after; if bound to British ports advice is sent to the sanitary authorities."

This is good work.

(3.) *Liverpool*.—Here also the port sanitary authority have done good work, and are able to point to successful dealing in the last two years with cholera-infected ships through having a cholera hospital *ready at command*. It remains available for the same purpose should occasion require; but, though an important provision against that particular emergency, the hospital is apparently of no use at other times owing to some arrangement entered into at the time of erection by which the use of the building is restricted to cholera cases. The consequence is—the authority possessing no other isolation hospital and the urban district a temporary one only for small-pox patients—that cases of other infectious diseases (measles, scarlatina, fever, &c.) that may arrive in vessels have to be sent either to the Workhouse Hospital, or to the Netherfield Subscription Hospital, the authority contributing to the latter, and so acquiring a right to send cases there.

Dr. Taylor, the urban medical officer of health, is appointed to carry out the port duties, and Captain Brown, a master mariner, holds the office of port inspector of nuisances.

The district embraces some nine miles of river with the docks on the Birkenhead side, and a line of docks on the Liverpool side upwards of six miles in length.

During the year 1884, 16,121 vessels entered the port, and of these Dr. Taylor reports that 4,092 were subjected to inspection, of which number 230 were found to exhibit sanitary defects.

The inspector of nuisances has no assistant and no steam launch to facilitate the carrying out of his duties; thus, in these respects as well as in that of isolation hospital provision (which is limited to cases of cholera), Liverpool, one of the principal ports of England, compares unfavourably with London and the Tyne ports.

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(4.) *Hull*.—In a health point of view Hull acquires importance from being the port at which foreign emigrants chiefly arrive, and so is peculiarly exposed to risk of introduction of cholera or other infectious disease that may be prevailing on the continent.

The urban medical officer of health, Dr. Mason, is appointed for port duties, and a seafaring man as inspector of nuisances. This latter officer, in view of the threatened danger of cholera invasion has, under direction of the sanitary authority, boarded steamers bringing transmigrants in the river, making special inquiry as to health, and removing infectious cases for the purpose of isolation. These are valuable precautions, but they cannot be regarded in the same light as medical inspections, which should undoubtedly be carried out when cholera is impending, if not at other times.

During the year 1884 a total of 4,604 vessels entered this port. Of these 2,346 were subjected to inspection, with the result that 158 exhibited structural defects and 272 required cleaning by lime washing or painting.

Particulars of the sanitary administration of this port would be incomplete without reference being made to the vexed question that has arisen between Hull and Goole as to the carrying out of the Cholera Regulations in respect of Goole shipping. The Board's Regulations provide that the Customs Officer shall detain a ship infected with cholera, and shall report the same to the *authority of the place in which the detention is made*; and further that *the said authority shall carry out the several precautionary measures prescribed*.

In the case of Goole ships, the detention by the Customs officer takes place within the waters of the Hull sanitary authority, who thus become charged with duty under the Board's Order in respect of Goole shipping. The port sanitary authority of Hull repudiate any responsibility for Goole affairs.* Goole, on the other hand, remains helpless in the matter, because vessels bound for that port (Goole) are boarded by the Customs within the jurisdiction of the Hull Sanitary Authority. Further, the Hull authority has refrained from appointing a mooring station from the mistaken notion that to do so would have the effect of rendering them more amenable in respect of any vessel bound for Goole that might be detained in their district.

This matter is here referred to as showing how desirable it is that the Board should place these matters on a sound basis.

(5-7.) *Swansea*, *Cardiff*, and *Newport*, have done good work, and have been peculiarly on the alert to prevent the introduction of cholera.

(8.) *Bristol*.—This port sanitary authority affords a typical example of amendment.

On my first visit here on port survey duty, the sanitary administration was limited to securing the isolation of cases of infectious disease brought under notice by the Customs. This supineness, however, evidently arose from the authority not duly recognising their responsible position; for, on my directing their attention to the various duties incumbent upon them, and fully explaining their import, they at once proceeded to carry them out, with the result that I am able now to report the appointment of two inspectors of nuisances for the inspection of vessels, the one at Bristol, the other an old man-of-war's man, at

* Holywell, a small rural district below Chester on the Dee, found itself in the same position towards Chester (under the Board's Cholera Order) that Hull was placed in towards Goole. In contrast to Hull, however, Holywell provided for the execution of the Board's Order, by erecting a little hospital at Mostyn into which any sick could be taken from Deeside vessels, no matter to what port they were bound.

Avonmouth; also the erection of a port isolation hospital at Avonmouth.

The authority have likewise obtained powers under section 125 to require masters to notify the presence of infectious disease on board their vessels.

The medical officer of health, Mr. Davies (also health officer for the urban district), besides drawing up a circular to apprise authorities of the advent of persons from infected ships has prepared a code of instructions for the guidance of inspectors when examining vessels.

In contradistinction to the foregoing and certain other port sanitary authorities that have with more or less efficiency carried out the duties devolving upon them, the following may be noted as examples of authorities that had in great measure or altogether failed to recognise the obligations imposed upon them.

(1.) *Plymouth*.—In this category must be mentioned Plymouth, on account of its position, size, and importance as a seaport, and the extent of its shipping trade, which in 1884 amounted to 739 vessels from foreign and colonial ports, and 3,022 coasters, making a total of 3,761 vessels.

The sanitary administration is vested in a joint board formed by representatives of the several contributory urban authorities of Plymouth, Stonehouse, and Devonport, and the rural authorities of Plympton St. Mary and St. Germans.

The authority have established a hospital ship, the "Pique," an old wooden frigate, which they obtained by loan from the Admiralty some few years ago and fitted up as a hospital ship, for the reception of port cases of infectious disease, for which purpose she is well adapted.

The arrangement made in respect of the duties of a medical officer of health was both peculiar and unsatisfactory. Mr. Fox, a resident medical practitioner, was paid a fixed salary of 60*l.* per annum for taking charge of the hospital ship; but the only provision made for the performance of the important duties specially pertaining to the office of port medical officer of health, was the payment to him of a fee for boarding any vessel reported to him by the inspector to have infectious sickness on board. So, again, the said inspector was the officer for the urban district, and was paid by the port sanitary authority 5*l.* per annum to board vessels reported by the Customs, and to remove the infected persons to hospital, under direction of the port medical officer of health; but no arrangement was made for the inspection of vessels. Hence the 3,761 vessels that entered this port in 1884 were practically uncared for as to their sanitary condition, and the 3,022 coasters went altogether unchallenged as to health.

On the occasion of my last official inquiry at Plymouth I met the joint board in conference, when I again pointed out to them the duties for which they were responsible as the sanitary administrators of the port, explaining to them the several particulars in which they had failed to discharge them. I am glad to be able to report that, according to information received from the clerk, they have since appointed an inspector of nuisances for the port to carry out the inspection of vessels.

(2.) *Cowes*.—Until March last (1885), the sanitary administration of this port devolved on the urban authority of West Cowes.

There was no inspection of vessels, and no isolation hospital provision for either port or urban district. The urban medical officer of health was instructed to board vessels when the Customs reported sickness, payment for the same to be by fee; whilst the urban inspector of nuisances was to undertake any port duties that might be required of him with the understanding that 10*l.* of the salary he had hitherto

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received as urban inspector was to count as remuneration for this extra port duty.

The sanitary management of the Medina has recently been placed on a different footing, the riparian districts of the river having been formed into a port sanitary district under the jurisdiction of a joint board consisting of representatives of the several authorities. It is to be hoped that their administration will be marked by a better appreciation of the responsible duties devolving upon a port sanitary authority.

(3.) *Hartlepool*, with its large foreign trade, amounting in 1884 to 1,332 vessels inwards, besides coasters, has no inspector of nuisances, and has made no arrangements for securing the inspection of vessels; moreover the terms upon which the medical officer of health is appointed are most unsatisfactory; he receives a salary of 10*l.* per annum, and fees (according to a specified scale) for boarding vessels when required to do so by the Customs.

The urban authorities of Old and West Hartlepool, having no isolation hospital of their own, have entered this year (1885) into amalgamation with the port sanitary authority for the purpose of acquiring land adjoining the site of the present Hartlepool Hospital, whereon to provide a suitable hospital for the three districts.

Boston, Dartmouth, Exeter, Carnarvon, Fleetwood, &c., may be specified as amongst other authorities that had done little or nothing. They were alike without isolation hospital provision, or without any arrangement for the systematic inspection of vessels required by the Public Health Act, section 92.

Riparian.

Riparian Districts.—The shipping in many of these districts is considerable. For example, during the year 1884, 1,152 foreign and 1,043 coastwise vessels entered the port of Goole, and 1,151 foreign and 2,411 coastwise vessels the port of Grimsby, yet the riparian districts generally had, as already stated, shown themselves unmindful of the duties imposed upon them by the Public Health Act.

Concluding Remarks.

Having regard to what is herein set forth, the port surveys would seem to show that port and riparian authorities ought to be more directly responsible for the prompt detection of the presence of infectious disease on board vessels. Action by the health authorities under the existing régime is seldom taken until the presence of disease has been made known to them, either by the Customs, or by the introduction of disease by means of infected persons landed from vessels, *i.e.*, after the mischief has been done.

Then, I would suggest, for the consideration of the Board, the expediency of inquiry into the health of *all* vessels on arrival being placed in the hands of the constituted health authority. It is possible that, under the present quarantine laws, such a proposal is not immediately admissible, but the advantages of it do not the less deserve the Board's consideration.

Under the proposed system, inquiry by the Sanitary Authority would be made by an officer (not necessarily medical) appointed by the authority concerned, and would be conducted in person on board the vessel, instead of by hailing from a boat, tug, or landing-place. This would be a more likely mode of securing reliable information. The medical officer of health would be called in by the inspecting officer, if any sickness was observed; and on the sickness being found infectious in nature, the infected persons would, as at present, be removed to hospital, and disinfection of the vessel be effected under the health officer's instructions. There would be no need, under any spurious pretence of

quarantine, to forbid communication with the shore in the case of cholera, nor yet in the case of yellow fever or plague.

Such inquiry by an officer appointed by the local sanitary authority instead of by the Customs would not hinder trade. Usually the health and the Customs officers would go off to the ship together, inquiry by the health officer taking precedence, however, over the inquiry made for purposes of revenue.

There would no doubt be a larger expense if the proposed scheme were adopted; and the question of who ought to defray this expense may be considered under a twofold aspect, in relation to general or local interests.

The prevention of the introduction of infectious disease by means of vessels arriving from foreign or colonial ports is a matter that affects this country at large, and so is of imperial importance: the danger involved by coastwise vessels trading from one home port to another, is primarily of local import, infection being liable to be conveyed by such vessels much in the same way as disease may be disseminated inland by means of infected persons travelling from one locality to another. Hence it would appear an equitable arrangement that the expense should be borne jointly by the Imperial Government and by the local authorities.

The various authorities with whom we were brought in personal communication evinced considerable interest in the health question, and for the most part were desirous of acquiring information. Many of them who had previously been careless of their duties promising to carry them out in future. It is also satisfactory to observe the increasing care manifested by port medical officers of health in the adoption of measures for the prevention of the spread of disease, especially the growing custom of warning each other of the advent of infected vessels. These are steps in the right direction, and cannot fail to prove of considerable public utility; and we may look forward to the time when all port sanitary authorities will recognise the value of preventive measures and share in the desire to carry them out, and when shipowners, alive to the inconvenience and expense incurred through having infectious sickness on board, will co-operate with health authorities in preventing the shipment of infected persons.

The present inspection has certainly procured for the Board the confidence and gratitude of many port sanitary authorities who are desirous of efficiently performing their sanitary duties.

Appended to this report will be found a list (pp. 150-157) of the port and principal riparian districts included in our inquiries. This I have prepared for the ready information of the Board, giving under different headings the names of the districts, and certain particulars respecting them, such as the amount of shipping-trade, isolation hospital provision, &c.

Plans of some floating hospitals accompany this report. It is not proposed to print them with the report. Rather, they are in a form convenient for transmission to the several Port and Riparian Sanitary Authorities. I have not infrequently been consulted as to the mode of fitting up ships for hospital purposes.

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Result of Port Inquiries.

No. 8 (a).

PORT and RIPARIAN DISTRICTS INSPECTED during 1885; with certain

Page.	District and Authority.	Principal Foreign Trade with	Vessels Inwards during 1884.		
			Coasters.		From Foreign and Colonial Ports.
			Total.	Of which from Ireland.	
PORT SANITARY DISTRICTS					
158	CARDIFF:— U.S.A.	Spain, France, Mediterranean, Baltic - -	8,664	1,186	4,054
159	HARTLEPOOL:— Joint Board.	Baltic, French ports, Hamburg - -	2,017	5	1,332
159	HARWICH:— Joint Board.	Denmark, Hamburg; passenger traffic with Antwerp and Rotterdam.	1,169	—	811
160	LIVERPOOL:— U.S.A.	All parts; large transmigrant traffic between Europe and America.	11,269	4,374	4,852
161	LONDON:— City U.S.A.	All parts - - - - -	41,782	271	10,868
162	LOWESTOFT:— U.S.A.	Baltic - - - - -	496	1	125
163	MILFORD:— Joint Board.	Very little foreign trade, but many callers -	1,506	836	18
163	NEWCASTLE (River Tyne):— Joint Board.	All parts, specially Baltic, Rotterdam, Hamburg; little transmigrant traffic.	9,656	162	5,634
164	NEWPORT (MON.):— U.S.A.	Havre, Antwerp, Bilbao, Baltic - - -	7,830	1,755	1,585
165	PLYMOUTH:— Joint Board.	France, Corunna; mails from Marseilles, West Indies, Cape Colony.	3,022	210	739
165	SUNDERLAND:— Joint Board.	Baltic, Holland, Spain - - - - -	5,389	5	1,513
166	WEYMOUTH:— Joint Board.	France, specially Cherbourg. (See Bridport) -	542	1	609
166	WISBECH:— U.S.A.	Baltic, North America - - - - -	141	—	140
PORT SANITARY DISTRICTS					
167	BOSTON:— U.S.A.	Russia, Baltic - - - - -	445	—	18
168	BRIDGWATER:— U.S.A.	Brittany, Baltic. (See Watchet.) - - -	3,983	73	64
168	BRISTOL:— U.S.A.	France, Mediterranean, Canada - - -	7,544	568	820
169	CARDIGAN:— U.S.A.	No information available. (See Fishguard.) -	863	11	4
169	CARNARVON:— U.S.A.	Baltic, America. (See Port Madoc.) - -	1,898	540	17
170	CHESTER:— U.S.A.	Dieppe, St. Valérie. (See Mostyn.) - -	403	181	9

No. 8 (a).

specified PARTICULARS of SHIPPING TRADE and SANITARY ADMINISTRATION.

Port Medical Officer of Health; and Limits of his Action.	Port Inspector of Nuisances; and Limits of his Action.	Port Hospital Provision.	Are Vessels inspected under Public Health Acts?	Inquiry by
PERMANENTLY CONSTITUTED.				
Urban M.O.H.	Urban I. of N.	Seamen's Soc. H. Cholera tents on Flatholme Island.	Yes.	Dr. Blaxall.
Special Officer :— Unsatisfactory.	None.	Small; inefficient; for cholera cases.	No.	Do.
Urban M.O.H.	Special.	Small; floating.	Since visit.	„ Airy.
Urban M.O.H.	Special.	Cholera H.	Yes.	„ Blaxall.
Special.	Special :— three assistants.	Efficient.	Yes.	„ de Chaumont.
Urban M.O.H.	Urban I. of N.	Urban H. ; not suited for ship-borne cholera; 1½ mile from town.	No.	„ Airy.
Urban M.O.H.	Urban I. of N.	Small; not suited for cholera. (Other provision made since visit.)	No.	„ Davies.
Urban M.O.H.	Special :— two assistants.	Efficient.	Yes.	„ Blaxall.
Urban M.O.H.	Urban I. of N.	Small; not suited for cholera. (Other provision made since visit.)	Yes.	Do.
Special :— unsatisfactory.	Urban I. of N. :— unsatisfactory.	Efficient; floating.	No.	Do.
Urban M.O.H.	Special.	Boat house for cholera; unfit for habitation.	Yes.	Do.
Special.	Special.	Efficient.	Yes.	„ Davies.
Special.	Special.	Yes.	Yes.	„ Airy.

TEMPORARILY CONSTITUTED.

Urban M.O.H. :— (nominal.)	Urban I. of N. :— (nominal.)	No Port H. Small Inland H.	No.	Dr. Airy.
Urban M.O.H. :— if sickness.	Urban I. of N.	Urban H. ; small; inefficient.	Very imperfect.	„ Blaxall.
Urban M.O.H. :— now satisfactory.	Urban I. of N. :— now satisfactory.	Since visit.	Since visit.	Do.
Urban M.O.H. :— if sickness.	No arrangement.	None.	No.	„ Davies.
Special.	No arrangement.	None.	No.	Do.
Urban M.O.H.	Urban I. of N.	None. Chester Infirmary used.	Yes.	„ Page.

Port and Riparian Districts inspected during 1885; with certain

Page.	District and Authority.	Principal Foreign Trade with	Vessels Inwards during 1884.		
			Coasters.		From Foreign and Colonial Ports.
			Total.	Of which from Ireland.	
PORT SANITARY DISTRICTS					
171	COLCHESTER:— U.S.A.	Northern France, Baltic - - - - -	3,367	—	111
171	COLCHESTER (Maldon Division):— Maldon U.S.A.	Baltic - - - - -			
172	COWES:— U.S.A. (now Joint Board).	Havre, Rouen, Germany, Scandinavia - - -	4,141	2	219
172	DARTMOUTH:— U.S.A.	Baltic, France, Germany. (See Salcombe.) -	1,088	1	40
173	DOVER:— Deal U.S.A.	France, Belgium (passenger traffic) - - -	577	—	2,291
173	EXETER:— U.S.A.	Baltic, France - - - - -	793	1	78
174	FALMOUTH and TRURO:— Joint Board.	France (specially Brittany), Spain - - -	1,638	130	161
175	FAVERSHAM:— U.S.A.	Baltic - - - - -	7,972	—	112
175	FLEETWOOD:— U.S.A.	Spain, Portugal, Valparaiso, West Indies -	1,196	408	143
175	GLOUCESTER:— U.S.A.	Nantes, Baltic, America, Black Sea - - -	4,295	118	325
176	GLOUCESTER (Chepstow Division):— Chepstow U.S.A.	None. (Very little coasting trade) - - -	x	x	—
177	HULL:— U.S.A.	Denmark, Sweden, Northern France. Large transmigrant traffic.	1,834	10	2,770
177	IPSWICH:— U.S.A.	Baltic - - - - -	2,904	1	145
178	LANCASTER:— U.S.A.	Baltic, Hamburgh, Spain. (See Morecambe) -	227	164	31
179	LYNN (King's Lynn Division):— King's Lynn U.S.A.	Baltic, France, Spain - - - - -	671	5	246
180	LYNN (Wells Division):— Wells U.S.A.	Riga, St. Petersburg - - - - -	105	—	10
180	NEWHAVEN:— U.S.A.	Brittany; daily with Dieppe, Honfleur - -	221	2	1,094
181	NEW SHOREHAM:— Steyning R.S.A.	Northern France, Baltic - - - - -	337	4	286
181	PENZANCE:— U.S.A.	Baltic - - - - -	1,781	18	47
181	PENZANCE (Hayle Division):— Hayle U.S.A.	Baltic - - - - -			
182	POOLE:— U.S.A.	France, Baltic - - - - -	812	17	97
182	PORTSMOUTH:— U.S.A.	Corunna, Brest, Cherbourg, Baltic - - -	1,743	1	348

specified Particulars of Shipping Trade and Sanitary Administration—*continued.*

Port Medical Officer of Health; and Limits of his Action.	Port Inspector of Nuisances; and Limits of his Action.	Port Hospital Provision.	Are Vessels inspected under Public Health Acts?	Inquiry by
TEMPORARILY CONSTITUTED— <i>continued.</i>				
Special:— if sickness.	Special.	Small; floating.	Yes.	Dr. Airy.
Urban M.O.H.	Urban I. of N.	None.	Yes.	Do.
Urban M.O.H.:— unsatisfactory.	Urban I. of N.:— unsatisfactory.	None.	No.	„ Blaxall.
Urban M.O.H.:— if sickness.	Urban I. of N.:— on request.	None.	No.	„ Davies.
Urban M.O.H.:— if sickness.	Urban I. of N.:— on request.	None.	No.	Do.
Urban M.O.H.:— if sickness.	Special.	None. Urban H. ten miles distant.	No.	Do.
Urban M.O.H.:— if sickness.	Special:— unsatisfactory.	Small.	No.	Do.
Urban M.O.H.	Special.	None.	Yes.	„ de Chaumont.
Urban M.O.H.:— if sickness.	Urban I. of N.:— on request.	None.	Since visit.	„ Blaxall.
Urban M.O.H.:— if sickness.	None for Gloucester. Special for Sharpness.	None. Inefficient Urban H.	No.	Do.
Urban M.O.H.:— on request.	Urban I. of N.:— on request.	None.	No.	„ Blaxall.
Urban M.O.H.	Special.	Urban H.; near shipping.	Yes.	Do.
Urban M.O.H.	Urban I. of N.	Urban H.	No.	„ Airy.
Urban M.O.H.	Urban I. of N.	Urban H.; suitable for cholera.	Since visit.	„ Blaxall.
Urban M.O.H.:— unsatisfactory.	Urban I. of N.:— unsatisfactory.	Small.	No.	„ Airy.
Urban M.O.H.	<i>Vacant.</i>	None.	No.	Do.
Special.	Urban I. of N.	None. Urban H.; small; inefficient.	Yes.	Mr. Spear.
Special.	Rural I. of N.	None.	No.	Do.
Urban M.O.H.:— if sickness.	Urban I. of N.	Urban H.	Yes.	Dr. Davies.
Urban M.O.H.:— on request.	None.	None.	No.	Do.
Urban M.O.H.	Urban I. of N.	Yes.	Yes.	Do.
Urban M.O.H.	Special.	Urban H.	No.	„ Blaxall.

Port and Riparian Districts inspected during 1885; with certain

Page.	District and Authority.	Principal Foreign Trade with	Vessels Inwards during 1884.		
			Coasters.		From Foreign and Colonial Ports.
			Total.	Of which from Ireland.	
PORT SANITARY DISTRICTS					
183	PRESTON:— Lytham U.S.A.	Norway (<i>annual average, 3</i>) - - -	178	96	3
183	ROCHESTER:— U.S.A.	Riga, Stockholm, Archangel - - -	4,827	—	392
184	SOUTHAMPTON:— U.S.A.	Brazil, West Indies, France - - -	7,919	17	1,817
184	SWANSEA:— U.S.A.	Northern France, Spain, Scandinavia, Baltic -	5,700	779	1,851
185	TEIGNMOUTH:— U.S.A.	Baltic - - - - -	768	5	19
185	WORKINGTON:— U.S.A.	Spain - - - - -	1,662	727	34
RIPARIAN					
186	ABERYSTWYTH:— U.S.A.	Baltic, Holland, France - - - -	227	46	17
186	ALDEBURGH:— Plomesgate R.S.A.	Little or no foreign trade - - - -	100	—	1
187	AMLWCH:— Anglesey R.S.A.	Spain (little) - - - - -	160	—	4
187	BANGOR and BEAUMARIS:— U.S.A.s.	America. (<i>See Holyhead.</i>) - - - -	5,392	2,765	18
187	BARROW-IN-FURNESS:— U.S.A.	Rotterdam, Antwerp, Baltic, Mediterranean -	1,835	736	97
188	BARNSTAPLE, BIDEFORD, &c.:— The several S.A.s.	<i>No information available</i> - - - -	1,878	18	11
188	BERWICK-ON-TWEED:— U.S.A.	Baltic, Belgium, Spain - - - -	293	1	98
189	BLYTH:— The several S.A.s.	<i>No information available</i> - - - -	417	?	309
189	BRIDPORT:— U.S.A.	Baltic, France. (<i>All trade included with Weymouth.</i>)	x	x	x
190	BRIXHAM:— U.S.A.	France: <i>fishing boats only.</i> (<i>All trade included with Dartmouth.</i>)	x	x	x
190	CARMARTHEN:— U.S.A.	Baltic - - - - -	321	—	4
190	CHICHESTER CREEK:— The several S.A.s.	France (<i>fishing boats from Havre</i>) - - -	452	?	22
191	FOWEY:— St. Austell } R.S.A.s. Liskeard }	Northern France, Hamburg, Belgium - - -	1,961	8	152
191	FISHGUARD:— Haverfordwest R.S.A.	Baltic. (<i>All trade included with Cardigan</i>) -	x	x	x
191	GOOLE:— U.S.A.	Boulogne, Dunkirk, Rotterdam, Hamburg - -	1,043	2	1,152

specified Particulars of Shipping Trade and Sanitary Administration—*continued.*

Port Medical Officer of Health; and Limits of his Action.	Port Inspector of Nuisances; and Limits of his Action.	Port Hospital Provision.	Are Vessels inspected under Public Health Acts?	Inquiry by
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TEMPORARILY CONSTITUTED—*continued.*

Urban M.O.H. :— on request.	Urban I. of N. :— on request.	None.	No.	Dr. Blaxall.
Urban M.O.H.	Special.	Joint Urban H., with Chatham.	Yes.	„ de Chaumont.
Special.	Special.	Urban H.; not suited for ship-borne cholera.	Yes.	„ Blaxall.
Urban M.O.H. :— (also deputies.)	Two, special :— Three assistants.	Yes; for cholera.	Yes.	Do.
Urban M.O.H.	Urban I. of N.	None.	Yes.	„ Davies.
No arrangement.	Vacant.	None. Urban H.; inefficient.	Yes.	„ Blaxall.

DISTRICTS.

Urban M.O.H. :— on request.	Urban I. of N. :— on request.	None.	No.	Dr. Davies.
No arrangement.	No arrangement.	None.	No.	„ Airy.
Rural M.O.H. :— on request.	No information.	Yes; cottage; for cholera.	No.	„ Davies.
No arrangement.	No arrangement.	None.	No.	Do.
Urban M.O.H. :— if sickness.	No arrangement.	Urban H.; not suited for ship-borne cholera.	No.	„ Blaxall.
No arrangement.	No arrangement.	None.	No.	„ Davies.
Urban M.O.H. :— if sickness.	No arrangement.	Yes.	No.	„ Page.
No arrangement.	No arrangement.	None.	No.	Do.
Urban M.O.H. :— if sickness.	Urban I. of N. :— on request.	Shed for cholera; unsatisfactory.	No.	„ Davies.
Urban M.O.H. :— on request.	Urban I. of N. :— on request.	None.	No.	Do.
No arrangement.	No arrangement.	None.	No.	Do.
No arrangement.	No arrangement.	None.	No.	Mr. Spear.
St. Austell R.M.O.H. :— if sickness.	Rural I. of N. :— on request.	Joint; floating; since visit.	No.	Dr. Davies.
Rural M.O.H. :— on request.	No arrangement.	None.	No.	Do.
Urban M.O.H. :— if sickness.	No arrangement.	Urban H.	No.	„ Blaxall.

Port and Riparian Districts inspected during 1885; with certain

Page.	District and Authority.	Principal Foreign Trade with	Vessels Inwards during 1884.		
			Coasters.		From Foreign and Colonial Ports.
			Total.	Of which from Ireland.	
RIPARIAN					
192	GREAT GRIMSBY :— U.S.A.	Rotterdam, Antwerp, Baltic. Little transmigrant traffic.	2,411	—	1,151
192	HARRINGTON :— Workington U. } Whitehaven R. } S.A.s.	No foreign trade - - - - -	215	—	—
193	HOLYHEAD :— U.S.A.	Little or no foreign trade. (All trade included with Bangor and Beaumaris.)	x	x	x
193	LLANELLY :— U.S.A.	Northern France and Spain - - - - -	1,242	138	214
193	LITTLEHAMPTON :— U.S.A., and East Preston R.S.A.	Northern France, Baltic - - - - -	422	1	55
194	MARYPORT :— U.S.A.	Baltic, Spain - - - - -	1,421	908	42
194	MIDDLESBROUGH, STOCKTON, &c. :— The several S.A.s. (P.S.D. since set up.)	Rotterdam, Antwerp, St. Malo, Baltic, Mediter- ranean.	2,685	6	1,357
195	MILLOM :— U.S.A.	Little or no foreign trade. (Customs returns only for September to December 1884.)	206	?	1
195	MORECAMBE :— U.S.A.	None. (Irish trade included with Lancaster) -	376	x	—
196	MOSTYN :— Holywell, R.S.A.	Spain. (Irish trade included with Chester) -	1,824	x	109
196	PADSTOW :— The several S.A.s.	No information available - - - - -	678	6	4
196	PORT MADOC :— Ynyscynhaiarn U.S.A.	Hamburgh, Bremen, Baltic. (Coasting trade in- cluded with Carnarvon.)	x	x	49
197	RUNCORN :— U.S.A.	No information available - - - - -	2,963	215	226
197	SALCOMBE :— Salcombe U. } Kingsbridge R. } S.A.s.	None. (Coasting trade included with Dartmouth.)	x	x	—
197	SANDWICH :— The several S.A.s.	Baltic (Little) - - - - -	?	?	?
197	SCARBOROUGH :— U.S.A.	Norway, Sweden - - - - -	317	2	34
198	SEAHAM :— U.S.A.	No information available - - - - -	1,983	?	109
198	SILLOTH :— U.S.A.	Hamburgh, Spain, Baltic - - - - -	648	191	16
199	WATCHET :— Williton R.S.A.	Baltic. (All trade included with Bridgwater.) -	x	x	x
199	WHITBY :— U.S.A.	Baltic - - - - -	908	—	18
199	WHITEHAVEN :— U.S.A.	Baltic, Spain - - - - -	1,646	836	27
200	WOODBIDGE :— R.S.A.	Baltic - - - - -	120	—	6
200	YARMOUTH (NORFOLK) U.S.A.	Baltic - - - - -	988	3	243

specified Particulars of Shipping Trade and Sanitary Administration—*continued.*

Port Medical Officer of Health; and Limits of his Action.	Port Inspector of Nuisances; and Limits of his Action.	Hospital Provision.	Are Vessels inspected under Public Health Acts?	Inquiry by
DISTRICTS— <i>continued.</i>				
Urban M.O.H. :— on request.	No arrangement.	Urban H ; inefficient.	No.	Dr. Blaxall.
No arrangement.	No arrangement.	None.	No.	Do.
Urban M.O.H.	No arrangement.	Available.	No.	„ Davies.
Urban M.O.H. :— if sickness.	Urban I. of N. :— on request.	Doecker's tents for cholera.	No.	Do.
No arrangement.	No arrangement.	None.	No.	Mr. Spear.
No arrangement.	No arrangement.	Urban H ; defective.	No.	Dr. Blaxall.
Urban M.O.H. :— if sickness.	No arrangement.	Joint ; floating.	No.	Do.
No arrangement.	No arrangement.	None.	No.	Do.
No arrangement.	No arrangement.	None.	No.	„ Page.
Rural M.O.H. :— if sickness.	Rural I. of N. :— on request.	Hut, for cholera.	No.	„ Davies.
No arrangement.	No arrangement.	None.	No.	Do.
No arrangement.	No arrangement.	None.	No.	Do.
No arrangement.	No arrangement.	Urban H. ; small.	No.	„ Airy.
No arrangement.	No arrangement.	None.	No.	„ Davies.
No arrangement.	No arrangement.	None.	No.	Do.
Urban M.O.H. :— if sickness.	Urban I. of N. :— on request.	Urban H.	No.	„ Blaxall.
No arrangement.	No arrangement.	Shipowners maintain small H.	No.	„ Page.
No arrangement.	No arrangement.	None.	No.	„ Blaxall.
Rural M.O.H. :— on request.	Rural I. of N. :— on request.	None.	No.	„ Davies.
Urban M.O.H. :— on request.	Urban I. of N. :— on request.	None.	No.	„ Blaxall.
No arrangement.	No arrangement.	Harbour Commissioners' H.; very defective.	No.	Do.
No arrangement.	No arrangement.	Rural H. ; small.	No.	Mr. Spear.
Urban M.O.H. :— if sickness.	Urban I. of N. :— on request.	Urban H.	No.	Dr. Airy.

No. 9 (a).

APP. No. 9 (a).

Permanent
Port Sanitary
Districts.ABSTRACTS OF INSPECTORS' REPORTS ON THE SANITARY SURVEY.
PORT AND RIPARIAN SANITARY DISTRICTS.(A.) PORT SANITARY DISTRICTS *Permanently* constituted.

A. 1. CARDIFF (Glamorgan) P. S. D.* DR. BLAXALL.

This District includes with Cardiff U.S.D., the Riparian Districts of Penarth Urban and Cardiff Rural.

Port Sanitary Authority.—Cardiff Town Council.

Cost of Administration.—Defrayed by the Port Sanitary Authority (the Riparian Districts of Penarth Urban and Cardiff Rural do not contribute).

Port M. O. Health.—Dr. Paine, M. O. H. of the Urban District.

Port I. of Nuisances.—Mr. Govin, I. of N. of the Urban District.

Shipping Trade.—Chiefly with Spain, France, Mediterranean, Baltic, and China. During the year 1884, 4,054 vessels from foreign and colonial ports and 8,664 coasters entered Cardiff Port.

Chief Facts reported.—Inspection of vessels carried out under P. H. A., § 92, but owing to the I. of N. not having kept a Report Book, the precise number of vessels so inspected is not known. The Authority have no isolation hospital of their own, but are allowed the use of a small building which is an offshoot of the general hospital ship "Hamadryad," and is supported by voluntary contributions from shipowners. This small hospital building is not adapted for the isolation of two infectious diseases at the same time.—The appointed boarding station is at the Docks, but during the time that cholera prevailed in France and Spain, vessels were boarded in Penarth Roads.—The S.A.'s arrangements for giving effect to the remaining Cholera Regulations are satisfactory. The mooring station is in the vicinity of Flatholm Island, whereon the Authority have provided a hospital tent for the isolation of cholera cases brought in vessels. This tent was used on two occasions in 1884, the patient on one occasion being the captain of the S.S. "Rishanglys." This vessel had watered at the infected Port of Marseilles when cholera was epidemic there, and during her passage home the disease appeared on board. On her arrival at Cardiff, Dr. Paine had a sample of the water analysed, when it was found to give evidence of sewage contamination. In 1884, the respective P. S. A.'s of Cardiff and Newport entered into an agreement whereby the P. S. A. of Newport were allowed the use of the tent on the Flatholm for the isolation of any cholera cases that might be brought into their port in vessels, but in the following year (1885) Cardiff refused to renew the agreement.—In December 1885, the use of the boarding steamer was with Dr. Paine's concurrence discontinued.

* In these abstracts, it has been permitted to use the abbreviations,—M. O. H. for Medical Officer of Health; I. of N. for Inspector of Nuisances; S. A. or D. for Sanitary Authority or District; P., port; U., Urban; R., Rural; P. H. A., Public Health Act, 1875.

A. 2. HARTLEPOOL (Durham) P. S. D. DR. BLAXALL.

APP. NO. 9 (a).

This Port Sanitary District includes the Urban Districts of West Hartlepool, Hartlepool Borough, Middleton-in-Stranton, and Throston.

Port Sanitary Authority.—A joint Board formed of representatives of the above Urban Authorities.

Cost of Administration.—Defrayed by the joint Board.

Port M. O. Health.—Mr. Biggart appointed on very unsatisfactory terms, viz., on a salary of 10*l.* per annum, and to receive fees for boarding any vessel reported to him to have sickness on board, but in the event of the fees exceeding 10*l.* during the year the salary is to merge therein.

Port I. of Nuisances.—None.

Shipping Trade.—Baltic (timber trade considerable), French Ports, Black Sea, Mediterranean, and regular traffic twice a week with Hamburg. During the year 1884, 1,332 vessels from foreign and colonial ports, and 2,017 coasters entered the port.

Chief Facts reported.—Inspection of vessels under § 92, P. H. A. not carried out. The Port Sanitary Authority possess an isolation hospital, but it is small and very imperfect. Recognising this fact, the Authority some short time since entered into amalgamation with the Urban Authorities of West Hartlepool and Hartlepool, and joint application has been made for a loan to enable them to build a hospital for the three districts, upon land adjoining the site of the present hospital. The boarding is appointed to take place outside the docks, but to a certain extent this depends upon the weather, for when this is boisterous vessels quickly seek shelter in the docks. The mooring station is situated inside the harbour, but the outside anchorage is dangerous, necessitating at times vessels running elsewhere for safety. The Port M. O. Health has made himself acquainted with the Cholera Regulations, and he promises to carry them out. The present isolation hospital is well situated for the reception of cholera cases from ship-board. The accommodation is limited, but there is sufficient ground space to admit of extensions.

A. 3. HARWICH (Essex) P. S. D. DR. AIRY.

This district includes parts of the Riparian Districts of Tendring Rural, Samford Rural, and Woodbridge Rural, besides Harwich Urban Sanitary District. (Vessels bound for the port of Ipswich have to pass through the port of Harwich.)

Port Sanitary Authority.—A joint board, composed principally of members of the Harwich Town Council, and the rest delegates from the several Riparian (Rural) Authorities above named. Ipswich is not represented on the Board.

Cost of Administration.—The three Rural Riparian Districts contribute in the proportion of half their rateable value, Harwich contributing in proportion to its whole rateable value.

Port M. O. Health.—Mr. W. W. Hardwicke, with a salary of 15 guineas a year. Mr. Hardwicke is also M. O. H. for Harwich U.S.D.

Port I. of Nuisances.—Mr. Ainsbury, with a salary of 10*l.* a year.

Shipping Trade.—With Denmark. With Hamburg, Rotterdam, and Antwerp (passenger traffic in connexion with the Great Eastern Railway). With the Baltic for timber. With America for grain.

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Permanent
Port Sanitary
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A little trade with the Black Sea. During the year 1884, 811 vessels from foreign ports (almost all being Great Eastern passenger boats), and 1,169 coasters, entered the port.

Chief Facts reported.—No inspection of vessels under the P. H. A., § 92. The P. S. A. have a small floating hospital, consisting of a ward for three or four beds, erected on a disused barge, with a small cabin at each end for nurse and kitchen. Bedding and stores are kept on shore, for fear of thieves. Water would be taken on board from Harwich. The appointed anchorage for the hospital barge is off Shotley Point, between the fairways of the rivers Orwell and Stour, which meet in Harwich Harbour. The Customs boarding station is in the middle of the harbour. Vessels bound for Ipswich (as well as those for Harwich and Parkeston) are boarded in Harwich Harbour. The former are sent on, with a Harwich Customs Officer on board, who remains with the vessel until he is "cleared" by an Ipswich Customs Officer coming on board in Buttermen's Bay (if the ship has to be lightered) or at Ipswich Dock. In case infectious disease of any kind be found on board an Ipswich vessel in Harwich harbour, the Harwich P. S. A. repudiate the responsibility of dealing with it. The Port M. O. H. is now acquainted with his duties under the Cholera Regulations, and is prepared to carry them out. An infected vessel would be anchored between Shotley House and Bloody Point. Cases of cholera found on board Harwich vessels would be taken on board the floating hospital.

A. 4. LIVERPOOL (Lancashire) P. S. D. DR. BLAXALL.

This Port district includes riparian districts as follows:—*Urban Sanitary Districts.*—Liverpool, Birkenhead, Bootle-cum-Linacre, Southport, Birkdale, Bromborough, Garston, Little Crosby, Great Crosby, Higher Bebington, Lower Bebington, Toxteth Park, Tranmere, Wallasey, and Waterloo-with-Seaforth; and *Rural Sanitary Districts.*—Ormskirk, Prescott, West Derby, and Wirral.

Port Sanitary Authority.—Liverpool Town Council.

Cost of Administration.—Defrayed by contribution; Liverpool paying 82·5 per cent, and seven* other Urban Authorities contributing sums varying from 0·5 per cent. to 7·0 per cent.

Port M. O. Health.—Dr. Taylor, Health Officer of the Urban District.

Port I. of Nuisances.—Captain Brown, a master mariner.

Shipping Trade.—With all parts of the world. Emigration and passenger traffic with the United States and Canada considerable. During 1884, 4,852 vessels engaged in foreign and colonial trade entered the port of Liverpool, besides 11,269 coasters.

Chief Facts reported.—River and dock district extensive. Inspection of vessels (P. H. A., § 92) fairly carried out, considering that the I. of N. has no assistant, and that there is no steam launch provided for his use. In 1884, the number of vessels inspected amounted to 4,092; of these 230 exhibited sanitary defects of one kind or another. The P. S. A. possess an iron hospital for the reception of cholera cases. The building occupies an open situation facing the water on the Birkenhead side of the river, near the mooring station and convenient for landing. The P. S. A. are precluded from

* Birkenhead, Bebington Higher, Bebington Lower, Garston, Toxteth Park, Tranmere, and Wallasey.

making use of it for other than cholera cases. The Urban Authority possess a temporary small-pox hospital to which port cases of small-pox are sent, while cases of other infectious disease are taken either to the workhouse or to the Netherfield Hospital. Arrangements have been made for cases of infectious sickness found on board vessels on the Birkenhead side of the river to be received into the Birkenhead Sanitary hospital, and for Dr. Vacher, the M. O. H. of Birkenhead, to undertake the carrying out of the disinfection, etc. of the infected vessels, &c. The P. S. A. have not obtained powers under § 125, P. H. A. to require owners and masters to notify the presence of infectious disease on board their vessels. Satisfactory arrangements have been made for giving effect to the Cholera Order. During 1884, three vessels from Marseilles that arrived at Liverpool had suffered during the homeward voyage from cholera or choleraic diarrhoea. These vessels had watered at Marseilles where cholera at the time was prevailing; the captain of one of them, attributing the outbreak in his ship to the drinking of this water, ordered it to be boiled prior to being issued; the result of this precaution was that the diarrhoea ceased. There is a Quarantine M. O., to whom the Customs Officer is required to report the presence of infectious disease before communicating with the P. S. A.; but upon the Board representing to the Lords of the Privy Council that the delay hereby occasioned militated against prompt action in dealing with the cases, instructions were given for that usual course to be departed from in respect of cholera cases, and immediate information to be given to the P. S. A. The Riparian District and Town of Runcorn, situated on the Mersey about 6 miles above the Port Sanitary District of Liverpool, carries on a considerable shipping trade. Vessels bound for Runcorn are boarded by the Customs within the Port Sanitary District of Liverpool, and in the event of infectious sickness being found present, information of the same is given to the Liverpool Port Sanitary Authority, who then undertake the measures necessary to prevent the spread of the disease.

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A. 5. LONDON P. S. D.—DR. DE CHAUMONT.

This port district extends, from Teddington Lock, down both sides of the Thames to its estuary, viz., to an imaginary straight line drawn from Havengore Creek in Essex, to Winden Point in the Isle of Sheppy. It includes above 40 Riparian Sanitary Districts, and, as well, the waters and Riparian Districts of the Medway estuary comprised between the imaginary line above referred to and another imaginary line to the westward of it, drawn directly from Coalmouth Creek to Stangate Creek, thence southward to Swale Church, and again north-eastward to Elmley Chapel.

Port Sanitary Authority.—The Corporation of London.

Cost of Administration.—Defrayed solely by the Port S. A.

Port Medical Officer of Health.—Dr. William Collingridge, salary 700*l.* per annum.

Acting Assistant Health Officer (Gravesend), and Medical Officer of the Port Sanitary Hospital.—Mr. Philip Whitcombe, at a yearly remuneration of 210*l.*

Port Inspectors of Nuisances.—Mr. W. H. Lewis at 175*l.* per annum; and Mr. W. Giles at 60*s.*, Mr. H. Spadaccini at 50*s.*, and Mr. W. Baillie at 45*s.* per week respectively.

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Districts.

Shipping Trade.—With all parts of the world. Transmigrant traffic (emigrants to America from continental ports) insignificant now as compared with former years, but still a very possible source of danger as regards cholera. Insailings during 1884: from foreign and colonial ports, 10,868; coastwise, 41,782.

Chief Facts reported.—Hospital provision: Port Sanitary Hospital newly erected on Kent shore, three-quarters of a mile below Gravesend. Two and a half acres of land adjacent to hospital acquired by P. S. A. for temporary extension of the establishment if requisite. Ship "Rhin" (some time disused, but lying off Gravesend) also available for hospital purposes. Customs Boarding Stations: At Gravesend, just below town pier. At Sheerness (by Coastguard), Garrison Point. Mooring station below Gravesend near Port Hospital. Inspection of vessels, under P. H. A., § 92, carried out. P. S. A. have obtained, and exercise, powers under § 125. Canal Boats Acts duly enforced. Satisfactory arrangements have been made under the Cholera Order. Several medical men retained to act if necessary as inspecting officers. At Gravesend, Customs would forthwith report arrival of infected ship to Dr. Collingridge at Greenwich and to Mr. Whitcombe at Gravesend: the latter would at once go on board and proceed under the Order. At Sheerness, Coastguard would order cholera-suspected ship (whether or not bound to places beyond jurisdiction of Port S. A. of London) to "let go," and would notify arrival to Dr. Arrol of Sheerness, who would visit the ship, which in the event of being found cholera-infected, would be sent round to the mooring station below Gravesend to be there dealt with.

A. 6. LOWESTOFT (Suffolk) P. S. D.—DR. AIRY.

This Port Sanitary District includes all the waters abutting upon the Urban Sanitary District of Lowestoft, together with a very small portion, on the north shore of the inner harbour, belonging to the Mutford and Lothingland R. S. D. (Lowestoft has considerable inland water communication).

Port Sanitary Authority.—Lowestoft Improvement Commissioners.

Cost of Administration.—Defrayed by the Port Sanitary Authority.

Port M. O. Health.—Dr. D. C. Smith, who is also M. O. H. for the Lowestoft Urban Sanitary District, and for the Mutford Rural S. D. Salary, for the Port S. D., 20*l*.

Port I. of Nuisances.—Mr. J. Rayment (salary, 10*l*.). Also I. of N. for the Lowestoft U. S. D., and Mutford R. S. D.

Shipping Trade.—Chiefly with the Baltic; a little with the Mediterranean, the Black Sea, and Australia; a few French fishing boats. During the year 1884, 125 vessels from foreign and colonial ports, and 496 coasters, entered the port.

Chief Facts reported.—There is no systematic inspection of vessels under the P. H. A., § 92. The Urban Authority have an isolation hospital (The "Sanitorium") inland about half-a-mile from the town, but accessible from the inner harbour without passing through the town; a wooden structure, containing four wards, fitted for 30 beds; kept in general readiness, with a nurse residing as care-taker. The Boarding Station is at the mouth of the new (outer) harbour. A mooring place for infected vessels has been fixed upon within the harbour. The arrangements with the

Customs authorities are satisfactory. In case a vessel were reported to him by the Customs Officers as infected, the M. O. H. would be prepared to carry out his duties under the Cholera Regulations. For the isolation of infectious cases from shipboard, the urban sanitary hospital is fairly convenient; but as its drainage enters the public sewer, it would be well not to receive ship-borne cholera cases there.

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A. 7. MILFORD (Pembroke) P. S. D.—DR. D. S. DAVIES.

This District includes the Riparian Districts of Milford and Pembroke Urban, and Haverfordwest, Pembroke, and Narberth Rural.

Port Sanitary Authority.—A joint Board of 13 members representing the Riparian Districts.

Cost of Administration.—Is contributed by Riparian Authorities according to rateable values of parishes abutting on the haven.

The Port M. O. H. and I. of N.—Are appointed by the combined authority. The appointments are permanent since 1879. These officers hold similar positions in the Milford U. S. D. and the M. O. H., also in the Haverfordwest R. S. D.

Shipping Trade.—Is chiefly coasting trade with Ireland. There is a regular and frequent S.S. service in connexion with the Great Western Railway running to Waterford and Cork. In 1884, 18 foreign ships arrived to discharge and 1,506 coasting vessels; of these 836 represent the S.S. service. This is a much frequented port of call.

Chief Facts reported.—As to systematic inspection, a boat is hired, and vessels from infected ports, or otherwise open to suspicion, are inspected. The boat hire is not paid by the authority. A special officer and a launch would be required to carry out complete systematic inspection. The P. S. A. have a small isolation hospital for six patients near Milford; but the authority have determined to make use of Dale Fort for cholera purposes; This position is near to the Boarding Station, but is far removed from Milford, and from medical aid. The arrangements for detention of vessels and notification of cholera will be carried out, and the M. O. H. is prepared to act.

A. 8. NEWCASTLE, River Tyne P. S. D.—DR. BLAXALL.

This Port District comprises Riparian Urban Sanitary Districts as follows:—

Felling, Gateshead, Hebburn, Howdon, Jarrow, Newcastle-on-Tyne, South Shields, Tynemouth, Walker, Wallsend, and Willington Quay.

Port Sanitary Authority.—A joint Board composed of representatives of the several Riparian Authorities.

Cost of Administration.—Defrayed by the joint Board.

Port M. O. Health.—H. Armstrong, Esquire, M. O. H. of Newcastle-on-Tyne. Assistant Port M. O. H., Dr. T. F. Armstrong.

Port I. of Nuisances.—Mr. Taylor, master mariner, and two assistants.

Shipping Trade.—With the Baltic, Rotterdam, Hamburgh, France, Spain, the Mediterranean Ports, America, Coast of Africa, &c., and some transmigrant traffic. In the year 1884, 5,634 vessels from foreign and colonial ports, and 9,656 coasters entered the port.

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Chief Facts reported.—The sanitary administration of the port is very efficiently carried out. The P. S. A. have provided a steam launch to facilitate the carrying out of the port duties; also two floating hospitals, one for cases of home infectious disease, and the other for the reception of cholera cases from ship-board, and they are now in process of constructing a third hospital on a platform floated by means of iron tubes, to replace the first of these hospitals, which is fast becoming rotten and unfit for use. The Assistant Port M. O. H. resides at Shields, convenient for boarding vessels as they enter the port. Transmigrants are carefully inspected. During the year 1884, 12,078 vessels were inspected out of 13,489 that entered the harbour. Satisfactory arrangements have been made for giving effect to the Cholera Regulations.

A. 9. NEWPORT (Monmouth) P. S. D.—DR. BLAXALL.

This district includes Newport Urban, and Newport and Cardiff Rural.

Port Sanitary Authority.—Newport Town Council.

Cost of Administration.—Defrayed by the several authorities concerned, Newport Urban contributing 85 per cent., and Newport Rural and Cardiff Rural, 12 and 3 per cent. of the total.

Port M. O. Health.—Dr. Davies, M. O. H. of the Urban District.

I. of Nuisances.—Mr. Williams, I. of N. for the Urban District.

Shipping Trade.—With Havre, Antwerp, Bilbao, Carthagena, and other Spanish ports; with Mediterranean, Baltic, America, &c. During 1884, 1,585 vessels from foreign and colonial ports, and 7,830 coasters entered this port.

Chief Facts reported.—Inspection of vessels carried out. The Authority possess an isolation hospital situated in the town. It consists of three cottages, and affords fair accommodation for 12 patients. In the course of the year 1884 eight cases of infectious disease were admitted into this hospital from vessels; two of the cases were detected by the Customs Officer, and six came under notice by the I. of N. in other ways. The boarding station is situated at the docks, but in view of the threatened danger of cholera introduction, the Authority went to some expense in chartering steamers to enable the examination of vessels to be made before allowing them to enter the river. Arrangements with the Customs are satisfactory. The M. O. of H. has made himself thoroughly acquainted with his duties. In 1884 the P. S. A., recognising the unfitness of their own isolation hospital for the reception of ship-borne cholera cases, entered into an arrangement with the Cardiff P. S. A. by which they obtained permission to use the Cardiff cholera tent at Flatholm Island should occasion arise. In the following year, however, Cardiff refused to renew this arrangement, whereupon, in pursuance of instructions from the Local Government Board, I met in conference representatives of the Newport and Cardiff P. S. A.'s when I pointed out the advantages to the public to be derived from a continuance of the former arrangements. The Cardiff Authority insisted that in this case the Newport Authority should bear an equal share with them of the expenses incurred; but to this proposition Newport objected, as being by far the smaller port of the two; and the arrangement fell through. I learn that the P. S. A. of Newport have since provided a cholera hospital of their own.

A. 10. PLYMOUTH (Devon) P. S. D.—DR. BLAXALL.

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This includes (wholly or in part) Plymouth, Devonport, and East Stonehouse Urban Sanitary Districts; and Plympton St. Mary, St. Germans, and Tavistock Rural Sanitary Districts.

Port Sanitary Authority.—A joint Board consisting of members of all the above Sanitary Authorities except Tavistock Rural.

Cost of Administration.—Defrayed by contribution from all the Riparian Districts except Tavistock.

Port M. O. Health.—Mr. Fox, who does not hold any other appointment under the P. H. Act. Arrangement in respect of his remuneration is very unsatisfactory, viz., a fixed salary for taking charge of the Port floating isolation hospital, and payment to him of a fee for visiting any ship reported to him as having infectious sickness on board.

Port I. of Nuisances.—Mr. Clegg, the Urban I. of N., has been required to board any vessel reported to him by the Customs to have sickness on board, and he has received a small salary for this special duty. But I am informed, since my conference with the Authority, that an I. of N. has been appointed specially for this port.

Shipping Trade.—With the Channel Islands, France, Corunna, and Mediterranean ports. In addition mail boats from Marseilles, West Indies, the Cape, and Australia call at Plymouth. During the year 1884, 739 vessels arrived in the port from foreign and colonial ports, and 3,022 coasters.

Chief Facts reported.—Inspection of vessels (P. H. A., § 92) not carried out. The Authority possess a floating isolation hospital, viz. the "Pique," a wooden frigate lent to them by the Admiralty. She is well adapted to the purpose, but is anchored in an exposed situation. With regard to carrying out the Cholera Regulations:—The regular appointed boarding station is in the Sound, but vessels arriving from the near French ports, or from the Channel Islands were, until the danger of this proceeding, as a likely means of introducing infectious disease into the country, had been brought under notice of the Customs by the Local Government Board, allowed to go to the quays before being subjected to inquiry by the Customs. Instructions have since been issued for such vessels to be boarded in the Sound during such time as cholera is known to be present on the French coast.

Arrangements are satisfactory in respect of mooring stations for infected vessels. The "Pique" affords efficient means for the isolation and treatment of cholera cases from shipboard.

A. 11. SUNDERLAND (Durham) P. S. D.—DR. BLAXALL.

This district includes Sunderland and Southwick Urban, and Sunderland Rural, Sanitary Districts.

Port Sanitary Authority.—A joint Board, consisting of 20 representatives of Sunderland Urban Authority, one of Southwick, and three of Sunderland R. S. A.

Port M. O. Health.—Dr. Harris, M. O. H. of the Urban District.

Port I. Nuisances.—Captain Preston, a retired master mariner.

Shipping Trade.—With the Baltic and Dutch ports (considerable), also with Spain, the Mediterranean, Black Sea, &c. In the course of the year 1884, 1,513 vessels from foreign and colonial ports and 5,389 coasters entered this port.

Chief Facts reported.—Inspection of vessels (§ 92, P. H. A.) has been very satisfactorily carried out. In 1876, 955 vessels were inspected; of this number 60 per cent. were found in an unsanitary condition, whereas in 1884, 2,153 were inspected, and of these 17 per cent. only were unfavourably reported of. The P. S. A. have no isolation hospital of their own, but cases of infectious disease found on board vessels are removed to the urban sanitary hospital. This hospital, however, is not suitable for the reception of cholera cases from shipboard. Satisfactory arrangements made between the Customs and the P. S. A. for giving effect to the Cholera Order. The M. O. H. is thoroughly acquainted with the duties required of him under the said Order. The P. S. A. have purchased a boat house conveniently situated for the reception of cholera cases from vessels, but it will require not a few improvements before it can be made use of for the purpose.

A. 12. WEYMOUTH (Dorset) P. S. D.—DR. D. S. DAVIES.

This district comprises Portland, and Weymouth-and-Melcombe Regis, Urban, and Weymouth Rural Sanitary Districts.

Port Sanitary Authority.—A joint Board composed of members of the above Sanitary Authorities.

Cost of Administration.—Defrayed by contribution from the several districts.

Port M. O. H.—Mr. R. P. Simpson, with a salary of 50*l.* per annum.

Port I. of N.—Mr. Wm. Butt, with a salary of 20*l.* per annum. [Neither of these officers hold posts under any other Sanitary Authority.]

Shipping Trade.—Daily boat service with Cherbourg and frequent communication with the Channel Islands. Large French trade; as many as 600 vessels entering the harbour during the year, also an occasional vessel from the Baltic and the Black Sea. Coasting trade chiefly in coals with the North of England ports. A great many ships call at the coal hulks at Portland Roads.

Chief Facts reported.—The systematic inspection of vessels is carried out in accordance with § 92, P. H. A. and regulations under § 125 are also enforced. The Customs Officer is prepared to act with the officers of the S. A. in carrying out the provisions of the Cholera Order. There is an excellent sanitary hospital belonging to the P. S. A. also available for urban use: there are 24 beds and an observation ward, also a permanent disinfecting chamber and an ambulance and stretcher for removal of patients. The managers of the steamboat service have adopted special regulations to prevent the introduction of disease.

A. 13. WISBECH (Cambridge) P. S. D.—DR. AIRY.

This Port Sanitary District includes with Wisbech Urban, the Riparian Districts of Sutton Bridge Urban, Walsoken Urban, and parts of Holbeach Rural and Wisbech Rural. Inland water communication by the river Nene and the Wisbech Canal.

Port Sanitary Authority.—Wisbech Town Council.

Cost of Administration.—Defrayed jointly by the Port Sanitary Authority and the S. As. of all the included Riparian Districts.

Port M. O. Health.—Mr. A. H. Haines, of Long Sutton (Lincolnshire), with a salary of 20*l.* a year. APP. No. 9 (a).

Port I. Nuisances.—Mr. W. W. Nicholls (Harbour Master), with a salary of 5*l.* 5*s.* a year. (These officers do not hold similar positions in any Urban or Rural Sanitary District.) Permanent
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Shipping Trade.—Chiefly with the Baltic ports, for timber, also with North America and the Gulf of Florida. One vessel from Dunkerque during the year. In 1884, 140 vessels from foreign ports, and 141 coasters, entered the port.

Chief Facts reported.—Inspection of vessels under the P. H. A., § 92, is duly carried out. In 1884 about 20 vessels were inspected by the M. O. H. The English vessels were found in fairly good order, but the foreign vessels, especially Russian, were often found dirty, ill-ventilated, and with insufficient berth space. The P. S. A. have a good newly-built hospital for infectious diseases, about a mile below Sutton Bridge and eight miles below Wisbech. It stands within 100 yards of the Wisbech river, from which it is accessible by a sloping landing-stage. Water would be brought to it from Wisbech. There is also an isolation hospital in the outskirts of Wisbech town, maintained jointly by the Wisbech Urban and Rural and the Walsoken Urban Sanitary Districts. The usual boarding station is in Wisbech "Eye" (off the mouth of the Wisbech river), but sometimes vessels are brought by the pilots up to Sutton Bridge before boarding. Arrangements with the Customs Authorities are quite satisfactory. The M. O. H. is well acquainted with his duties under the Cholera Regulations, and is prepared to carry them out. Any vessel found to be infected would be anchored in the "Eye" out of the direct line of traffic. Cholera patients would be isolated in the Port hospital below Sutton Bridge.

(B.) PORT SANITARY DISTRICTS *temporarily* constituted.

B. 1. BOSTON (Lincolnshire) P. S. D.—DR. AIRY.

This District comprises the estuary of the river Witham and the roadstead termed "Boston deep;" and includes, with the Boston U. S. D., parts of three Riparian Rural Districts, viz., Boston, Spilsby, and Holbeach. (Boston has inland water communications with Lincoln.) Temporary
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Port Sanitary Authority.—Boston Town Council.

Cost of Administration.—Defrayed by the Urban Sanitary Authority.

Port M. O. Health.—This office is nominally held by Dr. Clegg, (M. O. H. for the Urban District), but there is no stated salary, nor payment by fees.

Port I. Nuisances.—Nominally, W. Stephenson (I. of N. for the Urban District), without salary or fees.

Shipping Trade.—With Russian and Baltic ports, South America, the Black Sea, and Alexandria. (No trade with France or Spain.) During the year 1884, 18 vessels from foreign ports, and 445 coasters entered the port of Boston.

Chief Facts reported.—There has been no inspection of vessels under the P. H. A., § 92, and no cases of sickness are known to have arrived from sea. Possibly cases might have been found, if looked for. The M. O. H. now undertakes to inspect all vessels

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arriving from infected countries. The only existing means of isolation in the district is a hospital belonging jointly to the Boston Urban and Rural Sanitary Authorities, (the cost being divided between them, but the administration being left in the hands of the Rural S. D.). It is a converted farm house, one and a half miles from the town, accessible from the harbour without traversing the town. It has four rooms available for patients, and one or two rooms are always kept ready. The boarding station is at Clay Hole, at the head of the Boston Deep, off Frieston shore, which is four or five miles distant from Boston. There is no telegraphic communication. Some mode of signalling an infected arrival might be arranged with the coastguard. The general arrangements with the Customs Officers are satisfactory, and the M. O. H. is prepared to carry out the Cholera Regulations. The mooring station is at the "East Countryman's Berth," near Clay Hole. Cholera cases might be treated in the joint Urban and Rural hospital.

B. 2. BRIDGWATER (Somerset) P. S. D.—DR. BLAXALL.

This district comprises the Bridgwater and Burnham Urban, and the Axbridge and Bridgwater Rural Sanitary Districts.

Port Sanitary Authority.—Bridgwater Town Council.

Cost of Administration.—Defrayed by the Bridgwater Urban Sanitary Authority. (The Urban District of Burnham and the Rural Districts of Axbridge and Bridgwater do not contribute.) The question of meeting the cost of administration was raised at the conference, and attention was then directed to the requirements of the P. H. A., § 290.

Port M. O. Health.—Mr. Parsons, Health Officer of the Urban District.

Port I. Nuisances.—Mr. Laffam, I. of N. for the Urban District.

Shipping Trade.—Chiefly with the Baltic, America, Smyrna and Brittany. During 1884, 64 vessels from foreign and colonial ports, and 3,933 coasters entered the port.

Chief Facts reported.—Inspection of vessels, under P. H. A., § 92, very partially carried out. The P. S. A. do not possess any isolation hospital, but on one or two occasions port cases of infectious diseases have been isolated in the Urban Hospital, a small building situated near the docks. The Customs boarding station, as well as the mooring station for infected vessels, are situated off Burnham, 10 or 12 miles from Bridgwater, the Customs arranging to telegraph to the Port M. O. H. should his services be required. The P. S. A. have no means for isolating cases of cholera from ship-board. I suggested at the conference that the Authority should provide tents or huts ready to be erected, on immediate notice, on a sandy piece of land conveniently accessible for the mooring station, and sufficiently removed from the town of Burnham.

B. 3. BRISTOL (Gloucester) P. S. D.—DR. BLAXALL.

This district includes Bristol Urban, and Axbridge, Barton Regis, and Bedminster Rural Sanitary Districts.

Port Sanitary Authority.—Bristol Town Council, who defray the cost of administration.

Port M. O. Health.—Mr. Davies, M. O. H. for the Urban District, with an assistant M. O. to carry out prompt boarding of vessels as required by the Cholera Regulations.

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Port I. Nuisances.—One of the staff of Urban Inspectors is detailed for the duties in the docks at Bristol; and an old man-of-war's man appointed at Avonmouth.

Shipping Trade.—With the Mediterranean, Black Sea, France, United States, Canada, &c. During 1884, 820 vessels from Foreign and Colonial ports, and 7,544 coasters.

Chief Facts reported.—When first visited the P. S. A. had not recognised the duties devolving upon them under the P. H. A. There was no Port I. of N., and as a consequence no inspection of vessels under P. H. A., § 92. Action was limited to visiting vessels reported by the Customs Officer to have sickness on board, and isolating in the *Urban Hospital* any cases of infectious disease then found present. Their shortcomings were pointed out to the Authority, and matters have since been placed on a far more satisfactory footing, and proper arrangements have been made to carry out the Cholera Regulations. As stated above, a Port I. of N. is now appointed for duty in the docks, and an assistant inspector at Avonmouth. The M. O. H. has drawn up a code of instructions for the guidance of the inspectors. Inspection of vessels (§ 92) is now carried out, and the particulars noted in a Report Book. The Authority have obtained powers, under P. H. A., § 125, to require captains of vessels to notify the presence of infectious disease. They have built a port infectious hospital at Avonmouth, but its construction is not satisfactory. The arrangement of the building will not admit of efficient isolation of two diseases at the same time; while the interior of the wards are in direct communication with the drains by means of the bath pipes.

B. 4. CARDIGAN (Cardigan and Pembroke) P. S. D.—DR. D. S. DAVIES.

Riparian Districts included.—The Urban and Rural Sanitary Districts of Cardigan.

Port Sanitary Authority.—The Cardigan Town Council. The R. S. A. does not contribute towards expenses.

Port M. O. Health and I. of N.—The M. O. H. and I. of N. hold similar positions in Cardigan Urban District.

Shipping Trade.—The Foreign Trade is small, but there is considerable communication with Bristol and the South Wales ports, and some Irish trade. During the year 1884, 4 vessels arrived from Foreign Ports, and 863 coasters.

Chief Facts reported.—Foreign vessels have been inspected to prevent introduction of disease, but no systematic inspection under § 92, P. H. A. has been carried out. There is no isolation hospital provided by the P. S. A., or available for their use. Vessels are boarded within the bar, and the Customs Officer is prepared to give notice of disease on board ship, upon which M. O. H. will act in accordance with his powers.

The Port District is of some extent, and boat hire to the boarding station has to be provided.

B. 5. CARNARVON (Carnarvon) P. S. D.—DR. D. S. DAVIES.

Riparian Districts included.—This District includes, with the U. S. D., parts of the Carnarvon R. S. D. in the counties of Carnarvon and Anglesey.

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Districts.*Port Sanitary Authority.*—Carnarvon Town Council.*Cost of Administration.*—The Riparian R. S. A. contributes 8*l.* annually towards the expenses.*Port M. O. Health.*—Mr. E. H. Williams; is not M. O. H. for the Urban District.*Port I. Nuisances.*—The I. of N. holds a similar position in the Urban District.*Shipping Trade.*—The chief trade is in timber from America and from the Baltic; no Spanish or French trade. In 1884, 17 vessel, from Foreign countries entered the port.*Chief Facts reported.*—Foreign vessels from infected places, and all suspected craft have been visited and examined, but systematic inspection under § 92, P. H. A. has not been carried out hitherto, as it was not understood to be required. The boarding station is in the Strait, and the detention and anchorage of infected vessels is provided for, but there is no hospital provision made by the P. S. A. or available for their use. Vessels discharging frequently lie at some distance from the shore, the S. A. will consequently need to provide means by which their inspecting officers shall be able to reach the vessels.

B. 6. CHESTER (Cheshire) P. S. D.—DR. PAGE.

This Port Sanitary District includes the Riparian Districts of Chester (City) Urban and Hawarden Rural.

Port Sanitary Authority.—Chester Town Council.*Cost of Administration.*—Defrayed by the P. S. A. (Hawarden R. S. D. has not been called upon to contribute).*Port M. O. Health.*—G. A. Kenyon, M.B., M. O. H. for the City of Chester, and associated Sanitary Districts is Port M. O. H. Dr. Kenyon receives 20*l.* a year and he is appointed annually.*Port I. Nuisances.*—Mr. H. Wharton, I. of N. of the city. 10*l.* a year salary as Port I. of N. and reappointment annual.*Shipping Trade.*—Chiefly coasting from Barrow-in-Furness and the Duddon with iron ore. A vessel occasionally comes with flints from France (Dieppe and St. Valérie), but there has been no Spanish or Mediterranean trade of recent years. During 1884 nine vessels from foreign parts and 403 coasters entered the port of Chester. (Statistics furnished by Mr. L. Hughes, Collector of Customs, Connah's Quay.)*Chief Facts reported.*—Inspection of vessels under § 92, P. H. A. carried out and results entered by I. of N. in a properly appointed Report Book. The P. S. A. have no isolation hospital of their own, but the Town Council contribute 50*l.* a year towards the establishment charges of the fever wards of Chester City Infirmary, and have the right of admission for all cases of infectious disease, including cholera. There is, however, no efficient provision belonging either to the U. S. A. or the city infirmary for purposes of disinfection of clothing, bedding and the like.

The Customs boarding station for all vessels coming foreign and entering the Dee is at Mostyn in the Holywell R. S. D., 20 miles below Chester and for coasters, at their destination, those for Chester at Saltney Wharf.

The mooring station for Chester in the event of infection breaking out on board ship after arrival at Saltney Wharf is the Cheese Stage on the opposite or north bank of the Dee.

The M. O. H. is acquainted with his duties under the Cholera Regulations, and is prepared to carry them out.

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B. 7. COLCHESTER (Colchester Division) (Essex) P. S. D.—DR. AIRY.

This district includes with the Colchester U. S. D., the Riparian Districts of Tendring Rural and Lexden & Winstree Rural.

Port Sanitary Authority.—Colchester Town Council.

Cost of Administration.—Defrayed by the Port Sanitary Authority, without contribution from the Riparian Districts, except in respect of hospital expenses.

Port M. O. Health.—Mr. W. S. Ling, of Brightlingsea, receiving a salary of 10*l.* a year and extra fees for visits of inspection.

Port I. Nuisances.—Mr. J. Ames, with a salary of 20*l.* a year.

Shipping Trade.—Chiefly with the Baltic, a little with the North of France. Yacht communication with Cherbourg, Boulogne, &c. No trade with Spain or the Mediterranean. During the year 1884, 101 vessels from foreign and 2,244 coasters entered this Port of Colchester.

Chief Facts reported.—Inspection of vessels under the P. H. A., § 92, is carried out by the I. of N. The M. O. H. only visits vessels reported to him as having sickness on board. In 1884 only one vessel was inspected by him. The P. S. A. have a floating hospital, a barge on which a 3-bedded ward is erected, with a small cabin for the nurse. It is moored in the river off Brightlingsea, and kept ready for use. Water would it is said be brought by boat from Colchester. The Urban Authority have a separate isolation hospital near the town. The boarding station is off Brightlingsea, not far above the floating hospital, 9 miles below Colchester. Satisfactory arrangements have been made with the Customs Authorities. An infected vessel would be anchored not far below the hospital barge, out of the fairway.

The M. O. H. is prepared to carry out his duties under the Cholera Regulations. Cholera patients would be taken to the floating hospital.

B. 8. COLCHESTER (Maldon Division) (Essex) P. S. D.—DR. AIRY.

This Port Sanitary District includes with the Maldon U. S. D. part of the Maldon Rural District.

Port Sanitary Authority.—Maldon Town Council.

Cost of Administration.—Defrayed by the Port Sanitary Authority.

Port M. O. Health.—Dr. E. P. Gutteridge of Maldon, with a salary of 10*l.* a year. Dr. Gutteridge is also M. O. H. for the Urban District.

Port I. Nuisances.—Mr. A. MacNab, with a salary of 25*l.* a year.

Shipping Trade.—Chiefly with Baltic ports, for timber and grain, a little with Holland and Belgium; two or three vessels from Guernsey, with granite. During the year 1884, 10 vessels from foreign ports, and 1,123 coasters entered this port of Maldon.

Chief Facts reported.—Inspection of shipping under the P. H. A., § 92, is well carried out by the I. of N., aided by the coastguard. The M. O. H. visits any vessels reported to him by the I. of N. In 1884, 1,101 vessels were inspected by the I. of N. The Authority

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have no isolation hospital. They rely on being able, in case of need, to procure and erect a hospital tent on some pasture land near the river, about a mile below the town. Water would need to be taken in cask from Maldon. The Customs boarding station is off Stansgate, about six miles below Maldon. Satisfactory arrangements have been made with the Customs Authorities. Infected vessels would be anchored just below the boarding station. The M. O. H. is prepared to carry out his duties under the Cholera Regulations. In default of any isolation hospital, the S. A. could only make some extempore arrangement for the reception of cholera cases.

B. 9. COWES* (Isle of Wight) P. S. D.—DR. BLAXALL.

This district comprises East Cowes, Newport, and West Cowes Urban, and part of the Isle of Wight Rural, Sanitary Districts.

Port Sanitary Authority.—At date of inspection West Cowes Local Board.

Port M. O. Health.—Dr. Hoffmeister the M. O. H. of the West Cowes Urban District. No provision made to secure the systematic performance of the duties appertaining to the office, payment to be by fees for boarding vessels reported by the Customs to have sickness on board.

Port I. Nuisances.—Mr. Sergeant, the Urban I. of N. No special remuneration for carrying out the port duties, but told to consider 10% of his salary as Urban Inspector as payment for the same.

Shipping Trade.—Principally with Havre, Rouen, and the German and Scandinavian ports. Many small vessels go up the River Medina for cement. During the year 1884, 219 vessels from foreign and colonial ports, including yachts, callers for coal, &c., and 4,141 coasters entered the port. These coasters include the daily packets from Portsmouth and Southampton.

Chief Facts reported.—No inspection of vessels under P. H. A., § 92. No infectious hospital provisions for either Port or Urban Sanitary District. A mooring station appointed for infected vessels. M. O. H. acquainted with the requirements of the Cholera Regulations; but in the existing want of means of isolation ready at command, this port authority is quite unprepared to deal with cholera cases should they arrive in any vessel. Authority advised to join with other Solent Authorities in making suitable hospital provision, but declined to do so.

B. 10. DARTMOUTH (Devon) P. S. D.—DR. D. S. DAVIES.

This district includes Dartmouth Urban and Totnes Rural Sanitary Districts.

Port Sanitary Authority.—Town Council of Dartmouth.

Shipping Trade.—Timber from the Baltic; grain from the Black Sea; steamers from India, via Suez; trade with the French and German ports; and some American and Canadian traffic. Forty vessels from foreign ports and 1,088 coasters entered port during 1884. Many vessels call at the coal hulks. From five to six hundred vessels thus frequent the port during the year.

* This has recently been constituted a permanent Port District; the P. S. A. consisting of members of the several Sanitary Authorities, whose districts, or parts of them, are included in the port.

Chief Facts reported.—The Port M. O. is Health Officer of the Urban District. The town surveyor acts as I. of N. for the U. S. D., and also the P. S. D. Systematic inspection of shipping is not carried out under § 92 of P. H. A. Under the circumstances I advised the appointment of an inspector able to devote time to this duty.

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Hospital Accommodation.—There is no proper hospital accommodation for infectious diseases occurring in the town or port. The M. O. H. previously undertook to provide this for port purposes in a house in the town. The Authority appears willing to provide the necessary accommodation, but cannot obtain a site. The proper course appears to be to obtain a floating hospital, and this I recommend strongly to the Authority.

Execution of Cholera Order.—The boarding station and anchorage for infected vessels are fixed, and the Customs and S. A. are prepared to co-operate in carrying out the provisions of the Order.

B. 11. DOVER (Kent), comprising Dover, Walmer, and Deal, P. S. D.—
DR. D. S. DAVIES.

Port Sanitary Administration.—Carried out by the Town Council of Deal in combination with the Local Board of Walmer. The Urban Officers at Deal and Dover perform the duties under the Public Health Act and Cholera Order.

Shipping Trade.—At Dover the chief trade is frequent and extensive passenger traffic with France and Belgium. In addition 40 to 60 Baltic timber ships visit the port in the year. There is also some Black Sea, Mediterranean, and Egyptian trade. There is no shipping trade at Deal; boats only can land here; but the Deal boatmen hold frequent communication with vessels in the Downs.

Chief Facts reported.—Systematic inspection of vessels has not been carried out here. At Dover the urban M. O. H. is prepared to carry out the provisions of the Cholera Order upon receiving notice, which is arranged for, from the Customs Officer. Should the M. O. H. be unavoidably absent, arrangements have been made to prevent delay in examining vessels. Hospital provision for port sanitary purposes is provided by arrangement with Dr. Astley, who has established a hospital for infectious diseases at Dover; any required extension would be met by erecting tents. [The superintendent of the passenger traffic has issued special directions to the captains of passenger steamboats to be on the watch for suspicious cases. Should any case of disease be received on board it would be isolated in a deck house, and on arrival the vessel would be dealt with under the Order.] A cottage has been provided at Deal for use as a hospital in case of need, and all necessary precautions would be taken.

B. 12. EXETER (Devon) P. S. D.—DR. D. S. DAVIES.

This district includes Exeter, Exmouth, and St. Thomas, Urban, and Newton Abbott, and St. Thomas, Rural, Sanitary Districts.

The port extends from Exeter Bridge to the Cheekstone Rock, near Exmouth. But only vessels of less than 300 tons burden can proceed up river to Exeter; larger vessels discharge in the bight off Exmouth into lighters.

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Port Sanitary Authority.—The Port M. O. H. lives in Exeter. The Port I. of N. is harbour-master at Exmouth; he on discovering or receiving notice of infectious disease on board ship communicates with the M. O. H. The M. O. H. is aware of the provisions of the Cholera Order, and is prepared to carry them out.

Shipping Trade.—Chiefly with the Baltic, America, and French Ports. There is no Mediterranean or Black Sea trade. During the year 1884, 78 vessels from foreign ports, and 793 coasters entered the port.

Chief Facts reported.—No hospital accommodation available for cholera; accommodation for other infectious diseases at the Sanatorium of the U. S. D., 10 miles distant from Exmouth. Systematic inspection of vessels is not carried out; but the Port I. of N. has hitherto carefully watched for disease on board of vessels. I pointed out the requirements of the P. H. A., § 92. The Port M. O. H. is paid by fee, and is apparently not expected to take part in any sanitary action unless summoned to the assistance of the Port I. of N.

B. 13. FALMOUTH AND TRURO (Cornwall) P. S. D.—DR. D. S. DAVIES.

This district includes Falmouth Borough, Falmouth Local Board, Penryn, and Truro Urban; and Falmouth, and Truro Rural, Sanitary Districts.

Port Sanitary Authority.—Is a joint Board.

Port M. O. Health.—The Port M. O. H. holds similar position in the Falmouth Urban Districts. The Port I. of N. is only paid for part time service, and has no special facilities afforded him for visiting the ships in this extensive harbour; hence inspection under P. H. A., § 92 is not carried out.

Trade of the Port.—Includes regular traders with Spain in oxen, traders with France and Brittany, some grain boats from the Black Sea, timber ships from the Baltic, and some Mediterranean trade. Falmouth is also a much frequented port of call, as many as 1,900 callers arriving during the year.

Port Hospital Accommodation.—A small wooden building of two wards, each with 1,620 feet cubic air space, is provided in a good open situation a short distance from the town. Seven small-pox patients have recently been treated in these wards. As infectious disease is often introduced into this port on board ship, provision of more ample hospital accommodation is needed; hitherto the Port M. O. H. has by prompt action succeeded in preventing infectious disease imported in ships from getting introduced into the town.

Chief Facts reported.—The Customs boarding station is at any convenient spot in the harbour; it appears that bumboats occasionally communicate with incoming vessels before they have been boarded by the Customs in spite of care taken to prevent them.

The anchorage ground for infected vessels is in St. Just's Pool, and the Customs arrangements with the S. A. appear to be satisfactory. The M. O. H. understands, and will carry out the provisions of the Order. The M. O. H. is expected by the Port S. A. to attend all patients in the Port isolation hospital.

B. 14. FAVERSHAM (Kent) P. S. D.—DR. DE CHAUMONT.

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This district includes the Riparian Districts of Faversham Urban, and Faversham and Sheppey Rural.

Temporary
Port Sanitary
Districts.

Port Sanitary Authority.—Faversham Improvement Commissioners.

Cost of Administration.—Defrayed by contributions from the several Authorities concerned.

Port M. O. Health.—Mr. J. Irvine Boswell, who is also M. O. H. of the Urban District of Faversham.

Port I. Nuisances—Mr. Monger, who does not hold a similar appointment in the Urban District.

Shipping Trade.—Principally with the Baltic. 112 vessels from foreign ports, and 7,972 coasters entered the port during the year 1884. The trade is limited to small craft by the shallowness of the water of the port.

Chief Facts reported.—Inspection of vessels is carried out. Neither the Urban nor Port S. A. possess an isolation hospital. Arrangements have been made with the Customs for carrying out the Cholera Regulations.

B. 15. FLEETWOOD (Lancashire) P. S. D.—DR. BLAXALL.

This district includes, with the Fleetwood Urban, the Fylde and Garstang Rural Sanitary Districts.

Port Sanitary Authority.—Fleetwood Improvement Commissioners.

Port M. O. Health, and I. Nuisances.—Dr. Fassett, M. O. H., and Mr. Gantler I. of N. of the Urban District, are required to carry out the Port duties.

Shipping Trade.—With San Francisco, Valparaiso, Canada, United States, Spain, Portugal, West Indies, &c. During 1884, 143 vessels from foreign and colonial ports, and 1,196 coasters entered this Port.

Chief Facts reported.—Since the Port Medical Survey of 1884 inspection of vessels under P. H. A., § 92 has been carried out, also arrangements have been made between the Customs, and the P. S. A. for appointing a mooring station; and the M. O. H. has made himself acquainted with the requirements of the Cholera Regulations. The Port Sanitary Authority have no means of isolation of infectious cases, nor have the Urban Sanitary Authority.

B. 16. GLOUCESTER, Gloucester Division P. S. D.—DR. BLAXALL.

This district comprises Gloucester Urban, and Dursley, Gloucester, Thornbury, and Wheatenhurst Rural Sanitary Districts.

The docks at Gloucester and at Sharpness, together with several miles of ship-canal are included in this P. S. D.

Port Sanitary Authority.—Gloucester Town Council, who have hitherto defrayed the cost of administration, but who have recently applied to the Board to call upon the other Riparian Authorities to contribute.

Port M. O. Health.—Dr. Wilton, the M. O. H. of the Urban District, is appointed to carry out the Port duties.

Port I. Nuisances.—No officer appointed for the Gloucester section of the district, but the Dock-master is appointed I. of N. for Sharpness section.

Shipping Trade.—Baltic, America, Black Sea, Australia. Small craft from Nantes and other French ports. In 1834, 325 vessels arrived from foreign, and 4,295 coasters.

Chief Facts reported.—Inspection of vessels (P. H. A., § 92) has not been carried out, but the I. of N. at Sharpness is an intelligent man and promises to comply with the requirements of this section in future.

Pilots are instructed to make special inquiry as to the health of vessels on arrival, and to signalise by means of flags whether they come from infected ports, and whether sickness be present on board. In the event of sickness being present the vessel is to be brought up in the Kingroad, to be there boarded by the Customs Officer of Bristol, who would report the circumstance to the P. S. A. of Bristol, who would then take the necessary action to prevent the introduction of disease into this country. But, should an infected vessel reach Sharpness Dock she would have to remain there awhile since the rapid ebb of the tide would not admit of her egress. In this case immediate information of the arrival of the vessel would be sent to the Port M. O. H. who is well acquainted with the requirements of the Cholera Regulations. The authority have no means of isolation. It was proposed to erect an isolation hospital on a particular site, but, having in pursuance of instructions examined the site and found it unsuitable I advised that the Port and Urban Authorities should amalgamate for the purpose of providing elsewhere a suitable *permanent* hospital; and that meanwhile *temporary* provision for cholera cases should be made by the P. S. A. in the way of tents or huts. This latter recommendation has been acted upon.

B. 17. GLOUCESTER—Chepstow Division (Monmouthshire) P. S. D.—
 DR. BLAXALL.

This district comprises the Chepstow Urban and Rural Sanitary Districts.

Port Sanitary Authority.—Chepstow U. S. A.

Port M. O. Health.—Mr. King M. O. H. for the Urban District.

Port I. Nuisances.—Mr. Thorn I. of N. for the Urban District. These officers receive no special remuneration for Port Duties.

Shipping Trade.—Little or no foreign trade; one vessel only having arrived (from Baltic) during the last two years. The coasting trade is limited to a few colliers from Cardiff, grain barges from Bristol, and an occasional vessel from Plymouth.

Chief Facts reported.—No inspection of vessels under P. H. A., § 92. The Authority do not possess means of isolation of infectious disease, beyond some temporary provision of a very unsatisfactory character recently made for the reception of small-pox cases, which disease was epidemic in the town at the time of this inquiry. No Customs Officer is stationed at Chepstow. I explained to the Authority the duties required of them under the P. H. A. and the Cholera Regulations; and I further, pointed out to the M. O. H. that the fact of there being no Customs Officer at Chepstow rendered it the more incumbent upon him to be on the alert to board any vessel from foreign, that might arrive.

B. 18. HULL (Yorks) P. S. D.—DR. BLAXALL.

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Districts.

This comprises the Hull Urban Sanitary District alone.

Port Sanitary Authority.—Hull Town Council.

Port M. O. Health.—Dr. Mason the Health Officer of Hull Urban District.

Port I. Nuisances.—A Port I. of N. has been appointed, and also an Assistant I. of N. who is a mariner.

Shipping Trade.—With Denmark, Sweden, Germany, France, Alexandria, Odessa, India. Weekly traffic between Hull, Gottenburg, Hamburg, and Antwerp, brings over a number of transmigrants*, from various parts of the Continent en route, via Hull and Liverpool, for the United States, Canada, and other parts.

2,770 vessels from foreign and colonial ports, and 1,834 coasters entered this port in 1884.

Chief Facts reported.—Inspection of vessels under P. H. A., § 92 is undertaken; thus, out of a total of 4,604 vessels that entered this port in 1884, 2,346 were inspected.

Steamers engaged in passenger (transmigrants) traffic are boarded by the Port I. of N., as they come up the river. P. S. A. do not possess an isolation hospital. Port cases of infectious sickness are isolated in the Urban Sanitary Hospital, which is situated by the waterside, convenient for the purpose. The Customs Authority and the Port M. O. H. are fully acquainted with the Cholera Regulations; but the attitude assumed by the P. S. A. in regard to the duties required of them under the said Regulations is both unsatisfactory and embarrassing. This Authority have refused to recognise their responsibility in regard to cholera cases that may be found in vessels bound for Goole, which vessels would, seeing that the Customs' boarding station for *all vessels* bound up the Humber is in Hull waters, be rightly reported by the Customs' officer to the Hull P. S. A.

Moreover, this Authority have purposely avoided appointing a mooring station. With a view, if possible, to reconcile differences of this sort, I met in conference the Hull Port Sanitary Committee and representatives of the Goole Authority, and suggested that the Hull P. S. A. should carry out the measures required by the Cholera Regulations for the prevention of the introduction and spread of disease in respect of vessels bound for Goole, as well as of those bound for Hull, and that Goole should bear its own share of the expenses so incurred. This proposition was fully discussed and agreed upon, but the Town Council refused to ratify the recommendation of their own Port Sanitary Committee. The Board hereupon instituted a public inquiry with a view of constituting these S. A.'s a joint P. S. A.

B. 19. IPSWICH (Suffolk) P. S. D.—DR. AIRY.

This Port Sanitary District includes with the Ipswich U. S. D. parts of the Riparian Districts of Samford Rural and Woodbridge Rural, on opposite sides of the River Orwell.

* It perhaps deserves mention that the co-operation of the shipping firm chiefly engaged in the transmigrant traffic, and the railway station-master at Hull, in dealing with this class of people, has been promised to the Port Sanitary Authority; the former undertaking to instruct their officers and stewards to keep the passengers under supervision during their passage from the continent to this country; the latter promising to have the closets at the stations used by transmigrants to be kept under special disinfection.

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Port Sanitary Authority.—Ipswich Town Council.

Cost of Administration.—Defrayed by the P. S. A. alone; the included Riparian Districts do not contribute.

Port M. O. Health.—Mr. G. S. Elliston is M. O. H. for the borough and port, with a combined salary of 200*l*.

Port I. Nuisances.—Mr. G. Moss is I. of N. for the Borough and Port, with a combined salary of 144*l*.

Shipping Trade.—Chiefly with Baltic ports; a little with France, Spain, the Mediterranean, and the Black Sea. During the year 1884, 145 vessels from foreign ports, and 2,904 coasters, entered the port of Ipswich.

Chief Facts reported.—There is some inspection, occasional but not systematic, of vessels under the P. H. A., § 92. The M. O. H. seldom acts except in cases where the Customs Officers report sickness on board ship. [I represented to the Authority the danger attending the use of impure water brought by vessels from foreign ports. Masters of vessels are not willing to clean out their water-tanks.] The Urban Sanitary Authority have a very good, newly-built hospital for infectious diseases, consisting of three pavilions of two wards each, connected by covered passages (open at the sides) with a central administrative block. This hospital is distant about 1½ miles from the town, on high ground to the east. It has the town water laid on. Drainage dealt with by subsoil irrigation. Patients from on board ship might be conveyed to the hospital without passing through the town.

Vessels bound for Ipswich are first boarded in Harwich harbour, at the mouth of the river, by the Harwich Customs Officer. Any case of cholera found on board should, according to the Board's Cholera Order, be in charge of the Harwich P. S. A., *but the Harwich P. S. A. do not admit their responsibility in the case of a vessel bound for Ipswich.* If the vessel is allowed to proceed up the river, she takes a Harwich Customs Officer with her, who is cleared by an Ipswich Customs Officer coming on board, either at Butterman's Bay, six or seven miles below Ipswich, if the ship has to be lightered, or at the Ipswich Docks, if she can go right up.

Satisfactory arrangements have been made with the Ipswich Customs Authorities. The appointed mooring place for infected vessels is at Levington Creek, about five miles below the town.

The M. O. H. is acquainted with his duties under the Cholera Regulations, and prepared to carry them out.

A wing of the Urban Sanitary Hospital is reserved for cholera cases, if needful.

B. 20. LANCASTER (Lancashire) P. S. D.—DR. BLAXALL.

This district includes Lancaster, and Poulton-Bare-and-Torriholme Urban, and Lancaster Rural, Sanitary Districts.

Port Sanitary Authority.—Lancaster Town Council, who at present defray the whole cost of administration, but inasmuch as the Glasson Dock (where the principal part of the shipping trade is carried on) is situated within the Rural Sanitary District, the Port Sanitary Authority have applied to the Local Government Board for the Rural Authority to be made contributory.

Port M. O. Health and I. Nuisances.—Mr. Harker, M. O. H., and Mr. Smith, I. N. of the Urban District, are appointed respectively for the port duties, and are now paid by special salary, instead of by fee as was the case on my visit in 1884 to this port.

Shipping Trade.—With United States, Canada, Nova Scotia, Baltic, Hamburg, and Spain. Thirty-one vessels from foreign and Colonial ports, and 227 coasters entered the harbour in 1884.

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Chief Facts reported.—Since the above-named officers have been paid by special salary, the duties of inspection (by P. H. A., § 92) have been carried out. The P. S. A. do not possess an isolation hospital; but Port cases of infectious disease are isolated in the Urban Sanitary Hospital, which is conveniently situated for the purpose, being below the town and near the river. Cases of cholera brought in vessels could be isolated here; but, as was pointed out, separate provision by means of tents or huts on the adjacent land would be a preferable course. Port M. O. H. is thoroughly acquainted with the Cholera Regulations, and due arrangements have been made between the Customs and P. S. A. to give effect to the same.

B. 21. LYNN—King's Lynn Division (Norfolk) P. S. D.—DR. AIRY.

This district includes, with the King's Lynn U. S. D., the Riparian District of Freebridge Lynn (Rural). (Inland water communication by the Rivers Ouse and Cam.)

Port Sanitary Authority.—King's Lynn Town Council.

Cost of Administration.—Defrayed by the Port Sanitary Authority.

Port M. O. Health.—Mr. S. W. W. Wilson, who is also M. O. H. for the Urban District, receives a fee of 10s. 6d. for each visit of inspection to a vessel reported to him by the Customs Officer or by the I. of N.

Port I. Nuisances.—Mr. J. Hall (I. of N. for the Urban District), without salary or fees.

Shipping Trade.—Chiefly with Baltic ports, a little with France and Spain, the Mediterranean, Black Sea, and North and South America. During the year 1884, 246 vessels from foreign ports, and 671 coasters entered the port.

Chief Facts reported.—There has been no systematic inspection of shipping under the P. H. A., § 92; but only of vessels reported by the Customs Officer as having sickness on board. Eight such vessels were visited by the M. O. H. in 1884. The authority have a small isolation hospital about half a mile outside the town, consisting of one room with three beds, and a kitchen which is also a nurse's room. It is kept ready for use. There is space for extension. A large marquee is kept in store. The boarding station is off the dock-entrance; but vessels are met in the Roads by the Lynn pilots, who have orders not to bring into port any vessel with sickness on board, but to report such vessel to the Sanitary Authority. On information from the pilots, the M. O. H. communicates with the Customs Officers, who have orders from the Board of Trade in such case to send an officer with the M. O. H. to board the vessel in the Roads. The M. O. H. is prepared to carry out his duties under the Cholera Regulations. The mooring place for an infected vessel is in the Roads, out of the direct line of traffic. The Authority had once a floating hospital, but it fell into disrepair, and has been abandoned. It would, however, be easy to renew this provision. At present the only means of isolation is the very insufficient accommodation described above.

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B 22. LYNN—Wells Division (Norfolk) P. S. D. (Part of the Customs Port of Lynn).—DR. AIRY.

This Port Sanitary District includes all the waters abutting upon the parish (Urban Sanitary District) of Wells-next-the-Sea.

Port Sanitary Authority.—Wells Improvement Commissioners.

Cost of Administration.—Defrayed by the Port Sanitary Authority.

Port M. O. Health.—F. Long, M.D., who has held office since August 1881. His salary is 5*l.* a year.

Port I. Nuisances.—The former officer has recently died, and the office was vacant at date of inspection. Salary 3*l.* a year.

Shipping Trade.—Chiefly with Baltic ports, especially Riga and St. Petersburg; occasionally with Holland; rarely with France. During the year 1884, 10 vessels from foreign ports and 105 coasters entered the port.

Chief Facts reported.—Inspection of vessels under § 92, P. H. A. is carried out in such cases as are thought to require it. Two vessels were inspected in 1884. On one of them was a case of diarrhoea, not choleraic, attributed to impure water. The Authority have no isolation hospital, but propose, in case of need, to obtain the use of a disused coast-guard house (with three beds) on the sand-hills east of the harbour 2 miles from the town; or to moor a lighter in the lower part of the harbour (the "Run"); or to provide a tent hospital, to be erected on the sands on the east side of the harbour. Water would have to be specially conveyed to it from the town. The boarding station is at the Quay side. It is evidently important that vessels suspected of infection should be stopped before reaching the Quay. The Commissioners undertook to instruct the pilots and tug-master accordingly. The Port M. O. H. is prepared to carry out his duties under the Board's Cholera Regulations, with regard to any infected vessel. The mooring station is in the lower part of the harbour (the "Run").

B. 23. NEWHAVEN (Sussex) P. S. D.—MR. SPEAR.

This district includes so much of the port of Newhaven as abuts upon the Local Government District of Newhaven and the waters and places described in the Order of 16th May 1882.

Port Sanitary Authority.—Newhaven Local Board.

Cost of Administration.—Defrayed by P. S. A.

Port M. O. Health.—Dr. G. F. Fussell (M. O. H., East Sussex Combination); residence, Brighton. Salary 10*l.* S. A. propose to appoint a deputy M. O. H. living on the spot.

Port I. Nuisances.—Mr. Quaife, I. of N., Urban Sanitary District.

Shipping Trade.—With Dieppe, Honfleur, St. Nazaire (Brittany), and the Baltic. From Dieppe two packets per diem regularly; from Honfleur, one or two cargo boats per diem; from St. Nazaire, two steamboats weekly; a very irregular trade with the Baltic. Considerable coasting trade also. Gross amount of shipping, 1883:—Passenger ships, 1,095; cargo boats, 1,069; Foreign, (*i.e.*, boats registered abroad), 50.

Chief Facts reported.—Inspection of vessels carried out under § 92 of P. H. Act, 1875. A place appointed for boarding of vessels, and a verbal understanding as to the mooring of infected ships. A small hospital—at an old mill building, offering very

slight accommodation, and very ill-provided—in the hands of the Urban Sanitary Authority, it is thought might be made use of for cases of cholera brought by ship. It is situated three-quarters of a mile from the harbour, and is approached by a difficult ascent. Hand stretchers would be available. The Authority have hitherto failed to find a more convenient site for a hospital building. The Cholera Regulations were fully discussed with the Authority, the Sanitary Officers, the Chief Officers of Customs, and the Harbour-master; the Regulations appear to be understood.

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B. 24. NEW SHOREHAM (Sussex) P. S. D.—MR. SPEAR.

This district includes the Riparian Districts of Steyning Rural (four parishes of) and New Shoreham Urban.

Port Sanitary Authority.—"The Guardians acting as a Rural Sanitary Authority." (The representatives of the Urban Authority are excluded).

Cost of Administration.—Defrayed by both Sanitary Authorities, New Shoreham paying about one fifth of the whole.

Port M. O. Health.—N. H. Jarvis, salary 15*l.* per annum (a medical practitioner residing at Southwick).

Port I. Nuisances.—T. F. Gates, 10*l.* per annum (I. of N. in the Steyning Rural Sanitary District.)

Shipping Trade.—With the Baltic, Northern Ports of France, Channel Islands, Spain, British trade. In 1884 vessels from abroad, 286; coastwise, 337.

Chief Facts reported.—A place, somewhat difficult of access, appointed by the Customs Authorities for the mooring of infected ships. No hospital available for isolation. M. O. H. prepared to visit ships whenever requested; no inspection of vessels under § 92, P. H. Act.

Duties fully explained to Authority and Officers. M. O. H. undertakes to visit all ships from infected ports, or otherwise when it seems desirable. I. of N. to inspect all vessels from time to time.

**B. 25. PENZANCE, including HAYLE (Cornwall).—
DR. D. S. DAVIES.**

Administration.—Penzance, by the Town Council; Hayle, by the Hayle Local Board.

Shipping Trade.—(A. Penzance.) Timber from the Baltic, grain from New York; some French, but no Spanish trade; boats from the Mediterranean are mostly callers. There is some Channel Island trade, and considerable home coasting traffic; about 40 foreign vessels arrive with cargoes in the year.

Shipping Trade.—(B. Hayle.) Some timber trade with Norway, grain ships from Kronstadt, and an occasional vessel from France or Spain. There is no Mediterranean trade.

Inspection of Vessels under § 92, P. H. Act.—At Penzance, ships are inspected systematically. At Hayle, there appears to be no Port I. of N., but the Harbour-master calls in the aid of the M. O. H. when he thinks it necessary.

Arrangements made under the Cholera Order.—(A. Penzance.) The Customs' Officer is prepared to detain vessels and to give the notice required by the Order, and the M. O. H. is acquainted with

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and prepared to carry out the provisions of the Order. The anchorage ground is fixed in "Gwavas Lake."

(B. Hayle.) The anchorage ground is fixed at the "Dynamite Station." The arrangements as to execution of the Order are all understood.

Hospital Accommodation.—(A. Penzance.) There is a hospital available for Urban and Port purposes near the outskirts of the town, but this would not be used for cholera. A new hospital is contemplated, pending the completion of which temporary accommodation would be needed.

(B. Hayle.) Hospital accommodation is as yet only under consideration, and it is proposed to unite with Phillack U.S.D.

B. 26. POOLE (Dorsetshire) P. S. D.—DR. D. S. DAVIES.

This district includes Poole, Swanage, and Wareham Urban; and Poole, Wareham, and Purbeck Rural, Sanitary Districts.

Port Sanitary Authority.—The Town Council of Poole.

Port M. O. Health.—Mr. H. A. Lawton, who does not hold any other appointment under P. H. A.

Port I. of Nuisances.—Mr. J. Elford, Surveyor for the Poole U. S. D.

Shipping Trade.—Timber vessels from the Baltic, and some trade with France and the Channel Islands. No Mediterranean trade. There is considerable coasting trade with the Northern English and the South Wales Ports.

Chief Facts reported.—The systematic inspection of vessels under § 92, P. H. A. is satisfactorily carried out; care is taken to obtain information of any infectious disease arriving on board ship. The arrangements for carrying out the Cholera Order are made, and will be acted upon. There is hospital accommodation for infectious cases of permanent kind for seven patients, well situated and adapted for isolating cases of one disease; a mortuary is needed for this hospital; a boat with a canvas covering is provided for removal of patients from ship to hospital.

B. 28. PORTSMOUTH (Hants) P. S. D.—DR. BLAXALL.

This district includes the Portsmouth, Alverstoke, and Fareham Urban, and the Fareham Rural, Sanitary Districts.

Port Sanitary Authority.—Portsmouth Town Council

Port M. O. Health.—Dr. Sykes, M. O. H. of the Portsmouth Urban District.

Port I. of Nuisances.—The Harbour-master.

Shipping Trade.—With Corunna, Brest, Cherbourg, Baltic, &c. During the year 1884, 348 vessels arrived in the port from foreign and colonial ports, and 1,743 coasters.

Chief Facts reported.—No inspection of vessels under P. H. A., § 92. Prompt detection on certain occasions of infectious disease on board coasters by the Port I. of N.

Boarding station inside the harbour. Mooring station at Spithead for large ships only, no arrangement made in respect of small vessels.

Port M. O. H. is acquainted with the requirements of the Cholera Regulations. No isolation hospital provided for the Port District. Port cases of infectious sickness received into the Urban Sanitary hospital. Urban Sanitary hospital unfit, by reason of its situation, for the reception of cholera cases from shipboard. It was suggested to this P. S. A. authority that they should amalgamate with the

other authorities of the Solent, and make application to the Admiralty for the loan of the "Edgar" (quarantine hulk at the motherbank) already fitted up for the purpose of an isolation hospital. Application was accordingly made, but the Admiralty declined to *lend* the hulk though they offered to *sell* her. The Port S. A. are not disposed to purchase, and so the matter fell through. Meanwhile the frequent arrival home of troopships direct from India somewhat exposes Portsmouth to the danger of introduction of cholera. But at Portsmouth there exists no sanitary hospital for the reception of cholera cases.

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B. 29. PRESTON (Lancashire) P. S. D.—DR. BLAXALL.

The so-called Port Sanitary District of Preston is confined to the water of the town of Lytham.

Port Sanitary Authority.—Urban Sanitary Authority of Lytham.

Port M. O. Health.—The Urban M. O. H. nominally carries out the health duties of the Port.

Shipping Trade.—Small trade with Norway. In 1884, three vessels from Norway and 178 coasters.

Lytham itself has no shipping-trade, but vessels pass up to the town of Preston, either through the Port Sanitary District of Preston or, avoiding this, up the south side of the river. New docks in process of construction at Preston are to be completed in three or four years, when a great increase in the shipping trade is expected.

Chief Facts reported.—Vessels never stay within the limits of the Port Sanitary District, but pass up to Preston, where there is a quay appointed for the discharge of cargo. No boarding station, and no Customs Officer until Preston be reached. The M. O. H. has made himself acquainted with the Cholera Regulations. The constitution of the P. S. A. and boundaries of the district require amendment.

B. 30. ROCHESTER (Kent) P. S. D.—DR. DE CHAUMONT.

This District includes the Riparian Districts of Rochester, Chatham, and Gillingham Urban. Hoo, Malling, Medway, Milton and North Aylesford Rural.

Port Sanitary Authority.—Town Council of Rochester.

Cost of Administration.—Defrayed by contribution from the several Riparian Authorities.

Port M. O. Health.—Dr. Knight, who is also Urban M. O. H.

Port I. of Nuisances.—Two inspectors are employed for port purposes.

Shipping Trade.—Chiefly with Riga, Stockholme, Archangel, occasional vessels from Spain and Black Sea. During the year 1884, 392 vessels from foreign and 4,827 coasters entered the port.

Chief Facts reported.—Inspection of vessels under P. H. A., § 92 carried out. The authority do not possess an isolation hospital. Vessels from foreign or colonial ports bound for Rochester, are on arrival at the mouth of the Medway, boarded by the Customs within the jurisdiction of the P. S. A. of London, which authority undertakes the isolation and care of cases of cholera or other infectious disease discovered on board.

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B. 31. SOUTHAMPTON (Hants) P. S. D.—DR. BLAXALL.

This district includes Southampton, and Shirley-with-Freemantle Urban, and New Forest and South Stoneham Rural, Sanitary Districts.

Port Sanitary Authority.—Town Council Southampton.

Port M. O. Health.—Dr. Hope, recently appointed. He is not the M. O. H. of the Urban District.

Port I. of Nuisances.—Mr. Cox, appointed Port I. of N.

Shipping Trade.—Chiefly with Brazil, West Indies, Havre, Honfleur, Cherbourg, St. Malo, Channel Islands, etc. During 1884, 1,817 vessels from Foreign and Colonial ports, and 7,919 coasters entered this port.

Chief Facts reported.—Inspection of vessels under P. H. A., § 92 carried out. The P. S. A. have no isolation hospital of their own, but make use of the Urban Sanitary Hospital when requiring to isolate cases. Satisfactory arrangements made between the Customs and the P. S. A. for giving effect to the Cholera Regulations. The boarding station for large ships is about $1\frac{1}{2}$ miles down the river, but boats from Havre, St. Malo, etc. enter the docks before being boarded by the Customs. In the event of cholera spreading to any of the above-named ports, the Customs have authorised the boats arriving from thence to be boarded before they are allowed to enter the docks. The Urban Sanitary Hospital is not adapted for the reception of ship-borne cholera, and in the absence of any suitable provision for the isolation of such cases, it was suggested to the P. S. A. that they should unite with other of the Port and Riparian Authorities of the Solent in making application to the Admiralty for the loan of H.M.S. "Edgar" (part of the quarantine establishment at the motherbank) for the purpose. The suggestion, however, was not acted upon. This Authority under the discretionary power granted to the Local Authorities by the Rag Order of 1884, has freely permitted the importation of rags from *infected* countries; even from Havre, when cholera was present at Yport, only a few miles distant. Indeed, so little restriction has this Authority placed upon the rag trade during the prevalence of cholera on the Continent, that the importation of rags into Southampton greatly increased at the very period during which at other home ports, where due precautions against the introduction of infectious disease by this means were being observed, the rag-trade almost entirely ceased.

B. 32. SWANSEA (Glamorganshire) P. S. D.—DR. BALLARD.

This Port Sanitary District includes the Urban Districts of Swansea, Aberafon, Neath, Porthcawl, Margam and Oystermouth, and the Rural Districts of Bridgend, Cowbridge, and Swansea.

Port Sanitary Authority.—The Town Council of Swansea.

Cost of Administration.—The Urban Districts contribute in proportion to their several rateable values. The Rural Districts contribute in proportion to the rateable values of such of the contributory places within them as abut upon that part of the Customs Port which is within the jurisdiction of the Port Sanitary Authority.

Port M. O. Health.—Mr. Ebenezer Davies, M. O. H. of Swansea U. S. D., assisted by Dr. James Symes, M. O. H. of

Briton Ferry U. S. D., Dr. D. Davies, M. O. H. of Aberafon U. S. D., Dr. James of Porthcawl, Dr. Ryding, M. O. H. of Neath U. S. D. The Health Officers are paid by fee of 1*l.* 1*s.* for each visit made.

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Port I. of Nuisances.—Two Inspectors at Swansea specially appointed for port purposes, assisted by an acting I. of N. at Port Talbot, at Briton Ferry, and at Porthcawl. All paid by salary.

Shipping Trade.—With Baltic and Scandinavian ports generally, with northern ports of France and Spain, with European Asiatic and African ports of the Mediterranean, and with North and South American ports. During 1884, 7,651 vessels entered the port, viz: 1,851 foreign and 5,760 coasters.

Chief Facts reported.—Hospital provision of huts and tents sufficient, and held in readiness. The ordinary boarding stations are:—At Swansea, in basin just outside dock gates and at entrance to river. At Briton Ferry, outside entrance to dock. At Port Talbot, the extreme western part of float. At Porthcawl, between the buoys in the dock. For giving effect to Cholera Regulations, pilots are instructed to bring up at Mumbles Point in the outer roads all vessels with cholera on board or suspected of having cholera, as well as vessels from ports infected by cholera. The Port M. O. H. and I. of N. carry out their duties under the Cholera Order satisfactorily.

B. 33. TEIGNMOUTH (Devonshire) P. S. D.—DR. D. S. DAVIES.

This district includes Teignmouth Urban, and Newton Abbot Rural, Sanitary Districts.

Administration of the P. S. D.—By the Teignmouth Urban Sanitary Authority, the Port M. O. H. and I. of N. hold similar positions in the Urban District.

Shipping Trade.—Timber from the Baltic, occasional rags from the Russian ports (none in 1884), a few French traders, and some trade with the Channel Islands and the Mediterranean. Also a large coasting trade in coal with South Wales and the Northern English ports.

Chief Facts reported.—Inspection of vessels under § 92, P. H. A. systematically carried out, and attended by satisfactory results. Anchorage ground for infected vessels, and arrangements for notification under Cholera Order satisfactory. The Port M. O. H. is acquainted with the provisions of the Order and prepared to carry them out.

Hospital Provision.—The building formerly intended for use as a cholera hospital has been devoted to other purposes, and no means of isolation for cholera are now available. The Urban Sanitary Hospital is quite unfit in position, construction, and accommodation for use as an isolation hospital. On an emergency cholera tents would need to be provided.

B. 34. WORKINGTON (Cumberland) P. S. D.—DR. BLAXALL.

This district includes Workington Urban, and Cockermouth Rural, Sanitary Districts.

Port Sanitary Authority.—Workington Local Board constituted P. S. A. March 1885 in place of the Cockermouth Rural Sanitary Authority.

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Cost of Administration.—Defrayed by the Workington Local Board, and by the Cockermouth Rural Sanitary Authority which contributes in proportion to its rateable value.

Port M. O. Health.—The recently constituted P. S. A. had not, at the time of this inquiry, appointed a Health Officer for the Port. They had advertised for one on a salary of 5*l.* per annum, but had received no applications for the appointment as might be expected with promise of such small remuneration.

Inspector of Nuisances.—This officer had resigned shortly before this inquiry. He was reported to have inspected some 600 vessels (P. H. A., § 92), and to have found them in a fairly sanitary condition.

Shipping Trade.—Principally with Spain (iron ore). Depression in the iron market has caused a sensible decline in the shipping trade. The number of vessels arriving from foreign ports fell from 109 vessels in the year 1882 to 34 in 1884. The coastwise vessels that entered this port in 1884 numbered 1662.

Chief Facts reported.—No Port isolation hospital. The hospital belonging to the Urban Authority very inefficient and not suitable for the reception of cholera cases from shipboard. The Customs boarding station is situated at the docks or at the mouth of the river. No satisfactory arrangements yet made as to mooring station. Anchorage off the harbour exposed. The Collector of Customs attended at the conference I had with the P. S. A., when it was arranged that small vessels should be moored inside and large vessels outside the harbour, and that in the event of threatening weather captains should be at liberty to run elsewhere for shelter, the Customs engaging to telegraph their destinations to the Sanitary Authorities concerned. A site was also selected whereon to make temporary hospital provision for cholera patients from shipboard.

(C.) RIPARIAN DISTRICTS.

C. 1. ABERYSTWITH (Cardiganshire).—DR. D. S. DAVIES.

This Riparian District is under the jurisdiction of the Aberystwith Town Council acting as U. S. A.

Shipping Trade.—With the Baltic, America, Holland, France; and a considerable coasting trade with Bristol, Liverpool, Newport (South Wales), and Llanelly. In 1884, 17 foreign and 227 coasting vessels arrived.

Port M. O. H. and I. of N.—The Urban Officers.

Chief Facts reported.—Systematic inspection under P. H. A., § 92 has not been carried out. The S. A. have no sanitary hospital, but there is a building in their hands which could at small cost be converted into a temporary isolation hospital. The boarding station and anchorage for infected vessels are fixed, and arrangements made for notification to M. O. H., who is prepared to act.

C. 2. ALDEBURGH (Suffolk).—DR. AIRY.

This Riparian District is under the jurisdiction of the Plomesgate R. S. A. (the Board of Guardians). It has only two small landing places on its coast, Aldeburgh and Orford.

Shipping Trade.—With the Baltic and France. During 1884, only one vessel from a foreign port, and 100 coasters, arrived.

Chief Facts reported.—The R. S. A. have not had occasion to exercise any functions whatever in respect of the shipping coming

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under their jurisdiction. Inspection of vessels under the P. H. A., § 92, has not been carried out. The S. A. have no means of isolating infectious disease. No arrangements have been made with the Customs Officers. The M. O. H. for the Rural District has no acquaintance with the details of his duties under the Board's Cholera Order.

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At an interview with the R. S. A. I urged the provision of means of isolation, and the adoption of all available precautions against cholera. The S. A. appointed a Committee to consider the question of isolation.

[Since the date of my visit, the town of Aldeburgh has received a charter of incorporation, and has become an Urban Sanitary District, independent of the Plomesgate Rural Authority.]

C. 3. AMLWCH (Anglesey).—DR. D. S. DAVIES.

The Port of Amlwch is under the jurisdiction of the Anglesey Rural S. A.

Shipping Trade.—With Spain in copper ore, occasional French trade, coasting traffic in copper with Newcastle. In 1884, four foreign vessels arrived, and about 160 coasters.

Chief Facts reported.—The systematic inspection of vessels is not carried out in accordance with § 92, P. H. A. Arrangements for carrying out the provisions of the Cholera Order have been made, and the Rural M. O. H. is prepared to act. A cottage near Amlwch has been rented for hospital purposes by the R. S. A. It might be found difficult to provide nurses.

C. 4. BANGOR (Carnarvonshire) ; BEAUMARIS (Anglesey).—DR. D. S. DAVIES.

These two Urban Sanitary Districts are opposite one another on the Menai Strait, and are included in one Customs Port.

Shipping Trade.—Almost entirely to Bangor. American vessels with timber; a large outward slate trade, No French, Spanish, or Mediterranean trade.

Administration is by the U. S. As. and their officers. The systematic inspection of vessels under § 92, P. H. A. has not been carried out.

Chief Facts reported.—The Customs Officer is stationed at Bangor, but the Customs boarding station and the anchorage ground for infected vessels under the Cholera Order, are in the Beaumaris District. The arrangements for notification and procedure under this Order appear to be understood. The Customs Officer will notify to the Beaumaris Authority, who are the acting authority under the Order. Their M. O. H. lives in the north of Anglesey, so there is need of appointing a resident assistant medical man as M. O. H. under the Order. There is no hospital accommodation at Beaumaris, but the Bangor S. A. have a hospital tent, which they would, it appears, be willing to lend. The condition of affairs here is unsatisfactory, and the constitution for port sanitary purposes of a joint Board with equitable adjustment of expenses, would appear to be desirable.

C. 5. BARRÓW-IN-FURNESS (Lancashire).—DR. BLAXALL.

The Riparian District of Barrow-in-Furness is under the jurisdiction of the Urban Sanitary Authority of Barrow-in-Furness.

Shipping Trade.—With the Baltic, India, California, North America, Spain, the Mediterranean, Rotterdam, Antwerp. During the year 1884, 97 vessels from foreign and colonial ports and 1,835 coasters entered the port.

Chief Facts reported.—The Urban Medical Officer of Health is required to carry out the health duties of the port in respect of any vessel reported to him to have infectious sickness on board. This officer has made himself acquainted with the requirements of the Cholera Regulations.

The Urban Inspector of Nuisances has not received any special instructions with regard to vessels. No inspection of vessels under P. H. A., § 92, has been made.

The Urban Authority possess a useful infectious hospital, but the situation of the building is inconvenient for the reception of cases of cholera from shipboard. The drainage goes into the town sewers.

I advised the authority to provide suitable accommodation for this special purpose at Foulney Island, which is in the vicinity of the mooring station, and so, convenient for landing the cases.

C. 6. BARNSTAPLE AND BIDEFORD (Devonshire).—DR. D. S. DAVIES

As the boarding station off Appledore for vessels bound to Barnstaple (Barnstaple U. S. D.), Bideford (U. S. D.), Fremington (Barnstaple Rural S. D.), and all places within Barnstaple Bar is in the waters of the Northam U. S. D.; the Northam U. S. Authority becomes responsible for carrying out the Cholera Order with respect to such vessels. As there is no constituted P. S. A. there are no contributing Authorities, so the expense would fall upon Northam.

Shipping Trade.—During the year 11 foreign vessels and 1,878 coasting vessels came within the bar, bound to these various ports.

M. O. Health and I. of Nuisances.—The M. O. H. living at Bideford, and I. of N. living at Northam, would act as Riparian Officers. The Customs Officer at Appledore, within the Northam U. S. D., (where are the boarding station and anchorage ground) is prepared to communicate with the M. O. H., who understands and will carry out the Order.

There is no hospital accommodation although the Authority appear anxious to obtain one. In any emergency it is suggested to use an old barn on Northam Burrows. The road to this is bad, and the present building unsuitable, but it might serve for the commencement of an administrative block, or wards might be built out from it; the space for extension is ample.

C. 7. BERWICK-UPON-TWEED (Northumberland).—DR. PAGE.

This Riparian District is the Borough of Berwick-upon-Tweed, and is under the jurisdiction of its Sanitary Authority.

Shipping Trade.—Chiefly with Baltic ports, but to a small extent with Spain, Belgium, and South America. During 1884, 98 vessels from foreign and 293 coasters entered the port.

Chief Facts reported.—No inspection of vessels under § 92, P. H. A. has been made. The M. O. H. is acquainted with his duties under the Cholera Regulations. The Customs boarding station is at the Carr Rock, a projecting point on the south, or

Tweedmouth side of the estuary of the Tweed. As regards infected vessels, it was stated that infected persons would be removed to the Port isolation hospital, but that the infected vessel would be sent to the Firth of Forth or the Tyne for "purposes of detention and disinfection." I pointed out in my conference with representatives of the Sanitary Authority that it would be the duty of the Authority to see to the disinfection of vessels, and that it was clearly improper to allow a vessel to depart in a foul condition to other districts or ports. And I recommended that the Cholera Regulations should be stringently carried out. In regard to hospital provision, in addition to enteric fever wards at the infirmary, and the Borough Cottage Hospital for infectious diseases, there is a Port Hospital, erected in 1872. This building consists of two large wards, capable of accommodating eight patients, and is conveniently situated for access from the harbour or beach. There was no washhouse or mortuary attached to it at the date of my visit. Provision of these and certain other improvements were included as recommendations in my advice to the Sanitary Authority on the requirements of their district. A portable hand ambulance litter, and a steam disinfecting chamber upon wheels are in readiness for the purposes of the Urban Sanitary District.

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C. 8. BLYTH (Northumberland).—DR. PAGE.

The estuary of the River Blyth constitutes a port which is under the divided jurisdiction of the Urban Sanitary Authorities of South Blyth, Bedlingtonshire, and Cowpen; and in consequence of the eminently unsatisfactory administration of Port affairs resulting from this arrangement, I reported to the Board in favour of the constitution of a P. S. A., with jurisdiction over the whole Creek.

Shipping Trade.—Export of coal to the Mediterranean, Baltic, and Ports of the United Kingdom. Imports of timber, battens, and pit props from the Baltic. In 1884, about 150,000 tons of coal were exported, and the in-sailings were 309 vessels from foreign and 417 coasters.

Chief Facts reported.—No inspection of shipping under the P. H. A., § 92 has been made, nor have steps been taken to give effect to the Cholera Regulations. The M. O. H. for the Urban District of South Blyth has hitherto dealt with all shipping entering the estuary in respect of cases of infectious sickness on board. He is acquainted with the requirements of the Cholera Regulations. No arrangements have been made with the Customs Authority, and the Collector of Customs informed me that there is no isolated mooring or anchorage for an infected vessel in South Blyth waters. Such vessel would have to be moored in Bedlingtonshire waters on the north shore. The South Blyth Authority have a small Cottage Hospital conveniently accessible from the port; but it is indiscriminately used for the reception of medical and surgical cases of illness occurring on board ship; it is not adapted for the simultaneous treatment of two different infectious diseases; it is not effectually isolated, and there is no ambulance, disinfection, or mortuary provision in connexion with it.

C. 9. BRIDPORT (Dorsetshire) R.—DR. D. S. DAVIES.

Shipping Trade.—In flax with Russian (Baltic) ports, and small trade with France and Channel Islands. Coasting trade chiefly with Northern English ports and with South Wales.

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Chief Facts reported.—The U. S. A. and their officers administer the Riparian District. No systematic inspection of vessels under § 92, P. H. A. appears to be carried out. The anchorage outside the harbour is exposed, and in bad weather a vessel would have to run right in, or take shelter in Portland Roads. Harbour a mile from town. Arrangements for notification under Cholera Order made and order understood by M. O. H. A shed provided for cholera cases.

C. 10. BRIXHAM (Devonshire) R.—DR. D. S. DAVIES.

Shipping Trade.—There is very little foreign trade ; but many vessels, especially French fishing boats, run in for shelter during the year ; there is also a large home fishing trade.

Administration of this Riparian District is by the Brixham U. S. A. and their officers.

Chief Facts reported.—Anchorage for infected vessels in Torbay Roads, or under shelter of the Breakwater. Arrangements for notification under Cholera Order made, and provisions of Order apparently understood by M. O. H. No hospital provision made, but steps to this end promised by S. A. No systematic inspection of shipping under § 92 P. H. A.

C. 11. CARMARTHEN (Carmarthenshire).—DR. D. S. DAVIES.

(Including Carmarthen Urban, and Carmarthen R. S. D.)

Shipping Trade.—Trade with the Baltic and America. No Spanish or Mediterranean trade. Four foreign vessels all to Carmarthen arrived during 1884, and 321 coasters, including traders, within the bar. A few coasting vessels go to Laugharne. The boarding station for vessels bound to Carmarthen is at Ferryside, in the Rural District, 8 miles below Carmarthen, where a cholera vessel would be detained. The M. O. H. lives here, but the I. of N. lives beyond Carmarthen, and there are no means at Ferryside for isolating cases of infectious sickness.

Inspection under P. H. A., § 92.—This has not been carried out. It would have to be done at Carmarthen as all vessels not detained at Ferryside under the Order proceed, when the tide serves, up the river.

C. 12. CHICHESTER CREEK (Sussex).—MR. SPEAR.

The eastern shore of Chichester harbour and Itchenor channel (including the coastguard station at W. Wittering, the watch vessel, boarding station, and station for infected ships, and the Customs station at Itchenor) are within this Riparian District, which is under the jurisdiction of the Westhampnett R. S. A.

Shipping Trade.—Oyster boats from the French coast (principally from Havre), a very few boats from Jersey, and coasting traffic. 452 vessels or smacks passed the harbour mouth in 1884. 22 smacks from the French coast entered the harbour during the three months April–June, 1885. These boats contain usually three men, and will come in from 12 to 24 hours from Havre.

Chief Facts reported.—The coastguard at W. Wittering (entrance of the harbour), and the Customs officer at Itchenor, would anchor any infected vessel near their respective stations, and communicate with the Westhampnett R. S. A. The latter have not considered any further course. They have no hospital available ; they were not

acquainted with the Cholera Regulations; no inspection of vessels (Sec. 92 of P. H. Act) is made. Regulations explained, and appointment of coastguard (with the consent of the Admiralty) as I. of N. for shipping purposes advised.

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C. 13. FOWEY (Cornwall).—DR. D. S. DAVIES.

Fowey, partly in St. Austell partly in Liskeard Rural Sanitary District has some foreign trade in oranges and in timber, and a large number of callers. It is also engaged, as are Par, Charles-town, Penkewan and Gorran (in the St. Austell district) in the export of home products, chiefly China clay and mining produce.

The Fowey river dividing the St. Austell and the Liskeard R. S. Districts, some difficulty has arisen in connexion with the working of the Cholera Order. It appears that the anchorage ground under Art. 2 would be in the Liskeard District, but that the vessel would be removed for purposes of Art. 10 into the St. Austell District. Probably the difficulty would be entirely met by the constitution of a joint board. No hospital provision has been made (April, 1885). A local practitioner is empowered by the St. Austell R. S. A. to act as M. O. H. for port purposes at Par, Fowey, and Mevagissey in the absence of the proper officer; and this S. A. appears to be prepared to carry out the provisions of the Order.

C. 14. FISHGUARD (Pembroke).—DR. D. S. DAVIES.

Fishguard is the only Port of any note on a considerable extent of coast line in the Haverfordwest Rural Sanitary District. It has some timber traffic with the Baltic, also general trade with the Channel Islands and English coast towns. There is no French or Spanish trade. Vessels often shelter in the roadstead, so that altogether 10 or 15 ships may be in the harbour at one time.

Chief Facts reported.—The Customs Officer at Fishguard and the M. O. H. for this part of the Rural District are acquainted with and are prepared to carry out the Cholera Order. There is no permanent hospital provision, but a hospital tent at Haverfordwest belonging to the R. S. A. would, I am told, be available at short notice for any part of the District. No definite site for erection of this tent has been secured at or near Fishguard, and no definite arrangements have been made for duly equipping it when erected.

C. 15. GOOLE (Yorks).—DR. BLAXALL.

Goole is under the jurisdiction of the Goole Urban Sanitary Authority.

Shipping Trade.—Considerable trade is carried on with Boulogne, Dunkirk, Rotterdam, Rouen, Calais, Antwerp, Ghent, Hamburg, Ostend. During the year 1884, 1,152 vessels from foreign and colonial ports, and 1,043 coasters entered this port. Goole is also a terminus of an extensive canal system.

Chief Facts reported.—The Urban Authority of Goole have carried out their duty under the Canal Boats Acts, of registering canal boats but they have been unmindful of their obligations under the Public Health Act to secure the inspection of sea-going vessels. Their failure in this respect was pointed out to them

together with the peculiar facilities afforded by their shipping-trade, as by their canal traffic, for the introduction and spread of disease in their district. The Urban Authority possesses a Sanitary hospital which is used for the isolation of cases of indigenous infectious disease found on board vessels. With regard to arrangements for giving effect to the Cholera Regulations:—Vessels bound for Goole are boarded by the Customs Authority within the Port Sanitary District of Hull, and in the event therefore of cholera being found present on board any vessel, it becomes the duty of the Customs to report the circumstance to the Hull Port Sanitary Authority, upon whom would then devolve the responsibility of taking action necessary for preventing the introduction and spread of the disease. The Hull Authority, however, declined to admit their responsibility in regard of vessels bound for Goole. Subsequently, at a conference I held with the Hull Port Sanitary Committee, representatives of the Goole Authority being present, it was arranged that the Hull Authority should take all needful action in respect of cholera cases found on board Goole ships, Goole undertaking to pay the additional expenses thereby incurred by Hull. The agreement thus arrived at did not, however, get the sanction of the Hull Town Council, and in consequence this Board have since held a public inquiry with a view to constituting a joint Port Sanitary Authority for the Humber.

C. 16. GRIMSBY (Lincolnshire).—DR. BLAXALL.

Grimsby is under the jurisdiction of the Grimsby Urban Authority.

Shipping Trade.—With the Baltic, Black Sea, America, Dieppe, Rotterdam, and Antwerp. Passenger traffic twice a week with the Continent, by which a small number of transmigrants are brought over to this country en route for America or elsewhere. In 1884, 1,151 vessels from Foreign and Colonial Ports and 2,411 coasters arrived in this port. Fishing trade considerable.

Chief Facts reported.—No inspection of vessels under P. H. A., § 92. The Urban Authority possess an iron infectious hospital of faulty construction; the drainage from the building goes into the town sewers. It is not suitable for the isolation of cholera cases from vessels. The Medical Officer of Health of the Urban District has made himself acquainted with the Cholera Regulations. No arrangement had been made as to a mooring station, but after the subject had been discussed at the Conference, an agreement was entered into between the Collector of Customs and the Authority to appoint a suitable spot as a mooring station for infected vessels; also a resolution was passed to appoint a Port Inspector of Nuisances.

C. 17. HARRINGTON HARBOUR (Cumberland).—DR. BLAXALL.

The Urban District of Workington and the Rural District of Whitehaven abut upon Harrington Harbour, and vessels pass quickly from one district to the other, and the Customs boarding may take place in either district; but vessels for the most part bring to in the Whitehaven Riparian District where the process of loading and unloading cargo is carried out.

Shipping Trade.—Little or no Foreign trade.

During 1884, vessels from Foreign ports, nil. Coasters inwards, 215.

Chief Facts reported.—No arrangements made to give effect to the Cholera Regulations. At the Conference held in regard of this matter there were present representatives of the Workington (Port and Urban), and Whitehaven (Rural), Sanitary Authorities and representatives also of the Harrington Parochial Committee. I suggested that Harrington should be included in the Port Sanitary District of Workington, and that it should contribute towards defraying the cost of administration in proportion to its rateable value. As regards the Cholera Regulations, as a temporary arrangement in view of any emergency, the Workington Port Sanitary Authority agreed to carry out the Cholera Regulations should any vessel arrive at Harrington with cholera on board.

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C. 18. HOLYHEAD (Anglesey).—DR. D. S. DAVIES.

Administration by the Holyhead Urban Sanitary Authority.

Shipping Trade.—Regular daily steam traffic with Dublin. Only one or two foreign ships inwards in the year, but vessels from all parts frequently put in the harbour for refuge.

Chief Facts reported.—Systematic inspection of vessels not carried out. It would be difficult to do this with all vessels frequenting the harbour for refuge, but vessels arriving to discharge or communicating with the shore might easily be inspected. The Officer of Customs is prepared to give immediate notice of any infectious disease to the Sanitary Authority, and to detain and notify cholera arrivals in accordance with the Order. An Assistant M. O. H. under the Order has been appointed to act in case the M. O. H. (who lives at Llanerchymedd), cannot attend within the prescribed time.

A convenient hospital on Salt Island is available for the use of the Sanitary Authority for cases of cholera or other infectious disease removed from ship-board. The infectious ward contains two beds; there is room for extension in what is now a public recreation ground. The hospital is sewered by a separate drain to the sea.

C. 19. LLANELLY (Carmarthen).—DR. D. S. DAVIES.

This Riparian District is under the jurisdiction of the Llanelly Urban Sanitary Authority.

Shipping Trade.—There is a large trade in pit props. In 1884, 218 foreign vessels arrived. There is trade with the North of France, the North of Spain, including Bilbao, with Norway, Sicily, and New Brunswick; also considerable coasting trade.

The M. O. Health and I. Nuisances.—The officers of the Urban District act also for the port.

Chief Facts reported.—Systematic inspection of vessels under § 92, P. H. Act has not hitherto been undertaken. The Urban Authority has provided one of Dæcker's Patent Portable Hospitals; it is to be set up upon a site near to the docks for the accommodation of any cholera cases requiring to be dealt with. Arrangements with the Customs for the execution of the Cholera Order have been made.

C. 20. LITTLEHAMPTON (Sussex).—MR. SPEAR.

The Littlehampton Urban (in which are nearly all the discharging wharves), and the East Preston Rural are the Sanitary Districts concerned. About 20 small vessels yearly, besides

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barges, pass Littlehampton, and proceed up the River Arun to Arundel in the Arundel Urban Sanitary District.

Shipping Trade.—With Baltic and France (Northern Ports). About 55 vessels yearly, but principally from March to October, enter from abroad; 422 coastwise.

Chief Facts reported.—A Port S. A. was at one time in existence here, but has now "lapsed." The coastguard boards vessels entering the harbour, and takes charge of them until the Customs officer arrives; the possibilities of seamen landing meanwhile, and of landmen visiting the vessels seem insufficiently guarded against. A place has been appointed under Article 2 for the mooring of infected vessels; but, as it is just beyond the Urban Authority's boundaries, and within the district of the Rural Authority (one comparatively little concerned), it is not altogether satisfactory. Neither of the Authorities have provided any hospital, nor has any inspection of shipping (§ 92, P. H. Act) taken place.

Requirements of Cholera Order, and of P. H. Act, fully explained. Arrangements for giving them effect are to be made.

[Littlehampton has now (June 1886) been reconstituted a Port Sanitary District. It is to be administered by a Joint Board, composed of members of the Littlehampton Urban, and the East Preston Rural, Sanitary Authorities.]

C. 21. MARYPORT (Cumberland).—DR. BLAXALL.

The Riparian District of Maryport is under the jurisdiction of the Maryport Urban Sanitary Authority.

Shipping Trade.—With British North America, United States, Australia, Spain, Baltic. The foreign trade has fallen off considerably during the last four or five years, but the coasting trade is still important. During the year 1884, 42 vessels from foreign and colonial ports and 1,421 coasters entered the port.

Chief Facts reported.—Inspection of vessels had not been carried out, nor had steps been taken to give effect to the Cholera Regulations. No arrangements had been made with the Customs authority. The Collector of Customs attended the conference I held with representatives of the Authority, and he pointed out the dangerous character of the anchorage off the town. Arrangements were made as a result of the conference for mooring infected vessels in a very large dock, which is little used, and which affords ample space for the purpose; also for erecting huts near-by for isolating persons suffering from cholera removed from the vessels. Subsequently the clerk informed the Board that an officer had been appointed to inspect vessels.

C. 22. MIDDLESBROUGH AND STOCKTON (Yorkshire and Durham).— DR. BLAXALL.

This district includes Eston, Kirkleatham, Middlesborough, Normanby, Stockton, and South Stockton, Urban; and Guisborough, Hartlepool, and Stockton Rural Sanitary Districts.

The several Riparian Authorities of the River Tees, of which Middlesborough and Stockton are the principal, carry out considerable shipping trade with Spain, Italy, Black Sea, Baltic, Rotterdam, Antwerp, and St. Malo; there is also a considerable coasting trade. During the year 1884, 1,171 vessels from Foreign and Colonial Ports, and 2,139 coasters entered the port of Middlesborough, and 186 Foreign, and 546 coasters entered Stockton port.

Chief Facts reported.—The several Authorities had not carried out the duties devolving upon them in regard to the P. H. Act; but in 1884, recognising how greatly the Foreign trade exposed their several districts to the risk of introduction of cholera, the Authorities combined together and provided a floating hospital for the reception of cholera cases. Satisfactory arrangements were also made with the Customs Authority as to appointing a mooring station, and for giving effect to the Cholera Regulations generally. In 1885, the amalgamation of the several Authorities was abandoned, whereupon the Board held a public inquiry and in January 1886 and constituted a joint Port Sanitary Authority under the name of the River Tees Port S. A.

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C. 23. MILLOM (Cumberland).—DR. BLAXALL.

Millom is under the jurisdiction of the Millom Urban Sanitary Authority.

Shipping Trade.—Millom is a Customs Creek in the Whitehaven Customs Port. There was no separate return of the shipping trade from this District till September 1884, from which date to the end of the year one vessel from foreign, and 206 coasters entered the district. The waters of this Riparian District are shallow.

Chief Facts reported.—The Urban M. O. H. and the I. of N. were present at a conference I had with the S. A. No infectious hospital provision, and no mooring station. The shallowness of the water presents some difficulty in the matter of selecting a suitable spot for the latter. The Cholera Regulations were fully discussed at the Conference, when the Customs Officer and the Authority agreed together to make arrangements adapted to give effect to the Cholera Regulations so far as circumstances would admit; and it was arranged that in the event of any cases of cholera being brought into the district in vessels, the Urban M. O. H. would take action in accordance with his duties under the Cholera Regulations.

C. 24. MORECAMBE (Lancashire).—DR. PAGE.

The Riparian District is under the jurisdiction of the Poulton-Bare-and-Torrisholme Urban Sanitary Authority.

Shipping Trade.—The port is situated at Morecambe, the only place within the district having any seagoing trade. The trade is with Scotland and Cumberland in pig iron, and there is a weekly steamboat service with Ireland (Londonderry) for passengers and cattle. During the year 1885, no foreign vessel entered the port; coasters numbered 376.

Chief Facts reported.—No inspection of vessels under § 92, P. H. A., has been carried out. The clerk and other officers of the Urban Sanitary Authority had, until the date of my visit, been under the misapprehension that the port of Morecambe was under the jurisdiction of the neighbouring Lancaster Port Sanitary Authority. The error apparently arose out of the circumstance that the Poulton-Bare-and-Torrisholme Sanitary Authority had been included amongst the Authorities in the Order which constituted the Lancaster Port Authority. But upon making inquiry of the clerks of their respective districts, I am informed that no part of the district in question abuts upon the River Lune or upon any of the waters of the Port Sanitary District of Lancaster. There is no hospital provision within the district. The Sanitary Authority have, I am told,

unsuccessfully endeavoured to combine with the adjoining Urban and Rural Sanitary Districts of Lancaster in making joint hospital provision for infectious diseases. There is no mortuary. The Customs boarding station is in Morecambe Harbour. In the event of an infected vessel arriving the master would be ordered by the Officer of Customs to anchor at No. 3 Bell Buoy, 2 miles westward, who would then communicate with the M. O. H. of this Urban District. I advised the M. O. H. to make himself acquainted with the Cholera Regulations, and at my interview with members of the Authority impressed upon them the necessity of systematic inspection of shipping.

C. 25. MOSTYN (Flintshire).—DR. D. S. DAVIES.

Mostyn Quay, Bagillt, and Connah's Quay are included in the Riparian District of Holywell, which is administered by the Holywell R. S. A.

Shipping Trade.—Copper pyrites are brought to Mostyn from Spanish ports. About 100 foreign vessels arrived to discharge during the 12 months, chiefly steamships, performing the journey in eight or nine days. There is also considerable coasting traffic with all the Deeside ports. In sailing coasters during 1884, 1,824.

Chief Facts reported.—There is a separate M. O. H. and I. of N. for the North and South Divisions of the Holywell R. S. D., and these officers perform port duties. No systematic inspection of vessels is attempted; but arrangements for notification of cholera and other infectious diseases by the Customs Officers have been made, and one or other of the M. O.'s H. would deal with infected ships under the Order. A small wooden hospital has been erected during the year upon the quay at Mostyn for the reception of cholera cases.

C. 26. PADSTOW (Cornwall).—DR. D. S. DAVIES.

All vessels entering the Camel River, on the estuary of which Padstow is situated, are bound either to Padstow itself or to Wadebridge, some 4 or 5 miles higher up.

The shores of the estuary include three Riparian Districts, namely, Padstow Urban, Bodmin Rural, and St. Columb Major Rural.

The Boarding Station and Anchorage Ground under the Cholera Order for all vessels entering the haven are situated between Hawker's Cove and Harbour Cove, or in bad weather at "The Pool." The difficulties in the way of deciding in which Riparian District a vessel would be under one and another set of circumstances, are so great that the constitution of a P. S. A. here is imperative for the effectual protection of the harbour.

At present no systematic inspection of shipping is attempted; complete uncertainty prevails as to carrying out the General Cholera Order, and there is no available isolation hospital provision in either of the three Riparian Districts.

C. 27. PORT MADOC (Carnarvonshire).—DR. D. S. DAVIES.

Port Madoc is under the jurisdiction of the Ynyscynhaiarn Urban Sanitary Authority,

Shipping Trade.—Chiefly in slates. Trade with Hamburg, Bremen, Odense, Antwerp, and various Baltic, Danish, German, and French Ports. 49 foreign arrivals in 1884.

M. O. Health and I. of N.—Dr. Rees of Carnarvon. The I. of N. lives at Port Madoc. APP. No. 9 (a).

Chief Facts reported.—Systematic inspection of vessels not carried out. No hospital accommodation for infectious cases. Arrangements made for boarding and detention of vessels under the Cholera Order, and for securing the services under the Order of an assistant M. O. H. in the event of Dr. Rees not being able to act in a particular instance within the prescribed period.

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C. 28. RUNCORN (Cheshire).—DR. AIRY.

This Riparian District is under the jurisdiction of the Runcorn U. S. A. (Board of Improvement Commissioners). It has a certain amount of shipping trade, and extensive inland water communication by the Bridgewater and Weaver Canals.

Chief Facts reported.—Inspection of vessels, other than canal boats, had not been carried out. No special arrangements had been made for giving effect to the Cholera Regulations. As regards a mooring place for infected vessels, there is no safe anchorage near Runcorn, and the Commissioners have not succeeded in their endeavour to arrange with Liverpool for permission to anchor within that port vessels found at Runcorn to be infected.

The Urban Authority have an isolation hospital on a hill above the town, containing at present one ward with four beds. A second similar ward was in course of construction at the time of my visit. Water is supplied to this hospital from the Runcorn Waterworks. The hospital does not communicate with the town sewers. It would be quite suitable for the reception of cases of cholera, though it is difficult of access by a steep road.

C. 29. SALCOMBE (Devon).—DR. D. S. DAVIES.

The trade here is almost entirely coasting. There is no foreign trade, but W. Indian vessels call for orders.

Salcombe is the Boarding Station. The Authorities are prepared to take precautions in case of need.

There is no hospital provision.

C. 30. SANDWICH (Kent).—DR. D. S. DAVIES.

Shipping Trade.—Chiefly coasting, communication with Sunderland, Hartlepool, and Shields, South Wales, London, and Guernsey. Also one or two timber ships from the Baltic.

Chief Facts reported.—The Boarding Station is at some distance from the town, the portion of river intervening lies between the Riparian Rural Districts of Eastry on the one hand and Thanet on the other. There is no hospital accommodation and no inspection of shipping carried out. A copy of the Cholera Order has been sent to this S. A.

C. 31. SCARBOROUGH (Yorks).—DR. BLAXALL.

This Riparian District is under the jurisdiction of the Scarborough U. S. A.

Shipping Trade.—Scarborough carries on a small trade with Norway and Sweden, and is a place of call for French fishing boats. During the year 1884, the insailings were 34 vessels from foreign ports and 317 coasters.

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Chief Facts reported.—The open harbour of Scarborough does not afford safe anchorage, while the artificial harbour is too small to afford space for the accommodation of an infected vessel. Both the Collector of Customs and the Urban M. O. H. are acquainted with the provisions of the Cholera Regulations, and are prepared to carry them out to the best of their ability. Should stress of weather render it necessary for an infected vessel to run for shelter they would immediately telegraph her place of destination to the Authority concerned. Efficient means for the isolation of cholera cases can be secured in the Sanatorium, a building which stands in the grounds of the Urban Sanitary Hospital. Inspection of vessels and P. H. A., § 92 has not been carried out.

C. 32. SEAHAM HARBOUR (Durham).—DR. PAGE.

The Riparian District of Seaham Harbour is under the jurisdiction of Seaham Harbour U. S. A.

Shipping Trade.—Export of coal; most of the vessels belong to the Marquis of Londonderry, owner of the port, and are employed in regular traffic between the Seaham Collieries and the Thames. The in-sailings during 1884, were 109 ships from foreign and 1,983 coasters.

Chief Facts reported.—No inspection of vessels under § 92, P. H. A., has been made, nor effect given to the Cholera Regulations. The Collector of Customs, is prepared, so far as the duties of the Officer of Customs under the Board's Order are concerned, to act thereon. He pointed, however, out to me that there is no safe mooring place here for vessels; Seaham Harbour consisting of three small docks and an outer basin, the latter only large enough to enable a ship to be swung round for the purpose of entering the docks. The anchorage would be unsafe when it blew dead on shore. As regards the Cholera Regulations, the S. A. have resolved, so I am informed by the Chairman, who is also Lord Londonderry's agent, that no infected ship shall be allowed to enter, and that instructions have been issued to pilots to signal the condition of each ship to the harbour-master, who is, in the event of cholera being on board, to refuse arrival to such ship. An infected vessel would in this case have to proceed to the Tyne, Wear, Tees, or Humber Ports. In my interview with representatives of the Authorities I stated that the Cholera Regulations should be duly observed. As regards hospital provision, there is, in addition to a small two-roomed cottage of make-shift character, belonging to the S. A.,—a well-equipped Seamen's Hospital, towards the maintenance of which dues are levied upon all ships entering the port, and into which all cases of illness in ships' crews, whether of an infectious or non-infectious character, are admitted.

C. 33. SILLOTH (Cumberland).—DR. BLAXALL.

This Riparian District is under the jurisdiction of the Silloth U. S. A.

Foreign trade is inconsiderable, and carried on chiefly with Hamburg, South America, Spain, and the Baltic. During 1884, 16 vessels arrived from foreign ports, and 648 coasters.

Chief Facts reported.—The Sanitary Authority had not fulfilled the duties incumbent upon them under the Public Health Act. The Authority were proposing to send infected vessels some 9 miles

or so out of the district; but on its being pointed out at a conference I had with them that they had no authority to do this, the proposition was abandoned, and a suitable place appointed for a mooring station for infected vessels. The Authority at this conference were further advised to provide a hospital hut capable of being erected at short notice, on a spot remote from dwellings and conveniently situated for landing cases from infected vessels. This recommendation, I am informed, has since been acted upon.

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C. 34. WATCHET (Somersetshire).—DR. D. S. DAVIES.

Minehead, Watchet, and Porlock are creeks in the Rural Sanitary District of Williton.

Administration is carried out by Williton R. S. A. and the M. O. H. and Is. of N. of the East and West Division of the R. S. D.

Shipping Trade.—To Watchet, chiefly foreign trade with the Baltic, five or six vessels yearly. Coasting trade with Swansea in coals, total shipping inwards 297 in 1884.

Chief Facts reported.—No systematic inspection under P. H. A., § 92. No infectious diseases hospital provided. The general arrangements for notification and execution of the Cholera Order appear not unsatisfactory.

C. 35. WHITBY (Yorkshire).—DR. BLAXALL.

This Riparian District is under the jurisdiction of the Whitby U. S. A.

Shipping Trade.—Principally with the Baltic. During the year 1884, 18 vessels from foreign and colonial ports, and 908 coasters arrived in this port. In addition there is the fishing trade, which is considerable.

Chief Facts reported.—The Urban M. O. H. and the I. of N. have not received any special instructions with regard to their duties under the P. H. A. in respect of vessels; but the M. O. H. has made himself acquainted with the Cholera Regulations and is prepared to carry them out, should occasion arise, so far as it may be in his power to do so; but the Authority are unprovided with means of isolation for cholera cases or other infectious diseases. In 1884, the Authority being apprehensive of the introduction of cholera by vessels, requested the Collector of Customs to apply to the Commissioners for permission to board outside in Whitby roads. The Commissioners, however, refused to grant this application, on the ground that the trade was exclusively with the Baltic, where there was no cholera present. At a conference I had with the S. A. the importance of making suitable provision for the reception of cholera cases was urged upon the Authority.

C. 36. WHITEHAVEN (Cumberland).—DR. BLAXALL.

This Riparian District is under the jurisdiction of the Whitehaven U. S. A.

Shipping Trade.—With Baltic, North America, Spain, South America. During the year 1884, 27 vessels from foreign and colonial ports, and 1,646 coasters entered the port.

Chief Facts reported.—Inspection of vessels as required by the P. H. A., § 92 had not been carried out, nor had steps been taken to give effect to the Cholera Regulations. No arrangement had been

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made with the Customs Authority as to the detention of vessels and as to appointment of a mooring station. The Collector of Customs attended the conference I held with representatives of the Authority, when these matters were settled; but the Urban M. O. H. intimated that he would have nothing to do with cholera vessels. The Authority do not possess an isolation hospital, but are allowed to isolate cases in a very imperfect hospital which belongs to the Harbour Commissioners. In subsequent correspondence the clerk to the Authority informed the Board that an officer had been appointed to inspect vessels, and that the Cholera Regulations would be carried out.

C. 37. WOODBRIDGE (Suffolk).—MR. SPEAR.

This Riparian District is under the jurisdiction of the Woodbridge R. S. A.

Shipping Trade.—With the Baltic and with English ports. During the year 1884, some 120 small "coasters," and about six ships from the Baltic entered; besides a number of barges from Harwich, Ipswich, London, &c.

Chief Facts reported.—A place has been appointed for the mooring of infected ships, but no other action has been taken under the Cholera Regulations, and no inspection of vessels (§ 92, P. H. A.) has been made. The R. S. A. possess a small cottage hospital, but its situation would hardly permit of its use for the reception of a cholera patient arriving by ship; the accommodation afforded by it is moreover of the slightest. The duties of the Authority with respect to vessels, &c., under the Cholera Regulations and under the P. H. A. were pointed out.

C. 38. YARMOUTH (Norfolk), Riparian.—DR. AIRY.

This Riparian District is under the jurisdiction of the Great Yarmouth U. S. A. (the Town Council). The trade of Yarmouth, the degree in which the port is frequented by passing vessels, and the extent of its inland water communication, give it special importance in respect of port sanitation. It is now proposed to constitute Yarmouth a P. S. D.

Shipping Trade.—With Norway and the Baltic (for timber), a little with France and Spain, coasting trade with Sunderland and the Tyne (for coal). During the year 1884, 243 vessels from foreign ports and 988 coasters entered the haven, besides fishing boats.

Chief Facts reported.—The Urban M. O. H., Mr. John Bately, is charged with the duty of inspecting and taking action under the P. H. A. and Cholera Regulations with regard to any vessel reported to him as having infectious disease on board. Mr. Bately is well acquainted with the requirements of the Cholera Regulations, and is prepared to carry them out.

There is no systematic inspection of vessels under P. H. A., § 92.

The U. S. A. have a useful isolation hospital, accessible from the beach without traversing the town. But it would probably be best to make some special provision for cholera cases.

The Customs boarding station is just within the mouth of the Haven. The appointed mooring place for infected vessels is at a point about half a mile up the Haven.

No. 9 (b).

ABSTRACT of INSPECTORS' REPORTS on the SANITARY SURVEY.

APP No. 9 (b).

Various Metropolitan, Urban, and Rural Districts.

TABULATED.

DISTRICTS IN METROPOLIS		Pages 202-9	RURAL SANITARY DISTRICTS.		Pages
URBAN SANITARY DISTRICTS.					
In Cambridge	-	- 230-33	In Cambridge	-	- 310-13
„ Cheshire	-	- 254-57	„ Cheshire	-	- 326-29
„ Cornwall	-	- 242-45	„ Cornwall	-	- 322-29
„ Cumberland	-	- 282-85	„ Devon	-	- 318-21
„ Devon	-	- 234-41	„ Dorset	-	- 314-17
„ Dorset	-	- 246-49	„ Durham	-	- 334-41
„ Durham	-	- 266-77	„ Essex	-	- 314-17
„ Essex	-	- 226-29	„ Hampshire	-	- 310-13
„ Gloucester	-	- 246-49	„ Huntingdon	-	- 310-13
„ Hampshire	-	- 218-25	„ Kent	-	- 302-9
„ Huntingdon	-	- 226-33	„ Lincoln	-	- 326-29
„ Kent	-	- 206-17	„ Northampton	-	- 310-13
„ Lancashire	-	- 250-57	„ Northumberland	-	- 338-45
„ Lincoln	-	- 230-33	„ Somerset	-	- 326-29
„ Monmouth	-	- 282-85	„ Suffolk	-	- 314-17
„ Norfolk	-	- 226-29	„ Sussex	-	- 306-9
„ Northumberland	-	- 274-81	„ York—East Riding	-	- 330-33
„ Somerset	-	- 246-49	„ York—North Riding	-	- 330-33
„ Sussex	-	- 214-21	„ York—West Riding	-	- 330-33
„ York—East Riding	-	- 258-61			
„ York—North Riding	-	- 258-65			
„ York—West Riding	-	- 254-57			
			„ North Wales	-	- 350-53
„ North Wales	-	- 286-89	„ South Wales	-	- 342-49
„ South Wales	-	- 286-301			

[Where subsequent inquiries were directed by the Board as to action taken by Sanitary Authorities (see column 17 of these tables), they were in many cases made, or replies were received, while this report has been preparing for press. In such cases the later facts have been inserted.—July 1886.]

METROPOLITAN WATER-SIDE DISTRICTS.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
WHITECHAPEL - Dr. de Chaumont, Feb. 1885. P. 71,314.	Fair for a district difficult to manage.	Metropolitan system - - -	W.c's generally - - -
ST. GEORGE-IN-THE EAST. Dr. de Chaumont, Feb. 1885. P. 47,157.	—	Metropolitan system - - -	W.c's. The vestry is now enforcing the provision of water-flushing arrangement for every closet. Pains taken to enforce cleanliness in poor neighbourhoods.
LIMEHOUSE - - Dr. de Chaumont, Feb. 1885. P. 58,543.	—	Metropolitan system. In Limehouse Fields very low-lying sewer: ventilators offensive. Sewer probably a sewer of deposit.	W.c's. Flushing arrangements only where closets are within dwellings.
POPLAR— Dr. de Chaumont, Feb. 1885. P. 156,510.	—	Metropolitan system. Occasional complaints of offensive odour from ventilators.	W.c's, but often without flushing arrangements in poorer houses.
<i>Northern Part,</i> Bow and Bromley.	—	Metropolitan system, but unsatisfactory: sewer sometimes surcharged and many houses flooded.	Ditto - - -
<i>Southern Part,</i> Poplar and Isle of Dogs.	—	Metropolitan system. Satisfactory.	—
ROTHERHITHE - Dr. de Chaumont, Feb. 1885. P. 36,024.	—	Metropolitan system. Satisfactory.	—
BERMONDSEY - Dr. de Chaumont, Mar. 1885. P. 86,652.	—	Metropolitan system. Offensive smells from sewer gratings, and apparently considerable deposit in sewers.	W.c's: about $\frac{1}{2}$ of them without flushing arrangements.
GREENWICH - - Dr. de Chaumont, Feb. 1885. P. 131,233.	—	Metropolitan system. Accumulations occur in main sewer, causing nuisance.	W.c's - - -

METROPOLITAN WATER-SIDE DISTRICTS.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Fair - - -	East London Waterworks, mostly on constant system. cleared away under Artizans and Labourers Dwellings Acts, but still some crowded and dirty neighbourhoods. Some of these have been condemned. A colony of Polish Jews exceptionally slovenly and filthy in habits. Many dock labourers in district, but few seamen.	Many of worst parts of district have been	Some overcrowding.	—
Satisfactory -	East London Waterworks: mostly on constant system. Where still intermittent, butts and cisterns in fair order.	Decreasing population. Several clearances effected under A. and L. Dwellings Acts, and more in contemplation where there are crowded and unwholesome areas.	Occasional.	—
Fair - - -	East London Waterworks: mostly on constant system. parts very bad, dirty, and disreputable. Several clearances under A. & L. Dwellings Acts, and several houses reported to S.A. and otherwise dealt with under N. R. Act. Limehouse Fields, where cholera broke out in 1866, now sewered, but still nasty. Seamen's lodging houses clean.	Population stationary or decreasing. Some	Occasional in tenement houses.	—
Satisfactory. A pail system of collection introduced and working well.	East London Waterworks: part on constant and part on intermittent system. W.c's sometimes flushed from drinking-water cisterns.	Fair on the whole, but some bad, crowded places.		Not much.
—	East London Waterworks. Very partially on constant system. Some houses in lower parts of district not supplied.	Some clearances effected under A. and L. Dwellings Acts. Dwellings of labourers fair on the whole, but some unsatisfactory as to cleanliness.		Some.
—	Southwark and Kent Water Companies.	Many clearances effected, and character of district changed of late years. Little now that would be likely to influence the spread of cholera.		—
Fair - - -	Southwark Company: intermittent system. Cisterns being progressively substituted for butts.	Many clearances, although not under the A. and L. Dwellings Acts.		Occasional.
Unsatisfactory -	Kent Water Company. Partly constant, and partly on intermittent system. W.c's supplied direct from drinking-water cisterns.	No clearance under A. and L. Dwellings Acts. Dwellings fair, with exceptions.		Occasional.

METROPOLITAN WATER-SIDE DISTRICTS—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
WHITECHAPEL - Dr. de Chaumont, Feb. 1885. P. 71,314.	Satisfactory - - - -	Satisfactory and supported by S.A.	Satisfactory - - - -
ST. GEORGE-IN- THE-EAST. Dr. de Chaumont, Feb. 1885. P. 47,157.	Satisfactory - - - -	M.O.H. recently appointed	Satisfactory - - - -
LIMEHOUSE - Dr. de Chaumont, Feb. 1885. P. 58,543.	Satisfactory - - - -	Satisfactory - - - -	Satisfactory - - - -
POPLAR— Dr. de Chaumont, Feb. 1885. P. 156,510. <i>Northern Part,</i> Bow and Bromley.	Satisfactory - - - -	Satisfactory - - - -	Satisfactory - - - -
<i>Southern Part,</i> Poplar and Isle of Dogs.			
ROTHERHITHE - Dr. de Chaumont, Feb. 1885. P. 36,024.	Satisfactory - - - -	Satisfactory - - - -	Satisfactory - - - -
BREMNDSEY - Dr. de Chaumont, Mar. 1885. P. 86,652.	Active work and improve- ments going on.	Excellent systematic work.	
GREENWICH - Dr. de Chaumont, Feb. 1885. P. 151,233.	—	—	—

METROPOLITAN WATER-SIDE DISTRICTS—*continued.*

13.

14.

15.

16.

17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	Metropolitan Asylums Board Hospitals.	—	—	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	None	—	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	—	—	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	—	Preparing	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	—	—	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	None	Preparing	No subsequent inquiry to date. May 27th, 1886.
—	Metropolitan Asylums Board Hospitals.	Yes	—	No subsequent inquiry to date. May 27th, 1886.

METROPOLITAN WATER-SIDE DISTRICTS—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
DEPTFORD - Dr. de Chaumont, Feb. 1885. P. (included under Greenwich) 84,653.	—	Metropolitan system. Satisfactory. Flooding, which used to occur, has been remedied.	W.c's universal. All privies and cesspools abolished during 1884.
KENT.			
DARTFORD, U. - Mr. J. Spear, June 1885. P. 10,163. (Agricultural market town, paper making.)	Some improvement in cleanliness.	Sewered. Sewers effectively ventilated, but ventilators complained of from insufficient sewer flushing. House drainage commonly defective. Some houses still have cesspits which are a source of nuisance.	Generally pan closets insufficiently flushed. Still many privy pits and cesspools, but abolition proceeding.
ERITH, U. - Dr. de Chaumont, Feb. 1885. P. 9,812.	—	A surface drain into which a few houses drain. Some houses drain into a gravel pit. Otherwise none.	Privy pits and cesspools mainly -
GRAVESEND, U. - Dr. de Chaumont, Feb. 1885. P. 23,302.	—	Generally unsewered - - -	Privy cesspools in the chalk, which are source of dangerous nuisance. W.c's coming into use, but few with flushing arrangements.
CHATHAM, U. - Dr. de Chaumont, March 1885. P. 26,424. (Industries connected mainly with Government Establishment.)	Fair - - -	Only surface drainage - - -	Privy pits and cesspools serving for w.c's where they exist.
ROCHESTER, U. - Dr. de Chaumont, March 1885. P. 21,307. (Dockyard employments, cement works, &c.)	Domestic yards, courts, &c., ill-drained, ill-paved, and sloppy.	Only surface drainage - - -	Privy pits and cesspools serving for w.c's where they exist. Privies and w.c's offensive.
GILLINGHAM, U. - Dr. de Chaumont, March 1885. P. 20,745. (Industries connected with Government Establishment.)	Unsatisfactory -	Only surface drainage -	Privies and cesspools serving for w.c's where they exist.
TONBRIDGE, U. - Mr. J. Spear, March 1885. P. 9,317. (Agricultural market town.)	Fair - - -	Sewering and house drainage fairly satisfactory.	W.c's without flushing arrangements.

METROPOLITAN WATER-SIDE DISTRICTS—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory	Kent Water Company. Partly on constant, and partly on intermittent system. W.c's often supplied from drinking-water cisterns.	Fair, but some streets in an unwholesome condition, notably where tenanted by a colony of poor Italians. No clearances under A. and L. Dwellings Acts, but clearances in Hughes Fields impending.	—	—
KENT.				
Negligent	Public supply gradually being extended. Still many shallow wells liable to pollution or actually polluted.	Many dirty and ill-ventilated.	A few courts	Some cases observed.
Satisfactory	Public supply mostly. A few wells foul or liable to pollution by cesspools.	Satisfactory on the whole.	—	None.
Fair	Public supply intermittent. Wells said to be falling into disuse. They are necessarily polluted.	Many unwholesome dwellings.	In poorer parts	Some.
Fair	Public supply constant. Wells in use, but closed by S. A. when pronounced unfit for use.	Fair, with exceptions.	Some crowding in parts.	Sometimes, but dealt with when discovered.
Unsatisfactory	Public supply constant and good. Many wells which ought to be closed.	Fair, but some unsound which ought to be closed. Unwholesome in parts in consequence of privies, &c.	Close courts and back-to-back houses.	Little.
Very unsatisfactory	Public supply good and constant. No wells in use.	Bad, dirty, and dilapidated, with offensive privies.	Many courts and some dwellings crowded together.	Little.
Satisfactory	Public supply to about half the population. The rest supplied by polluted local wells.	Very fair	Little crowding	None.

METROPOLITAN WATER-SIDE DISTRICTS—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
DEPTFORD - - Dr. de Chaumont, Feb. 1885. P. (included under Greenwich) 84,653.	Satisfactory - - - -	—	—
KENT—<i>continued.</i>			
DARTFORD, U. - Mr. J. Spear, June 1885. P. 10,163. (Agricultural market town, paper making.)	Unsatisfactory and inefficient. Advice of M.O.H. neglected. Some improvements, however, since Mr. Spear's inspection in 1884.	Good; but his advice is disregarded. M.O.H. not under Board's Order.	Inefficient. I. of N. makes few inspections, and keeps no useful record of his work.
ERITH, U. - - Dr. de Chaumont, Feb. 1885. P. 9,812.	—	—	—
GRAVESEND, U. - Dr. de Chaumont, Feb. 1885. P. 23,302.	—	—	—
CHATHAM, U. - Dr. de Chaumont, March 1885. P. 26,424. (Industries connected mainly with Government Establishment.)	—	M.O.H. not under Board's Order.	Efficient. I. of N. is surveyor also: an assistant employed.
ROCHESTER, U. - Dr. de Chaumont, March 1885. P. 21,307. (Dockyard employments, cement works, &c.)	—	M.O.H. not under Board's Order.	Said by M.O.H. to be satisfactory.
GILLINGHAM, U. Dr. de Chaumont, March 1885. P. 20,745. (Industries connected with Government Establishment.)	Very apathetic, to say the least.	M.O.H. draws attention to defects, but cannot get them remedied.	Inefficient. I. of N. has other duties.
TONBRIDGE, U. - Mr. J. Spear, March 1885. P. 9,317. (Agricultural market town.)	Fairly good - - - -	Good - - - -	Good - - - -

METROPOLITAN WATER-SIDE DISTRICTS—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	Metropolitan Asylums Board Hospitals.	Yes.	—	No subsequent inquiry to date. May 27th, 1886.
KENT—<i>continued.</i>				
Not habitually efficient, although some improvements effected.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
—	None - - -	None -	—	No subsequent inquiry to date. May 27th, 1886.
—	Very unsatisfactory and three miles away.	—	—	Survey led to more detailed inspection of borough in June 1885. S.A. are taking action [Feb. 1886] as to water supply and excrement disposal, and are about to erect a new permanent infectious diseases hospital, with means of disinfection and a mortuary. No measures to be adopted in regard of a system of sewerage.
Satisfactory - -	Small hospital conjointly with Rochester.	Ransome's chamber at hospital.	None -	May 1885. Some action as to polluted wells and dilapidated property. Sewerage question left in abeyance.
Said to be efficient -	Small hospital two miles off. Insufficient accommodation.	Ransome's chamber at hospital.	None -	June 1885. S.A. are taking action as to polluted wells and refuse disposal and removal (loan for works of water supply since applied for). Nothing done as to sewerage or dilapidated dwellings.
Dilatory and inefficient	None - - -	None -	None -	The question of scavenging is still matter of official correspondence. May 27th, 1886.
Fair	Yes - - -	—	None -	No subsequent inquiry to date (May 27th, 1886), but sanction to loan of 19,000 <i>l.</i> for works of water supply applied for.

KENT—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
SOUTHBOROUGH, U. Mr. J. Spear, March 1885. P. 3,870. (Health resort.)	Fair - - -	Drainage defects observed at Mr. Spear's inspection in 1882 satisfactorily remedied.	—
MAIDSTONE, U. - Mr. J. Spear, March 1885. P. 29,623. (Agricultural market town, paper-making, &c.)	Fair - - -	Main sewers fairly effective. Tributary sewers insufficiently ventilated and flushed, hence complaints of foul smells.	W.c's without flushing arrangements. Hence fouling of drains and tributary sewers and nuisance. Some privy pits.
HERNE BAY, U. - Dr. D. S. Davies, Jan. 1885. P. 2,816.	—	Sewered. Some defects causing flooding remedied. Inefficient ventilation and flushing.	W.c's mostly with flushing arrangements. Sinks, &c., cut off in new property only.
FAVERSHAM, U. - Dr. de Chaumont, Mar. 1885. P. 8,743. (Fishing, brick-making, &c.)	Variable -	Unsatisfactory drainage - -	W.c's without flushing arrangements in poorer quarters.
MILTON, U. - - Dr. de Chaumont, Mar. 1885. P. 4,219. (Brick and cement making, canal traffic, &c.)	Fair - - -	Fair, but district is low-lying, and there is nuisance from outfall. Sewers ventilated, but complaints of nuisance.	W.c's with flushing cisterns - -
SITTINGBOURNE, U. Dr. de Chaumont, Mar. 1885. P. 7,856. (Brick and cement making, paper-making.)	Fair - - -	System of surface drainage only -	Half of the houses have w.c's provided with water. The rest, privy pits. Water-pipes cut off from drains.
SHEERNESS, U. - Dr. de Chaumont, Mar. 1885. P. 14,286. (Dockyard occupations.)	Unsatisfactory -	Unsatisfactory. Only partially sewered.	W.c's, mostly without flushing cisterns, communicating with bad sewers. About 1,200 privies, often filthy.
BROADSTAIRS, U. - Dr. D. S. Davies, Jan. 1885. P. 4,322. (Sea-side resort.)	—	Townsewered. Tide flows a mile up sewers, producing back pressure of sewer air, and consequent nuisance. Sewers ventilated and flushed. Notwithstanding, most houses still drain into cesspools, often under houses, and liquid contents soak away into soil. Waste-pipes of about half the houses disconnected.	W.c's hand-flushed - - -
MARGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 16,030. (Sea-side resort.)	—	No sewerage generally. Houses drained into large cesspools in the chalk, into which liquid matters soak away. Very partial town drainage with insufficient ventilation and flushing. Extension said to be contemplated.	W.c's mostly - - - -

KENT—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
—	Works of water supply making fair progress.	—	None - - -	—
Fair - - -	Mainly by wholesome public supply, not always sufficient, and then supplemented by water from polluted Medway. One-tenth of population use wells liable to pollution.	Cottages fairly clean, but often ill-ventilated.	Some crowded back - to - back houses in courts.	Some.
Fair - - -	Public supply abundant and good. Some few shallow wells.	—	—	—
—	Public supply intermittent, but good quality. Some wells in parts where enteric fever is frequent.	Unsatisfactory -	Crowding in older parts.	None.
Fair - - -	Public supply (as Sittingbourne) constant. Few wells.	Fair - - -	Old town with narrow streets.	None.
Satisfactory -	Public supply constant. Few wells.	Good - - -	None - - -	None.
Satisfactory -	Public supply not constant, and yet but few storage cisterns, and these not always separate from w.c. supply.	Bad - - -	Crowding in narrow alleys, and back-to-back.	Not much.
Satisfactory -	Public supply supplemented, when deficient, from a suspicious well. Constant service.	—	—	—
Satisfactory -	Public supply constant and almost universally used.	—	—	—

KENT—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
SOUTHBOROUGH, U. Mr. J. Spear, March 1885. P. 3,870. (Health resort.)	S.A. engaged in improving drainage and water supply since Mr. Spear's inspection in 1882.	—	—
MAIDSTONE, U. - Mr. J. Spear, March 1885. P. 29,623. (Agricultural market town, paper-making, &c.)	Fair - - - - -	Good - - - - -	Unsatisfactory - - - - -
HERNE BAY, U. - Dr. D. S. Davies, Jan. 1885. P. 2,816.	—	Satisfactory - - - - -	Satisfactory - - - - -
FAVERSHAM, U. - Dr. de Chaumont, Mar. 1886. P. 8,743. (Fishing, brick-making, &c.)	—	—	—
MILTON, U. - Dr. de Chaumont, Mar. 1885. P. 4,219. (Brick and cement making, canal traffic, &c.)	—	—	—
SITTINGBOURNE, U. Dr. de Chaumont, Mar. 1885. P. 7,856. (Brick and cement making, paper-making.)	—	—	—
SHEERNESS, U. - Dr. de Chaumont, Mar. 1885. P. 14,286. (Dockyard occupations.)	Not active - - - - -	—	—
BROADSTAIRS, U. Dr. D. S. Davies, Jan. 1885. P. 4,322. (Sea-side resort.)	Model byelaws enforced - -	Satisfactory - - - - -	Satisfactory - - - - -
MARGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 16,030. (Sea-side resort.)	—	Satisfactory - - - - -	Satisfactory. I. of N. is Surveyor also: has a sub-inspector.

KENT—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	—	—	—	No subsequent inquiry to date, but small loan for works of water supply since applied for. May 27th, 1886.
Fair	Good hospital and ambulance.	Ransome's apparatus.	None .	No subsequent inquiry to date. May 27th, 1886.
—	None.	—	—	No reply received to date [May 27th, 1886], to Board's inquiry of March 1885 as to S.A.'s action in regard to hospital provision, sewer-flushing, &c.
—	None . . .	Hot-air chamber.	None .	M.O.H. in 1885 report draws attention to extremely unsatisfactory conditions connected with sewage discharge, and speaks of room for improvement as regards water supply; several surface wells closed.
—	As Sittingbourne .	As Sittingbourne.	None .	No subsequent inquiry to date. May 27th, 1886.
Satisfactory . .	Good hospital, conjointly with Milton U. and R.	Nelson stove at hospital.	None .	No subsequent inquiry to date. May 27th, 1886.
—	Part of the engineer's cottage. Insufficient.	None .	None .	June 1885. S.A. content to regard water supply as safe from pollution, and consider present hospital as adequate.
—	Joint hospital with R.S.A. at Northwoods. Insufficient.	At hospital. Ransome's apparatus.	—	No subsequent inquiry to date (May 27th, 1886), but M.O.H., in 1885 report, says the cesspool system of drainage should be abolished, and trusts that it will, now sewerage of Broadstairs is completed.
Satisfactory . .	The Northwoods Hospital (joint provision). Insufficient.	Do.	—	No subsequent inquiry to date (May 27th, 1886), but loan of £5,000. sanctioned in April last for works of water supply.

KENT—*continued.*

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
RAMSGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 22,683.	—	Mostly sewered. Outfall said to be source of nuisance. Sewers ventilated and flushed. Waste pipes in course of being cut off.	W.c.'s mostly - - - - -
DOVER, U. - - Dr. D. S. Davies, Jan. 1885. P. 30,270.	—	Sewered throughout. Ventilation and flushing satisfactory.	W.c.'s mostly with flushing cisterns and satisfactory.
DEAL, U. - - - Dr. D. S. Davies, Jan. 1885. P. 8,500.	—	Sewered. Flushing, but insufficient ventilation.	W.c.'s, some without flushing arrangements, and otherwise unsatisfactory. Privies also.
SANDWICH, U. - Dr. D. S. Davies, Jan. 1885. P. 2,846.	—	Not sewered. Drainage into cesspools, some of large size, and scarcely, if ever, cleaned out.	Privy pits and cesspools; cleansing neglected. Cesspools allow of dangerous soakage into soil and into wells.
FOLKESTONE, U. - Dr. D. S. Davies, Jan. 1885. P. 18,816.	—	Sewered throughout. Ventilation and flushing unsatisfactory. Few houses drain into cesspools. Waste pipes cut off in new houses, not in old ones.	W.c.'s of good type in new houses, and being improved in old ones.
HYPHE, U. - - Dr. D. S. Davies, Jan. 1885. P. 4,173.	—	Sewered satisfactorily. Sewers flushed and ventilated.	Mostly w.c.'s, some of good type, some of bad type.
SANDGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 1,669.	—	A military drain and a town sewer, into both of which houses drain. Extension of town sewer in contemplation.	W.c.'s.

SUSSEX.

LEWES, U. - - Mr. J. Spear, Nov. 1885. P. 11,199. (Agricultural market town.)	Not altogether satisfactory.	Partially sewered. Sewers and house drainage generally unsatisfactory. Cesspool nuisances prevalent in certain quarters.	W.c.'s and deep foul privy pits -
NEWHAVEN, U. - Mr. J. Spear, June 1885. P. 3,806. (Shipping trade.)	Not altogether satisfactory.	Sewers defective and unsatisfactory; not duly ventilated. House drainage very defective, polluting atmosphere about dwellings.	W.c.'s of bad type draining into the defective sewers, or into cesspools which sometimes have overflow into sewers. A few privy pits.
NEW SHOREHAM, U. Mr. J. Spear, July 1885. P. 13,505. (Shipping trade, fishing.)	Fair on the whole	Sewered. Insufficient ventilation, but weekly flushing. Private drainage unsatisfactory and source of nuisance.	Mostly w.c.'s without flushing arrangements, and hence nuisance.

KENT—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supply constant. Surface wells generally abolished.	—	—	—
Satisfactory -	Public supply constant.	—	—	—
Unsatisfactory -	Public supply intermittent. Often no domestic storage provision. Many cisterns serve also for w.c's. Several dangerous shallow wells.	—	—	—
Unsatisfactory -	Water from dangerously polluted shallow wells, and from the polluted "Delf" stream.	—	—	—
Satisfactory -	Public supply intermittent. Cisterns for domestic storage used also to flush w.c's.	—	—	—
Satisfactory -	Public supply mostly constant.	—	—	—
Satisfactory -	Public supply intermittent, but few storage cisterns, however.	—	—	—

SUSSEX.

Fair - - -	Public supply constant and satisfactory. Some wells liable to pollution still in use.	Fair, with exceptions.	Some crowding in older parts of town.	Rare.
Fair - - -	Public supply to about three-fourths of houses. Rest from local wells, liable to pollution.	Inferior, and often dirty.	Several courts and back places, and much crowding on area.	Often.
Not altogether satisfactory.	Public supply constant and good to five-eighths of town. Local wells liable to surface contamination. Some houses have no supply.	Fair, with exceptions.	Few courts - -	None.

KENT—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
RAMSGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 22,683.	—	Good - - - - -	Satisfactory - - - - -
DOVER, U. - - Dr. D. S. Davies, Jan. 1885. P. 30,270.	—	Satisfactory - - - - -	Satisfactory - - - - -
DEAL, U. - - - Dr. D. S. Davies, Jan. 1885. P. 8,500.	—	Satisfactory - - - - -	Fair - - - - -
SANDWICH, U. - Dr. D. S. Davies, Jan. 1885. P. 2,846.	Town in a most dangerous condition for advent of cholera.	—	—
FOLKESTONE, U. - Dr. D. S. Davies, Jan. 1885. P. 18,816.	New byelaws satisfactorily worked.	—	Satisfactory. I. of N. is surveyor also.
HYPHE, U. - - - Dr. D. S. Davies, Jan. 1885. P. 4,173.	—	—	—
SANDGATE, U. - Dr. D. S. Davies, Jan. 1885. P. 1,669.	—	—	Active. I. of N. is surveyor also.

SUSSEX—*continued.*

LEWES, U. - - - Mr. J. Spear, Nov. 1885. P. 11,199. (Agricultural market town.)	Fair on the whole - - -	Fair - - - - -	Not satisfactory - - -
NEWHAVEN, U. - Mr. J. Spear, June 1885. P. 3,806. (Shipping trade.)	Some improvement since establishment of district in 1881, but little permanent abatement of sewage nuisances.	Probably further personal influence of M.O.H. with S.A. required.	New officer (a watchmaker). No previous training.
NEW SHOREHAM, U. Mr. J. Spear, July 1885. P. 13,505. (Shipping trade, fishing.)	Lax administration. Recommendations of Board on Dr. Thorne's inspection in 1882 only very partially carried out.	Very fair - - - - -	Unsatisfactory. I. of N. is surveyor and collector also.

KENT—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Satisfactory - -	The Northwoods Hospital (joint provision). Insufficient.	At hospital. Ransome's apparatus.	—	No subsequent inquiry to date (May 27th, 1886), but application made for sanction to loan of 20,000 <i>l.</i> for works of sewerage. M.O.H., in 1885 report, says new scheme is "being actively carried out."
—	At villa hospitals under Dr. Astley's control.	Lyons' disinfectant.	—	No subsequent inquiry to date. May 27th, 1886.
—	None.	—	—	February 1885. Attention of S.A. called to several matters needing action. M.O.H., in 1885 report, speaks of better scavenging of district.
—	—	—	—	November 1885. New scavenging contract entered into. In his 1885 report, M.O.H. speaks of foul privy pits and cesspools still existing, though in some known cases pail or earth closets have been substituted. Water supply remains as hitherto.
Satisfactory - -	Satisfactory hospital provision.	—	—	April 1885. S.A. taking action on lines of Board's advice. Sanction since applied for in respect of loans for works of street improvement, sewerage, disinfecting chamber, &c.
—	None - - -	None -	—	No subsequent inquiry to date. May 27th, 1886.
—	None.	—	—	No subsequent inquiry to date. May 27th, 1886.

SUSSEX—*continued.*

Improvement required.	Yes - - -	At hospital	None -	April 1886. Mr. Spear's advice to S.A. has been acted upon. Remedial measures still in progress.
Unsatisfactory - -	Make shift, insufficient provision at an old mill building.	None -	None -	October 1885. House-to-house inspection made with a view to remedying defects of drainage, &c., brought to light. (Nothing to date as to scheme of sewerage. June 25th, 1886.)
Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

SUSSEX—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
<p>WORTHING, U. - Mr. J. Spear, Nov. 1885. P. 10,976. (Sea-side resort, fishing.)</p>	<p>Some improvement in roadways in recent years. Domestic premises often much neglected.</p>	<p>Sewered throughout. Ventilation insufficient.</p>	<p>W.c's: those without flushing arrangements often foul. Many closets supplied direct from the water mains.</p>
<p>WEST WORTHING, U. Mr. J. Spear, Nov. 1885. P. 750. (Sea-side resort.)</p>	<p>Fair - - - [District mainly of better-class lodging-houses.]</p>	<p>Sewered. Private drainage occasionally defective.</p>	<p>W.c's. Domestic water-storage cistern often supplies w.c. also.</p>
<p>LITTLEHAMPTON, U. Mr. J. Spear, July 1885. P. 3,926. (Sea-side resort, harbour work, fishing.)</p>	<p>Fair - - -</p>	<p>Sewered, but one-eighth of houses not connected. Sewers tide-locked for 10 hours out of 12. Insufficiently ventilated, and sewer air driven back into house drains and escaping about dwellings. Private drainage unsatisfactory.</p>	<p>W.c's, mostly without flushing arrangements, and very foul in consequence.</p>
<p>ARUNDEL, U. - Mr. J. Spear, Sept. 1885. P. 2,748. (Agricultural market town.)</p>	<p>Fair on the whole</p>	<p>Very old barrel drains serve as sewers, but no nuisance as gradients are steep. Not regularly ventilated.</p>	<p>Mostly deep privy pits and vaults gradually being converted into w.c's. Privy pits sometimes very foul.</p>
<p>BOGNOR, U. - - Mr. J. Spear, July 1885. P. 3,290. (Sea-side resort, fishing, &c.)</p>	<p>Fair - - -</p>	<p>Sewered nearly throughout. Ventilation inadequate. Sewers flushed. House drainage unsatisfactory. Some cesspools overflow into sewers.</p>	<p>W.c's, mostly without flushing arrangements, and hence foulness of drains and nuisance from sewer ventilators.</p>
<p>CHICHESTER, U. - Mr. J. Spear, June 1885. P. 8,114. (Market town.)</p>	<p>Fair - - -</p>	<p>Not sewered. Sewage polluted stream passes through city. Cesspools universal, situated even under houses, and their liquid contents rise and fall with ground water.</p>	<p>Open privy pits: or w.c's without flushing arrangements discharging into cesspools.</p>

HAMPSHIRE.

<p>HAVANT, U. - - Mr. J. Spear, Sept. 1885. P. 3,032. (Agriculture, tanneries, &c.)</p>	<p>Unsatisfactory -</p>	<p>Sewers old and imperfect. Much of sewage enters stream passing through town. Private drainage very defective; leaky cesspools even for new houses in High Street.</p>	<p>Deep privy pits of rough construction, ill-kept and offensive, often close to houses.</p>
<p>PORTSMOUTH, U. - Dr. Blaxall, Jan. 1885. P. 127,989.</p>	<p>—</p>	<p>Sewering and house drainage very faulty. Faults, however, recognised, and reconstruction of sewers under consideration of S.A.</p>	<p>Mostly w.c's discharging in faulty, leaky, sewers. Some w.c's without flushing arrangements. Some cesspit privies.</p>

SUSSEX—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Not altogether satisfactory.	Public supply constant, but from comparatively shallow wells near centre of town. Possible danger of contamination in distribution.	Many dirty and ill-ventilated.	Crowding in older parts of town.	Occasional.
Satisfactory - -	Public supply intermittent. Cistern arrangements not always satisfactory. A few wells liable to pollution.	Fair - - -	None - - -	None.
Unsatisfactory -	Public supply to about one-third of town only. Rest supplied from local wells often subject to pollution.	Fair - - -	Little crowding -	None.
Satisfactory - -	Public supply by stand-pipes, but many local well-supplies of doubtful purity.	A few cottages damp and ill-ventilated.	Little crowding -	None.
Not altogether satisfactory.	Public supply to about one-half the town. Local wells, liable to pollution, used for the rest.	Fair - - -	Little crowding -	None.
Not wholly satisfactory.	Public supply to less than one-half the houses on constant service principle and of good quality. Shallow wells, otherwise in use, necessarily liable to dangerous pollution from the cesspools. (<i>See</i> Col. 3.)	Clean and tidy as a rule.	Some crowding in centre of city.	None.

HAMPSHIRE.

Very unsatisfactory.	Public supply for parts of district from Portsmouth Waterworks Co. (<i>see</i> Portsmouth). Local wells and springs, some obviously polluted, and all liable to pollution.	Unsatisfactory; some hardly fit for human habitation, and surrounded by filth nuisances.	Not much crowding.	Rare.
Satisfactory.	Public supply from Portsmouth Waterworks Co., deriving water from springs near Havant. Apparent liability to pollution at source. Remedial measures in contemplation since survey was made.	—	—	—

SUSSEX—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
WORTHING, U. - Mr. J. Spear, Nov. 1885. P. 10,976. (Sea-side resort, fishing.)	Fair, with certain exceptions, <i>e.g.</i> , failure to remove risks of contamination to public water supply.	Good - - - - -	Fair - - - - -
WEST WORTHING, U. Mr. J. Spear, Nov. 1885. P. 750. (Sea-side resort.)	Fair - - - - -	Good - - - - -	Fair - - - - -
LITTLEHAMPTON, U. Mr. J. Spear, July 1885. P. 3,926. (Sea-side resort, harbour work, fishing.)	Fair - - - - -	Good - - - - -	Good - - - - -
ARUNDEL, U. - Mr. J. Spear, Sept. 1885. P. 2,748. (Agricultural market town.)	Fair on the whole - - -	Good - - - - -	Fair - - - - -
BOGNOR, U. - Mr. J. Spear, July 1885. P. 3,290. (Sea-side resort, fishing, &c.)	Fair on the whole - - -	M.O.H. old and feeble, but helped by his son.	Routine duties insufficiently attended to. I. of N. is Surveyor also, and in pri- vate practice.
CHICHESTER, U. - Mr. J. Spear, June 1885. P. 8,114. (Market town.)	Lax administration. Little improvement since Dr. Airy's inspection in 1879.	Not very successful hitherto. M.O.H. only recently under Board's Order.	Inefficient - - - - -

HAMPSHIRE—continued.

HAVANT, U. - Mr. J. Spear, Sept. 1885. P. 3,032. (Agriculture, tanneries, &c.)	Inefficient. New byelaws not enforced. This district obviously in a dangerous condition for advent of cholera.	Fair, but M.O.H. has not pressed his advice suffi- ciently on the S.A.	Fair, but I. of N. powerless against a lax S.A.
PORTSMOUTH, U. Dr. Blaxall, Jan. 1885. P. 127,989.	Working under byelaws of old date.	—	Fair - - - - -

SUSSEX—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Fair, with exceptions	None - - -	None -	None -	March 1886. S.A. in general terms promise action on Inspector's advice.
Fair - - - -	None - - -	None -	None -	July 1886. Advice of Inspector acted upon "as far as practicable." No details given.
Fair - - - -	None - - -	None -	None -	July 1885. Attention promised to Mr. Spear's suggestions.
Fair - - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Fair - - - -	None - - -	None -	None -	Recently appointed M.O.H. in 1885 report (Feb. 1886) speaks of house-to-house inspection of district in progress, and of action taken to remedy the sanitary defects brought to light.
Inefficient - - -	An old "pest house," wholly inadequate.	None -	None -	July 1885. S.A. alive to necessity of action in the directions indicated by Inspector. Proper hospital to be provided.

HAMPSHIRE—*continued.*

Inefficient - - -	None - - -	None -	None -	No subsequent general inquiry made, but sewerage is still matter of correspondence. May 27th, 1886.
—	Yes.	—	—	No subsequent inquiry to date. May 27th, 1886.

HAMPSHIRE—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
ALVERSTOKE, U. - Mr. J. Spear, July 1885. P. 21,581. (Harbour work, shipbuilding, &c.)	Courts and domestic premises of poorer population filthy.	Not sewered, and what surface drainage there is very defective, causing much nuisance, and fouling of air and soil.	Privy pits and cesspools riddling soil, and huddled up amongst houses. It is the rule not to empty these pits until excrement reaches privy floor. Excrement nuisances universal.
FAREHAM, U. - Mr. J. Spear, Sept. 1885. P. 7,183. (Agricultural market town.)	Satisfactory	Mostly sewered. Inefficient ventilation. House drainage defective and often the cause of complaint.	Mostly w.c's, flushed in older property by pipes direct from water main.
EAST COWES, U. - Dr. Blaxall, May 1885. P. 2,512.	—	Sewering and house drainage unsatisfactory. Sewage nuisances. No provision for flushing.	W.c's discharging into sewers, and mostly without flushing arrangements.
WEST COWES, U. - Dr. Blaxall, May 1885. P. 6,721.	—	Sewering improved within recent years, and house drainage improved, but still much room for improvement. Sewer ventilation and flushing still bad.	W.c's discharging into sewers, and often without any flushing arrangements.
ST. HELEN'S, U. - Mr. J. Spear, Oct. 1885. P. 4,210. (Sea-side resort, agriculture.)	Not satisfactory in poorer quarters.	Populous parts sewered. Sewers and drains not satisfactory. Want of due ventilation and flushing.	Water-closets common source of nuisance from want of flushing. A few cesspools.
NEWPORT, U. - Mr. J. Spear, Sept. 1885. P. 9,430. (Agricultural market town.)	Some courts and many private yards neglected.	Sewering extended since Dr. Ballard's inspection in 1880, but not sufficiently. System still unventilated, and house drains defective. Nuisance complained of from escape of sewer air into dwellings.	W.c's without flushing arrangements, often filthy. In outlying parts privy pits.
SHANKLIN, U. - Mr. J. Spear, Sept. 1885. P. 2,740. (Sea-side resort.)	Not wholly satisfactory.	Almost completely sewered. Insufficient ventilation and flushing. House drainage often defective.	W.c's without flushing arrangements frequent source of nuisance.
SANDWICH, U. - Mr. J. Spear, Oct. 1885. P. 3,120. (Sea-side resort.)	Fair	Sewered. Ventilation recently practically abolished by order of S.A. Complaints of sewer air escaping at house connexions. Private drainage often defective.	W.c's or pan closets not duly flushed. A few cesspools.
VENTNOR, U. - Mr. J. Spear, Sept. 1885. P. 5,504. (Sea-side resort.)	Fair on the whole	Sewerage somewhat improved since Dr. Ballard's inspection in 1880, but still needs improvement. Ventilation improved. House drainage still imperfect.	W.c's, but in cottage property without flushing arrangements.
RYDE, U. - Mr. J. Spear, Sept. 1885. P. 11,461. (Sea-side resort.)	Fair; with some exceptions in older courts.	Sewering complete and fairly satisfactory. Ventilation improved of late years, but more required. House drainage still defective.	W.c's, some without flushing arrangements.

HAMPSHIRE—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Efficient removal of domestic refuse.	Supply by a private company intermittent. Poorer population have no storage cisterns.	Town consists largely of crowded courts and alleys within the ramparts, which latter themselves impede ventilation. Many of the houses unfit for habitation owing to dampness and decay. With all this, and intermingled with the crowded dwellings, filthy foul privy pits and sloppiness and filth nuisances generally.		Not much.
Satisfactory - -	Mostly public supply, not free from danger of possible pollution. Direct and dangerous communication between mains and sewers for flushing purposes.	Fair - - -	Little crowding -	Rare.
—	Public supply insufficient. Rain-water tanks in use.	—	—	—
Satisfactory - -	Public supply, although augmented, insufficient. Intermittent. Some wells liable to pollution still in use.	Cottage property bad in parts, although some improvements.	Narrow streets in older part.	—
Neglected in poorer quarters, provision being made only for better class of houses.	Public (Ryde) supply for about half population. Rest supplied by underground rain-water tanks and shallow wells.	Fair, with exceptions.	None - - -	None.
Unsatisfactory -	Public supply from Carisbrooke. Some local wells, liable to pollution.	Many unsatisfactory, although some improvements of late years.	Several courts and back places.	Rare.
Unsatisfactory -	Public supply good, but inadequate. Intermittent. About one-third of town supplied by local wells shallow and liable to pollution.	Fair - - -	None - - -	None.
Unsatisfactory in poorer quarters.	Public supply, with all the dangerous characters observed when district was inspected by Dr. Ballard in 1880.	Fair - - -	None - - -	None.
Some neglect -	Public supply intermittent. Protection given against chance pollution since Dr. Ballard's inspection.	Fair - - -	None - - -	Rare.
Still some neglect, as noted at Dr. Ballard's inspection in 1880.	Public supply improved in quantity. Intermittent: storage cisterns sometimes exposed to drain air.	Fair on the whole	A few courts -	None.

HAMPSHIRE—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
ALVERSTOKE, U. - Mr. J. Spear, July 1885. P. 21,581. (Harbour work, shipbuilding, &c.)	Very unsatisfactory. District evidently in a very dangerous condition for advent of cholera.	M.O.H. an originally energetic officer who has come to acquiesce in an incompetent administration of affairs.	Office vacant - - - -
FAREHAM, U. - Mr. J. Spear, Sept. 1885. P. 7,183. (Agricultural market town.)	S.A. seemingly anxious to carry out improvements, but negligent of advice of M.O.H.	Fair. M.O.H. not under Board's Order.	Inefficient. I. of N. holds other offices which interfere greatly with his work as I. of N.
EAST COWES, U. - Dr. Blaxall, May 1885. P. 2,512.	Inefficient - - - -	M.O.H. has given sound advice to S.A.	—
WEST COWES, U. - Dr. Blaxall, May 1885. P. 6,721.	Inefficient - - - -	M.O.H. has been persistent in his advice to S.A., and has got certain remedial measures adopted.	Good - - - - -
ST. HELEN'S, U. - Mr. J. Spear, Oct. 1885. P. 4,210. (Sea-side resort, agriculture.)	Unsatisfactory. Administrative efficiency appears falling off.	Fair - - - - -	Fair - - - - -
NEWPORT, U. - Mr. J. Spear, Sept. 1885. P. 9,430. (Agricultural market town.)	Lax and ill-directed. Bye-laws not enforced. A few improvements since Dr. Ballard's inspection in 1880, but points of prime importance neglected.	M.O.H. knows his district well, but has failed to exert much influence with S.A.	I. of N. is surveyor also: lax in dealing with nuisances and in administering bye-laws, but probably little encouraged by S.A.
SHANKLIN, U. - Mr. J. Spear, Sept. 1885. P. 2,740. (Sea-side resort.)	Some general laxity of administration.	Apparently on the whole fair.	I. of N. somewhat inactive -
SANDOWN, U. - Mr. J. Spear, Oct. 1885. P. 3,120. (Sea-side resort.)	Lax administration. Closure of sewer ventilators ordered in opposition to advice of M.O.H.	Fair - - - - -	Fair - - - - -
VENTNOR, U. - Mr. J. Spear, Sept. 1885. P. 5,504. (Sea-side resort.)	Administration improved after Dr. Ballard's visit in 1880, but now there are indications of retrogression.	Apparently on the whole fair.	Fair - - - - -
RYDE, U. - - - Mr. J. Spear, Sept. 1885. P. 11,461. (Sea-side resort.)	Lax, but some improvements in town since Dr. Ballard's inspection in 1880.	Fair - - - - -	Not wholly satisfactory - -

HAMPSHIRE—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Wholly inefficient. Filth and excrement nuisances universal.	None - - -	None -	None -	September and October 1885. Some action as to cleansing reported. No comprehensive sanitary improvements.—May 1886. Hospital provision in abeyance.
Inefficient - - -	None - - -	None -	None -	November 1885. S.A. have done something as to sewer ventilation, and have removed connexions between water mains and sewers; severance of direct communication between water service pipes and water-closet pans under consideration.
—	None - - -	None -	None -	Mr. Spear re-inspected the district in September 1885, and found no evidence of action since Dr. Blaxall's visit.—November 1885. S.A. have obtained a loan of 300 <i>l.</i> for works of water supply, and are moving in the matter of sewer ventilation. No hospital provided.
—	None - - -	None -	None -	Mr. Spear re-inspected the district in August 1885, and found that but little had been done to remedy defects pointed out by Dr. Blaxall. In November 1885, S.A. say they are giving attention to some of Inspectors' recommendations. Nothing said as to others, notably hospital provision.
Unsatisfactory - -	None - - -	None -	None -	March 1886. S.A., in a lengthy letter, make some show of action; but reply generally very unsatisfactory.
Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Inefficient - - -	None - - -	None -	None -	May 1886. S.A.'s reply very unsatisfactory as to hospital, sewerage, sewer-ventilation, and refuse disposal and removal. (No hospital provided.)
Inefficient - - -	None - - -	None -	None -	March 1886. S.A. report progress as to sewer ventilation, refuse removal, and improvement of private drains; and promise revision of building, &c., bye-laws.
Satisfactory on the whole, due mainly to the action of a sanitary committee which has now ceased to meet.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Not wholly satisfactory.	Yes - - -	Stove at hospital.	None -	No subsequent inquiry to date. May 27th, 1886.

ESSEX.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
WEST HAM, U. - Dr. De Chaumont, Feb. 1885. P. 128,953. (Virtually part of the metropolis; although not included in the metropolitan district.)	Some parts dirty, partly due to the degraded character of population.	Sewered, but at some inconvenience in parts on account of low level. System will, from increase of buildings, be probably soon over-taxed. House drainage not fully satisfactory. A difficult district to deal with, but S.A. doing their best with it.	W.c.s. Closet and drink water supplies kept repairat
SOUTHEND, U. - Mr. J. Spear, Nov. 1885. P. 7,979. (Sea-side resort.)	Fair	Sewered. Insufficient ventilation and flushing. House drainage unsatisfactory.	W.c's not generally provided with flushing arrangements, but such are external to dwellings. A few privy pits at Prittlewell.
COLCHESTER, U. - Dr. Airy, Jan. 1886. P. 28,374. (Garrison town. Ordinary trade of market town.)	Satisfactory, except in the poorest parts.	Sewered almost throughout. Ventilators closed by S.A. Sewers flushed.	Now mainly w.c's, but some privy pits still left. Excremental nuisances not always kept under.

NORFOLK.

NORWICH, U. - Dr. Airy, Jan. 1886. P. 87,842. (Mustard works, silk factories, river traffic, &c.)	Poorer quarters unsatisfactory.	Sewerage faulty, admitting large volumes of spring water, to deal with which pumping power is inadequate. Partial ventilation. Sewage often discharged into the river instead of being pumped to sewage farm.	W.c's with or without water flush. In poorer quarters privy pits often old, large, neglected, and very offensive: they are emptied by contractors on requisition, not in fixed rotation, but according to the number of complaints and applications received by I. of N.
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HUNTINGDONSHIRE.

HUNTINGDON, U. - Mr. J. Spear, May 1885. P. 4,228. (Country town, agricultural and trading population.)	Courts and poor dwellings often neglected.	Town sewered. Ventilation quite insufficient. House drains generally dangerously imperfect.	W.c.'s insufficiently flushed. Old privy pits deep and neglected, and a few privy middens.
RAMSEY, U. - Mr. J. Spear, May 1885. P. 4,617. (Agriculture.)	Unsatisfactory, especially backways and private yards.	Public and private drainage most unsatisfactory, liquid sewage not being effectually removed from town, but stagnating in large culverts and archways.	Large foul privy pits and midden privies of old bad type. Insufficient privy accommodation.

ESSEX.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply, from E. London Waterworks, intermittent.	Much dirty and unwholesome cottage property (e.g., Cherry island, and streets off North Woolwich Road), but important improvements made since last cholera epidemic.	—	Occasional, but dealt with when discovered.
Unsatisfactory -	Public water supply constant and satisfactory. A few local wells liable to pollution at Prittlewell.	Satisfactory on the whole.	None - - -	Infrequent.
Satisfactory on the whole.	Public supply good from deep wells. A tributary supply from springs liable to sewage pollution.	Satisfactory on the whole.	A good deal of crowding, in the old (Roman) part of town especially.	Occasional, but dealt with.

NORFOLK.

Unsatisfactory -	Public supply constant, and on the whole satisfactory. In lower and poorer parts of city, shallow wells liable to dangerous excremental pollution.	Numberless courts and alleys thickly crowded with dwellings, often back-to-back, dirty, air stagnant, and both air and soil befouled by privy pits, the water being supplied by shallow wells close to them. Many of these dwellings unfit for human habitation.	Not infrequent.
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HUNTINGDONSHIRE.

Unsatisfactory. No public provision.	Public supply on constant system to about one-third of town; remainder from shallow wells almost necessarily dangerously polluted.	Unsatisfactory -	Many courts in centre of town. Town closely built.	Occasional.
Very unsatisfactory. Large accumulations. No public provision.	Water from public pumps and other local sources insufficient in quantity and liable to dangerous pollution.	Unsatisfactory -	Several small courts behind broad main streets.	Occasional.

ESSEX—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
WEST HAM, U. - Dr. De Chaumont, Feb. 1885. P. 128,953. (Virtually part of the metropolis; although not included in the metropolitan district.)	S.A. made much improvement since old cholera times. The most serious fault is the low damp site of its houses, to remedy which no measures are taken in the case of new ones.	Efficient. M.O.H. not under Board's Order.	Efficient - - - -
SOUTHEND, U. - Mr. J. Spear, Nov. 1885. P. 7,979. (Sea-side resort.)	Fair and improving of late. Faults at Prittlewell, observed by Dr. Thorne at his inspection on account of "Fever" outbreak in 1880, appear to be still existent there.	Fair - - - -	Satisfactory - - - -
COLCHESTER, U. - Dr. Airy, Jan. 1886. P. 28,374. (Garrison town. Ordinary trade of market town.)	On the whole efficient and progressive.	Fair - - - -	Fair - - - -

NORFOLK—*continued.*

NORWICH, U. - Dr. Airy, Jan. 1886. P. 87,842. (Mustard works, silk factories, river traffic, &c.)	Failure of costly sewerage works in 1870 appears to have discouraged S.A. City in a dangerous condition for advent of cholera.	M.O.H. gives little personal attention to duties of his office. (Not under the Board's Order.)	I. of N. active, and really does much of M.O.H.'s proper work.
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HUNTINGDONSHIRE—*continued.*

HUNTINGDON, U. - Mr. J. Spear, May 1885. P. 4,228. (Country town, agricultural and trading population.)	Very lax. Little attention paid to details of sanitary work. District much in same condition as at Dr. Parsons's inspection in 1880, although again inspected in 1884.	M.O.H. an invalid. Has now resigned.	Inefficient - - - -
RAMSEY, U. - Mr. J. Spear, May 1885. P. 4,617. (Agriculture.)	Ineffective. Town in precisely same unwholesome condition as at Dr. Airy's inspection in 1875.	M.O.H. active, but his advice to S.A. somewhat inexplicit.	Very unsatisfactory. I. of N. is blind to most obvious nuisances.

ESSEX—*continued.*

13.

14.

15.

16.

17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector ; with Date of Information.
Satisfactory on the whole.	None - - -	—	—	August 1885. Works of sewerage to be carried out at Silvertown and in low-lying portion of U.S.D. ; refuse removal to be undertaken by S.A.
Fair on the whole -	Yes, but of a very unsatisfactory kind.	None -	None -	February 1886. General statement that action is being taken on certain recommendations. Mode of refuse removal unaltered.
Fair - - - - -	Yes - - - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

NORFOLK—*continued.*

Occasional nuisances promptly dealt with, but "recurring" nuisances not attacked with determination.	Iron hospital. Unsatisfactory.	Unsatisfactory apparatus.	Nothing special.	April 1886. Some little action as to removal of offensive privies and ashpits, and as to closure of polluted wells. May 1886. Sanction for loan of 35,000 <i>l.</i> in respect of work of sewerage to be applied for.
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HUNTINGDONSHIRE—*continued.*

Habitual neglect -	An ancient "pest-house," ill-managed.	None -	None -	No subsequent inquiry to date (May 27th, 1886), but a loan sanctioned in March for 800 <i>l.</i> in respect of works of sewerage.
Habitual neglect -	None - - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

HUNTINGDONSHIRE—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
GODMANCHESTER, U. Mr. J. Spear, May 1885. P. 2,188. (Agriculture.)	Unsatisfactory -	Drainage, both public and private, merely by open jointed field pipes discharging into ditches.	Privy pits sunk into a water-logged gravelly soil.
ST. NEOTS, U. Mr. J. Spear, May 1885. P. 4,261. (Agriculture.)	Unsatisfactory -	Brick sewers and drains of bad construction and leaky, discharging into Ouse and into a practically stagnant tributary stream.	Mostly privy pits and privy middens, sometimes with overflow drains; always foul and flooded in wet weather.

CAMBRIDGE.

CHESTERTON, U. Mr. J. Spear, June 1885. P. 5,706. (Agriculture mainly.)	Unsatisfactory, and many streets filthy from sewage matters.	No proper means of removing sewage, and private drainage very defective. Some foul and multiple cesspools.	Generally pan closets discharging into highway drains or cesspools. Some deep and offensive privy pits.
CAMBRIDGE, U. Dr. Airy, Dec. 1885. P. 35,363. (Mostly occupations connected with University.)	Fairly satisfactory	Sewering efficient. No ventilation, but flushed. Romsey town not yet sewered.	W.c's which in poorer parts have no flushing arrangements. Earth closets in Romsey town: the earth supplied and removed by a contractor.

LINCOLNSHIRE.

GAINSBOROUGH, U. Dr. Airy, June 1885. P. 10,873. (Agricultural implement works, &c.)	Except main thoroughfares, very bad indeed.	Sewers tide-locked and un-ventilated.	Privies in older parts in clusters round large open ash pits. Excrement nuisances very bad.
GREAT GRIMSBY, U. Dr. Blaxall, March 1885. P. 28,503.	---	Sewered. Sewers tide-locked for several hours daily. Very defective ventilation. House drainage of very objectionable character.	Some w.c's in better-class houses, but mostly wooden boxes which are large and cumbersome, and are emptied once a fortnight. Some 20 cesspits.

HUNTINGDONSHIRE—*continued.*

5.

6.

7.

8.

9.

Refuse Removal.

Water Supply.

Sanitary
Condition of
Dwellings
of Poor.Crowding
of Dwellings on
Area.Overcrowding of
Dwellings.Very unsatisfac-
tory. Large ac-
cumulations. No
public provision.Shallow wells sunk into same
gravel bed as the privy pits
close to them. Most dis-
gusting and dangerous (*see*
col. 4).Unsatisfactory.
Surroundings
often dirty.

None - - -

Occasional.

Very unsatisfac-
tory. Large ac-
cumulations. No
public provision.Shallow wells sunk into gravel
close to leaky drains and foul
privy pits, and necessarily
dangerously and disgustingly
polluted.Generally clean,
but many damp
and ill-ventilated.

A few courts -

Some few hovels.

CAMBRIDGE.

Very unsatisfac-
tory and slovenly.About two-thirds from Cam-
bridge Water Co.'s mains, one-
sixth from a public well, one-
sixth from shallow wells liable
to dangerous pollution. Water
supply being extended.Fair, but with un-
wholesome sur-
roundings.

None - - -

None.

Satisfactory - - -

Public supply constant and
good. Some dangerous shal-
low wells still in use.

Fair - - -

Much crowding in
parts and back-
to-back houses.
Artizans Dwel-
lings Act about
to be applied.

Occasional.

LINCOLNSHIRE.

Unsatisfactory -

Public water supply from
Trent, and most dangerously
polluted with town sewage
discharged into the river.
Some wells. Scheme on foot
for a new supply.Very unsatisfac-
tory.Dense crowding
in older parts.

None observed.

Partly public supply, constant
and good. About 80 wells
liable to dangerous pollution
from imperfect sewers and
drains.

HUNTINGDONSHIRE—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
GODMANCHESTER, U. Mr. J. Spear, May 1885. P. 2,188. (Agriculture.)	Very lax and inefficient. Town in same condition as when inspected by Dr. Parsons in 1880 and again in 1884.	Further personal influence with S.A. required.	I. of N. is a young officer, who has hardly yet taken up his work.
ST. NEOTS, U. - Mr. J. Spear, May 1885. P. 4,261. (Agriculture.)	Inefficient - - - -	Fair - - - -	Fair - - - -

CAMBRIDGE—*continued.*

CHESTERTON, U. - Mr. J. Spear, June 1885. P. 5,706. (Agriculture mainly.)	S.A. have done some good work, but can do comparatively little without proper building byelaws and until district is duly sewered.	Satisfactory. District has been improved through the action of M.O.H.	Inefficient; I. of N. engaged too much in other duties.
CAMBRIDGE, U. - Dr. Airy, Dec. 1885. P. 35,363. (Mostly occupations connected with University.)	Slow progress; but some useful work done.	Very satisfactory - - -	Satisfactory - - -

LINCOLNSHIRE—*continued.*

GAINSBOROUGH, U. Dr. Airy, June 1885. P. 10,873. (Agricultural implement works, &c.)	Miserably inefficient. Town in a most dangerous condition for advent of cholera. Suffered heavily in 1866.	M.O.H. zealous, and would be efficient with an active S.A. He is not under Board's Order.	Inactive - - - -
GREAT GRIMSBY, U. Dr. Blaxall, March 1885. P. 28,503.	Inefficient - - - -	---	---

HUNTINGDONSHIRE—*continued.*

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17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
No serious attempt made.	None - - -	None -	None -	June 1885. Some action to be taken <i>re</i> drainage, excrement disposal, and scavenging. Nothing said concerning water supply. No steps taken to date to provide hospital accommodation. May 27th, 1886.
Habitual neglect -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

CAMBRIDGE—*continued.*

Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886): M.O.H., in 1885 report, speaks of privy pit nuisances, of want of drainage scheme, of need of improvement of scavenging; and also of need for provision of cottage hospital.
Satisfactory - -	Yes - - -	Fraser's apparatus.	Nothing of much note.	No subsequent inquiry to date. May 27th, 1886.

LINCOLNSHIRE—*continued.*

No dealing with nuisances although reported.	Yes, but a prohibitory tariff having been imposed, it has never been used.	Nelson's, at hospital, but never been used, and now rusting.	None -	No subsequent inquiry to date (May 27th, 1886), but loan of 1,433 <i>l.</i> for works of water supply sanctioned in September 1885.
—	Yes, but unsatisfactory.	None -	None -	May 1885. S.A. are carrying out Dr. Blaxall's recommendations.

DEVONSHIRE.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
SIDMOUTH, U. - Mr. J. Spear, Aug. 1885. P. 3,475. (Sea-side resort.)	Poor quarters neglected.	Sewering fair and fairly ventilated, but flushing defective. Private drainage generally defective, and consequent nuisance.	W.c's. No flushing arrangements in cottage property. W.c's often in improper situations. Cess-pools have been abolished.
ST. THOMAS, U. - Mr. J. Spear, Aug. 1885. P. 6,161. (Shop-keeping, &c.)	Unsatisfactory -	Sewered. Inadequate ventilation. Private drainage exceedingly defective. Many dwellings polluted with drain air.	W.c's with flushing arrangements, but occasionally improperly situated.
EXMOUTH, U. - Dr. D. S. Davies, March 1885. P. 6,245.	—	New system of sewerage satisfactory. Sewers ventilated and flushed.	W.c's; some not adequately flushed. Cesspools abolished.
BUDLEIGH SAL- TERTON, U. Mr. J. Spear, Aug. 1885. P. 1,908. (Sea-side resort, fishing.)	Fair, except poor domestic premises.	Sewered satisfactorily. Ventilation fair. Private drainage often very imperfect in construction, and unwholesome.	Mainly w.c's without flushing arrangements, and apt therefore to be foul.
EXETER, U. - Mr. J. Spear, Sept. 1885. P. 37,065. (Centre of a large agricultural district.)	Domestic premises in lower quarter of city much neglected.	Sewers old, some decayed and leaky. Unwholesome, offensive disposal of sewage. Sewers practically unventilated. Private drainage exceedingly defective, polluting many dwellings with drain air.	W.c's; some without flushing arrangements, and closets often improperly located (in cellars, &c.). In older parts inadequate privy accommodation.
TEIGNMOUTH, U. - Dr. D. S. Davies, March 1885. P. 7,120. (Sea-side resort.)	—	Newly sewered. Sewers ventilated and flushed. House drainage satisfactory.	W.c's mostly with flushing arrangements.
TORQUAY, U. - Dr. D. S. Davies, March 1885. P. 24,767.	Good - -	Sewered satisfactorily. Ventilation and flushing satisfactory.	W.c's satisfactory - - -
DARTMOUTH, U. - Dr. D. S. Davies, March 1885. P. 5,725.	—	Old system of sewers. Main sewer more recent. General condition of sewers not satisfactory. Inadequate flushing and ventilation.	W.c's with separate flushing boxes.
LOWER BRIXHAM, U. Dr. D. S. Davies, March 1885. P. 5,366.	—	Sewered. Sewers flushed but inadequately ventilated.	Many houses without any privy accommodation, there being no room about them. Hence, excrement stored in the bedrooms, &c., until collected by town scavengers.
SALCOMBE, U. - Dr. D. S. Davies, March 1885. P. 1,822.	—	Many old square and some tubular sewers. Ventilation and flushing imperfect. House drainage unsatisfactory.	W.c's, but many houses without any privy accommodation, excrement being stored in rooms and cast away every morning into estuary. No space often for erection of privies.

DEVONSHIRE.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Not wholly satisfactory.	Water works supply very partial and intermittent. Cottages have no storage cisterns. Supply chiefly, however, from shallow wells, necessarily in constant danger of pollution.	Unsatisfactory -	Several ill-kept courts and back places.	Infrequent.
Satisfactory -	Public supply on constant system mostly; not sufficiently guarded from dangerous pollution.	Some dirty with unwholesome surroundings.	Many small courts behind main thoroughfares.	Infrequent.
Not wholly satisfactory.	Public supply constant and good. Some shallow wells still in use, but looked after.	—	—	—
Wholly unsatisfactory.	Public supply partial. Two-thirds of population insufficiently supplied by shallow wells much in danger of pollution from drains.	Fair, with exceptions.	Few courts - -	None.
Efficient - -	Public supply from sources not free from pollution. Constant service, but storage cisterns still generally used, the same cistern serving for domestic supply and flushing closets.	Many decayed and filthy.	In lower quarters a network of courts and alleys with houses filthy and dilapidated. Paving of courts, however, now proceeding.	Considerable.
Fairly satisfactory	Public supply intermittent, but otherwise satisfactory.	—	—	—
Satisfactory -	Public supply constant and satisfactory.	—	—	—
Satisfactory -	Public supply intermittent; good. Few shallow wells, probably soon to be abolished.	—	—	—
Satisfactory -	Public supply constant; good.	—	—	—
Unsatisfactory -	Public supply. Constant only for part of year.	—	—	—

DEVONSHIRE—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
SIDMOUTH, U. - Mr. J. Spear, Aug. 1885. P. 3,475. (Sea-side resort.)	Inefficient - - - -	M.O.H. appears anxious for improvements, but advice given to S.A. in respect of certain dangerous conditions has been inadequate.	Inefficient - - - -
ST. THOMAS, U. - Mr. J. Spear, Aug. 1885. P. 6,161. (Shop-keeping, &c.)	Fair, but deficiency in the matter of skilled advice. District far from safe on advent of cholera.	Unsatisfactory - - - -	Unsatisfactory - - - -
EXMOUTH, U. - Dr. D. S. Davies, March 1885. P. 6,245.	—	Satisfactory - - - -	Satisfactory - - - -
BUDLEIGH SAL- TERTON, U. Mr. J. Spear, Aug. 1885. P. 1,908. (Sea-side resort, fishing.)	Fair on the whole, but much important work yet to be done.	Fair - - - -	Not satisfactory. I. of N. is a grocer in the town.
EXETER, U. - Mr. J. Spear, Sept. 1885. P. 37,665. (Centre of a large agricultural district.)	Inadequate for a city of such importance. City far from safe on advent of cholera. Suffered heavily in 1866.	Judging from report of M.O.H., unsatisfactory. The three D.M.O.'s act as assistants, have a fair knowledge of their respective districts, report upon details, and otherwise do useful work, but it is not their part to give broad and comprehensive advice. M.O.H. is not under Board's Order.	I. of N. fairly competent, and has one assistant.
TEIGNMOUTH, U. Dr. D. S. Davies, March 1885. P. 7,120. (Sea-side resort.)	Satisfactory - - - -	Satisfactory - - - -	Satisfactory - - - -
TORQUAY, U. - Dr. D. S. Davies, March 1885. P. 24,767.	Satisfactory - - - -	Very good - - - -	Very good - - - -
DARTMOUTH, U. - Dr. D. S. Davies, March 1885. P. 5,725.	Fair - - - -	Fairly active - - - -	Fairly active - - - -
LOWER BRIKHAM, U. Dr. D. S. Davies, March 1885. P. 5,366.	S.A. made improvements during last few years. Slowly progressing.	M.O.H. not under Board's Order.	—
SALCOMBE, U. - Dr. D. S. Davies, March 1885. P. 1,822.	—	Satisfactory - - - -	—

DEVONSHIRE—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Inefficient - - -	Small; wholly inadequate.	None -	None -	December 1885—January 1886. Scheme for formation of water company on foot. Action in progress on other matters. February 1886. Loan granted for works of sewerage.
Some progress being made on the whole.	Exeter Hospital used occasionally.	None -	None -	November 1885. Some sewer-ventilation accomplished: scheme of water supply improvement in process of completion: other points of Mr. Spear's advice are being attended to.
Satisfactory - - -	None - - -	None -	Prepared	No subsequent inquiry to date. May 27th, 1886.
Unsatisfactory - - -	None - - -	None -	None -	M.O.H., in 1885 report, shows that water supply is now constant, and that S.A. have undertaken the duty of scavenging.
Inefficient dealing with recurring nuisances.	Yes, but unsatisfactory and slovenly in management.	Yes -	None -	No information forthcoming to date in reply to Board's repeated inquiries as to action of S.A. on Mr. Spear's recommendations. June 16th, 1886.
Satisfactory - - -	Wholly inadequate.	Yes -	—	M.O.H., in 1885 report, shows that good work has been done as to water supply and sewerage. Nothing settled as to permanent hospital.
Efficient - - -	Satisfactory provision.	Yes -	Prepared	No subsequent inquiry to date. May 27th, 1886.
Satisfactory.	—	—	—	June 1886. S.A. endeavouring to obtain site for hospital, and meanwhile have in view the provision of floating accommodation.
—	None - - -	—	—	June 1886. S.A. reply, after repeated inquiries, that a committee has been appointed to secure a house for hospital purposes. No satisfactory information furnished as to steps to be taken in regard of privy accommodation.
—	None - - -	—	—	No subsequent inquiry to date. July 15th, 1886.

DEVONSHIRE—*continued.*

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
PLYMOUTH, U. - Dr. Blaxall, June 1885. P. 73,794. (Chemical and other works, shipbuilding, &c.)	Domestic provision bad in places, but improvement since Dr. Blaxall's inspection in 1878.	Sewered. Defective flushing and ventilation. Sewage nuisances in certain places. Lower parts of town subject to flooding by sewage.	W.c's, many without flushing arrangements, but excremental nuisances much less than in 1878.
EAST STONEHOUSE, U. Dr. Blaxall, June 1885. P. 15,041.	Fair - - -	Sewering very unsatisfactory. All the ventilators closed by S.A., with danger to the population. House drainage unsatisfactory.	W.c's, many without flushing arrangements, and in a filthy condition.
DEVONPORT, U. - Dr. Blaxall, June 1885. P. 48,939. (Shipbuilding.)	Fair - - -	Sewered, and old sewers being re-constructed. Old sewers not ventilated, but new ones are ventilated and flushed.	W.c's. Those in poorer quarters without flushing arrangements.
CREDITON, U. - Mr. J. Spear, April 1885. P. 4,165. (Market town.)	Unsatisfactory -	Sewered. Two of the main sewers are sewers of deposit. Unventilated. Private drainage very unsatisfactory.	W.c's a common nuisance from inadequate flushing. Often choked and overflowing from neglect where flushing arrangements have not been provided.
BARNSTAPLE, U. - Dr. D. S. Davies, July 1885. P. 13,271. (Agricultural market town.)	Satisfactory - -	Sewered. No ventilation and insufficient flushing. Improvements in these respects, and in house drainage, in contemplation.	Mostly w.c's - - - -
ILFRACOMBE, U. - Dr. D. S. Davies, July 1885. P. 6,255. (Sea-side resort, fishing.)	Very satisfactory	Sewered and drained satisfactorily. Ventilation free.	W.c's; satisfactory - - -
BIDEFORD, U. - Dr. D. S. Davies, July 1885. P. 6,512. (Market town, shipbuilding.)	Satisfactory - -	Sewered. Ventilation and flushing. House drainage less satisfactory.	W.c's, but some without flushing arrangements.
NORTHAM U. - Dr. D. S. Davies, July 1885. P. 4,454. (Fishing, shipbuilding; partly sea-side resort.)	Fair - - -	Drainage fairly complete. - -	W.c's satisfactory. A few privy pits.

DEVONSHIRE—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Improved, but still defective.	Public supply inadequate, and still exposed to pollution in its open course to the town.	Many dirty and some dilapidated.	Many crowded and confined streets.	Overcrowding, but it is dealt with by S.A.
Unsatisfactory. Nuisances from offensive accumulations.	Public supply intermittent, inadequate, and suspicious in quality, storage tanks (many underground) having overflow into drains.	Fair - - -	Many close courts, but generally a fair amount of air space about dwellings.	Much crowding, but <i>over-crowding</i> doubtful.
Efficient - -	Public supply on constant system abundant and good.	Fair - - -	Dwellings on the most crowded areas have been demolished. Some close courts still exist.	Much crowding, but <i>over-crowding</i> doubtful.
Very bad, and many pigstye nuisances permitted.	Shallow wells, probably all liable to sewage pollution. Two public pumps. Altogether insufficient quantity of water.	Often unsatisfactory, with filthy surroundings.	Yes - - -	Infrequent.
Satisfactory - -	Public supply constant and satisfactory.	Satisfactory - -	Little crowding -	Infrequent.
Satisfactory - -	Public supply constant and good.	Good - - -	Some crowding near the quay.	Occasional in the "season."
Satisfactory - -	Public supply constant. A few wells still in use, but looked after.	Good on the whole	Little crowding. Much clearing effected.	None.
Satisfactory - -	Public pumps and wells, apparently wholesome. Some suspicious private wells. All looked after.	Fair - - -	Some overcrowding at Appledore.	Some at Appledore.

DEVONSHIRE—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
PLYMOUTH, U. - Dr. Blaxall, June 1885. P. 73,794. (Chemical and other works, ship-building, &c.)	Still far from efficient, but there has been great improvement. Further improvements contemplated.	M.O.H. gives good advice when asked, but does not systematically inspect district.	Efficient - - - -
EAST STONEHOUSE, U. Dr. Blaxall, June 1885. P. 15,041.	Inefficient - - - -	M.O.H. intelligent, and does not leave S.A. without good advice.	Apparently good - - -
DEVONPORT, U. - Dr. Blaxall, June 1885. P. 48,939. (Shipbuilding.)	Efficient - - - -	M.O.H. gives good advice -	Efficient - - - -
CREDITON, U. - Mr. J. Spear, April 1885. P. 4,165. (Market town.)	Defective, owing probably in part to the lack of proper advice.	Unsatisfactory. (M.O.H. about to resign.)	Very unsatisfactory - -
BARNSTAPLE, U. - Dr. D. S. Davies, July 1885. P. 13,271. (Agricultural market town.)	Satisfactory - - - -	Energetic and efficient -	Very good - - - -
ILFRACOMBE, U. - Dr. D. S. Davies, July 1885. P. 6,255. (Sea-side resort, fishing.)	Fairly satisfactory - - -	Active and efficient - -	Efficient - - - -
BIDEFORD, U. - Dr. D. S. Davies, July 1885. P. 6,512. (Market town, shipbuilding.)	S.A. have done good work -	Satisfactory - - - -	New officer - - - -
NORTHAM, U. - Dr. D. S. Davies, July 1885. P. 4,454. (Fishing, ship-building; partly sea-side resort.)	Satisfactory - - - -	Very satisfactory - - -	Good on the whole - - -

DEVONSHIRE—continued.

13.

14.

15.

16.

17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Improvement since 1878.	Yes, but still very unsatisfactory, and faulty in its administration.	None	None	September 1885. Sewage nuisances to be abated by means of new works, save at Sutton Pool, as to which the S.A. are in correspondence with the Harbour Commissioners. New permanent hospital to be provided; application made in 1886 for sanction to borrow £5,000 for site.
Inefficient - - -	None - - -	None	None	No reply to date to Board's repeated inquiries as to action of S.A. on Dr. Blaxall's memorandum of advice. July 1st, 1886.
Efficient - - -	None - - -	None	Made some preparations.	No subsequent inquiry to date. May 27th, 1886.
Inefficient. No attempt to deal with recurring nuisances.	None - - -	None	None	December 1885. Some action reported as taken or proposed on certain of Mr. Spear's recommendations; nothing said as to scavenging or hospital provision.
Satisfactory - - -	None, but S.A. contemplate erecting hospital.	None	None	Application made by S.A. in 1886 for sanction to loans for hospital and works of sewerage and street improvement.
Satisfactory - - -	Yes - - -	Chemical disinfecting chamber.	Prepared	No subsequent inquiry to date. May 27th, 1886.
—	Small hospital in course of erection.	None	None	No subsequent inquiry to date. May 27th, 1886.
—	(See Port Survey abstract.)	None	None	No subsequent inquiry to date. May 27th, 1886.

CORNWALL.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
PADSTOW, U. - Dr. D. S. Davies, June 1885. P. 1,749. (Seafaring occupations and ship-building.)	Satisfactory -	Sewered - - - - -	No privy accommodation to some houses, and from them excrement is collected by pails. A few w.c.'s without water-flush arrangements.
NEWQUAY, U. - Dr. D. S. Davies, June 1885. P. 1,600. (Sea-side resort.)	—	Sewering completed, having been extended after Dr. Ballard's inspection in 1879. Flushing, but inadequate ventilation.	W.c.'s, but many without flushing arrangements.
TRURO, U. - Dr. D. S. Davies, April 1885. P. 10,619.	—	Old brick or stone sewers now being replaced by pipes. Flushing, but insufficient ventilation. Outfall of sewers unsatisfactory.	W.c.'s mostly. Privy pits and cesspools being progressively abolished.
FALMOUTH, U., and FALMOUTH PARISH, U. [Joint report.] Dr. D. S. Davies, March 1885. P. 12,131. (Port, and health resort.)	Fair - - -	Sewered. Ventilation inadequate. Deposit tanks within town, a possible danger during a cholera season. House drainage not quite satisfactory.	W.c.'s to most houses. A few cesspools and privy pits left.
PENRYN, U. - Dr. D. S. Davies, July 1885. P. 3,466. (Shipping trade, granite quarrying, market gardening.)	Fair - - -	Pipe drainage only fit for slop and surface water, but used for about 100 w.c.'s. Inadequate ventilation.	Mostly large open midden privies, rarely emptied.
HAYLE, U. - Dr. D. S. Davies, July 1885. P. 1,089. (Iron foundry, shipping trade.)	Fair - - -	Sewered. Sewers flushed and partially ventilated.	W.c.'s. Few privy pits left - -
PENZANCE, U. - Dr. D. S. Davies, April 1885. P. 12,409. (Health resort.)	—	Sewered. Ventilation and flushing fair.	W.c.'s. Some with direct flush from water mains. No privies or cesspools.
ST. IVES, U. - Dr. D. S. Davies, Sept. 1885. P. 6,445. (Fishing. Sea-side resort.)	Fair when visited, but ? during active fishery times.	Little or no underground drainage system. Some roadside open channels fairly kept.	No privy accommodation in older parts of town. Men use the beach. Women empty chamber vessels at shoots provided on the beach.

CORNWALL.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Four public wells and many private ones. Looked after.	Fair -	Many crowded and back-to-back, without space for privy accommodation.	Infrequent.
Systematic -	Public supply (1884) constant.	---	---	---
Satisfactory -	Public supply on constant system to about one-sixth of town. Many private wells liable from their position to dangerous pollution, but they are looked after.	---	---	---
Satisfactory -	Public supply good. Constant to town, but intermittent to parish, where storage cisterns are common to w.c.'s and domestic use. Two public wells.	Not altogether satisfactory.	---	---
Unsatisfactory -	Public supply partly from Fal-mouth waterworks, and partly from town water-course. Some wells also. Water-course and wells liable to pollution.	Bad in older and more crowded parts.	Some crowding with unwholesome surroundings.	Little.
Satisfactory -	Public supply constant, except in periods of drought. No wells.	Fair -	Some little crowding.	---
Satisfactory -	Public supply good and constant, except in periods of drought. Some storage cisterns.	---	---	Little.
Unsatisfactory -	Public supply from three separate sources. Fair, and by protection could be made good and satisfactory.	Fair, considering that old town is devoted to fishing (chiefly pilchard) industry.	Old town greatly crowded, houses wedged together. Ground floors devoted often to "fish-cellars."	None.

CORNWALL—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
PADSTOW, U. - Dr. D. S. Davies, June 1885. P. 1,749. (Seafaring occupation and ship-building.)	Satisfactory - - - -	Very fair. M.O.H. advises well.	Excellent - - - -
NEWQUAY, U. - Dr. D. S. Davies, June 1885. P. 1,600. (Sea-side resort.)	Evidently some progress made since Dr. Ballard's inspection in 1879.	—	—
TRURO, U. - - Dr. D. S. Davies, April 1885. P. 10,619.	Making progress.	Satisfactory - - - -	—
FALMOUTH, U., and FALMOUTH PARISH, U. [Joint report.] Dr. D. S. Davies, March 1885. P. 12,131. (Port, and health resort.)	Fair, but efficiency weakened by want of unanimity between S.A.'s of town and parish.	Very good - - - -	I. of N. is Surveyor also in both districts. Capable man.
PENRYN, U. - Dr. D. S. Davies, July 1885. P. 3,466. (Shipping trade, granite quarrying, market gardening.)	S.A. slow to see danger of excrement nuisances, although pressed upon them by M.O.H.	M.O.H. a good and able officer. Advises S.A. soundly.	I. of N. acts under direction of M.O.H., but timidly.
HAYLE, U. - - Dr. D. S. Davies, July 1885. P. 1,089. (Iron foundry, shipping trade.)	—	—	I. of N. is clerk at a mine, and has little time to devote to inspection of nuisances.
PENZANCE, U. - Dr. D. S. Davies, April 1885. P. 12,409. (Health resort.)	—	—	—
ST. IVES, U. - Dr. D. S. Davies, Sept. 1885. P. 6,445. (Fishing, sea-side resort.)	Slow, but appears likely to progress.	M.O.H. gives sound advice.	Not active - - - -

CORNWALL—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Fair - - - -	None - - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
—	None - - - -	None -	—	No subsequent inquiry to date. May 27th, 1886.
—	Yes.	—	—	No subsequent inquiry to date. May 27th, 1886.
—	None for urban purposes.	None -	None -	Sept. 1885 } Neither S.A. will take action March 1886 } in regard to hospital provision.
Unsatisfactory - -	None - - - -	None -	None -	September 1885. S.A. make some show of action on Dr. Davies's advice, but M.O.H., in 1885 report, again refers to unsatisfactory method of excrement disposal. Nothing done as to hospital provision.
—	None - - - -	None -	None -	November 1885. Joint hospital to be provided with Phillack U.S.A.; but (April 1886) differences exist as to apportionment of expenses.
—	Yes, small, at outskirts of town.	Yes, at hospital.	—	November 1885. No additional hospital accommodation to be provided.
Dilatory - - - -	None - - - -	None -	None -	Board's inquiry of December 1885 as to action of S.A. on Dr. Davies's advice evokes no reply to date. May 27th, 1886.

DORSETSHIRE.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainsge.	Excrement Disposal and Removal.
POOLE, U. - - Dr. D. S. Davies, Feb. 1885. P. 12,310.	—	Sewerage system for surface water only. Cesspools (often large) for house drainage; pervious; cleansed by S.A.	W.c's discharging into cesspools. Some privy pits outside town.
WEYMOUTH, U. - Dr. D. S. Davies, Feb. 1885. P. 13,715.	—	Pipe sewered. Ventilated and flushed; improvements required. Some flooding of cellars. House drainage requires improvement also.	W.c's, many without flushing arrangements.
SHERBORNE, U. - Mr. J. Spear, May 1885. P. 5,053. (Market town, silk factory, glove making.)	Fair - - -	Sewering fair. Ventilation improved. Flushing capable of improvement. House drainage unsatisfactory.	W.c's, mostly without flushing arrangements.
BRIDPORT, U. - Dr. D. S. Davies, Feb. 1885. P. 6,795.	—	Sewering satisfactory. Sewers ventilated and flushed. No cesspools now in the town.	Satisfactory - - - -

SOMERSETSHIRE.

BRIDGWATER, U. - Br. Blaxall, Feb. 1885. P. 12,007.	—	Unsatisfactory sewerage. Sewers of stone; porous. No ventilation, and imperfect flushing. House drainage not satisfactory.	W.c's without any flushing arrangements, discharging into the imperfect sewers. Excremental nuisances of exaggerated character.
CHARD, U. - - Mr. J. Spear, May 1885. P. 2,411. (Agricultural market town, linen, lace, and collar manufacture.)	Fair, with exceptions.	Sewering fairly efficient. House drainage unsatisfactory.	W.c's, without flushing arrangements. Not sufficient number in some parts. A few privy pits.

GLOUCESTERSHIRE.

GLOUCESTER, U. - Dr. Blaxall, Jan. 1885. P. 36,521.	—	Sewering unsatisfactory; improvement contemplated.	Mainly w.c's without flushing arrangements.
BRISTOL, U. - Dr. Blaxall, Jan. 1885. P. 206,874.	—	Sewered, but no ventilation. House drainage in course of improvement.	W.c's, and other forms of water carriage of excrement.

DORSETSHIRE.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supply on constant system.	—	—	—
Satisfactory -	Public supply constant and good.	—	—	—
Unsatisfactory -	Public supply on constant system; but some drinking-water cisterns used also for flushing closets.	Unsatisfactory -	Some close courts	Some.
Satisfactory -	Public supply constant and good to about half the houses, and in course of being slowly extended. Otherwise suspicious shallow wells.	—	—	—

SOMERSETSHIRE.

Satisfactory -	Public supply constant and good. A few wells exposed to pollution, but public supply being extended.	Revoltingly filthy places noted in Dr. Blaxall's inspection in 1874, are in same condition still.	—	—
Very unsatisfactory, and much resultant nuisance.	Public supply by some stand-pipes, and to two-fifths of houses. Constant. Liable to pollution of dangerous character.	Many dirty, damp, and ill-ventilated.	Many close courts	Occasional.

GLOUCESTERSHIRE.

Satisfactory -	Public supply; liable to pollution from direct communication of sewers with w.c's. Wells close to pervious sewers are also in use.	—	—	—
Satisfactory -	Public supply satisfactory	—	—	—

DORSETSHIRE—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
POOLE, U. - - Dr. D. S. Davies, Feb. 1885. P. 12,310.	Appears energetic.	Satisfactory - - - -	—
WEYMOUTH, U. - Dr. D. S. Davies, Feb. 1885. P. 13,715.	—	Good - - - - -	I. of N. a good officer at one time, but now getting old and less efficient.
SHERBORNE, U. - Mr. J. Spear, May 1885. P. 5,053. (Market town, silk factory, glove-making.)	Fair - - - - -	Fair, although further energetic action required.	Fair, but on occasions I. of N. has objected to visit infected houses on account of his occupation, namely, a dairyman and milk seller.
BRIDPORT, U. - Dr. D. S. Davies, Feb. 1885. P. 6,795.	—	—	—

SOMERSETSHIRE—*continued.*

BRIDGWATER, U. Dr. Blaxall, Feb. 1885. P. 12,007.	Inefficient. Town in a dangerous condition for advent of cholera.	—	—
CHARD, U. - Mr. J. Spear, May 1885. P. 2,411. (Agricultural market town, linen, lace, and collar manufacture.)	Fair on the whole, but many failures.	No systematic inspection. Influence of M.O.H. in direction of sanitary improvements not great.	I. of N. works up to a very low standard.

GLOUCESTERSHIRE—*continued.*

GLOUCESTER, U. Dr. Blaxall, Jan. 1885. P. 36,521.	—	—	—
BRISTOL, U. - Dr. Blaxall, Jan. 1885. P. 206,784.	Efficient - - - - -	Excellent - - - - -	Efficient - - - - -

DORSETSHIRE—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	Same hospital provision as for port.	None	—	No subsequent inquiry to date. May 27th, 1886.
—	Satisfactory.	—	—	No subsequent inquiry to date. May 27th, 1886.
Satisfactory on the whole.	Unsatisfactory make-shift for cholera. No hospital for infectious diseases generally.	None	—	No subsequent inquiry to date (May 27th, 1886), but loan of 6,000 <i>l.</i> sanctioned in April 1885 for works of water supply.
—	None. Wooden shed for possible cholera, but unfitted for the purpose.	—	—	M.O.H.'s 1885 report shows that but little has been done in regard to the substitution of the public water supply to houses supplied by wells.

SOMERSETSHIRE—*continued.*

Inefficient - - -	Small, inefficient hospital, badly situated.	—	—	June 1885. Some steps taken in regard to closet accommodation and defective property. January 1886. Loan of 1,268 <i>l.</i> sanctioned for works of water supply. April 1886. S.A., after protracted delay, make unsatisfactory general reply as to defective sewerage and the like.
Inefficient - - -	None - - -	None	None	No subsequent inquiry to date. July 15th, 1886.

GLOUCESTERSHIRE—*continued.*

—	Yes, but in many respects of objectionable character.	—	—	November 1885. Some alterations at present town hospital to be carried out. S.A. have not acted on repeated advice of Board and their M.O.H. to provide more adequate and satisfactory means of isolation for the city.
Systematic and efficient.	Yes - - -	—	Preparing	No subsequent inquiry to date. May 27th, 1886.

LANCASHIRE.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
LYTHAM, U. - Dr. Blaxall, Aug. 1885. P. 4,122. (Fishing.)	Bye streets in very dirty condition.	Sewering improved of late years, but ventilation and flushing inefficient. House drainage unsatisfactory.	W.c's and many very unwholesome cesspit privies of worst type.
FLEETWOOD, U. - Dr. Blaxall, Aug. 1885. P. 6,733. (Shipping trade, fishing.)	Some back streets and yards dirty.	Sewered. Inefficient ventilation. Sewage nuisance at Copse ditch. House drainage defective in old property.	Cesspit privies of worst type with overflows into drains. W.c's in new houses.
BLACKPOOL, U. - Dr. Page, Dec. 1885. P. 14,229. (Sea-side resort.)	Fair, except at Queenstown, a poor quarter.	Sewered. Ventilation and flushing defective. House drainage satisfactory.	W.c's and midden privies; the latter being progressively improved away.
LANCASTER, U. - Dr. Blaxall, Aug. 1885. P. 20,663. (County town.)	Unsatisfactory	Sewered. Ventilation very defective. Old house drains defective.	Mostly w.c's, but in some places large privy pits (misnamed "earth closets") sources of great nuisance, especially on being emptied.
POULTON, BARE, AND TORRIS-HOLME, U. Dr. Page, Dec. 1885. P. 3,931. (Sea-side resort, fishing.)	Very satisfactory	Sewering satisfactory, but ventilators obstructed by charcoal trays. Daily flushed.	W.c's and midden privies
LIVERPOOL, U. - Dr. Blaxall, May 1885. P. 552,508. (Port, &c.)	Fair	Sewered. Some flat sewers contain deposit. Sewers ventilated and flushed.	Mainly w.c's. Trough closets now substituted for cesspits and midden privies which used to be source of much nuisance.
TOXTETH PARK, U. Dr. Blaxall, May 1885. P. 10,368.	Unsatisfactory in old parts.	Sewered. Sewers vent lated. Flushing unsatisfactory.	W.c's mostly, but unwholesome cesspit privies met with, which are a nuisance.
WEST DERBY, U. - Dr. Blaxall, May 1885. P. 33,614.	Unsatisfactory in older parts.	Populous places sewered. Ventilation imperfect. Some ventilators closed ill-advisedly. Cesspools used in rural parts which are not sewered.	W.c's, some without flushing arrangements. Foul midden privies of worst type and neglected.
WALTON-ON-THE-HILL, U. Dr. Blaxall, May 1885. P. 18,536. (Rapidly growing residential locality.)	—	Sewering fairly efficient, but offensive smells from the grids indicate some faultiness or defective ventilation. Flushed.	Mostly w.c's of good construction, but old cottages have deep privy pits, creating grave nuisances.

LANCASHIRE.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply constant and good. One pipe, however, said to pass through a sewer.	Fair - - -	None - - -	Little or none.
Unsatisfactory -	Public supply constant and said to be good.	Fair - - -	None - - -	Little or none.
Satisfactory -	Public supply constant and good; but in rural parts wells and rain-water cisterns.	Fair generally. Improvements progressing.	Fair, but some crowding in central part.	Excessive during visitors' season.
Unsatisfactory -	Public supply constant and good.	Fair - - -	Some very confined courts.	Very little.
Unsatisfactory -	Public supply constant and good.	Satisfactory - -	None - - -	None.
Satisfactory -	Public supply considered wholesome, but not free from suspicion. New scheme in hand.	Many rookeries abolished, but still frequent crowding in unwholesome tenemented dwellings in some, especially the Irish quarters. Although many occupied cellars closed, yet cellar occupation existent.		—
Unsatisfactory -	Public supply from Liverpool Corporation Works as above. Drinking water occasionally drawn from w.c. cisterns.	Dirty unwholesome dwellings in lanes and courts, with some filthy privies of the worst type.		—
Unsatisfactory -	Public supply from Liverpool Corporation Works as above. Constant. Occasionally drinking water drawn from w.c. cisterns.	In the part adjoining Liverpool the houses sub-let. At "Old Swan" many of the houses are dirty, with all kinds of filthy surroundings.		—
Unsatisfactory -	Public supply from Liverpool Corporation works as above. Constant. Occasionally drinking water drawn from w.c. cisterns.	—	—	—

LANCASHIRE—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
LYTHAM, U. - Dr. Blaxall, Aug. 1885. P. 4,122. (Fishing.)	Neglected M.O.H.'s advice as to remedying some insanitary conditions.	Satisfactory - - -	Unsatisfactory - - -
FLEETWOOD, U. - Dr. Blaxall, Aug. 1885. P. 6,733. (Shipping trade, fishing.)	Inefficient - - - -	M.O.H. has advised soundly	Satisfactory - - - -
BLACKPOOL, U. - Dr. Page, Dec. 1885. P. 14,229. (Sea-side resort.)	Active, efficient, and progressive.	M.O.H. active, advising well, and doing excellent work.	Active and very efficient under M.O.H.'s direction.
LANCASTER, U. - Dr. Blaxall, Aug. 1885. P. 20,663. (County town.)	Fair, but not sufficiently active in suppressing privy and refuse nuisances.	Satisfactory - - - -	Satisfactory - - - -
POULTON, BARE, AND TORRIS-HOLME, U. Dr. Page, Dec. 1885. P. 3,931. (Sea-side resort, fishing.)	Active and efficient - - -	Satisfactory - - - -	Efficient. I. of N. is surveyor also.
LIVERPOOL, U. - Dr. Blaxall, May 1885. P. 552,508. (Port, &c.)	Efficient. Great improvements effected and still proceeding.	Satisfactory systematic work	Satisfactory systematic work -
TOXTETH PARK, U. Dr. Blaxall, May 1885. P. 10,368.	S.A. have done much good work.	M.O.H. very recently appointed.	I. of N. recently appointed, but long enough to have learned to be more efficient.
WEST DERBY, U. Dr. Blaxall, May 1885. P. 33,614.	Much good work done, but grave unwholesome conditions left.	Satisfactory. M.O.H. not under Board's Order.	Satisfactory - - - -
WALTON-ON-THE-HILL, U. Dr. Blaxall, May 1885. P. 18,536. (Rapidly growing residential locality.)	S.A. regulate the sanitary arrangements of the new dwellings now rapidly springing up, and in this are doing a good work.	M.O.H. too advanced in years for the satisfactory performance of the duties of his office. Not under Board's Order.	Inefficient for want of time to carry out the duties. I. of N. is clerk to the U.S.A.

LANCASHIRE—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with date of Information.
Recurring nuisances from cesspits not efficiently dealt with.	None - - -	None -	None -	November 1885. S.A. are adopting the remedial measures suggested by Inspector. Scheme for joint hospital promoted.
Recurring nuisances from cesspits not efficiently dealt with.	None - - -	None -	None -	November 1885. Some action as to sewage nuisance, sewer-ventilation, and improvement of slaughter-houses: site obtained for hospital for <i>ship-borne</i> infections and cholera. No information as to cesspit privies and refuse removal.
Efficient - - -	Yes, but inadequate. S.A. contemplating new provision.	Scott's apparatus.	Preparing actively.	March 1886. Endeavours will be made by "Sanitary Committee" to carry out certain of Dr. Page's recommendations: further information promised, but not received to date. May 27th, 1886.
Inefficient as respects recurring nuisances from cesspit privies.	Yes - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Generally efficient -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Satisfactory on the whole, but some parts of district are very difficult to manage.	Temporary provision for cases of small-pox.	—	Preparing	No subsequent inquiry to date, but since survey took place S.A. have made application, <i>inter alia</i> , for a loan of 100,000 <i>l.</i> in respect of infectious hospital provision. May 27th, 1886.
Unsatisfactory - -	None - - -	None -	None -	June 1885—February 1886. Some work being done by S.A., and loans for hospital provision, works of sewerage and of street improvements sanctioned by Board.
Inefficient - - -	None - - -	Hot-air chamber.	—	September 1885. Action taken as to excrement and refuse removal, defective midden privies, and direct communication of w.c.'s with water mains. June 1886. Permanent hospital to be provided.
Inefficient - - -	None.	—	—	July 1885. Something done as to scavenging: other necessary measures under consideration.

LANCASHIRE—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
BOOTLE, U. - Dr. Blaxall, May 1885. P. 27,374. (Docks.)	---	Sewered throughout. Ventilation and flushing satisfactory. House drainage fair.	W.c.'s with flushing arrangements, but also privy middens of great size and worst possible type, producing excremental nuisances of the most revolting and exaggerated character.
WAVERTREE, U. - Dr. Blaxall, May 1885. P. 11,097.	Fair - - -	Sewering satisfactory, and house drainage being improved.	W.c.'s in better class houses. Cottages have large open midden privies of worst type, and neglected.
BARROW-IN-FURNESS, U. Dr. Blaxall, Aug. 1885. P. 47,276. (Iron and steel works, shipbuilding.)	Satisfactory -	Sewering satisfactory, except in Hudpool ward. Ventilation and flushing satisfactory.	W.c.'s with flushing arrangements, except in Hudpool ward.

CHESHIRE.

CHORLEY, U. - Dr. Airy, May 1885. P. 2,067. (High-class residential locality.)	Very good - -	Sewering and house drainage satisfactory. Ventilation satisfactory.	W.c.'s in better class houses. Remainder have privies, often built against wall of house, deep and unwholesome.
RUNCORN, U. - Dr. Airy, June 1885. P. 15,176. (Chemical works, canal navigation.)	Back streets and yards bad and foul with slops.	Sewered except in some outlying parts, which have no proper drainage, e.g., Zion Place. Ventilation and flushing of sewers insufficient.	Mainly privy pits, of which many drain into sewers. Partly by w.c.'s, some of which are flushed direct from water main. Graveyard midden nuisances.
BIRKENHEAD, U. - Dr. Blaxall, May 1885. P. 84,006. (Shipbuilding, iron-works, and shipping trade.)	Excellent roadways well kept. Otherwise fair.	Sewered except in certain new parts, where cesspits are used, which now and then overflow and flood floors of houses. Certain of the sewers are flat and admit of deposit. Ventilation and flushing inefficient. Drainage of older houses being progressively improved.	W.c.'s with flushing arrangements, but sometimes flushed by direct communication with water mains. Some few large objectionable midden privies.

YORKSHIRE.—WEST RIDING.

GOOLE, U. - Dr. Blaxall, March 1885. P. 10,418. (Shipping trade mainly.)	Slop nuisances in certain streets.	Sewered, but old sewers faulty and insufficiently ventilated. New sewers ventilated and flushed. House drains frequently faulty.	Chiefly ashpit privies of bad construction and source of nuisances. Some boxes. A few w.c.'s.
CROWLE, U. - Mr. J. Spear, Jan. 1886. P. 3,353. (Agriculture, flax-mills, breweries.)	Fair, with exceptions.	Sewering piecemeal and unsatisfactory. Manholes with catchpits. All sewers unventilated. House drainage bad.	Midden privies of bad type and badly located.

LANCASHIRE--continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply from Liverpool Corporation Works, all drawn in this instance from wells in Bootle not free from suspicion of dangerous pollution. Constant.	In old parts crowded tenemented dwellings, dirty, and in some yards where air is befouled by midden privies, in revolting state of filth.	—	—
Unsatisfactory -	Public supply from Liverpool Corporation Works, Constant. (See Liverpool.) Drinking water sometimes drawn from w.c. cisterns.	At "Old Swan" dilapidated dirty cottages with unwholesome surroundings.	—	—
Satisfactory -	Public supply constant and good.	Fair except in "Old Barrow."	Some crowding in "Old Barrow."	Occasionally.

CHESHIRE.

—	Public supply good. Three wells in village.	Satisfactory, except for position of privies.	None - - -	None.
Unsatisfactory -	Public supply constant, and apparently wholesome. An unsafe well disused since Dr. Airy's inspection in 1874.	Unsatisfactory -	Older dwellings closely packed together.	Little.
Unsatisfactory -	Public supply constant. One of the sources is a well liable to suspicion of pollution. Water liable to pollution also from w.c.'s in course of its distribution.	Satisfactory on the whole.	None except in centre and oldest part. Otherwise town is open, with unusually wide, airy streets.	—

YORKSHIRE.—WEST RIDING.

Fair - - -	Public supply constant; said to be good. Several wells in use, but recognised as polluted. S.A. proceeding to close them.	—	—	—
Unsatisfactory -	Public and private wells, liable to dangerous pollution.	Commonly unwholesome and damp. Many dilapidated.	None - - -	None observed.

LANCASHIRE—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
BOOTLE, U. - Dr. Blaxall, May 1885. P. 27,374. (Docks.)	Good work done, but advice of M.O.H. as to dealing with excrement nuisances neglected.	M.O.H. an able and zealous officer, and has warned S.A. as to the relation between existent filthy conditions and spread of cholera.	Very good - - - -
WAVERTREE, U. - Dr. Blaxall, May 1885. P. 11,097.	—	M.O.H. an intelligent earnest worker. He is not under Board's Order.	I. of N. newly appointed
BARROW-IN-FURNESS, U. Dr. Blaxall, Aug. 1885. P. 47,276. (Iron and steel works, ship-building.)	Efficient - - - -	Efficient - - - -	Efficient - - - -

CHESHIRE—*continued.*

CHORLEY, U. - Dr. Airy, May 1885. P. 2,067. (High class residential locality.)	Satisfactory - - - -	Work done quite insignificant. M.O.H. keeps no records.	Fairly good - - - -
RUNCORN, U. - Dr. Airy, June 1885. P. 15,176. (Chemical works, canal navigation.)	Far from satisfactory, but some promise of greater activity. District in much the same sanitary condition as when inspected by Dr. Airy in 1874.	Very inefficient - - - -	Inefficient. I. of N. is Surveyor and Market Inspector also.
BIRKENHEAD, U. Dr. Blaxall, May 1885. P. 84,006. (Shipbuilding, ironworks, and shipping trade.)	S.A. have done much good work, but in dealing with ordinary unwholesome conditions negligent of the good advice of the M.O.H.	M.O.H. a zealous and earnest officer and advises soundly. He is not under Board's Order.	Efficient - - - -

YORKSHIRE.—WEST RIDING—*continued.*

GOOLE, U. - Dr. Blaxall, March 1885. P. 10,418. (Shipping trade mainly.)	S.A. carrying out improvements under advice of M.O.H.	Efficient - - - -	Good - - - -
CROWLE, U. - Mr. J. Spear, Jan. 1886. P. 3,353. (Agriculture, flax-mills, breweries.)	Lax administration - - - -	Unsatisfactory - - - -	Inefficient. I. of N. is an auctioneer.

LANCASHIRE—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Inefficient - - -	Yes.	—	None -	September 1885—January 1886. S.A. taking action as to means of excrement disposal, and insanitary dwellings. M.O.H. reports good progress as to former. Loan of 7,160 <i>l.</i> sanctioned in September 1885 for purposes of providing further hospital accommodation and a disinfecting apparatus.
Inefficient - - -	None.	—	None -	July 1885. Nothing done to get rid of objectionable midden privies; no hospital provided.
Efficient - - -	Yes - - - -	None -	Preparing	No subsequent inquiry to date. May 27th, 1886.

CHESHIRE—*continued.*

Efficient, except as to privy nuisances.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Unsatisfactory. Old nuisances recognised by Dr. Airy.	Yes; small, but being extended.	None -	None -	January 1886. S.A.'s reply shows that some good work has been and is being done on Dr. Airy's recommendations.
Unsatisfactory - -	Yes - - - -	Yes - -	M.O.H. gave very good advice as to precautionary measures to be adopted, but his recommendations have not been carried into effect.	June 1885. Points of advice under consideration. No information from S.A. as to action to date. May 27th, 1886.

YORKSHIRE.—WEST RIDING—*continued.*

—	Yes - - - -	None -	None, except hospital and arrangement for notification.	No subsequent inquiry to date. May 27th, 1886.
Failure - - -	None - - - -	None -	None -	June 1886. Some drainage improvements being carried out and nuisances abated. No details given.

YORKSHIRE.—EAST RIDING—*continued.*

1	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
SOUTH CAVE AND WALLINGFEN, U. Dr. Airy, March 1885. P. 2,065. (Agriculture and brick-making.)	Slop nuisances abound.	No drainage - - - - -	Privy-pits or ashpit privies, or a ditch.
KINGSTON-ON-HULL, U. Dr. Page, March 1886. P. 154,240. (An important port. A variety of industries.)	Good - - - - -	Sewered. Improvements since Dr. Airy's inspection in 1882, and sewers more efficiently ventilated. Much recent improvement in house drainage. Waste pipes cut off.	Privies with small receptacles for excrement and refuse; older ones allowing soakage into soil. About 20,000 of these can only be emptied by carrying contents through houses. Apt to be a nuisance in warm weather.

YORKSHIRE.—NORTH RIDING.

SCARBOROUGH, U. - Dr. Blaxall, July 1885. P. 30,504. (Health resort mainly; fishing.)	Fair on the whole	Sewered. Sewers ventilated and flushed with a hose. Waste pipes cut off.	W.c's. Also by privies with small receptacles, some allowing soakage into soil.
MALTON, U. - - Mr. J. Spear, Dec. 1885. P. 8,754. (Agricultural market town.)	Fair - - - - -	Sewering on the whole satisfactory. Recent attention to ventilation and flushing. House drainage satisfactory on the whole.	W.c's, with flushing cisterns in larger houses, otherwise midden privies of old defective type, but gradually being replaced by tub-closets on Rochdale system.
PICKERING, U. - Mr. J. Spear, Dec. 1885. P. 3,959. (Agriculture mainly.)	Unsatisfactory. Sloppy and sewage-sodden soil in certain yards.	Sewered irregularly and unsatisfactorily. Ventilation insufficient. Discharges into roadside ditches. House drainage most defective.	Privy-pits and midden privies of old objectionable type. Some houses without privy accommodation. Excrement nuisances universal.
WHITBY, U. - - Dr. Blaxall, July 1885. P. 14,086. (Fishing; health resort.)	Roadways clean. Foulness of some domestic premises from fish refuse, &c.	Sewering very defective and unsystematic. Discharge into harbour productive of great nuisance. Deficient ventilation and flushing. House drainage unsatisfactory, even in better parts of town.	W.c's in new part. In old part wooden privy receptacles, and frequent excremental nuisances.
HINDERWELL, U. - Mr. J. Spear, Dec. 1885. P. 2,467. (Fishing, agriculture, mining.)	Cleanliness often neglected. Staithes in a disgraceful state.	Most unsatisfactory and offensive drainage arrangements—or none at all—and hence general prevalence of sewage nuisances.	Large midden privies a source of nuisance, or no accommodation of any sort.

YORKSHIRE.—EAST RIDING—*continued.*

5.

6.

7.

8.

9.

Refuse Removal.

Water Supply.

Sanitary
Condition of
Dwellings
of Poor.Crowding
of Dwellings on
Area.Overcrowding of
Dwellings.

—

Public supply at South Cave
good. Elsewhere water from
polluted shallow wells,
ponds, canal, &c.Fair, except some
wretched hovels
at Newport.

None.

—

Satisfactory.
Bailey & Fry's
"Destructor"
used.Public supply good and con-
stant. No shallow wells.Very commonly
damp from
foundation. Some
very badly built
and some on sites
of shot town
refuse. Generally
clean and well
looked after now.In old town an
abundance of
courts and yards
with houses
crowded so as to
exclude direct
sunlight and any
free air move-
ment. Even in
newly built parts
arrangements for
free aëration at
rear of "terraces"
very insufficient.
Privies in very
small back yards
close to pantries
and back doors.Little. Well
looked after.

YORKSHIRE.—NORTH RIDING.

Satisfactory -

Public supply constant and
good.

Fair - - -

A few close locali-
ties.

Very little, if any.

Satisfactory -

Public water supply liable to
occasional pollution.

Fair - - -

Many confined
courts and back
places.

Considerable.

Most unsatisfac-
tory.Public supply on constant ser-
vice to about one third of
houses. The rest supplied
by wells liable to dangerous
pollution, or actually so pol-
luted.Generally unsatis-
factory and
surroundings
also. Many
damp and ill-
ventilated.A few confined
back yards.

Occasional.

Fair - - -

Public supply on constant
system.Many unsatisfac-
tory.In old town much
crowding, im-
peding circula-
tion of air.

Much.

Great negligence.

Scanty water supply, mostly
from dangerously polluted
wells or "beck." Sewage
pollution at Staithes and
Port Mulgrave known and
admitted, but not remedied.Very bad, espe-
cially at Stai-
thes and Run-
swick. Many
quite unfit for
human habita-
tion.Much crowding.
At Staithes
and Runswick
houses huddled
together, and, be-
sides, often built
against damp
earth banks.Yes. Gross in-
stances at
Staithes and
Runswick.

YORKSHIRE.—EAST RIDING—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
SOUTH CAVE AND WELLINGFEN, U. Dr. Airy, March 1885. P. 2,065. (Agriculture and brick-making.)	Inactive. (It is difficult to understand why this Local Board exists.)	Inactive and inefficient	Inactive and inefficient
KINGSTON-ON-HULL, U. Dr. Page, March 1886. P. 154,240. (Important port. A variety of industries.)	Generally efficient. Active progress made since Dr. Airy's inspection in 1882.	Active, but sanitary work hindered by M.O.H. holding conjointly office of police surgeon.	Effectiveness increased since 1882. Additions made to inspectorial staff.

YORKSHIRE.—NORTH RIDING—*continued.*

SCARBOROUGH, U. Dr. Blaxall, July 1885. P. 30,504. (Health resort mainly; fishing.)	Generally efficient - - -	Efficient. M.O.H. not under Board's Order.	Efficient - - - - -
MALTON, U. - Mr. J. Spear, Dec. 1885. P. 8,754. (Agricultural market town.)	Fair. Considerable improvements effected.	Fair on the whole - - -	Competent and energetic hitherto.
PICKERING, U. - Mr. J. Spear, Dec. 1885. P. 3,959. (Agriculture mainly.)	Inefficient. Due attention not paid to recommendations of M.O.H. District in dangerous condition for advent of cholera.	Fair - - - - -	Fair - - - - -
WHITBY, U. - Dr. Blaxall, July 1885. P. 14,086. (Fishing; health resort.)	Inefficient - - - - -	M.O.H. newly appointed; promising.	Doubtful efficiency. I. of N. is Surveyor also.
HINDERWELL, U. Mr. J. Spear, Dec. 1885. P. 2,467. (Fishing, agriculture, mining.)	Wholly inefficient. The villages of this district in a most dangerous condition for advent of cholera.	M.O.H. makes reports verbally for the most part, and does not sufficiently insist on his advice.	I. of N. holds a variety of other offices, and arrangements accordingly unsatisfactory.

YORKSHIRE.—EAST RIDING—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Inefficient - - -	None - - -	None -	None -	July 1885. Stream supplying Broomfleet to be cleansed: privies, cesspools, &c., to be supervised: no other sanitary action mentioned; nothing done in regard to hospital provision.
Satisfactory - -	Hospital now in course of erection.	Ransome's chamber.	Prepared	July 1886. Action taken or in contemplation on Inspector's advice.

YORKSHIRE.—NORTH RIDING—*continued.*

Recurring privy nuisances not sufficiently dealt with. Otherwise satisfactory.	A pay hospital and an infectious diseases hospital for other people <i>not</i> held in readiness, and generally insufficient for needs of district.	Goddard & Massey's chamber.	None -	No subsequent inquiry to date. May 27th, 1886.
Efficient - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Wholly unsatisfactory	None - - -	None -	None -	June 1886. Generally unsatisfactory reply; inspection of district being made, and nuisances abated. No details given.
Inefficient - - -	None - - -	None -	None -	August—November 1885. S.A. taking action on Dr. Blaxall's recommendations. Loan of 10,621 <i>l.</i> for works of sewerage sanctioned by Board in December 1885. M.O.H. in 1885 report says S.A. had been unable to secure a site for a permanent hospital.
Wholly inefficient. The most obvious nuisances neglected.	None - - -	None -	None -	January 1886. Contemplated action as to water supply of parts of district. On March 17th Board made inquiry as to action on other points, and on June 29th spoke of some directions given to secure discontinuance of pig-keeping and more frequent removal of midden contents at Staithes; otherwise but little done.

YORKSHIRE.—NORTH RIDING—*continued.*

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
<p>GUISBOROUGH, U. - Mr. J. Spear, Dec. 1885. P. 6,616. (Market town.)</p>	<p>Many back lanes unpaved.</p>	<p>Sewered. Sewers defective in places; insufficiently ventilated. House drains often source of nuisance.</p>	<p>Mainly midden privies of bad type, and too close to houses. A few pail and water closets.</p>
<p>RED CAR, U. - Mr. J. Spear, Dec. 1885. P. 2,458. (Health resort, fishing.)</p>	<p>Unsatisfactory. Private yards in lower parts filthy.</p>	<p>Sewered, but unsatisfactory in certain important respects. Insufficient ventilation. House drainage often defective.</p>	<p>W.c.'s with flushing cisterns, in better class of houses. Elsewhere foul dilapidated midden privies occasionally in confined positions. A few pail closets.</p>
<p>KIRKLEATHAM, U. - Mr. J. Spear, Dec. 1885. P. 3,898. (Health resort, fishing, mining, agriculture.)</p>	<p>Fair, but yards of private houses often dilapidated and sloppy.</p>	<p>Sewered: catchpits at manholes and hence stenches from the very few ventilating openings. Private drainage imperfect, although some recent improvement.</p>	<p>W.c.'s, mostly with flushing cisterns. A few pails. Otherwise midden privies of bad type and source of much nuisance.</p>
<p>SALTBURN, U. - Mr. J. Spear, Dec. 1885. P. 1,646. (Sea-side resort.)</p>	<p>Fair</p>	<p>Old defective sewers being gradually re-laid. House drainage often imperfect, but sink pipes disconnected.</p>	<p>W.c.'s with flushing arrangements. A few pail closets. Many midden privies of bad type.</p>
<p>SKELTON AND BROTON, U. Mr. J. Spear, Dec. 1885. P. 13,588. (Iron and stone mining.)</p>	<p>Unsatisfactory</p>	<p>Most of the villages have sewers discharging into neighbouring water-courses, creating nuisances. Often choked branches. Defective ventilation. Private drainage bad and causing nuisances.</p>	<p>Midden privies of bad type and in bad positions. Pail closets being introduced.</p>
<p>LOFTUS, U. - Mr. J. Spear, Dec. 1885. P. 6,699. (Iron and stone mining, agriculture.)</p>	<p>Unsatisfactory</p>	<p>Sewering fairly satisfactory. Private drainage improved, but still largely unsatisfactory.</p>	<p>Midden privies of bad type. Some pail and earth closets introduced have lessened nuisances.</p>
<p>MIDDLESBROUGH, U. Dr. Page, June 1885. P. 55,934. (Iron working and shipbuilding, chemical works, &c.)</p>	<p>Good on the whole.</p>	<p>Sewering good, and, except in older parts, efficiently ventilated and flushed.</p>	<p>Mostly midden privies of good type. Improved ash closets.</p>
<p>SOUTH STOCKTON, U. Dr. Page, March 1885. P. 10,665. (Iron working, shipbuilding, potteries.)</p>	<p>Good, with exceptions.</p>	<p>Sewering satisfactory. Efficient ventilation and flushing. House drainage good. Waste pipes cut off.</p>	<p>Midden privies of good type.</p>

YORKSHIRE.—NORTH RIDING—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply satisfactory on the whole. Some polluted wells.	Fair with some exceptions.	A few courts unsatisfactory	Rare.
Unsystematic and unsatisfactory. Midden privy contents thrown on roadways.	Public water supply on constant service, except in summer, when constancy is most needed. A well or two of questionable character.	Unsatisfactory. Some unfit for human habitation.	Some crowding and other conditions impeding free circulation of air.	Occasional.
Scavenging irregular.	Public supply constant. Many shallow wells often liable to dangerous pollution. Dunsdale supplied partly from a stream.	Fair, with exceptions.	Some crowded localities in Coatham.	None.
Unsystematic and unsatisfactory.	Public supply constant and good. No wells.	Fair, with exceptions.	None - - -	Rare.
Careless - -	Public supply in part, but fails sometimes. Many local sources of supply of doubtful purity.	Often very unsatisfactory. Yards unpaved, dilapidated, and foul.	Rare - - -	Rare.
Satisfactory on the whole.	Public supply mostly. Elsewhere various local springs not free from pollution.	Many damp and unsatisfactory.	Rare - - -	None.
Satisfactory - -	Public supply constant. Same as South Stockton (see below).	Exceptionally good.	None - - -	None.
Satisfactory - -	Public supply constant, but source (River Tees) sewage-polluted. This fault about to be amended.	Fairly satisfactory	Not fully satisfactory.	Yes, but diminishing.

YORKSHIRE.—NORTH RIDING—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
<p>GUISEBOROUGH, U. Mr. J. Spear, Dec. 1885. P. 6,616. (Market town.)</p>	<p>Very imperfect administration. S.A. reluctant to deal with some wells known to be dangerously polluted. Advice of M.O.H. insufficiently regarded.</p>	<p>Very good - - - -</p>	<p>Good; I. of N. is Surveyor also</p>
<p>REDCAR, U. - Mr. J. Spear, Dec. 1885. P. 2,458. (Health resort, fishing.)</p>	<p>Inefficient. Not much improvement since Dr. Thorne's inspection in 1875.</p>	<p>Inefficient. M.O.H. old and feeble; he is not under the Board's Order.</p>	<p>I. of N. holds a variety of other offices. As efficient as he can be under circumstances.</p>
<p>KIRKLEATHAM, U. Mr. J. Spear, Dec. 1885. P. 3,898. (Health resort, fishing, mining, agriculture.)</p>	<p>Fair - - - -</p>	<p>Fair - - - -</p>	<p>Fair; I. of N. is Surveyor also -</p>
<p>SALTBURN, U. - Mr. J. Spear, Dec. 1885. P. 1,646. (Sea-side resort.)</p>	<p>Very fair - - - -</p>	<p>Good - - - -</p>	<p>Unsatisfactory - - - -</p>
<p>SKELTON AND BROTTON, U. Mr. J. Spear, Dec. 1885. P. 13,588. (Iron and stone mining.)</p>	<p>Lax administration - -</p>	<p>Very good - - - -</p>	<p>Fair - - - -</p>
<p>LOFTUS, U. - Mr. J. Spear, Dec. 1885. P. 6,699. (Iron and stone mining, agriculture.)</p>	<p>Fair - - - -</p>	<p>Good - - - -</p>	<p>Fair - - - -</p>
<p>MIDDLESBROUGH, U. Dr. Page, June 1885. P. 55,934. (Iron working, shipbuilding, chemical works, &c.)</p>	<p>Very efficient - - - -</p>	<p>Energetic; efficient. M.O.H. not under Board's Order.</p>	<p>Very good - - - -</p>
<p>SOUTH STOCKTON, U. Dr. Page, March 1885. P. 10,665. (Iron working, shipbuilding, potteries.)</p>	<p>Energetic - - - -</p>	<p>Very good - - - -</p>	<p>Very good - - - -</p>

YORKSHIRE.—NORTH RIDING—continued.

13.

14.

15.

16.

17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Inefficient - - -	None - - -	None -	None -	April 1886. Action (generally inadequate) on some of Mr. Spear's recommendations: no information as to others. Nothing done as to hospital provision.
Inefficient habitually	None - - -	None -	None -	April 1886. S.A. report some action, but their reply generally unsatisfactory.
Some failure, but promise of improvement.	Very unsatisfactory. An old farm house damp and dilapidated.	None -	None -	May 1886. Some little done as to removal of unwholesome conditions, but nothing said, among other matters, as to action in regard of sewer-ventilation, excrement disposal, and paving of house yards.
Fair: gradual dealing with recurring nuisances.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Tardy action for other than mere temporary removal of nuisances.	None - - -	None -	None -	No reply to date to Board's inquiry of March last for information as to action of S.A. on Mr. Spear's recommendations. May 27th, 1886.
Good - - -	Small, unsatisfactory cottage hospital in readiness.	—	—	No subsequent inquiry to date. May 27th, 1886.
Efficient - - -	Yes, good - -	Ransome's stove.	Prepared	No subsequent inquiry to date (May 27th, 1886), but loan of 1,000 <i>l.</i> sanctioned in September 1885 for works of sewerage, and application since made for sanction to loan of 12,000 <i>l.</i> for works of water supply.
Very efficient - -	None. Can use Middlesbrough hospital; but rarely used.	None -	Prepared	Revision of existing defective byelaws suggested by Board in June 1885. No reply as to steps contemplated received from S.A. to date. May 27th, 1886.

DURHAM.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
DARLINGTON, U. Dr. Page, March 1885. P. 35,104. (Chiefly iron-works.)	Many back streets neglected, uneven, and filthy.	Sewering complete. Sewers ventilated and flushed. Cutting off of waste pipes, &c., in rapid progress.	Some w.c's with flushing boxes; but mostly midden privies of worst possible type.
STOCKTON-ON-TEES, U. Dr. Page, March 1885. P. 41,015. (Ironworks, shipbuilding, potteries.)	Good	Sewering complete. Sewers ventilated and flushed. House drainage good. Waste pipes cut off, &c.	Mostly small-sized covered ash-pit privies. In some instances emptied through houses, but this in progress of improvement. A few w.c's.
HARTLEPOOL, U. Dr. Blaxall, Feb. 1885. P. 12,361.	—	Sewered, but not satisfactorily. Some cellars liable to sewage flooding. Inefficient ventilation. Improvements in progress.	W.c's and midden privies of bad type and allowing soakage into soil.
WEST HARTLEPOOL, U. Dr. Blaxall, Feb. 1885. P. 23,523.	—	Sewering and house drainage unsatisfactory.	Midden privies of bad type and few w.c's with flushing arrangements.
BISHOP AUCKLAND, U. Dr. Page, Nov. 1885. P. 10,097. (Market town, collieries, and coke ovens.)	Fair, with exceptions.	Sewered. Defective ventilation, but sewers flushed. Waste pipes, &c., cut off.	A few w.c's with flushing cisterns. Mostly midden privies of bad type, even in newly-erected properties.
SHILDON AND EAST THICKLEY, U. Dr. Page, June 1885. P. 8,704. (Coal mining and railway works.)	Back streets and passages dirty and neglected.	Sewered. Objectionable catch-pit manholes causing nuisance. Sewers ventilated, but inadequately flushed. House drainage mainly satisfactory.	Midden privies of bad type, causing nuisance close to dwellings.
SPENNYMOOR, U. Dr. Page, May 1885. P. 5,917. (Ironworks, collieries.)	Back streets and domestic premises unsatisfactory, but being improved.	Sewering complete. Sewers ventilated and flushed. House drainage fair. Improved of late.	Midden privies unsatisfactory, close to pantries and windows, offensive and spoiling food.
BARNSFORD CASTLE, U. Dr. Page, May 1885. P. 4,544. (Agricultural market town.)	Domestic premises in lower and older parts neglected and dirty.	Sewered, and sewers ventilated and flushed. House drainage satisfactory.	Chiefly w.c's flushed by direct communication with water mains in dangerous manner. Badly constructed midden privies, causing nuisance.

DURHAM.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory and slovenly. Midden contents thrown into street before carting away.	Public supply constant and said to be of good quality (but?).	Generally good, but in many instances unwholesome from constant offensive emanations from the privies in small yards of houses, preventing opening of back windows.	In certain parts crowded back-to-back houses. Privies in some cases have to be emptied by carrying contents through houses.	Not common.
Efficient - -	Public supply constant and good.	Fairly good. S.A. take vigorous action in respect of them.	Numerous close, ill-ventilated courts, but in admirable condition as to freedom from nuisances. Well supervised.	Little now. Dealt with.
Regular by S.A. -	Public supply from a deep well exposed to possible danger of pollution from the building of houses on new made land in the vicinity of the well. Few shallow wells, and those suspicious.	—	Courts with filthy privies.	—
More frequent scavenging of middens than formerly.	Public supply same as Hartlepool. Several dangerous wells in use. S.A. in progress of closing them.	—	—	—
Satisfactory - -	Public supply constant and said to be of good quality.	Good, with exceptions.	Some back-to-back houses. Courts fairly open.	Some.
Unsatisfactory -	Public supply good and constant.	Good, with exceptions.	None - - -	None.
Unsatisfactory still, although some improvement since Dr. Parsons's inspection in 1884.	Public supply constant and good. No wells now existent.	Much improvement since 1884. Entire streets closed and many houses demolished.	None - - -	None.
Inadequate and unsatisfactory.	Public supply good, but not sufficient storage.	In lower parts many ruinous houses unfit for habitation.	Crowding in parts with insufficient air-space about dwellings.	Much, especially during periods of training of militia.

DURHAM—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
DARLINGTON, U. Dr. Page, March 1885. P. 35,104. (Chiefly iron-works.)	S.A. working to improve district, but there is much yet to do.	M.O.H. advises as to sanitary improvements, but has no aptitude for reporting.	Efficient - - - - -
STOCKTON-ON-TEES, U. Dr. Page, March 1885. P. 41,015. (Ironworks, shipbuilding, potteries.)	Excellent administration -	Efficient - - - - -	Efficient - - - - -
HARTLEPOOL, U. Dr. Blaxall, Feb. 1885. P. 12,361.	—	M.O.H. has advised improvements.	L. of N. just deceased of enteric fever.
WEST HARTLEPOOL, U. Dr. Blaxall, Feb. 1885. P. 28,253.	—	Good and efficient. M.O.H. not under Board's Order.	—
BISHOP AUCKLAND, U. Dr. Page, Nov. 1885. P. 10,097. (Market town, collieries, and coke ovens.)	On the whole fair in respect of some important works, but might be better.	M.O.H. advises S.A., but does not report his action.	L. of N. is surveyor and collector also; an able officer.
SHILDON AND EAST THICKLEY, U. Dr. Page, June 1885. P. 8,704. (Coal mining and railway works.)	Lax administration. Byelaws not enforced. S.A. tender as regards existing interests.	Excellent, if only S.A. would act on advice.	Very good - - - - -
SPENNYMOOR, U. Dr. Page, May 1885. P. 5,917. (Ironworks, collieries.)	Highly efficient. Vigorous and creditable administration since Dr. Parsons's inspection in 1884.	Very efficient and M.O.H. successful in advice to S.A.	Efficient and systematic - -
BARNARD CASTLE, U. Dr. Page, May 1885. P. 4,544. (Agricultural market town.)	Lax administration. New byelaws not enforced.	Efficient - - - - -	Not efficient. [Present surveyor is a beershop keeper.]

DURHAM—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Efficient - - -	Good hospital and ambulance.	Yes, but of doubtful efficiency.	None -	No subsequent inquiry to date. May 27th, 1886.
Very efficient - -	No hospital in district, but arrangement with Middlesbrough Fever Hospital, which is rarely used however.	Nelson's stove.	None -	March 1885. S.A. will not adopt Artizan and Labourers Dwellings Act; but other recommendations will be carried out.
—	None - - -	None -	Arrangement for notification of infectious diseases.	In April 1885, Board suggested to S.A. the provision of a public slaughter-house. M.O.H. in 1885 report says public slaughter-houses are to be erected.
—	None - - -	None -	Arrangement for notification of infectious diseases.	No subsequent inquiry to date, but loan for works of sewerage recently applied for. May 27th, 1886.
Not satisfactory -	Small hospital -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Recurring nuisances not satisfactorily dealt with.	None - - -	None -	None -	July 1885. Dr. Page's recommendations (save as to hospital provision) adopted. March 1886. No hospital accommodation provided for district. M.O.H. in 1885 report speaks of some of recommendations being in abeyance.
Satisfactory - -	None - - -	None -	None -	June 1885. General promise of action "as far as practicable" on Dr. Page's advice. Apparently nothing done as to hospital to date. May 27th, 1886.
Unsatisfactory - -	None - - -	None -	None -	August 1885. Some little action as to cleansing and defective privies. Other matters to receive attention. May 1886. Site purchased for permanent hospital. M.O.H. in 1885 report says S.A. have decided to construct a new storage reservoir.

DURHAM—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
STANHOPE, U. - Dr. Page, April 1885. P. 1,840. (Limestone quarrying and lead mining.)	Satisfactory -	Sewering defective, unventilated, and inadequately flushed.	Midden privies of worst type. A few w.c's with flushing cisterns.
TOW LAW, U. - Dr. Page, April 1885. P. 5,005. (Collieries and iron smelting.)	Satisfactory -	Sewered; sewers ventilated and flushed; house drainage satisfactory. Outfalls defective, but in course of improvement.	Midden privies a source of nuisance.
DURHAM, U. - Dr. Page, Jan. 1886. P. 14,932. (Market and University city; carpet works.)	Domestic yards and courts neglected and filthy.	Sewered, but with defective ventilation. House drains of bad construction, and very unsatisfactory.	Midden privies an abundant source of nuisance. Little done to remedy prevalent excremental nuisances since Dr. Spear's inspection in 1881. Many privies have to be emptied through dwelling-rooms.
WILLINGTON, U. - Dr. Page, Nov. 1885. P. 7,238. (Collieries and coking.)	Slop nuisances in back yards from bad paving.	Sewering defective in parts, and inadequately ventilated. Flushed. Some improvement since Mr. Spear's inspection in 1881.	Midden privies ill-constructed and source of nuisance.
BRANDON AND BYSHOTTLES, U. Dr. Page, Dec. 1885. P. 10,853. (Collieries and coking.)	Satisfactory. Much improvement since Mr. Spear's inspection in 1881.	Villages of district sewered. Sink pipes cut off.	Midden privies of improved type since 1880. In colliery villages they are placed as usual in blocks between rows of houses.
SEAHAM HARBOUR, U. Dr. Page, June 1885. P. 8,182. (Shipping coal; collieries, and glass-bottle making.)	Common yards uneven and sloppy.	Sewered. Ventilation insufficient and no flushing. House drainage fair.	Midden privies of bad construction.
HOUGHTON-LE-SPRING, U. Dr. Page, March 1885. P. 6,041. (Collieries and agriculture.)	Fair - - -	Sewering complete, efficient, ventilated, and flushed. House drainage satisfactory, and waste pipes cut off.	Midden privies capable of much improvement.
SUNDERLAND, U. - Dr. de Chaumont, March 1885, and Dr. Blaxall (re-inspection), July 1885. P. 116,548. (Shipping trade, shipbuilding, iron works, &c.)	Good on the whole	Sewered. Ventilation and flushing defective. In old houses drainage unsatisfactory.	Midden privies, some objectionable, some of improved type. W.c's of unsatisfactory character. In part of old Sunderland no privy accommodation at all.

DURHAM—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsystematic and unsatisfactory.	Public supply constant and good.	Good, with exceptions.	None - - -	None.
Unsatisfactory -	Public supply, constant and good.	Satisfactory -	None - - -	None at present time.
More systematic than in 1881.	Public supply now good and constant.	Large number of filthy, neglected, dilapidated dwellings; unwholesomeness aggravated by filthy surroundings.	Very much crowding in courts and yards, where free movement of air is impossible.	Considerable.
Unsatisfactory where houses are not owned by colliery proprietors.	Public supply constant and good. Many unwholesome wells now closed by S.A.	Generally good. Improvements since 1881.	None - - -	Very little.
Satisfactory - -	Public supply constant and good.	Satisfactory - -	None - - -	None at present.
Left to occupiers, and very unsatisfactory.	Public supply constant and good.	Satisfactory - -	None - - -	None.
Fairly efficient -	Public supply constant and good.	Satisfactory - -	None - - -	None.
Satisfactory on the whole.	Public supply constant and good.	Fair, except in old Sunderland.	Much in old Sunderland.	Some.

DURHAM—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
STANHOPE, U. - Dr. Page, April 1885. P. 1,840. (Limestone quarrying and lead mining.)	Inefficient - - - -	Efficient, but salary only 3 <i>l.</i> per annum!	Inefficient - - - -
TOW LAW, U. - Dr. Page, April 1885. P. 5,005. (Collieries and iron smelting.)	Fairly good, but old defective byelaws in use.	Very good - - - -	Satisfactory - - - -
DURHAM, U. - Dr. Page, Jan. 1886. P. 14,392. (Market and University city; carpet works.)	Inefficient. Little done to carry out Board's recommendations on occasion of Mr. Spear's inspection in 1881. District in dangerous condition for advent of cholera.	Very inefficient - - - -	I. of N. painstaking, but working under great disadvantages.
WILLINGTON, U. Dr. Page, Nov. 1885. P. 7,238. (Collieries and coking.)	S.A. have much improved district since it passed from the hands of the R.S.A. of Durham.	Efficient - - - -	Active and intelligent - - - -
BRANDON AND BYSHOTTLES, U. Dr. Page, Dec. 1885. P. 10,853. (Collieries and coking.)	Generally efficient. Made important reforms since Mr. Spear's inspection in 1881. New byelaws enforced.	Efficient; M.O.H. advises soundly.	Active and efficient - - - -
SEAHAM HARBOUR, U. Dr. Page, June 1885. P. 8,182. (Shipping coal; collieries, and glass-bottle making.)	Unsatisfactory, especially in respect of prevailing excremental nuisances.	Unsatisfactory. M.O.H. not under Board's Order. Poorly paid for work requisite.	I. of N. a new officer - - - -
HOUGHTON-LE-SPRING, U. Dr. Page, March 1885. P. 6,041. (Collieries and agriculture.)	Efficient administration - - - -	M.O.H. advises well - - - -	Efficient; I. of N. is surveyor also.
SUNDERLAND, U. Dr. de Chaumont, March 1885, and Dr. Blaxall (re-inspection), July 1885. P. 116,548. (Shipping trade, shipbuilding, iron works, &c.)	S.A. done some good work - - - -	Efficient - - - -	Efficient - - - -

DURHAM—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Unsatisfactory. Obvious nuisances neglected.	None - - -	None -	None -	June 1885. Some action as to sewer-flushing and ventilation, and as to cleansing in contemplation.
Satisfactory, except as regards midden privies.	None - - -	None -	None -	M.O.H. in 1885 report speaks of steps taken to carry out some of Dr. Page's suggestions, but reports many defects and nuisances as existing still.
Wholly unsatisfactory. Excremental nuisances still the prevailing characteristic of district.	Unsatisfactory provision, and that not kept in readiness.	None -	None -	April 1886. S.A. "are using their utmost endeavours to put and maintain the City in a perfectly sanitary condition." No details of action.
Not wholly satisfactory.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Efficient - - -	None - - -	None -	None, except arranging for early information.	No reply to date to Board's inquiry of April as to hospital accommodation, &c. July 15th, 1886.
Inefficient - - -	Unsatisfactory Hospital provision of makeshift character; not held in readiness on emergency.	None -	None of much efficiency.	July 1885. Some little action in connexion with sewers; otherwise no measures of sanitary improvement in contemplation.
Efficient - - -	None. S.A. seeking a site.	None -	None, except arranging for early information, and active dealing with nuisances.	Promised copy of resolutions of S.A. on consideration of Inspector's advice not received to date. May 27th, 1886.
Fair - - -	Yes - - -	Hot-air chamber.	Preparing	December 1885. S.A. are acting on Inspectors' recommendations. May 1886. New permanent hospital to be erected on land already purchased by loan.

DURHAM—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
SOUTH SHIELDS, U. Dr. de Chaumont, March 1885. P. 56,875.	—	Sewered. Sewers insufficiently ventilated, but flushed. House drainage defective in older parts, but looked after on occasion.	Improved midden privies. Some w.c's, with flushing arrangements.
JARROW, U. - - Dr. de Chaumont, March 1885. P. 25,469.	Satisfactory - -	Mainly surface drainage - -	Midden privies as in South Shields
GATESHEAD, U. - Dr. Page, Feb. 1886. P. 65,803. (Engineering works, ironworks, glass and chemical works, &c.)	Many house yards filthy and neglected.	Sewers defective and of unsatisfactory construction. Flushing unsatisfactory. Some dangerous connexions between manholes and water-mains. House drainage faulty.	Midden privies. Some of them of worst type close to doors and windows, and dangerous nuisances. Some of improved type in new dwellings. Some w.c's, many of them unsatisfactory.

NORTHUMBERLAND.

NEWCASTLE, U. - Dr. de Chaumont, March 1885. P. 145,359.	—	—	—
BENWELL AND FENHAM, U. Dr. Page, Oct. 1885. P. 4,893. (Elswick engineering and Ordnance Works, shipbuilding, &c.)	Back streets unpaved and dirty. Scotswood road (under turnpike trust), bad surface drainage.	Sewered. Sewers ventilated and flushed. House drainage satisfactory. Sinks and waste pipes cut off.	Midden privies in old property defective, and source of nuisance. In newer property better constructed. W.c's in Scotswood with flushing cisterns.
TYNEMOUTH, U. - Dr. Page, Sept. 1885. P. 44,118. (Shipping trade; shipbuilding. Tyne-mouth a health resort.)	Good, except in lower parts of N. Shields.	Sewered efficiently. Sewers ventilated and flushed. Stinks, however, due to old privy midden connexions.	Midden privies; often connected with sewers; gradually being replaced by pail closets.
WALKER, U. - - Dr. Page, Nov. 1885. P. 2,527. (Shipbuilding. Alkali works pulled down.)	Generally bad. Some improvement, however, since Dr. Barry's inspection in 1883.	Sewered, but sewers inadequately ventilated. Flushing unsatisfactory.	Midden privies of bad construction often adjoining houses, ill-scavenged and dangerous nuisances. Byelaws made June 1881 not strictly enforced.
COWPEN, U. - - Dr. Page, June 1885. P. 10,003. (Shipbuilding, collieries, glass-bottle works.)	Very bad, both back streets and house yards.	Sewering unsatisfactory. Sewers and drains unventilated, and sewer air at high water driven out in close vicinity of dwellings.	Midden privies of worst type, and prevailing excremental nuisances.

DURHAM—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supply constant and good.	New property satisfactory. Old property defective in many parts, and some without privy accommodation.	Much crowding on area in older parts of district.	Some among the Irish population.
—	Public supply constant and good.	Satisfactory on the whole.	No crowding	At times among the Irish population.
Fair, except at Wreckenton village.	Public supply constant and good; but in outlying parts by wells exposed to pollution.	In newer parts satisfactory, but in older parts most wretched and unwholesome dwellings exposed to constant influence of excremental and filth emanations.	Perhaps some of the worst specimens of crowding upon area in the kingdom are to be seen here in the older part of the district.	Considerable.

NORTHUMBERLAND.

—	Public supply constant but rather scanty.	—	—	—
Satisfactory -	Public supply constant and good.	Generally good	None - - -	None.
Satisfactory -	Public supply constant. Some of doubtful purity and wholesomeness from underground mine workings.	Generally satisfactory, but much tenanted property unfit for habitation in lower parts of N. Shields.	Very much crowded in lower parts of North Shields. Clearance much needed.	Much overcrowding in some parts.
Very bad and slovenly.	Public supply constant and good.	Recently - built houses good. Many of the older extremely bad, with dangerous excremental and slop nuisances about them.	Dangerous crowding, with nuisances associated.	None.
Very bad and slovenly, creating dangerous nuisances.	Public supply chiefly constant: otherwise a well at Cowpen, and probably polluted pit water.	Generally fair, but exceptions. Flooded cellared houses drained since Dr. Barry's inspection in 1883.	Great crowding, with excrement nuisances in some parts.	Yes; but varying with amount of trade.

DURHAM—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
SOUTH SHIELDS, U. Dr. de Chaumont, March 1885. P. 56,875.	—	Efficient - - - -	Satisfactory - - - -
JARROW, U. - Dr. de Chaumont, March 1885. P. 25,469.	—	Efficient.	—
GATESHEAD, U. - Dr. Page, Feb. 1886. P. 65,803. (Engineering works, ironworks, glass and chemical works, &c.)	Inefficient. Very little done to give effect to the Board's recommendations on Dr. Barry's inspection in 1883. The older part of the town in a dangerous condition for advent of cholera.	Efficient - - - -	Efficient and energetic - -

NORTHUMBERLAND—*continued.*

NEWCASTLE, U. - Dr. de Chaumont, March 1885. P. 145,359.	Satisfactory - - - -	Satisfactory - - - -	Systematic and satisfactory -
BENWELL AND FENHAM, U. Dr. Page, Oct. 1885. P. 4,893. (Elswick engineering and Ordnance Works, shipbuilding, &c.)	Good administration - -	Efficient - - - -	Efficient - - - -
TYNEMOUTH, U. - Dr. Page, Sept. 1885. P. 44,118. (Shipping trade; shipbuilding. Tynemouth a health resort.)	Generally good administration, but S.A. indisposed to deal with the unhealthy areas in N. Shields.	Highly efficient - - -	Active and efficient - - -
WALKER, U. - Dr. Page, Nov. 1885. P. 9,527. (Shipbuilding. Alkali works pulled down.)	Very inefficient, especially in respect of excrement nuisances. District in a dangerous condition for advent of cholera.	M.O.H. advises S.A. soundly	More efficient than at time of Dr. Barry's inspection.
COWPEN, U. - Dr. Page, June 1885. P. 10,003. (Shipbuilding Collieries, glass-bottle works.)	Inactive. S.A. neglect to carry out recommendations of M.O.H. The amount of work done in pursuance of the Board's recommendations on Dr. Barry's inspection in 1883 is insignificant. District in a dangerous condition for advent of cholera.	M.O.H. advises S.A. soundly and boldly.	I. of N. newly appointed. An elderly man without experience. This action is in opposition to the Board's recommendation as to I. of N.

DURHAM—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Fair on the whole	Permanent hospital	Lyon's disinfectant.	None special as yet.	No subsequent inquiry to date. July 15th, 1889.
—	Yes.	—	None, except hospital and system of disease notification.	No subsequent inquiry to date. May 27th, 1886.
Cannot be efficient under present system of excrement disposal.	Yes, and in readiness.	None	None	February 1886. Some work being done on lines indicated by Inspector, but requisite comprehensive measures of sanitary reform not adopted.

NORTHUMBERLAND—continued.

—	Yes.	—	Special house-to-house inspection.	No subsequent inquiry to date (May 27th, 1886), but loan of 20,000 <i>l.</i> sanctioned for hospital purposes.
Efficient	None	None	None	No subsequent inquiry to date (May 27th, 1886), but M.O.H. in 1885 report says Dr. Page's recommendations continue to receive S.A.'s serious consideration.
Efficient	Highly unsatisfactory provision. Subject under consideration of S.A.	Yes	None	February and March 1886. S.A.'s replies give evidence of action taken or in contemplation on Dr. Page's several points of advice.
Very efficient	None	None	None	January 1886. Inspector's recommendations are being carried into effect.
Inefficient	None	None	None	September 1885. S.A.'s reply to Board's remonstrances and inquiries wholly unsatisfactory. No evidence of requisite action.

NORTHUMBERLAND--continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
SOUTH BLYTH, U. - Dr. Page, June 1885. P. 1,983. (Shipbuilding, ironworks, and collieries.)	Satisfactory - -	Sewered. Sewers ventilated and flushed. Satisfactory.	Midden privies; much improved of late.
SOUTH GOSFORTH, U. Dr. Page, Oct. 1885. P. 4,126. (Colliery and residential.)	Satisfactory - -	Sewered, and sewers ventilated and flushed. Disposal by irrigation unsatisfactory.	Chiefly w.c's with flushing cisterns. Some privies and open middens.
MORPETH, U. - Dr. Page, June 1885. P. 6,115. (Agricultural market town.)	Satisfactory - -	Sewered. Sewers unventilated and insufficiently flushed. House waste-pipes cut off.	W.c's and midden privies in equal proportion. Some w.c's in direct communication with water mains.
BEDLINGTONSHIRE, U. Dr. Page, June 1885. P. 14,510. (Collieries.)	Roadways fair, except back streets and house yards, which are commonly unpaved and sloppy.	Defective sewerage generally. Offensive disposal of sewage.	Badly constructed and ill-placed midden privies, causing excremental nuisances.
NEWBIGGIN, U. - Dr. Page, June 1885. P. 1,388. (Fishing, lodging-house keeping.)	Roadways not duly cleansed. Domestic premises clean.	Sewered. Sewers ventilated and flushed. House waste-pipes cut off.	Midden privies drained into sewers, blocking up drains.
ALNWICK AND CANONGATE, U. Dr. Page, Oct. 1885. P. 6,693. (Agricultural market town.)	Roadways satisfactory. Domestic premises bad, unpaved, and sloppy.	Sewered. Inadequate ventilation	W.c's. Direct communication with water mains being progressively cut off since Mr. Spear's inspection in 1884. A few midden privies.
AMBLE, U. - Dr. Page, June 1885. P. 2,016. (Agricultural.)	Satisfactory - -	Sewering adequate. Sewers ventilated and flushed.	Midden privies, badly placed in some localities, and a source of nuisance.
BERWICK-UPON-TWEED, U. Dr. de Chaumont, March 1885. Dr. Page, June 1885. (Re-inspection.) P. 13,998. (Iron working, agriculture, fishing.)	Fair - - -	Berwick proper well sewered, and sewers ventilated. No sewerage of certain outskirts.	In Berwick proper w.c's with flushing cisterns. In Tweedmouth and Spital ash-pit privies.

NORTHUMBERLAND—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supply constant and good.	Satisfactory. Improvements since Dr. Barry's inspection in 1883.	A few back-to-back and confined houses, but improvements about them.	None
Unsatisfactory -	Public supply, constant and good.	Generally satisfactory. Improvements progressing.	Very exceptional crowding.	None
Unsatisfactory as respects clearing of midden privies.	Public supply inadequate. A few wells.	Satisfactory -	None - - -	None - - -
Inefficient and unsatisfactory.	Public supply constant, and said to be good.	Satisfactory generally, but some exceptions.	In Bedlington many close courts, air of which is polluted by excremental and slop nuisances.	In the colliery villages.
Unsatisfactory -	Public supply constant and good. A few private wells.	Satisfactory -	None - - -	None.
Satisfactory -	Public supply inadequate, and much of it liable to dangerous pollution. S.A. seeking better supply.	Numerous close dwellings unfit for habitation and surrounded by nuisances.	Much crowding on area in narrow courts of back-to-back houses, free movement of air being thus obstructed.	Much.
Done by S.A. -	Never failing wells and springs. Water good.	Satisfactory -	None - - -	Overcrowding of tenemented houses.
Satisfactory -	Public supply constant and good.	Fairly good -	Some crowding in older parts of town.	A good deal of overcrowding.

NORTHUMBERLAND—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
SOUTH BLYTH, U. Dr. Page, June 1885. P. 1,982. (Shipbuilding, ironworks, and collieries.)	S.A. acting energetically and usefully since Dr. Barry's inspection in 1883. Many substantial improvements effected.	Very good - - - - -	Efficient; I. of N. is surveyor also.
SOUTH GOSFORTH, U. Dr. Page, Oct. 1885. P. 4,126. (Colliery and residential.)	Administration active and well directed.	Good - - - - -	Efficient - - - - -
MORPETH, U. - Dr. Page, June 1885. P. 6,115. (Agricultural market town.)	Fairly efficient. S.A. well officered.	Efficient. M.O.H. advises soundly.	Good and efficient - - - - -
BEDLINGTON-SHIRE, U. Dr. Page, June 1885. P. 14,510. (Collieries.)	Wanting in activity. Recommendations of M.O.H. only carried out to small extent, and many of the most important improvements recommended on Dr. Parsons's inspection in 1879 not carried out.	Fairly good. M.O.H. advises in detail.	Energetic; I. of N. is surveyor also.
NEWBIGGIN, U. - Dr. Page, June 1885. P. 1,388. (Fishing, lodging-house keeping.)	Fairly efficient. S.A. attend to advice of M.O.H.	Very efficient - - - - -	Active and efficient - - - - -
ALNWICK AND CANONGATE, U. Dr. Page, Oct. 1885. P. 6,693. (Agricultural market town.)	Very inefficient, and in several important respects complete inaction, and this notwithstanding recommendations of the Board in 1884.	M.O.H. just resigned. He was an energetic and competent officer.	I. of N. is surveyor also; capable officer, and has duly reported to S.A.
AMBLE, U. - - Dr. Page, June 1885. P. 2,016. (Agricultural.)	Improvements have been carried out since Mr. Power's inspection in 1883.	Good. M.O.H. advises well	Indifferent - - - - -
BERWICK-UPON-TWEED, U. Dr. de Chaumont, March 1885. Dr. Page, June 1885. (Re-inspection.) P. 13,998. (Iron working, agriculture, fishing.)	Fairly good, and improvements effected.	M.O.H. newly appointed	Efficient - - - - -

NORTHUMBERLAND—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Efficient. Recurring nuisances duly dealt with.	Cottage Hospital improved since Dr. Barry's inspection.	None	None	No subsequent inquiry to date. May 27th, 1886.
Efficient, except as to midden cleansing.	None - -	None	None	November 1885. S.A. will do their best to carry out Dr. Page's suggestions.
Fair - - -	None - -	None	None	February 1886. Action of S.A., taken or contemplated, on Dr. Page's advice satisfactory, save as to hospital provision.
Nuisances not habitually or efficiently dealt with.	Yes - - -	Yes; a hot-air oven.	None	June 1886. Excrement and refuse removal contracted for; sewers receiving attention; arrangements made with South Blyth U.S.A. as to (cottage) hospital accommodation; ambulance and means of disinfection provided; byelaws under consideration. Nothing done as to system of midden privies or to improve condition of back streets and yards.
Efficient - - -	None - -	None	None	Late M.O.H. in 1885 speaks of action having been taken on Dr. Page's advice; urges some system of scavenging under immediate control of S.A.
Nuisances not dealt with.	None, but site for one selected.	None	None	October 1885. S.A. state that Dr. Page's recommendations are receiving attention, and that some (not specified) have already been carried into effect. 1886. Sanction to loan for hospital purposes has been applied for.
Fair under advice of M.O.H.	None, but provision contemplated.	None	None	August 1885. Action promised as to hospital provision and replacement of midden privies, but up to February 1886 nothing apparently accomplished.
Efficient - - -	Yes - - -	Portable steam disinfecting chamber.	None	September 1885 — June 1886. S.A. have taken action on Inspectors' advice, except as to sewerage system for Tweedmouth and Spital.

CUMBERLAND.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
CARLISLE, U. - Dr. Blaxall, Aug. 1885. P. 35,930. (Ironworks and factories.)	Fair - - -	Sewering general. Sewers ventilated and flushed. House drainage defective.	Mostly w.c's with flushing arrangements.
MARYPORT, U. - Dr. Blaxall, Aug. 1885. P. 8,126. (Ironworks, collieries, ship-building, and shipping trade.)	Fair - - -	No sewerage. Works now in progress.	Pail and tub closets and midden privies; regularly emptied.
WORKINGTON, U. - Dr. Page, April 1885. Dr. Blaxall, Aug. 1885. (Re-inspection.) P. 13,308. (Collieries, iron working, &c.)	Roadways good, but yards and courts filthy.	Sewers, but certain of them badly constructed. Ventilation defective, but sewers flushed. House drainage good, and all waste-pipes cut off.	W.c's with flushing box universal
WHITEHAVEN, U. - Dr. Blaxall, Aug. 1885. P. 19,295. (Collieries, iron-works, &c.)	—	Sewered. Sewers ventilated and flushed. House waste water-pipes not cut off.	Mostly w.c's with flushing cisterns. Cess-pit privies being abolished.

MONMOUTHSHIRE.

CHEPSTOW, U. - Dr. Blaxall, Feb. 1885. P. 3,591.	—	Sewered. Sewers not ventilated nor flushed. House drainage defective and imperfect.	W.c's, without means of flushing.
NEWPORT, U. - Dr. Blaxall, July 1885. P. 35,313. (Shipping trade, dockwork, factories.)	Fair - - -	Mostly sewerage. Certain sewers not ventilated.	Filthy, badly-constructed w.c's without flushing arrangements.
TREDEGAR, U. - Dr. D. S. Davies, Nov. 1885. P. 18,771. (Collieries, ironworks.)	Fair - - -	Sewering incomplete and unsystematic; only ventilated through privies and untrapped street gullies. Some dangerously leaky house drains.	Privies directly over open drains which they thus ventilate very offensively and dangerously. Many cesspits. Some pails.
RHYMNEY, U. - Dr. D. S. Davies, Nov. 1885. P. 8,663. (Ironworking, almost exclusively.)	Fair - - -	No complete or satisfactory system of drainage. There are drains of various character through which mountain streams run. Only ventilated through open privies and untrapped gullies.	Privies directly over open drains. Some pails. Cesspits common and often neglected as to emptying for many months.

CUMBERLAND.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply from River Eden of questionable purity. Constant.	Dirty - - -	Many courts and alleys with little air space.	Probably.
Satisfactory - -	Public supply from River Eden of questionable purity. Constant.	Fair, with exceptions.	Many back-to-back. Crowded.	Some, but less than formerly.
Satisfactory, with exceptions.	Public supply without intervention of cistern. At times intermittent. Water needs filtration.	On the whole fair, but some wretched property exists. Building bye-laws not enforced in important particulars.	Crowding in courts in various parts, made more dangerous by filthy and neglected state of surface.	None now.
Satisfactory - -	Public supply from Ennerdale lake; abundant, good, and constant.	Bad in some parts	Some confined courts.	Some.

MONMOUTHSHIRE.

By contract twice a week; said to be satisfactory.	Public supply by a company; unsatisfactory, in respect both of quantity and quality. A few wells.	—	—	—
Unsatisfactory -	Public supply plentiful and wholesome.	Many dirty and ill-ventilated.	Many close courts	Yes: a difficulty in getting dwellings for the poor.
Satisfactory - -	Public supply mainly. Supply at outskirts by springs and "pistills."	Mostly fair, but some very unwholesome dwellings with back to earth.	Crowding of narrow streets in older parts.	None apparently.
Satisfactory - -	Public supply on constant system. "Pistills," springs, and wells in outlying parts are watched.	Many damp houses. Some built into the earth and hence damp and ill-ventilated.	Open straggling town.	None.

CUMBERLAND—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
CARLISLE, U. - Dr. Blaxall, Aug. 1885. P. 35,930. (Ironworks and factories.)	S.A. have done much good work, but dwellings of the poor insufficiently attended to.	Efficient - - - -	Good - - - -
MARYPORT, U. - Dr. Blaxall, Aug. 1885. P. 8,126. (Ironworks, collieries, ship-building, and shipping trade.)	S.A. badly advised formerly, but well advised now, and improving in sanitary administration.	Efficient - - - -	Efficient - - - -
WORKINGTON, U. Dr. Page, April 20, 1885. Dr. Blaxall, Aug. 1885. (Re-inspection.) P. 13,308. (Collieries, iron working, &c.)	Administration not efficient. Certain important clauses in their new byelaws systematically ignored.	Very good: active - -	I. of N. is surveyor also; work very inefficient, district being too large for due performance of duties of both offices.
WHITEHAVEN, U. Dr. Blaxall, Aug. 1885. P. 19,295. (Collieries, iron-works, &c.)	S.A. have done some very good work, but failed to improve some of the worst poor dwellings.	Efficient - - - -	—

MONMOUTHSHIRE—*continued.*

CHEPSTOW, U. - Dr. Blaxall, Feb. 1885. P. 3,591.	Inefficient - - - -	—	—
NEWPORT, U. - Dr. Blaxall, July 1885. P. 35,313. (Shipping trade, dockwork, factories.)	Inefficient - - - -	M.O.H. an intelligent officer	Good - - - -
TREDEGAR, U. - Dr. D. S. Davies, Nov. 1885. P. 18,771. (Collieries, ironworks.)	S.A. alive to health interests of town, but hesitating to adopt a needful scheme for improved drainage.	M.O.H. gives sound advice -	Efficient; I. of N. is surveyor also.
RHYMNEY, U. - Dr. D. S. Davies, Nov. 1885. P. 8,663. (Iron working almost exclusively.)	S.A. largely composed of representatives of the iron company. Appear willing to help the M.O.H.	M.O.H. advises well and is alive to the requirements of district.	Active and efficient - -

CUMBERLAND—*continued.*

13.

14.

15.

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17.

Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Many large ashpits still remain as sources of nuisance.	Yes - - - -	None -	None -	M.O.H., in 1885 report, says attention has been given to the perfecting of a system of house refuse removal. Application has been made since inspection for sanction to borrow 6,000 <i>l.</i> for works of sewerage and 200 <i>l.</i> for provision of slaughter-houses.
Better than formerly	Yes, but very inefficient.	None -	None at present, but M.O.H. has advised.	December 1885. Question of hospital provision deferred for a time; steps being taken to purchase site for public slaughter-house.
Inefficient - - -	Yes, but undrained	None that is efficient.	None -	June 1885. Details given of action being taken on Dr. Page's recommendations. No reply to date (May 27th, 1886) to Board's inquiry of August 1885 as to actual securing of efficient filtration and constancy of water supply.
—	[See Riparian abstract.]	None -	None -	December 1885. S.A. are acting on Dr. Blaxall's recommendations, save as to proper hospital provision; they are content with present building.

MGNMOUTHSHIRE—*continued.*

—	Unsatisfactory. Makeshift adaptation of an old bark storehouse to meet the requirements of an epidemic of small-pox.	—	—	March 1885. S.A. state that they have carried out improvements recommended by Dr. Blaxall in connexion with their present hospital.
Unsatisfactory - -	None - - - -	None -	None -	August 1885. S.A. still considering question of hospital provision: revision of byelaws to be undertaken. March 1886. Proposal submitted to Board in regard to hospital; not considered satisfactory.
Satisfactory so far as practicable under existing conditions.	None - - - -	None -	Prepared, except as regards hospital.	April 1886. Dr. Davies's advice receiving S.A.'s consideration. June 1886. No hospital to be provided. Nothing said as to byelaws.
Fair - - - -	None - - - -	None -	None -	April 1886. S.A. are giving attention Dr. Davies's recommendations.

NORTH WALES.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HOLYWELL, U. - Dr. D. S. Davies, June 1885. P. 3,090. (Lead mining, copper, paper, and flannel works.)	Fair - - -	Drainage incomplete and unsystematic; stone or brick barrel. Unflushed and unventilated.	Mainly large open privy middens of bad construction, and not emptied sufficiently often. Some privies over open square drains.
MOLD, U. - - Dr. D. S. Davies, June 1885. P. 4,320. (A fading town; population decreasing.)	Roadways fairly kept.	Main sewers as described by Dr. Blaxall in 1876. Disposal of sewage unsatisfactory.	Large open midden privies. Not duly scavenged. Same faults as in 1876.
FLINT, U. - - Dr. D. S. Davies, June 1885. P. 5,096. (Chemical works, collieries, and paper mills.)	Improved since Dr. Blaxall's inspection in 1876.	Completely sewered now: sewers ventilated and flushed.	Unsatisfactory middenstead arrangements still prevalent. Only a few w.c's.
YNYSCYNHAIRN, U. Dr. D. S. Davies, Dec. 1885. P. 5,506. (Slate-quarrying and shipping trade.)	Fair - - -	Completely sewered. Sewers ventilated and flushed, but disconnection of sink and waste-pipes needed.	W.c's in better houses. Midden privies in poorer houses; source of recurring nuisances.
HOLYHEAD, U. - Dr. D. S. Davies, Dec. 1885. P. 8,680. (Railway work chiefly.)	Roadways fair, domestic premises unsatisfactory.	Some pipe drainage, neither ventilated nor satisfactorily flushed.	Objectionable. Midden privies as at Dr. Ogle's inspection in 1879. Not cleansed by S.A. Some w.c's hand-flushed.

SOUTH WALES.

CARDIFF, U. - - Dr. Blaxall, July 1885. P. 86,364.	Good - - -	Sewered. Sewers offensive in dry weather from want of flushing.	W.c's, but often no flushing arrangement on account of deficiency of water.
PONTYPRIDD, U. - Dr. D. S. Davies, May 1885. P. 12,317.	Good - - -	Not sewered. Slop and surface water run into river, which is thus the sewer of district.	Privies, and uncovered cesspits soaking into soil from which water is in some places drunk.
MOUNTAIN ASH, U. Dr. D. S. Davies, May 1885. P. 10,289.	Good - - -	Sewered, and sewerage being extended as required.	Mostly w.c's at a distance from dwellings, without flushing cisterns, but not unsatisfactory on whole.

NORTH WALES.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Wells, some of suspicious character.	Fair in some parts. Houses behind "Blue Bell" Inn utterly shocking, dirty, and neglected.	Some crowding amid unwholesome surroundings.	None at present.
Unsatisfactory -	Sufficient public supply for whole town, but still some extremely dangerous wells in use, some of which are on property belonging to a member of the S.A.	As might be expected in a decreasing town, some houses much neglected, dirty, and unwholesome.	Some unwholesome neglected courts.	None.
Middensteads fairly looked after.	Public supply good, constant, and sufficient. No wells.	Much improved since 1876, but still there is a filthy Irish quarter.	Crowding and insufficient air-space, with unwholesome surroundings in older parts, but on the whole, improvement.	None now.
Refuse removal left to occupiers.	Public supply satisfactory -	Require extension of drainage to them.	Only exceptional -	None.
Fair, but refuse matters not satisfactorily disposed of.	Public supply apparently good. A few wells.	A town almost wholly built for accommodation of labourers and artisans. Condition of many dwellings unsatisfactory.	None - - -	None now.

SOUTH WALES.

Efficient - -	Public supply continuous, but insufficient. Fresh powers obtained.	Fair on the whole. Well looked after.	A few courts, not very close.	Much crowding, but ? overcrowding.
Collected and tipped on an offensive heap.	Public constant supply insufficient in dry seasons. Filtered and apparently wholesome. Some wells liable to contamination.	Fair on the whole, but little back space.	Crowding and courts not prevalent.	None to speak of.
Satisfactory - -	Constant, apparently wholesome supply, and sufficient except in dry seasons. S.A. are increasing supply.	Generally good and open.	—	Some overcrowding of colliers in newly occupied parts. S.A. have obtained byelaws to regulate houses let in lodgings.

NORTH WALES—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HOLYWELL, U. - Dr. D. S. Davies, June 1885. P. 3,090. (Lead mining, copper, paper, and flannel works.)	S.A. not made much progress since Dr. Blaxall's visit in 1876. Serious defects persist from one inspection to another.	M.O.H. advises satisfactorily.	Satisfactory - - - -
MOLD, U. - - - Dr. D. S. Davies, June 1885. P. 4,320. (A fading town : population decreasing.)	S.A. not sufficiently active in respect of water supply and scavenging.	M.O.H. an active and good officer.	Inactive. I. of N. afraid of giving offence.
FLINT, U. - - - Dr. D. S. Davies, June 1885. P. 5,096. (Chemical works, collieries, and paper mills.)	Good work done since Dr. Blaxall's inspection in 1876. S.A. appear inclined to progress.	M.O.H. newly appointed -	Efficient - - - -
YNYSCYNHAIRN, U. Dr. D. S. Davies, Dec. 1885. P. 5,506. (Slate-quarrying and shipping trade.)	Fair administration, but S.A. should undertake excrement and refuse removal.	Satisfactory - - - -	Efficient - - - -
HOLYHEAD, U. - Dr. D. S. Davies, Dec. 1885. P. 8,680. (Railway work chiefly.)	Requires to be more active -	Satisfactory - - - -	Not quite satisfactory. I. of N. surveyor and collector also.

SOUTH WALES—*continued.*

CARDIFF, U. - Dr. Blaxall, July 1885. P. 86,364.	Sanitary administration efficient on the whole, although no hospital.	Excellent M.O.H. - -	Efficient - - - -
PONTYPRIDD, U. Dr. D. S. Davies, May 1885. P. 12,317.	S.A. half-hearted in respect of sewerage scheme and closing dangerous wells.	M.O.H. newly appointed -	Efficient. I. of N. knows his district and its needs.
MOUNTAIN ASH, U. Dr. D. S. Davies, May 1885. P. 10,289.	S.A. intelligent and striving to do well.	Very fair - - - -	I. of N. much occupied as "rate collector."

NORTH WALES—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Wholly inefficient and likely to continue so until radical improvements are carried out.	None - - -	None -	None -	July 1885. S.A. promise consideration to Dr. Davies's recommendations.
Unsatisfactory	None - - -	None -	None -	No subsequent inquiry to date, but M.O.H. in 1885 report states that no permanent hospital accommodation is provided or in contemplation. July 1st, 1886.
Satisfactory - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Fair - - - -	None - - -	None -	None -	April 1886. Arrangements made by S.A. in regard to refuse removal not altogether satisfactory. Other points of advice given by Dr. Davis will be attended to.
Inefficient - - -	Yes - - -	None -	None -	May 1886. Action as to sewer ventilation quite inadequate. Question of byelaws to be further considered. House-to-house inspection not completed, and hence no information on other points. July 1886. Unsatisfactory statement as regards condition of privies and ashpits.

SOUTH WALES—*continued.*

Efficient - - -	No hospital - -	None -	Preparing, except as regards hospital.	January 1886. Infectious diseases hospital to be provided.
Inefficient in respect of the cesspool accumulations and providing sewers.	No hospital, and S.A. cannot understand need of one.	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Fairly dealt with -	None, but S.A. inclined to make provision.	None -	None -	No subsequent inquiry to date. May 27th, 1886.

SOUTH WALES—continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
YSTRADYFODWG, U. Dr. D. S. Davies, May 1885. P. 55,632. (Coal-mining district.)	Fairly good - -	Partially sewered; work progressing.	Some w.c's with or without water. Ash-closets and pails. In some places full and stinking privy pits.
MERTHYR TYDFIL, U. Dr. Ballard, Sept. 1885. P. 48,861. (Collieries and iron working.)	Good, except in some of lowest parts.	Sewered throughout. Sewers ventilated.	W.c's mostly, but without flushing cisterns.
BRIDGEND, U. - Dr. D. S. Davies, Oct. 1885. P. 4,153. (Market town.)	Good, except in Irish quarter.	Not properly sewered. Main sewer is a brook, arched over but not "inverted." Some houses drain directly into it.	Cesspools and privy pits - -
MAESTEG, U. - Dr. D. S. Davies, Oct. 1885. P. 8,310. (Collieries and iron working and tin-plate manufactures.)	Many roadways neglected.	No complete system. Drains discharge into river, but constructed so as to be capable of connexion with a main sewer.	W.c's, without flushing arrangements, discharge into drains. Some privy-pits, many soaking into soil.
NEATH, U. - Dr. D. S. Davies, Oct. 1885. P. 10,384. (Tin-plate manufactures, chemical works, collieries, and iron and copper working.)	Roadways insufficiently cleansed.	Sewering complete. Sewers flushed, but not ventilated.	W.c's mostly - - - -
MARGAM, U. - Dr. D. S. Davies, Sept. 1885. P. 5,708. (Collieries, copper work, brass founding.)	Many roadways require attention.	Improvement of sewerage in progress, but not on a definite system.	Privy pits, some very bad and offensive, being gradually replaced by w.c's without flushing arrangements.
BRITON FERRY, U. Dr. D. S. Davies, Aug. 1885. P. 6,061. (Collieries, iron works, and tin-plate works.)	Fairly satisfactory.	Sewering completed, flushing efficient, but ventilation insufficient.	W.c's with flushing cisterns; satisfactory. Privy pits a nuisance at Giant's Grave.

SOUTH WALES—continued.

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Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Daily removal where ash-closets or pails are used.	Mainly public. Supply from Rhondda Gas and Water Company. Some wells.	Satisfactory. Clean and in good order.	No crowding. Plenty of yard space on the whole.	Not common, except in newer colliery neighbourhoods with rapid influx of population. S.A. about to adopt byelaws for houses let in lodgings.
Generally satisfactory.	Ample and good public supply on constant system.	Many ill-ventilated back-to-back or back-to-earth cottages. About one-half dirty inside and in yards.	Rarely - - -	Only among the Irish.
Generally fair -	Public water supply. Some underground cisternage.	Many unsatisfactory from damp and dilapidation, but these are now being dealt with.	None - - -	Little.
Fair - -	Public supply, by stand-pipes. Short sometimes.	Fair, but some damp from lack of spouting. Some cellar dwellings.	None - - -	None.
Fair - - -	Public supply on constant system. Satisfactory.	Fairly good - -	Courts and houses too much crowded together in older parts of town.	None at present.
Ashbins in use, systematically emptied by contractor.	Public supply from dangerously polluted source. New supply in progress.	Unsatisfactory -	None - - -	None.
Fair - - -	Public supply from Neath Waterworks Company. Constant, except in drought. A few wells and "pistills" need watching.	Much improved of late.	Few back-to-back houses and courts.	None.

SOUTH WALES—continued.

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
YSTRADYFODWG, U. Dr. D. S. Davies, May 1885. P. 55,632. (Coal-mining district.)	Good and promising; doing their best to improve district.	Good - - - -	Satisfactory - - - -
MERTHYR TYDFIL, U. Dr. Ballard, Sept. 1885. P. 48,861. (Collieries and iron working.)	Good on the whole, but not dealing actively enough with unwholesome dwellings and their surroundings.	Good - - - -	Satisfactory - - - -
BRIDGEND, U. - Dr. D. S. Davies, Oct. 1885. P. 4,153. (Market town.)	S.A. are hesitating about sewerage, and rarely ask for Inspector's report book.	M.O.H. newly appointed	Fairly efficient - - - -
MAESTEG, U. - Dr. D. S. Davies, Oct. 1885. P. 8,310. (Collieries and iron working and tin-plate manufactures.)	Fair on the whole.	—	Not sufficiently systematic -
NEATH, U. - - Dr. D. S. Davies, Oct. 1885. P. 10,384. (Tin-plate manufactures, chemical works, collieries, and iron and copper working.)	Fairly good - - - -	Fairly satisfactory. M.O.H. not under Board's Order.	I. of N. is a surveyor in private practice. Much occupied in other work. Enough work probably to occupy one man's whole time.
MARGAM, U. - Dr. D. S. Davies, Sept. 1885. P. 5,708. (Collieries, copper works, brass founding.)	S.A. recently constituted; acting slowly.	M.O.H. occupies similar post at Aberafon.	I. of N. is surveyor also; will probably be efficient when he and S.A. come to understand each other.
BRITON FERRY, U. Dr. D. S. Davies, Aug. 1885. P. 6,061. (Collieries, iron works, and tin-plate works.)	Fairly good - - - -	Satisfactory - - - -	I. of N. is surveyor also, and cannot therefore make constant systematic inspections.

SOUTH WALES—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Efficient on the whole	None. S.A. contemplating an experimental hospital for part of district.	Yes, "Fraser's Patent."	None at present.	No subsequent inquiry to date (May 27th, 1886), but M.O.H. in 1885 report says joint board (with Pontypridd U.S.A.) has been formed for purposes of a sewerage system; no evidence of action of joint board. Nothing said as to hospital provision.
Satisfactory on the whole.	Two hospitals kept in constant readiness.	Apparatus provided at each hospital.	Prepared to act at once.	No subsequent inquiry to date. May 27th, 1886.
Fairly efficient, so far as practicable.	None - - -	None -	Partially prepared.	July 1886. Apparently nothing done or in contemplation on Inspector's advice.
Fair, but recurring nuisances not effectually dealt with.	None - - -	None -	None -	May 1886. Isolated premises in Maesteg taken as hospital for seven years. Systems of water distribution and refuse removal receiving S.A.'s attention.
—	None of permanent nature, but provision is under consideration of S.A.	Portable apparatus.	Hospital tents held in readiness.	September 1885. I. of N. and his assistants instructed by S.A. to look well to condition of drainage (public and private) and dwellings.
Inefficient as yet, but better results to be looked for in time.	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Generally satisfactory	None - - -	None -	None; but will probably be made.	September 1885. Dr. Davies's suggestions to be discussed by S.A. with a view to their adoption.

SOUTH WALES--continued.

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
ABERAFON, U. - Dr. D. S. Davies, Aug. 1885. P. 4,859. (Collieries, tin-plate works, iron and copper works, &c.)	Fair - - -	Sewered completely. Sewers ventilated and flushed.	W.c's mostly without flushing arrangements, and hence many found choked from neglect.
SWANSEA, U. - - Dr. Ballard, Aug. 1885. P. 65,597. (Market town, maritime trading, and metal working.)	Roadways fair, but courts and back yards neglected.	Sewering, commenced in 1854, not yet completed, but progressing. Sewers flushed systematically.	W.c's with flushing cisterns in sewered parts; elsewhere offensive privy pits much neglected.
OYSTERMOUTH, U. - Dr. D. S. Davies, Aug. 1885. P. 3,487. (Fishing and maritime. Health resort.)	Main roadways fair, but side streets unsatisfactory.	Unsewered. Drains discharge offensively along beach.	Some w.c's discharging into drains only adapted for surface drainage. Other houses have buckets used as ash-closets. Nuisance.
LLANELLY, U. - Dr. D. S. Davies, Aug. 1885. P. 19,760. (Copper, lead, and tin-plate working.)	Satisfactory - -	All but "Forge" district sewered.	W.c's, mostly with flushing cisterns, are rapidly being substituted for cesspits and ashpit privies.
CARMARTHEN, U. - Dr. D. S. Davies, Oct. 1885. P. 10,512. (Agricultural market town, but some factories; iron and tin works.)	Satisfactory - -	Sewering complete, with arrangements for ventilation and flushing. All houses connected.	Satisfactory. All cesspools abolished. W.c's hand-flushed.
PEMBROKE, U. - Dr. D. S. Davies, Sept. 1885. P. 14,156.	Many roadways unmade at Pembroke Dock. Chamber slops commonly cast into street.	No drainage arrangements whatever except unsatisfactory ones in Admiralty quarter of Pembroke Dock.	Mostly privy pits or privies over ashpits, soaking into soil and much neglected.
TENBY, U. - - Dr. Ballard, Sept. 1885. P. 4,750. (Health resort, agricultural market town.)	Roadways fair, domestic premises also, except in oldest parts of town.	Partially sewered in a patchwork style. No ventilation. Outfalls improved since 1870.	W.c's universal, mostly hand-flushed. Some serious faults pointed out by Mr. Radcliffe in 1870 still unremedied, notwithstanding mischief known to have accrued from them.

SOUTH WALES—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supply constant, abundant, and good. A few wells.	Generally fair and improved, but some dwellings complained of by Dr. Airy in 1877 still unimproved. Some houses damp from lack of spouting.	Some houses, built against hillside, confined.	None.
Unsatisfactory -	Public supply by pipe and tap, not constant, and insufficient in quantity. Reservoir polluted at time of visit, causing severe outbreak of enteric fever.	Fairly good, except in some courts.	Many close and ill-ventilated courts in older parts of town. Elsewhere ample space about houses.	Occasionally, rents being high. Of houses let in lodgings, 279 are registered and regulated.
Fair - - -	Public supply by Oystermouth Waterworks Company; not much used. Wells numerous. Roof rain-water often used.	Fair - - -	Not much crowding of houses.	None.
Satisfactory -	Public supply on constant system. Satisfactory.	Many houses unsatisfactory, but steady improvement going on.	A few courts -	None.
Systematic and satisfactory.	Public supply satisfactory -	Improving, but some dirty quarters which, however, are watched.	Some courts and alleys and back-to-back houses, as in most old towns.	None.
No public arrangements made.	Public water supply at Pembroke improved, but Pembroke Dock still mainly dependent on polluted wells as at cholera outbreak in 1866.	Many unsatisfactory.	Parts of Pembroke crowded, otherwise mostly with abundant air space.	Some overcrowding in Pembroke.
Satisfactory -	Public supply on constant system. Open to dangerous pollution at source similarly to Swansea. Inadequate in quantity.	Fair generally, but some grievous exceptions, especially in Corporation property. Places complained of by Mr. Radcliffe in 1870, still unremedied. Very many cottages without due ventilation.	Crowding of dwellings on area in older parts where there are also unwholesome courts.	Occasional overcrowding.

SOUTH WALES—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
<p>ABERAFON, U. - Dr. D. S. Davies, Aug. 1885. P. 4,859. (Collieries, tin-plate works, iron and copper works, &c.)</p>	<p>S.A. appear willing to act on advice, but do not appear to take the initiative. Much work of drainage and water supply accomplished since Dr. Airy's report, 1877.</p>	<p>Satisfactory - - - -</p>	<p>I. of N. holds other offices; is inclined to let matters drift.</p>
<p>SWANSEA, U. - Dr. Ballard, Aug. 1885. P. 65,597. (Market town, maritime trading, and metal working.)</p>	<p>Fairly good. S.A. attend to the advice of their M.O.H.</p>	<p>M.O.H. an able and thorough officer doing excellent work.</p>	<p>I. of N.'s work much improved of late; work now done systematically under direction of M.O.H.</p>
<p>OYSTERMOUTH, U. Dr. D. S. Davies, Aug. 1885. P. 3,487. (Fishing and maritime. Health resort.)</p>	<p>Unsatisfactory - - - -</p>	<p>Satisfactory - - - -</p>	<p>Satisfactory - - - -</p>
<p>LLANELLY, U. - Dr. D. S. Davies, Aug. 1885. P. 19,760. (Copper, lead, and tin-plate working.)</p>	<p>Efficient and progressive -</p>	<p>Very good - - - -</p>	<p>Very good; I. of N. works under direction of M.O.H.</p>
<p>CARMARTHEN, U. Dr. D. S. Davies, Oct. 1885. P. 10,512. (Agricultural market town, but some factories; iron and tin works.)</p>	<p>Efficient. S.A. have done excellent work since 1873. Earnest administration.</p>	<p>M.O.H. an able and thorough officer, doing good work.</p>	<p>Very good; and I. of N. works under direction of M.O.H.</p>
<p>PEMBROKE, U. - Dr. D. S. Davies, Sept. 1885. P. 14,156.</p>	<p>The Board's recommendations on Dr. Airy's inspection in 1879 almost wholly ignored. District in a dangerous condition for advent of cholera, from which it suffered severely in 1866.</p>	<p>M.O.H. energetic, and boldly doing his best to urge S.A. to action.</p>	<p>Unsatisfactory work. I. of N. is surveyor also.</p>
<p>TENBY, U. - - Dr. Ballard, Sept. 1885. P. 4,750. (Health resort, Agricultural market town.)</p>	<p>Careless and apathetic. Little evidence of steady sanitary work of any kind.</p>	<p>M.O.H. does little or no work. Makes no reports, because, he says, his advice is systematically ignored. He is not under Board's Order.</p>	<p>I. of N. is surveyor also. Never reports and does no systematic work.</p>

SOUTH WALES—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Not satisfactory - -	None - - -	None -	—	September 1885. Action taken in sense of certain of recommendations left with Authority. No decision come to as regards hospital provision.
Satisfactory - -	No permanent provision, but huts and tents provided.	None; but provision anticipated.	Preparing.	September 1885. Completion of sewerage being pushed forward. Source of water supply considered safe from pollution. Nothing as to other recommendations. February 1886. S.A. in treaty for a site on which to erect permanent hospital.
Efficient, so far as lack of systematic drainage permits,	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but sanction to a loan of £,000, for works of sewerage has been applied for. M.O.H. in 1885 report again draws attention to need for good water supply.
Efficient - - -	A Docker's hut for eight beds, provided under Cholera Order, would be used for urban purposes.	Disinfecting chamber provided.	Preparing	No subsequent inquiry to date. May 27th, 1886.
Efficient; prompt dealing with recurring nuisances.	Yes, but open to improvement.	Disinfecting oven.	Preparing	No subsequent inquiry to date. May 27th, 1886.
Unsatisfactory - -	None - - -	None -	None -	June 1886. Removal of night soil and filth to be contracted for; general statement that action will be taken on other recommendations of Inspector.
Wholly inefficient. Obvious nuisances not dealt with.	None - - -	None -	None -	October 1885. Some action being taken as to water supply, sewerage, and sewage outfall; small loans since sanctioned for those purposes.

SOUTH WALES—*continued.*

1.	2.	3.	4.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HAYFORDWEST, U. Dr. D. S. Davies, Sept. 1885. P. 6,398. 1 (Agricultural market town.)	Fair, but offensive smells in most parts of town.	Not systematically sewered. Many drains (or sewers?) only troughs in the rock covered over. Offensive and bad.	Partly w.c's and partly privies, which are situated over streams or sewers which they ventilate. Some cesspits polluting the soil.
CARDIGAN, U. Dr. D. S. Davies, Jan. 1886. P. 3,669. (Agricultural market town, some shipping trade.)	Principal roadways fair. Offensive collections of refuse in side streets.	No systematic sewerage. Square stone drains and a few pipes. Drains unventilated and not flushed.	Privies of abominable construction, leaking into hedge side ditches. Many houses without any accommodation at all. A few hand-flushed w.c's.
ABERYSTWYTH, U. - Dr. D. S. Davies, Jan. 1886. P. 7,183. (Ironworks, slate enamelling, some shipping trade.)	Satisfactory - -	Complete sewerage, but sewers not ventilated.	W.c's, with inefficient flushing arrangements. No cesspools. A few privies.

SOUTH WALES—continued.

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Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Imperfect - -	Public supply intermittent. Pump wells open to dangerous excremental pollution from soil.	All the defects apt to be found in old towns.	Much overcrowding of dwellings with privies in dangerous proximity.	Yes, in some parts which have a very poor population. Not looked after.
Very imperfect removal. Refuse cast into corners of streets or courts.	Public supply intermittent, but apparently wholesome.	At the "Mwldan" houses built into the hill side, and hence damp and unventilated (a prevalent Welsh custom).	Crowding and insufficient air space about dwellings in "Mwldan" and other parts.	Apparently none.
Satisfactory - -	Public supply from Plynlimmon excellent and constant to most parts.	Fair; improvements progressing.	Some courts, &c., being improved.	None apparently.

SOUTH WALES—*continued.*

1.	10.	11.	12.
Urban Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HAVERFORDWEST, U. Dr. D. S. Davies, Sept. 1885. P. 6,398. (Agricultural market town.)	S.A. have done little to carry out improvements since Dr. Parsons's inspection in 1881. Appear now waking up to some action in respect of drainage, water supply, and excrement removal. Town as yet in a dangerous condition for advent of cholera.	M.O.H. appears active, but has failed to rouse S.A. to action.	Inefficient. I. of N. is superintendent of police also.
CARDIGAN, U. - Dr. D. S. Davies, Jan. 1886. P. 3,699. (Agricultural market town, some shipping trade.)	S.A. have done little sanitary work, and appear disinclined to undertake much. Town obviously in a dangerous condition for advent of cholera.	M.O.H. gives sound advice which S.A. would do well to follow.	Inefficient. I. of N. is editor of a newspaper.
ABERYSTWITH, U. Dr. D. S. Davies, Jan. 1886. P. 7,133. (Ironworks, slate enamelling, some shipping trade.)	S.A. doing good work - -	M.O.H. is a new officer, likely to be efficient.	Satisfactory work. I. of N. is surveyor also.

END OF URBAN DISTRICTS.

SOUTH WALES—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886). Loans of 1,600 <i>l.</i> for works of sewerage sanctioned in March last. M.O.H. in 1885 report says a system of sewerage is being carried out, but nothing has been done as to water supply or to provide hospital accommodation.
Inefficient - - -	None - - -	None -	None -	February 1886. S.A. determined to take action as to sewerage. No information on other points.
Efficient - - -	None - - -	None -	None -	June 1886. Some provision made for isolating infectious cases.

END OF URBAN DISTRICTS.

RURAL DISTRICTS

KENT.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
DARTFORD, R. - Mr. J. Spear, June 1885. P. 24,667. (Agriculture, cement works, paper works.)	Neglected - -	No sewerage worth mentioning. Deep cesspools in the chalk, so that contents may soak away. In some villages drainage into nearest ditch.	Privy pits and cesspools. Sewage and excremental nuisances.
HOO, R. - - Dr. de Chaumont, Feb. 1885. P. 3,405. (Agriculture, brick making.)	Variable - -	Merely surface drainage at Hoo and Stoke.	Privy pits - - - -
MALLING, R. - Mr. J. Spear, March 1885. 22,745. (Agriculture, cement works, paper mills, brick making.)	Neglected - -	Slop-water drains in a few villages; discharge into cesspools or tanks, with overflow into watercourses.	Privy pits and pan closets, discharging into cesspools. Prevalence of cesspit and privy nuisances.
TONBRIDGE, R. - Mr. J. Spear, March 1885. P. 15,360. (Agriculture.)	Often neglected -	Imperfectly constructed sewers in certain villages. In others none, and consequent prevalence of sewage nuisances.	Pan closets not duly cleansed, and large foul privy pits; consequent nuisances.
MAIDSTONE, R. - Mr. J. Spear, March 1885. P. 15,468. (Agriculture.)	Unsatisfactory -	No efficient sewerage in villages. Sewage nuisances.	Large privy pits and cesspools. Prevalence of excremental nuisances.
BLEAN, R. - - Dr. de Chaumont, March 1885. P. 12,493. [Whitstable and Seasalter only.] (Seafaring population.)	Fair - - -	Town sewerage, but nuisance from outfall, and ventilation inefficient.	Partly by privies not in good condition.
MILTON, R. - - Dr. de Chaumont, March 1885. P. 11,195.	—	—	—
SHEPPEY, R. - - [Queenborough mainly.] Dr. de Chaumont, March 1885. P. 3,918. (Agriculture, manure and cement works.)	Fair - - -	Merely surface drainage - -	Mainly privies. Earth closets in the better-class houses.

RURAL DISTRICTS.

KENT.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Kent Waterworks Company: supply being extended, but district still largely supplied from wells liable to pollution.	Many new houses erected of late years, and being still constructed without regard to sanitary requirements.	Infrequent - -	Occasional.
Unsatisfactory -	Wells, some of which have been closed on occurrence of enteric fever. Improvement at Stoke. Pond water used at High Halstow.	Unsatisfactory, but some improvement of late years.	None - - -	Sometimes.
Unsatisfactory -	Mainly local wells, often found polluted with sewage.	Fair on the whole. Some old cottages scarcely fit for habitation.	Very little - -	Very little.
Unsatisfactory -	Shallow wells liable to pollution, and often found polluted.	Small, often damp and dilapidated, with filthy surroundings.	Some in Hadlow -	Some overcrowding.
Unsatisfactory -	Local wells, all subject to pollution. Rain-water cisterns. Water generally scanty in amount.	Some small, dirty, and dilapidated, and surroundings generally bad.	None - - -	None.
Satisfactory -	Public supply for last 5 or 6 years, but many wells in use, mostly brackish.	Fair on the whole	Some - - -	Not much.
—	Public supply given to Rainham and Lower Halstow. Borden lane supplied from wells with suspicious surroundings.	Improvements made at Murs-ton.	—	—
Satisfactory -	From two wells in the town -	Good at Queenborough and elsewhere, except Elmley, where houses are mere hovels.	Rather crowded at Queenborough.	None.

RURAL DISTRICTS.

KENT—continued.

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
DARTFORD, R. - Mr. J. Spear, June 1885. P. 24,667. (Agriculture, cement works, paper works.)	Very inefficient. No improvement of administration since Dr. Thorne's inspection in 1879, and Mr. Spear's in 1882 and 1884. No building by-laws in spite of repeated recommendations.	Four M.O.H.'s (D.M.O.'s). Unsatisfactory, but M.O.H.'s do their best under much discouragement.	Two I.'s of N. One fairly efficient, the other incompetent and indolent.
Hoo, R. - - Dr. de Chaumont, Feb. 1885. P. 3,405. (Agriculture, brick making.)	—	—	—
MALLING, R. - Mr. J. Spear, March 1885. 22,745. (Agriculture, cement works, paper mills, brick making.)	Not very efficient, but apparently some attention paid to individual matters brought before them. [Improvements set on foot since survey was made.]	M.O.H. of a combined district. Good.	I. of N. is also Surveyor of Highways, and gives to this duty the larger share of attention, so that work of I. of N. suffers.
TONBRIDGE, R. - Mr. J. Spear, March 1885. P. 15,360 (Agriculture.)	Inefficient - - - -	Same as above - - - -	Satisfactory - - - -
MAIDSTONE, R. - Mr. J. Spear, March 1885. P. 15,468. (Agriculture.)	Inefficient - - - -	Same as above - - - -	Good - - - -
BLEAN, R. - - Dr. de Chaumont, March 1885. P. 12,493. [Whitstable and Seasalter only.] (Seafaring population.)	—	—	—
MILTON, R. - - Dr. de Chaumont, March 1885. P. 11,195.	—	—	—
SHEPPEY, R. - [Queenborough mainly.] Dr. de Chaumont, March 1885. P. 3,918. (Agriculture, manure and cement works.)	—	—	—

RURAL DISTRICTS.

KENT—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector ; with Date of Information.
Complete failure -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but loan of 1,700 <i>l.</i> sanctioned in October last for works of sewerage in Eynesford and Farningham.
Inefficient - - -	None - - -	None, except a fumigating box at workhouse.	None -	May 1885. Reply of S.A. eminently unsatisfactory.
Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but loan of 5,725 <i>l.</i> sanctioned in September last for works of sewerage, &c., at West Malling. Nothing done as to hospital provision.
Inefficient - - -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but loan of 1,138 <i>l.</i> sanctioned in December last for works of sewerage and sewage disposal.
Inefficient dealing with recurring nuisances.	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but nothing done as to hospital provision.
—	None - - -	None -	None -	May 1885. Some action as to sewerage and sewer ventilation reported as taken <i>prior</i> to inspection in March.—November 1885. Steps taken in regard to polluted wells at Whitstable. Nothing done respecting permanent hospital provision.
—	—	—	—	No subsequent inquiry to date. May 27th, 1886.
Efficient - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

KENT—continued.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
THANET, R. - Dr. D. S. Davies, Jan. 1885. P. 7,786.	—	Sewerage at Westgate - - -	Privy pits and cesspools generally.
ROMNEY MARSH, R. Dr. D. S. Davies, Jan. 1885. P. 6,059.	—	Drainage unsatisfactory; commonly into cesspools, but occasionally some pipe drainage.	Privy pits and cesspools - -
SUSSEX.			
WEST FIRLE, R. - Mr. J. Spear, Nov. 1885. P. 2,369. (Agriculture, cement works.)	Fair - - -	No regular system of drainage to any of the small villages. At Glynde large cesspools with overflows to ditches; elsewhere highway drains used, or sewage finds its way by various channels to nearest ditch.	At Glynde pan-closets communicating with unventilated drains and cesspools; elsewhere deep offensive privy pits.
CHAILEY, R. - Mr. J. Spear, Dec. 1885. P. 10,373. (Agriculture.)	Fair with exceptions, e.g., those of Ringmer.	General prevalence of sewage nuisances, due to absence of sewers or defective construction of them where provided.	Privy pits generally, very foul and sources of much nuisance.
NEWHAVEN, R. - Mr. J. Spear, Nov. 1885. P. 8,607. (Agriculture. Rottingdean is a sea-side resort.)	Fair - - -	Rottingdean and Kemp Town sewered, but insufficient ventilation. No sewerage of outlying villages. Sewage nuisances.	Rottingdean and Kemp Town w.c.'s or pan closets without water flush, and sources of nuisance. Elsewhere privy pits and cesspools.
STEYNING, R. - Mr. J. Spear, July 1885. P. 16,325. (Agriculture. A sea-side resort.)	Some neglect -	Steyning sewered, but system in many respects imperfect. Aldrington partially sewered. Elsewhere no systematic drainage, and prevalence of sewage nuisances.	Defective w.c.'s at Aldrington. Elsewhere privy pits or closets discharging into highway drains with considerable privy and cesspit nuisances.
EAST PRESTON, R. - Mr. J. Spear, Nov. 1885. P. 8,025. (Agriculture, some brickmaking.)	Some neglect at Wick.	Want of due means of drainage in the villages, and consequent sewage nuisances.	Privy pits and cesspools creating nuisances.
WESTHAMPNETT, R. - Mr. J. Spear, July 1885. P. 15,989. (Agriculture.)	Fair on the whole	Villages without proper sewers, highway drains being used: house drains defective. Sewage nuisances.	Privy pits mostly foul, too close to houses and wells, and sources of nuisance and danger.
WESTBOURNE, R. - Mr. J. Spear, Sept. 1885. P. 7,420. (Agriculture, fishing.)	Neglect - -	No proper sewerage, and consequent sewage nuisances, especially at Hermitage.	Privy pits of worst construction, and at Hermitage and Bosham often close to dwellings. Great nuisances.

KENT—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Public supplies to some places, but elsewhere shallow wells liable to pollution.	—	—	—
Fair - - -	Shallow wells, open springs, and ditches; very unsatisfactory.	—	—	—

SUSSEX.

Unsatisfactory -	Public supply by standpipes to part of Glynde. Elsewhere wells, often subject to pollution.	Many damp and somewhat dilapidated.	None - - -	None.
Unsatisfactory -	Mainly local wells, often exposed to sewage pollution. Occasionally ponds, ditches, &c.	In every village instances of damp, dilapidated, and neglected dwellings, some unfit for habitation.	Infrequent - -	Infrequent.
Unsatisfactory -	Public supply to Rottingdean and Kemp Town from Brighton mains. Elsewhere wells, occasionally polluted.	Fair on the whole	None - - -	Infrequent.
Unsatisfactory -	Public supply to about half the district. Elsewhere local sources, often liable to pollution.	Fair on the whole	Occasional - -	Occasional.
Unsatisfactory -	Local wells, often close to privies and cesspits, and liable to pollution from them.	Fair on the whole	None - - -	None.
Varying efficiency	Very partial public supply. Elsewhere inadequate supply from local wells, liable to pollution and occasionally found grossly polluted.	Fair on the whole	Occasional - -	Infrequent.
Reckless neglect -	Wells and stream subject to gross pollutions from sewage and from privies.	Many small, dilapidated, and with filthy surroundings.	Occasional - -	None.

KENT—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
THANET, R. - Dr. D. S. Davies, Jan. 1885. P. 7,786.	—	—	Satisfactory.
ROMNEY MARSH, R. Dr. D. S. Davies, Jan. 1885. P. 6,059.	—	—	—

SUSSEX—*continued.*

WEST FIRLE, R. - Mr. J. Spear, Nov. 1885. P. 2,369. (Agriculture, cement works.)	Lax administration - -	M.O.H. (not D.M.O.). Fair	Fair - - - - -
CHAILEY, R. - Mr. J. Spear, Dec. 1885. P. 10,373. (Agriculture.)	Lax administration - -	M.O.H. (D.M.O.). Fair.	—
NEWHAVEN, R. - Mr. J. Spear, Nov. 1885. P. 8,607. (Agriculture. Rottingdean is a seaside resort.)	Lax administration - -	M.O.H. (not D.M.O.). M.O.H. of combined district; satis- factory.	Satisfactory - - - - -
STEYNING, R. - Mr. J. Spear, July 1885. P. 16,325. (Agriculture. A sea-side resort.)	Lax administration - -	M.O.H. (not D.M.O.). M.O.H. of combined district; satis- factory.	New officer, without any previous training.
EAST PRESTON, R. Mr. J. Spear, Nov. 1885. P. 8,025. (Agriculture, some brickmaking.)	Lax administration - -	M.O.H. (not D.M.O.). M.O.H. of combined district; satis- factory.	Fair - - - - -
WESTHAMPNETT, R. Mr. J. Spear, July 1885. P. 15,989. (Agriculture.)	Lax administration - -	M.O.H. (D.M.O.). A low standard of the necessities of village sanitation adopted.	Inefficient - - - - -
WESTBOURNE, R. Mr. J. Spear, Sept. 1885. P. 7,420. (Agriculture, fishing.)	Quite ineffective. Important matters referred to parochial committees and thus shelved. Hermitage suffered very heavily from cholera in 1866. That place and indeed the whole district is in a very dangerous condition should cholera be introduced.	M.O.H. (not D.M.O.). M.O.H. of combined district; satis- factory.	Very inefficient - - -

KENT—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	—	—	—	April 1885. S.A. promise attention to matter of water supply. M.O.H. in 1885 report says nothing has been done as to this at Minster, where a better supply is much needed.
—	None	None	None	November 1885. Consideration of suggested byelaws as to new streets and buildings deferred.

SUSSEX—*continued.*

Some failure - -	None - - -	None -	None -	February 1886. General statement that M.O.H. and I. of N. are "taking measures to carry out the recommendations of Mr. Spear."
Failure - - -	None - - -	None -	None -	June 1886. No evidence of any great activity, past or contemplated. Nuisances receiving attention.
Failure to deal with recurring nuisance.	None - - -	None -	None -	February 1886. Action taken as to Rottingdean sewers only.
Considerable failure -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Failure - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Unsatisfactory - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Complete failure -	None - - -	None -	None -	January and March 1886. But little action taken; difficulties urged as to sewerage, &c. Replies unsatisfactory.

HAMPSHIRE.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HAVANT, R. - Mr. J. Spear, Sept. 1885. P. 5,640. (Agriculture, fishing.)	Domestic premises often neglected.	Only one village (Emsworth) sewered, but with many defects, and private drainage as bad as it well can be. Elsewhere cesspools, often with overflow into ditches, &c. Sewage nuisances.	Mainly privy pits, often close to dwellings or under washhouse roof, generally foul and neglected. Some w.c.'s discharging into cesspools.
FAREHAM, R. - Mr. J. Spear, Aug. 1885. P. 9,637. (Mainly agriculture, fishing.)	Side streets and domestic premises often neglected.	Sewers of rude and defective construction at Titchfield and Cosham villages. Elsewhere highway drains or cesspools. Private drainage bad.	Privy pits and cesspools often foul and close to houses.
ISLE OF WIGHT, R. - Mr. J. Spear, Oct. 1885. P. 28,008. (Agriculture, fishing, &c.)	Fair - - -	Sewers provided at Yarmouth, Brading, Bembridge, and Hayland, but so partially used as to be of little value, or so neglected as to become themselves sources of nuisance. Elsewhere highway drains or cesspools used, or sewage runs into a stream or nearest ditch. Sewage nuisances prevalent.	Mostly privy pits soaking into earth or discharging into some adjacent watercourse.

NORTHAMPTONSHIRE.

THRAPSTON, R. - Mr. J. Spear, Oct. 1885. P. 15,115. (Agriculture; some boot and cloth manufactures.)	Much neglect in larger villages.	Old leaky highway drains used where available as sewers; otherwise sewage discharged into nearest ditch. This generally stagnant and foul. Private drains very defective and sources of nuisance.	Mainly deep, roughly constructed privy pits, occasionally close to dwellings or against house walls. Very foul.
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HUNTINGDONSHIRE.

HUNTINGDON, R. - Mr. J. Spear, May 1885. P. 8,528. (Agriculture.)	Domestic premises often neglected.	Highway drains used. No sewers in several villages. Private drains often so constructed as to be source of danger. Sewage improperly disposed of.	Generally privy pits. A few pail closets introduced with advantage.
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CAMBRIDGESHIRE.

CHESTERTON, R. - Mr. J. Spear, May 1885. P. 23,343. (Agriculture.)	Domestic premises and back ways often filthy.	Drainage of villages, &c., generally most defective. Sewage nuisances almost universal. Grandchester, a suburb of Cambridge, is no exception.	Privy pits often mere holes in the earth, large, foul, and overflowing so as to form filthy pools and dangerous nuisances.
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HAMPSHIRE.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Very unsatisfactory, and causing complaints.	Partly public supply from Portsmouth Water Co. (See Havant U.) Elsewhere shallow wells polluted or liable to pollution.	Unsatisfactory: dampness, and disrepair common.	Little crowding -	Infrequent.
Unsatisfactory -	Public supply (Portsmouth Water Co.) at Cosham. (See Havant U.) Elsewhere wells often spoken of as polluted and water deficient in quantity.	Unsatisfactory, but some improvement in Portsmouth since Dr. Stevens's inspection in 1872.	None very remarkable.	Infrequent.
Great neglect -	Public supplies to some parts adjacent to towns having waterworks. Elsewhere shallow wells, streams, or ponds, and unsatisfactory both as to quantity and quality. Long distances have to be sometimes traversed for water.	On the whole fair, but exceptions.	Rarely crowding -	Infrequent.

NORTHAMPTONSHIRE.

Unsatisfactory -	Various. Local springs insufficiently protected from pollutions; shallow wells often found polluted; occasionally sewage-polluted streams. All the water supplies must be regarded with suspicion.	Generally unsatisfactory. Damp, dirty, dilapidated cottages in all the larger villages.	Some crowding in some of the villages.	Occasional.
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HUNTINGDONSHIRE.

Unsatisfactory -	Shallow wells, some of them polluted. Ponds fed by surface drainage, dirty and sometimes with scanty supply of water.	Many dilapidated, damp, and dirty, but probably improving of recent years.	Infrequent - -	Occasional.
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CAMBRIDGESHIRE.

Very bad - -	Water supplies of many villages scarce and contaminated. Some few parts have a public supply from Cambridge Co. or artesian wells.	Very unsatisfactory; many dwellings mere hovels unfit for habitation.	Some confined courts, and such places further polluted with accumulations of refuse.	Occasional.
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HAMPSHIRE—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HAVANT, R. - Mr. J. Spear, Sept. 1885. P. 5,640. (Agriculture, fishing.)	Lax administration. S.A. have now ordered a house-to-house inspection. District in a dangerous condition for advent of cholera.	M.O.H. (not D.M.O.). Fair, but advice not much followed.	Fair - - - - -
FAREHAM, R. Mr. J. Spear Aug. 1885. P. 9,637. (Mainly agriculture, fishing.)	Only some minor improvements effected. Larger matters, <i>e.g.</i> , of drainage and water supply, neglected. District in a dangerous condition for advent of cholera.	M.O.H. (not D.M.O.). Prepared to offer competent advice.	Fair - - - - -
ISLE OF WIGHT, R. Mr. J. Spear, Oct. 1885. P. 28,008. (Agriculture, fishing, &c.)	Very lax and inefficient. M.O.H.'s report for 1883 had not yet been considered. Important matters often left to parochial committees, and then neglected. Mr. Spear's report thus indicates no remarkable amendment since Dr. Ballard's inspection in 1880. The Registration District of Isle of Wight suffered heavily from cholera in 1866.	M.O.H. (not D.M.O.). An able officer; but his advice is almost absolutely disregarded.	No organised inspection - - -

NORTHAMPTONSHIRE—*continued.*

THRAPSTON, R. - Mr. J. Spear, Oct. 1885. P. 15,115. (Agriculture; some boot and cloth manufactures.)	Wholly inefficient. Important matters referred to parochial committees and then indefinitely postponed. District generally in a dangerously unwholesome condition, and has suffered much of late years from enteric fever and diphtheria.	M.O.H. (not D.M.O.). Fair on the whole.	I. of N. is collector also. Works fairly on the whole, but other duties hinder him, and district is large and important.
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HUNTINGDONSHIRE—*continued.*

HUNTINGDON, R. Mr. J. Spear, May 1885. P. 8,528 (Agriculture.)	Administration not altogether inefficient, but much work of permanent character required.	Three M.O.H.'s (D.M.O.'s). Fair.	Two I.'s of N. who are Relieving Officers also. Unsatisfactory.
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CAMBRIDGESHIRE—*continued.*

CHESTERTON, R. - Mr. J. Spear, May 1885. P. 23,343. (Agriculture.)	Wholly unsatisfactory. S.A. habitually ignore the reports of M.O.H. until some outbreak of disease compels passing attention. Of late some outbreak of enteric fever or diphtheria of annual occurrence.	M.O.H. (not D.M.O.). Highly competent, and deplors his inability to get anything done for improvement of district, but does his best.	I. of N. very inadequately paid, but does what he can.
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HAMPSHIRE—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Failure to deal with recurring nuisances.	None - - -	None -	None -	May 1886. Steps to be taken as to water supply for Hayling. S.A. giving attention to some points of advice; nothing said respecting others.
Failure to deal with recurring nuisances.	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but loans of 5,000 <i>l.</i> sanctioned in September last for works of sewerage, &c.
Very general default -	None - - -	None -	None -	May 1886. S.A.'s reply wholly unsatisfactory. No evidence of requisite action on Mr. Spear's detailed advice to S.A.

NORTHAMPTONSHIRE—*continued.*

Complete failure -	None - - -	None -	None -	June 1886. Inspection of Brigstock ordered in connexion with water supply and excrement disposal. Nothing said as to other recommendations of inspector, and no reply to renewed inquiry to date. July 12th, 1886.
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HUNTINGDONSHIRE—*continued.*

Failure to deal with recurring nuisance.	None - - -	None -	None -	October 1885. After repeated requests for information as to action of S.A. on Mr. Spear's advice, Board receive a reply far from satisfactory.
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CAMBRIDGESHIRE—*continued.*

Failure - - -	None. Addenbrook Hospital occasionally used.	None -	None -	May 1886. After repeated inquiries as to action of S.A. on Mr. Spear's recommendations, a reply is received which is extremely unsatisfactory.
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ESSEX.

1.	2.	3.	4.
Rural Sanitary District. Inspector, and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
ORSETT, R. - - Mr. J. Spear, June 1885. P. 16,480. (Agriculture, dock construction, cement works, &c.)	Unsatisfactory -	No proper drainage arrangements. Sewage nuisances general throughout the district, and increasing with rapid growth of the population.	Rough privy pits and cesspools creating filth-nuisances generally.
ROCHFORD, R. - Mr. J. Spear, Dec. 1885. P. 16,427. (Agriculture, fishing, brick making.)	Parts of district neglected.	A few villages partially sewered, but roughly and imperfectly. Sewage nuisances common.	A few w.c.'s in larger houses. Pan closets often very foul from lack of flushing. Privy pits and vaults rough, large, and often dangerously near sources of water supply.

SUFFOLK.

WOODBIDGE, R. - Mr. J. Spear, Dec. 1885. P. 22,516. [Including Woodbridge Town.] (Agriculture; shipping trade at Woodbridge. Felixstowe a sea-side resort.)	Often neglected -	General want of sewers. Consequent prevalence of sewage nuisances. Cesspools, highway drains, ditches, and streams made use of.	Mainly privy pits, deep, large, and foul, very often dangerously near dwellings and sources of water supply (in two instances in Woodbridge practically within the dwellings).
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DORSETSHIRE.

DORCHESTER, R. - Dr. D. S. Davies, March 1885. P. 17,323.	—	Partial drainage systems for slop water in some villages.	Mostly privy pits. A few earth closets. Looked after by I. of N.
SHERBORNE, R. - Mr. J. Spear, May 1885. P. 7,642. (Agriculture.)	Neglected - -	Where any sewers exist they and the private drains are so defectively constructed as to constitute a nuisance.	Mainly privy vaults and pits, often mere holes in the earth.
BRIDPORT, R. - Dr. D. S. Davies, Feb. 1885. P. 8,016. [Burton Bradstock only.]	—	—	No open cesspools, but privies discharging into covered vaults.

ESSEX.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply to some larger villages, but occasionally of suspicious quality. Elsewhere scanty local supplies from wells liable to pollution, and from ponds.	Very unsatisfactory on account of the filthy surroundings.	None - - -	Some overcrowding noticed.
Unsatisfactory -	Water supplies generally insufficient in quantity and inaccessible, and much of bad or of doubtful quality.	Unsatisfactory -	Some in Leigh and Rochford.	Occasional.

SUFFOLK.

Unsatisfactory -	At Felixstowe mostly from some private waterworks. At Woodbridge and elsewhere, local wells, streams, ponds, or ditches. Supplies all more or less liable to pollution.	Many very unsatisfactory.	None - - -	Occasional.
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DORSETSHIRE.

Fair - - -	Mostly from shallow wells.	—	—	—
Very unsatisfactory, and consequently much nuisance.	Water supply in many villages requires protection from surface pollution. In others it is habitually scarce and bad.	Generally unsatisfactory, some mere hovels. Surroundings of houses neglected.	None - - -	Occasional.
—	Water from wells; yet Bridport Urban water pipes pass through village.	—	—	—

ESSEX—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
ORSETT, R. - Mr. J. Spear, June 1885. P. 16,480. (Agriculture, dock construction, cement works, &c.)	Ineffective. No serious attempt to meet the rapidly growing sanitary needs of the district. District very unsafe for advent of cholera.	M.O.H. (D.M.O.) Has fairly represented to S.A. needs of the district, but advice little regarded.	Time of I. of N. all taken up with looking after recurring cesspool nuisances, <i>i.e.</i> , in mere scavenging work.
ROCHFORD, R. - Mr. J. Spear, Dec. 1885. P. 16,427. (Agriculture, fishing, brick making.)	Unsatisfactory - - - -	M.O.H. (D.M.O.). Fair -	Unsatisfactory. Has a variety of other duties.

SUFFOLK—*continued.*

WOODBIDGE, R. Mr. J. Spear. Dec. 1885. P. 22,516. [Including Woodbridge Town.] (Agriculture; shipping trade at Woodbridge. Felixstowe sea-side resort).	Inefficient - - - -	M.O.H. (D.M.O.). Too low a standard of the necessities of village sanitation adopted hitherto.	Inefficient - - - -
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DORSETSHIRE—*continued.*

DORCHESTER, R. - Dr. D. S. Davies, March 1885. P. 17,323.	Fair - - - -	Two M.O.H.'s (D.M.O.'s). Good.	Active and intelligent - -
SHERBORNE, R. - Mr. J. Spear, May 1885. P. 7,642. (Agriculture.)	Inefficient - - - -	M.O.H. (D.M.O.). Has failed to organise in any sense the work of his department.	Totally incompetent - -
BRIDFORD, R. - Dr. D. S. Davies, Feb. 1885. P. 8,016. [Burton Bradstock only.]	—	—	—

ESSEX—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Complete failure	None. A Doecker hospital purchased and put away.	None	None, except for early information.	September-October 1885. S.A.'s replies as to action in connexion with water supply extremely unsatisfactory: Loan of 500l. sanctioned in September 1885 for purchase of site for permanent hospital.
Failure to deal with recurring nuisances.	An old farmhouse; unsatisfactory.	None	None	April 1886. Some action taken or in contemplation as to drainage, sewer-ventilation, and scavenging; but reply of S.A. generally unsatisfactory.

SUFFOLK—*continued.*

Failure	Small cottage; not in state of preparation.	None	None	April 1886. S.A. prepared to deal with question of scavenging, otherwise no promise of remedial measures. Inspector's advice combated.
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DORSETSHIRE—*continued.*

—	—	—	—	No subsequent inquiry to date. May 27th, 1886.
Complete failure	None	Small Nelson stove at work-house.	None	August 1885. Apparently no action taken. Inspector's statement controverted. Further remonstrance by Board.
—	—	—	—	April 1885. S.A. content with existing water supply for Burton Bradstock.

DEVON.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
ST. THOMAS, R. - Mr. J. Spear, Aug. 1885. P. 33,927. (Agriculture and fishing.)	Unsatisfactory -	Nuisances from ill-constructed sewers and drains, or from total absence of means of removing sewage, universal.	In towns or large villages, w.c.'s or pan-closets often in such a condition and so placed as to be dangerous. Otherwise privy pits, often foul and neglected.
TOTNES, R. - - Dr. D. S. Davies, March 1885. P. 16,730.	—	Some villages and hamlets drained with various degrees of efficiency. Others either not at all or very imperfectly.	Mostly privy pits. Earth closets at Buckfastleigh not very successfully managed.
KINGSBRIDGE, R. - Dr. D. S. Davies, March 1885. P. 16,934.	—	Kingsbridge in same condition of bad drainage as when visited by Dr. Ballard in 1882, but a drainage scheme said to be under consideration. Otherwise improvements effected in places.	Privy accommodation improved at outlying places.
TAVISTOCK, R. - [Includes town of Tavistock.] Mr. J. Spear, March 1885. P. 29,190. (Town occupations in Tavistock. In villages, copper and tin mining, quarrying, and agriculture.)	Satisfactory in Tavistock, but unsatisfactory in some larger villages.	Tavistock fairly sewered. In the villages drainage is defective or wholly bad and dangerous.	Mainly w.c.'s (satisfactory) in Tavistock. Privy cesspits gradually being superseded in some villages by pail closets. Many cottages, especially in Calstock, without privy accommodation.
CREDITON, R. - Mr. J. Spear, April 1885. P. 13,764. (Agriculture.)	Very unsatisfactory.	Sewage nuisances almost universal. Sewers, where any exist, imperfect, partial, and of rough construction.	Privy pits mere holes in the earth, and generally sources of nuisance.
BARNSTAPLE, R. - Dr. D. S. Davies, July 1885. P. 18,456. (Agriculture; some little shipping trade.)	Fair - -	Some villages drained throughout, others partially, some not at all.	Usually privy pits, supervised by I. of N. Where possible, pails are being introduced.
BIDEFORD, R. - Dr. D. S. Davies, July 1885. P. 7,792. (Agriculture, fishing. Clovelly a sea-side resort.)	Fair - - -	Clovelly and Hartland drained. Many smaller villages undrained.	Pan and syphon closets in Clovelly. Otherwise privy pits general. Many houses in Woolfardisworthy without privy accommodation.

DEVON.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Water supplies mostly from wells exposed to pollution, and insufficient in quantity.	Certain number of dwellings in most of the villages unfit for habitation from dampness, bad ventilation, and dilapidation.	Much in Heavytree, Topsham, and Lympstone.	Occasional, in larger villages.
Fair - - -	Various sources of supply to the villages; some good, others open to grave suspicion. But improvements have in places been effected.	—	—	—
—	Suspicious wells still in use in Kingsbridge and elsewhere, but more watchfulness exercised about them. Beesands now supplied with water, good and abundant.	—	—	—
Efficient in Tavistock, inefficient elsewhere.	Public supply in Tavistock good and plentiful. In outlying villages often insufficient in amount, and various surface springs and rivulets liable to pollution are used.	Many cottages in villages are unfit for habitation from dampness and dilapidation, and at Calstock and Gunnislake (large villages) such dwellings are in addition huddled together and overcrowded. Surface paving about dwellings greatly neglected.		
Unsatisfactory -	Water in most of villages bad and scarce.	Fair - - -	None - - -	None observed.
Satisfactory -	Wells. Carefully looked after by M.O.H. and I. of N.	Fair on the whole	None very remarkable.	None.
Satisfactory -	Wells generally. Some insufficiently protected from pollution.	Fair - - -	None very remarkable.	None.

DEVON—continued.

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
ST. THOMAS, R. - Mr. J. Spear, Aug. 1885. P. 33,927. (Agriculture and fishing.)	Very imperfect administration. S. A. have tried to work without skilled advice or supervision of district. This district suffered very heavily from cholera in 1866, and is in a very dangerous condition now for the introduction of that disease.	M.O.H. (M.O. of work-house). Is only engaged to do any work on occasion of some serious outbreak of disease, and is then paid by fee. Such arrangements of course are entirely inadequate. M.O.H. not under Board's Order.	I. of N. Old and without training, and unequal to duties.
TOTNES, R. - Dr. D. S. Davies, March 1885. P. 16,730.	Fair administration. Improvements made in various places.	—	Two I.'s of N., who work systematically.
KINGSBRIDGE, R. Dr. D. S. Davies, March 1885. P. 16,934.	Sanitary administration appears to have improved since Dr. Ballard's visit in 1882.	M.O.H. (not D.M.O.). Looks after his district fairly well.	I. of N. now paid by salary. Fairly satisfactory.
TAVISTOCK, R. - [Includes town of Tavistock.] Mr. J. Spear, March 1885. P. 29,190. (Town occupations in Tavistock. In villages, copper and tin mining, quarrying, and agriculture.)	Sanitary administration probably improving, but S.A. have a habit of referring important matters to parochial committees and then neglecting them.	M.O.H. (not D.M.O.). Very good. It is due to his energy and advice that improvement in this district can be noted.	Two I.'s of N., both energetic, good officers.
CREDITON, R. - Mr. J. Spear, April 1885. P. 13,761. (Agriculture.)	Inefficient. Public works of improvement not seriously undertaken.	M.O.H. (D.M.O.). Further personal influence required.	Inefficient - - - -
BARNSTAPLE, R. Dr. D. S. Davies, July 1885. P. 18,456. (Agriculture; some little shipping trade.)	Sanitary improvements in progress.	M.O.H. (D.M.O.). Efficient and active.	Three I.'s of N. (Relieving Officers also). Efficient.
BIDEFORD, R. - Dr. D. S. Davies, July 1885. P. 7,792. (Agriculture, fishing. Clovelly a sea-side resort.)	Fair, but inactive as regards village drainage.	M.O.H. (D.M.O.). Satisfactory.	Fair - - - -

DEVON—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Absolute failure -	Occasionally can use Exeter Hospital.	None -	None -	November 1885. S.A. have done something in regard to water supply, drainage, and excrement disposal, and contemplate further work as to sewerage at Heavitree and Topsham. Content with present M.O.H. arrangements.
Fair on the whole -	None - - -	None -	None -	M.O.H.'s 1885 report gives evidence of some action as to water supply and sewerage.
Fair - - -	None - - -	None -	None -	M.O.H. in 1885 report states that satisfactory progress is being made with drainage of Kingsbridge, Dodbrook, and West Alvington; and that good work has been done in the matter of water supply.
Improving - - -	None - - -	None -	None -	July 1886. No action to be taken in regard to hospital provision; question of building byelaws under consideration.
Failure - - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Satisfactory - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Satisfactory - -	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

CORNWALL.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
STRATTON, R. - Dr. D. S. Davies, July 1885. P. 7,439. (District largely rural. Bude a sea-side resort.)	Fair - - -	Bude and Stratton both pipe-drained, other villages fairly satisfactory.	Mostly ordinary privies; some w.c's at Stratton, Bude, and Poughill.
CAMELFORD, R. - Dr. D. S. Davies, July 1885. P. 7605. (Agriculture; some quarrying. Boscastle and Tintagel sea-side resorts.)	Fair - - -	Drainage for slops: pipes and surface channels in larger villages.	Privy pits generally. A few w.c's in larger villages.
ST. GERMANS, R. - Dr. D. S. Davies, April 1885. P. 16,730. (Agriculture; maritime occupations. Millbrook a sea-side resort.)	—	Drainage of Torpoint and Saltash very bad. Pipe drainage of recent years extended at Millbrook; elsewhere little or none.	Privies and w.c's where there are sewers, as at Millbrook.
LISKEARD, R. - Dr. D. S. Davies, April 1885. P. 24,251.	—	Towns or larger villages without proper drainage or with defective drainage: consequent sewage nuisances.	W.c's in more populous places. Privies. In some places insufficient privy accommodation.
BODMIN, R. - - [Only partial survey made.] Dr. D. S. Davies, May 1885. P. 14,187.	—	Much improvement of drainage needed.	Various arrangements. Some w.c's in towns. Some box privies with movable receptacles. Some ordinary cesspool privies.
S. COLUMB MAJOR, R. Dr. D. S. Davies, June 1885. P. 12,994. (Agriculture; China clay working.)	Fair - - -	Newlyn drainage completed. Drainage incomplete and unsatisfactory at St. Columb and Wadebridge.	Many privy pits; large in St. Columb. Some pails are introduced and work satisfactorily.
ST. AUSTELL, R. - Dr. D. S. Davies, April 1885. P. 26,604.	—	Drainage at Mevagissey unsatisfactory. Much work done recently at Fowey. Far and some other places unsatisfactory.	No privy accommodation in parts of Mevagissey and no room to erect privies. W.c's in larger places and privies in others.
TRURO, R. - - Dr. D. S. Davies, April 1885. P. 25,363.	Fair - - -	Some pipe drainage exists at a few places, and some old stone drains serve for slop drainage at others.	Mostly privies; contents used in gardens. In some places no privies, and excrement scattered over ash-heaps.

CORNWALL.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Fair for rural district.	Wells almost universally. Water rather scanty. Scheme for Bude and Stratton under consideration, but its adoption doubtful.	Fair - - -	None - - -	None observed.
Unsatisfactory -	Pumps, wells, and springs. Some action taken to protect them.	Fair on the whole	None - - -	None observed.
Unsatisfactory -	Millbrook still unsatisfactory. Some of the wells, closed after certain outbreaks of fever, re-opened. Water supply of Torpoint from wells inevitably greatly polluted and very dangerous. Saltash well water is also liable to pollution.	—	—	—
Unsatisfactory -	Unsatisfactory as to quality in various places. In others fairly satisfactory.	—	—	—
—	Many water supplies require protection from pollution.	—	—	—
Unsatisfactory -	Wells universally; their protection is looked after by sanitary officers.	Satisfactory on the whole.	Little worth speaking of.	None.
Fairly good -	Good water supply by S.A. to St. Austell and neighbouring villages. Efforts to supply other places being continued.	Fair - - -	Great crowding on area at Mevagissey and Fowey.	—
Unsatisfactory -	Water supply given to many places, and care has been taken to protect it; but further action is requisite.	—	—	—

CORNWALL—continued.

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
STRATTON, R. - Dr. D. S. Davies, July 1885. P. 7439. (District largely rural. Bude a sea-side resort.)	Tardy administration - -	Two M.O.H.'s (D.M.O.'s). Fair.	Fair - - - - -
CAMELFORD, R. - Dr. D. S. Davies, July 1885. P. 7,605. (Agriculture; some quarrying. Boscastle and Tintagel sea-side resorts.)	Tardy administration - -	Two M.O.H.'s (D.M.O.'s) -	Fair - - - - -
ST. GERMANS, R. Dr. D. S. Davies, April 1885. P. 16,736. (Agriculture; maritime occupations. Millbrook a sea-side resort.)	S.A. extremely tardy, and putting off from year to year most important and urgent works of drainage and water supply at Torpoint and Saltash, in respect of which they have been advised by the Board and its Inspectors from time to time without effect. Parts of the district which have suffered on various recent occasions from enteric fever are in a very dangerous condition for advent of cholera.	M.O.H. (not D.M.O.). Earnest; and gives good advice.	I. of N. intelligent and active
LISKEARD, R. - Dr. D. S. Davies, April 1885. P. 24,251.	Not very active administration.	M.O.H. (D.M.O.). Has urged improvements from time to time.	Fair, but district large; I. of N. is not overpaid.
BODMIN, R. - [Only partial survey made.] Dr. D. S. Davies, May 1885. P. 14,187.	Administration wanting in energy.	M.O.H. (not D.M.O.). He has not exerted much influence with S.A., and is underpaid.	District very large, and I. of N. does not devote his whole time to duties.
ST. COLUMB MAJOR, R. Dr. D. S. Davies, June 1885. P. 12,994. (Agriculture; China clay working.)	Fairly active, but S.A. need some pressure. S.A. have unusual confidence in their M.O.H., and act creditably on his advice in emergencies. Have made improvements in Newlyn East since Dr. Ballard's inspection in 1880.	M.O.H. (not D.M.O.). Active and well deserving the confidence of the S.A., which he possesses.	Very good - - - - -
ST. AUSTELL, R. - Dr. D. S. Davies, April 1885. P. 26,604.	S.A. have done of recent years much good work, and on the whole the administration is satisfactory.	M.O.H. (D.M.O.). Satisfactory.	Active and satisfactory - -
TRURO, R. - Dr. D. S. Davies, April 1885. P. 25,363.	S.A. fairly active - - -	Two M.O.H.'s (one D.M.O.). Give good advice.	Active; but should be paid to give his whole time, the district being large.

CORNWALL—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Fair - - - -	None - - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Moderate efficiency -	None - - - -	None -	None -	July 1886. Reply unsatisfactory as to water supply. Difference of opinion exists on part of officers of S.A. respecting the need of certain places. S.A. hold that the supplies are adequate.
Unsatisfactory - -	None - - - -	None -	None -	Application made in autumn of 1885 for sanction to loans to amount of 8,000 <i>l.</i> in respect of sewerage and water supply of Torpoint.
Unsatisfactory.	—	—	—	June 1885. Steps to be taken in regard to water supply and sewerage of Polruan and Callington. March 1886 (M.O.H. 1885 report): Nothing done as to Polruan. Action taken as to Callington. Minor improvements in water supply and sewerage at other places.
—	None - - - -	None -	None -	Detailed inspection made by Dr. Parsons since Dr. Davies's partial survey. No reply to date to Board's request of January for information as to action of S.A. in regard to several important matters. May 27th, 1886.
Fair - - - -	None - - - -	None -	None -	November 1885. S.A. prefer to await the appearance of infectious disease before taking steps to provide means of isolation. Further remonstrance from Board.
Fair - - - -	None - - - -	None -	None -	Nothing done as to water supply of Mevagissey. No reply to date to Board's inquiry of June 1885 as to steps to be taken in regard to drainage of that place. May 27th, 1886.
Unsatisfactory - -	None - - - -	None -	None -	August 1885. Steps being taken to secure cottage hospitals for possible cholera at various points on coast. Portscatho water supply improved.

CORNWALL—continued.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HELSTON, R. - Dr. D. S. Davies, July 1885. P. 20,249. (Agriculture, fishing, quarrying.)	Unsatisfactory -	Porthleven still very unsatisfactory, with sewage nuisances. Village drainage generally bad.	Porthleven has worst type of midden privies producing excremental nuisances dangerous to health. Elsewhere ordinary privy pits.
PENZANCE, R. - Dr. D. S. Davies, April 1885. P. 25,610.	—	The drainage of Newlyn unsatisfactory, and should be taken in hand soon. Marazion recently sewered; other villages unsatisfactory.	Mostly privies - - -

SOMERSETSHIRE.

WILLITON, R. - Dr. D. S. Davies, Dec. 1885. P. 18,685. (Agriculture mainly. Minehead a sea-side resort.)	Fair - - -	Minehead recently sewered, and most of houses now connected. Elsewhere partial slop drainage.	In Minehead, w.c.'s. Elsewhere ordinary type of privies. Some earth closets.
CHARD, R. - Mr. J. Spear, May 1885. P. 22,942. (Agriculture. In towns various textile manufactures.)	Often neglected -	Certain of larger villages sewered, but imperfect ventilation and other defects; house connexions are insufficient and defective. Elsewhere sewage and slop nuisances.	Roughly constructed privy pits for the most part.

LINCOLNSHIRE.

GAINSBOROUGH, R. Dr. Airy, June 1885. P. 19,075. (Agriculture.)	Fair - - -	Much attention has been given to the drainage of the villages.	Everywhere brick privy pits: some, however, too near to wells. They are emptied when it is convenient to use the manure in gardens, &c.
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CHESHIRE.

RUNCORN, R. - Dr. Airy, June 1885. P. 18,897. (Agriculture; dock and canal works at Weston Point.)	Satisfactory, with exceptions.	Drainage defective at Weston, causing nuisance. Improvements in district progressing.	Privy system in vogue generally. Little nuisance, except where insufficient space.
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CORNWALL—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory; especially in growing town of Porthleven.	Water supplies at Porthleven very unsatisfactory and liable to pollution; elsewhere wells of various quality.	Many unsatisfactory from dangerous dilapidations and filthy surroundings: but some improvement since Dr. Ballard's inspection in 1882.	Back - to - back houses, &c., in Porthleven.	None observed.
Fair on the whole, but exceptions.	Public supply at Marazion satisfactory; elsewhere "shoots" or wells looked after by the M.O.H.	—	—	—

SOMERSETSHIRE.

Fair " " "	Good public supply at Minehead. Watchet badly supplied by wells: a scheme for its better supply under consideration. Elsewhere sources of supply various.	Improvements have been carried out.	—	None apparent.
Unsatisfactory	A company's supply, not yet generally used, recently obtained for Crewkerne. Elsewhere the various sources of supply are often inadequate or open to suspicion of pollution.	A number of houses unfit for habitation in all parts of district.	Not much crowding.	Occasional.

LINCOLNSHIRE.

Refuse thrown into privy pit or on manure heap.	Some river-side hamlets, e.g., Butterwick, use water from Trent. (Butterwick had cholera in 1866.) Elsewhere wells often polluted or liable to pollution from privies, &c.	Many old houses damp.	None " " "	Occasional.
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CHESHIRE.

Refuse removed with privy stuff, which is used in gardens.	Good public supply at Halton, Weston, and Weston Point. Inconvenient supply at Frodsham from spouts and wells. Elsewhere pumps and springs.	Fairly good. At Weston there are unwholesome dwellings with damp basements.	None " " "	None observed.
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CORNWALL—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HELSTON, R. - Dr. D. S. Davies, July 1885. P. 20,249. (Agriculture, fishing, quarry- ing.)	Inactive administration. Porth- leven still in much the same disgracefully unwhole- some condition as at Dr. Bal- lard's inspection in 1882 as respects the very necessary and important amendments then suggested.	M.O.H. (not D.M.O.). Active, but appears to have failed to exert adequate influence on the S.A.	Two I.'s of N. Doing better work than in 1882, but not duly supported by the S.A.
PENZANCE, R. - Dr. D. S. Davies, April 1885. P. 25,610.	Fairly good administration and S.A. proceeding with plans for further drainage and water supply.	M.O.H. (not D.M.O.). Fair	Fair - - - - -

SOMERSETSHIRE—*continued.*

WILLITON, R. - Dr. D. S. Davies, Dec. 1885. P. 18,685. (Agriculture mainly. Minehead a sea-side resort.)	Fair - - - - -	Two M.O.H.'s (one D.M.O.). Active and give sound advice.	Satisfactory - - - - -
CHARD, R. - - Mr. J. Spear, May, 1885. P. 22,942. (Agriculture. In towns various tex- tile manufactures.)	Some improvements effected, but progress slow.	M.O.H. (D.M.O.). Fair, but advice too general.	Three I.'s of N. Fair - - -

LINCOLNSHIRE—*continued.*

GAINSBOROUGH, R. Dr. Airy, June 1885. P. 19,075. (Agriculture.)	Administration good - -	M.O.H. newly appointed -	Satisfactory - - - - -
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CHESHIRE—*continued.*

RUNCORN, R. - Dr. Airy, June 1885. P. 18,897. (Agriculture; dock and canal works at Weston Point.)	Administration above the average of rural districts.	M.O.H. (not D.M.O.). Well trained and efficient officer.	Efficient. I. of N. acting satis- factorily under M.O.H.
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CORNWALL—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Some improvement, but much still needful, especially at Porthleven.	None - - -	None -	None -	April 1886. Action taken by S.A. as to water supply and scavenging of Porthleven. No information as to other matters to date. July 7th, 1886.
—	None - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.

SOMERSETSHIRE—*continued.*

Fair - - -	None - - -	None -	None -	July 1886. General statement that the attention of the sanitary officers has been called to the various points of advice. S.A. have hopes of hospital being provided by private subscriptions.
Recurring nuisances inadequately dealt with.	None - - -	Only stoving apparatus at workhouse.	None -	No subsequent inquiry to date. May 27th, 1886.

LINCOLNSHIRE—*continued.*

Not perfect efficiency, but better than in most rural districts.	None; but S.A. seeking to make arrangements with U.S.A. (See Gainsborough Urban.)	None -	None -	No subsequent inquiry to date. May 27th, 1886.
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CHESHIRE—*continued.*

Efficient - -	An arrangement with Runcorn Urban for part of district, but only in respect of pauper cases.	None -	None -	M.O.H. in 1885 report says sewerage scheme has been adopted for Weston, and speaks of works of sewerage carried out at different places; scheme wanted for Halton; water supply defective in several parts; hospital accommodation wanted.
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YORKSHIRE—WEST RIDING.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HEMSWORTH, R. - Dr. Airy, April 1885. P. 11,106. (Agriculture, stone quarrying, collieries.)	Variable. Growing colliery element vitiating district.	Drainage of villages chiefly into watercourses or cesspools causing nuisance.	Privy pits a standing nuisance.
THORNE, R. - Mr. J. Spear, Jan. 1886. P. 12,828. (Agriculture, canal navigation, &c.)	Unsatisfactory	Defective drainage arrangements the cause of much nuisance generally. Outfalls into nearest watercourse and roadside ditches, with offensive stagnation in dry weather.	Midden privies of the worst type, and privy pits often in confined situations or against house walls.

YORKSHIRE.—EAST RIDING.

HOWDEN, R. - Dr. Airy, June 1885. P. 12,182. (Agriculture, brickmaking, canal navigation.)	Unsatisfactory	Drainage at Howden into "Old Derwent," a ditch partly open, partly covered under houses, and stagnant, except when tidal water of Ouse is admitted and let off again. Elsewhere practically none.	Objectionable privy pits, which are emptied occasionally.
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YORKSHIRE.—NORTH RIDING.

MALTON, R. - Mr. J. Spear, Dec. 1885. P. 14,277. (Agriculture.)	Unsatisfactory	Where any drainage at all, it is very rough and imperfect. But in many places no attempt or pretence at drainage. Sewage nuisances general.	Midden privies of worst type and privy pits, sources of much excremental nuisance. Many dwellings without any privy accommodation.
PICKERING, R. - Mr. J. Spear, Dec. 1885. P. 6,719. (Agriculture mainly.)	Neglected	Rough, sometimes dilapidated surface channels in village streets; private drains similarly of rough construction and often choked as they pass beneath dwellings. Sewage nuisances abundant.	Midden privies of worst type and privy pits often in confined situations or against house walls, and neglected.
WHITBY, R. - Mr. J. Spear, Dec. 1885. P. 9,921. (Iron stone mining, fishing, agriculture.)	Neglected in many parts.	Village drainage very defective everywhere, and sewage nuisances very prevalent.	Mainly midden privies of worst type, sources of excremental nuisances. Some houses have no privy accommodation at all.
GUISBOROUGH, R. - Mr. J. Spear, Dec. 1885. P. 8,521. (Iron stone mining, agriculture.)	Fair on the whole	Considerable improvements in sewerage effected in villages during recent years.	Improvements during recent years in privy arrangements in certain villages, but similar action required in others.

YORKSHIRE—WEST RIDING.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
All refuse and sometimes even slops thrown into privy pits.	Unsatisfactory. Either from wells mostly bad, or from springs inconveniently distant.	Fair, with some signal exceptions.	Some at Ryhill -	Some overcrowding in some of the colliery villages.
Very unsatisfactory. Great neglect as a rule.	Very insufficient supply generally. At Thorne and Stainforth impure canal water drunk. In other places shallow wells often polluted.	Unsatisfactory; some houses unfit for habitation.	Some in Thorne and Epworth.	Occasional.

YORKSHIRE.—EAST RIDING.

Refuse removed with privy stuff.	Shallow wells, generally brackish or polluted. Some rain-water tubs or underground cisterns. A scheme of water supply from railway cutting in chalk wolds has been suggested.	Unsatisfactory -	None, except at Howden.	None apparent.
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YORKSHIRE.—NORTH RIDING.

Very unsatisfactory.	Hovingham supplied satisfactorily. Elsewhere local wells liable to dangerous pollution, or from streams sometimes receiving sewage.	Unsatisfactory. Dampness common. Some mere hovels.	None - - -	Occasional.
Very unsatisfactory.	Some few villages have satisfactory supply. Others supplied from local wells liable to pollution, or from running streams occasionally polluted with sewage. Great deficiency of water in places.	Unsatisfactory. Many damp from structural defects. Some dirty and dilapidated.	A little crowding in some villages.	Occasional.
Very unsatisfactory.	Sometimes from springs (where supply is often inadequately protected from befoulment in its distribution). Sometimes from shallow wells and running streams.	Unsatisfactory. Many houses unfit for habitation. Many damp, dilapidated, and surrounded by sewage nuisances.	Much crowding at Robin Hood's Bay and some elsewhere.	Considerable.
Varying in character.	Generally satisfactory, but some polluted streams and shallow wells in use in some villages.	Fair on the whole	None remarkable	Not observed.

YORKSHIRE.—WEST RIDING—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HEMSWORTH, R. Dr. Airy, April 1885. P. 11,106. (Agriculture, stone quarrying, collieries.)	Tardy and unwilling in the matter of public improvements, except that some village drainage has been provided. Inefficient.	M.O.H. (not D.M.O.). Diligent and painstaking.	I. of N. Works diligently under M.O.H.
THORNE, R. Mr. J. Spear, Jan. 1886. P. 12,828. (Agriculture, canal navigation, &c.)	Very lax, even in administration of their own byelaws as to certain obvious causes of nuisance. But a little permanent work has been done since Dr. Parsons's inspection in 1883, chiefly the laying of some 600 yards of sewers in the villages. Villages obviously dangerously liable to spread of cholera, should it be introduced.	M.O.H. (D.M.O.). Fair	Not very efficient. I. of N. does not report sufficiently in detail.

YORKSHIRE.—EAST RIDING—*continued.*

HOWDEN, R. Dr. Airy, June 1885. P. 12,182. (Agriculture, brickmaking, canal navigation.)	S.A. taken little useful action. Sewage scheme proposed for Howden. Villages obviously dangerously liable to spread of cholera, should it be introduced.	M.O.H. new to district	Not very efficient
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YORKSHIRE.—NORTH RIDING—*continued.*

MALTON, R. Mr. J. Spear, Dec. 1885. P. 14,277. (Agriculture.)	Unsatisfactory. Little evidence of sanitary improvement.	M.O.H. (not D.M.O.). Fair, but further personal influence required.	Fair
PICKERING, R. Mr. J. Spear, Dec. 1885. P. 6,719. (Agriculture mainly.)	Very lax. Powers of S.A. delegated to a committee which rarely meets.	M.O.H. (not D.M.O.). Fair, but reports and recommendations not much regarded by S.A.	I. of N. fills similar office in Urban S.D. Is in private business as auctioneer, but gives considerable time to his work.
WHITBY, R. Mr. J. Spear, Dec. 1885. P. 9,921. (Iron stone mining, fishing, agriculture.)	Very inefficient. Sanitary officers absurdly underpaid. Their salaries have recently been reduced 26 per cent. District in a dangerous condition for advent of cholera.	Three M.O.H.'s (two of them D.M.O.'s). Admit wretched condition of their districts, but do little or no work because of their dissatisfaction with scale of payment.	Totally inefficient. Payment ridiculously small. The one object of I. of N. apparently is to keep things quiet.
GUISBOROUGH, R. Mr. J. Spear, Dec. 1885. P. 8,251. (Iron stone mining, agriculture.)	Progress slow, but some improvements effected.	M.O.H. (not D.M.O.). Good	Fair

YORKSHIRE.--WEST RIDING--*continued.*

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Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Ordinary nuisances kept down pretty well, but little done to prevent recurrences.	None - - -	None -	None -	June--October 1885. Very little evidence of action. Building byelaws to be adopted. M.O.H. in 1885 report says Dr. Airy's recommendations are receiving Authority's consideration.
Almost complete failure.	None - - -	None -	None -	March 1886. Some action reported as to sewer improvement and cleansing. Nothing said as to water supply and other matters. S.A. apparently not inclined to incur much expense in remedying existing sanitary defects.

YORKSHIRE.--EAST RIDING--*continued.*

Very languid dealing with nuisances.	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but a new scheme of sewerage for Howden is in progress.
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YORKSHIRE.--NORTH RIDING--*continued.*

Failure to deal with recurring nuisances.	None - - -	None -	None -	April 1886. Officers of S.A. are carrying out Mr. Spear's recommendations.
Almost complete failure to deal with recurring nuisances.	None - - -	None -	None -	Board's inquiry (March 11th) as to action of S.A. unanswered to date. May 27th, 1886.
No dealing whatever with the most gross and obvious nuisances.	None - - -	None -	None -	April 1886. In reply to Board's request for details of action taken on Mr. Spear's advice, S.A. make an unsatisfactory general statement that their officers are instructed to take measures in regard thereto.
Dealing with recurring nuisances not habitual.	None - - -	None -	None -	No reply to date to Board's request of March last for information as to action of S.A. on Mr. Spear's suggestions. May 27th, 1886.

DURHAM.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
DARLINGTON, R. - Dr. Page, March 1885. P. 12,572. (Iron works at Middleton St. George; elsewhere agriculture.)	Satisfactory -	Works of sewerage and of sewage disposal carried out in several of the most populous places. Sewers well ventilated but flushing inadequate.	Midden privies of moderate dimensions but uncovered; otherwise satisfactory.
STOCKTON, R. - Dr. Page, March 1885. P. 10,137. (Iron works, potteries, agriculture.)	Good - - -	Populous parts well sewered; older systems deficient in ventilation and flushing.	Modern privies, limited capacity, and satisfactory.
SEDGFIELD, R. - Dr. Page, Feb. 1885. P. 17,103. (Collieries, agriculture.)	Good, with exception of Trimdon Colliery and Low Spenny-moor.	Sewering systems carried out in the more populous villages, with ventilation and flushing.	Midden privies. Want of privy accommodation at Trimdon Colliery.
HARTLEPOOL, R. - Dr. Page, June 1885. P. 2,167. (Agriculture.)	Satisfactory - -	Drainage of villages fair with exception of "40-acres."	Midden privies. Improvements in these of late years.
AUCKLAND, R. - Dr. Page, April 1885. P. 58,854. (Iron works, collieries, and agriculture.)	Varying - -	Faulty piecemeal sewerage in the villages; unsatisfactory. No ventilation or flushing.	Midden privies of bad type, causing excremental nuisances.
TEESDALE, R. - Dr. Page, May 1885. P. 16,233. (Agriculture, some collieries, lead smelting, and quarrying.)	Good, with exception of Cockfield.	System of sewerage in some villages; but without ventilation. Elsewhere none or insufficient.	Midden privies of bad type, and sources of nuisance from nearness to houses, and neglect.
WEARDALE, R. - Dr. Page, April 1885. P. 10,902. (Lead mining, quarrying. Steel works at Wolsingham.)	Satisfactory on the whole.	Defective rubble drains, which are a source of nuisance at Frosterley. Improvement contemplated. Wolsingham sewered, but nuisance at outfall.	Midden privies of bad type, and sources of nuisance from this cause and from neglect.

DURHAM.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Fair, with exceptions.	Public supplies at Cockerton and Middleton St. George. Public wells elsewhere, in good positions. Private wells numerous and dangerously near privies and middens.	Very good - -	None - - -	Infrequent.
Satisfactory -	Public supply to many villages. Others supplied by wells sunk by S.A. Satisfactory.	Good - - -	None - - -	None.
Varying in efficiency.	Public supply for many villages. Others supplied from wells liable to pollution. Worst supply at Trimdon Colliery village.	Fair, with exceptions.	None - - -	Occasional.
Satisfactory - -	Public and private wells. Private wells at "40-acres" liable to pollution.	Generally good. "40-acres" an exception. Much improvement of late years owing to vigorous action of the M.O.H.	None - - -	None.
Unsatisfactory -	Public supply constant to most villages. Some villages inadequately supplied.	Generally fair, except for damp from want of cave - spouting. Much dilapidated property at Crook.	Crowding very noticeable at Crook.	None.
Unsatisfactory -	Mostly local wells, some exposed to sewage pollution.	Fair, with exceptions.	Little crowding -	None.
Unsatisfactory -	Inadequate and liable to pollution at Frosterley. In some parts from springs, and good. At Wolsingham shallow wells universally exposed to excremental pollution, probable cause of fever outbreak in 1884.	Generally satisfactory.	None - - -	None.

DURHAM—continued.

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
DARLINGTON, R. Dr. Page, March 1885. P. 12,572. (Iron works at Middleton St. George: elsewhere agriculture.)	Very efficient - - - -	M.O.H. (not a D.M.O.). Very satisfactory.	Very satisfactory. I. of N. is Surveyor also.
STOCKTON, R. - Dr. Page, March 1885. P. 10,137. (Iron works, potteries, agriculture.)	Good permanent work done. Act on advice of M.O.H.	M.O.H. (not a D.M.O.). Very good.	Very satisfactory - - - -
SEDGEFIELD, R. - Dr. Page, Feb. 1885. P. 17,103. (Collieries, agriculture.)	Good - - - - -	M.O.H. (a D.M.O.). Good, and gives competent ad- vice.	Good and energetic - - - -
HARTLEPOOL, R. Dr. Page, June 1885. P. 2,167. (Agriculture.)	Satisfactory. Carry out sug- gestions of M.O.H.	Good and efficient - - -	Good and efficient - - - -
AUCKLAND, R. - Dr. Page, April 1885. P. 58,854. (Iron works, collieries, and agriculture.)	Inactive - - - - -	Three M.O.H.'s (not D.M.O.'s). Fair.	Very good - - - - -
THESDALE, R. - Dr. Page, May 1885. P. 16,233. (Agriculture, some collieries, lead smelting, and quarrying.)	Inactive, and insufficient at- tention to reports of M.O.H.	Three M.O.H.'s (D.M.O.'s). Two efficient, one (M.O.H. for Gainford) inefficient.	Efficient - - - - -
WEARDALE, R. - Dr. Page, April 1885. P. 10,902. (Lead mining, quarrying. Steel works at Wolsingham.)	Generally efficient. Action about to be taken for water supply at Wolsingham and for water and sewerage at Frosterley.	Four M.O.H.'s (3 of them D.M.O.'s). Efficient or fair, except at Wolsingham.	Vigorous and efficient. I. of N. is Surveyor also.

DURHAM—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
Efficient - - -	Use Darlington U. Fever Hospital.	None -	None -	No subsequent inquiry to date. May 27th, 1886. (Chairman of S.A. undertook to say that Inspector's advice would be acted on.)
Efficient - - -	None, but there is arrangement with Middlesbrough Fever Hospital, which is not made use of.	None -	None -	No subsequent inquiry to date. May 27th, 1886; but M.O.H. in 1885 report shows that sewer-ventilation is receiving attention.
Fair, but a deficiency of scavenging staff.	None - - -	None -	None -	June 1885. S.A. are moving in the matters of water supply, sewerage, and excrement disposal and removal at certain places. Nothing said as to hospital provision or byelaws.
Efficient - - -	Use West Hartlepool Fever Hospital.	None -	None -	June 1885. S.A. will take steps to secure the provision of privy accommodation. Nothing done as to water supply of "40-acres."
Inefficient - - -	None - - -	None -	None -	December 1885. S.A. show that some work is being done as recommended by Dr. Page.
Ordinary nuisances abated.	None - - -	None -	None -	June 1885. S.A. speak of some steps to be taken as to water supply and sewerage, but reply generally unsatisfactory. M.O.H.'s 1885 reports contain but little evidence of any sanitary improvements in the sense of Dr. Page's advice. Further letter of June 1886 from S.A. in reply to renewed inquiry by Board, extremely unsatisfactory.
Ordinary nuisances abated.	None - - -	None -	None -	June 1885. Measures in progress as to water supply, sewerage, and sewage disposal. Question of adoption of byelaws (Series II., III., IV., and VI.) reserved for future consideration.

DURHAM—continued.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
LANCHESTER, R. - Dr. Page, Nov. 1885. P. 40,519. (Collieries and coking mostly.)	Varying in different villages.	Sewering completed in many villages, and in progress in others, but sewers generally inadequately ventilated and unflushed.	Midden privies of bad type, often ill placed and causing serious nuisances.
DURHAM, R. - - Dr. Page, Jan. 1886. P. 38,539. (Collieries, coking, &c.)	Fair - - -	Of late years systems of sewerage provided in the most populous villages, but in all without flushing arrangements, and in all but the most recently sewered without adequate ventilation. House drainage defective in certain colliery villages.	Midden privies of bad type generally in use, and often too close to dwellings.
EASINGTON, R. - Dr. Page, Feb. 1885. P. 33,384. (Collieries.)	Surface nuisances abound in villages without privy accommodation. Refuse and excrement heaped before doors of houses.	Some of the colliery villages pipe-sewered without ventilation. Others drained by surface channels.	Very general absence or deficiency of privy accommodation in all old villages. Where existent at all, old fashioned midden privies in use.
HOUGHTON - LE - SPRING, R. Dr. Page, March 1885. P. 28,104. (Collieries.)	Satisfactory - -	No complete systems of sewerage, but previously existing highway drains, more or less efficient, utilised. Outfalls into water-courses which are thus rendered grossly offensive.	Midden privies of ordinary type, but in newer dwellings of reduced dimensions and covered. In some old villages, absence of privy accommodation.
CHESTER - LE - STREET, R. Dr. Page, Jan. 1886. P. 43,352. (Collieries, iron works, chemical works.)	Unsatisfactory. Some populous places wholly neglected and unwholesome.	Urban village of Chester-le-Street sewerage, and sewers ventilated. Other villages more or less sewerage, and others drained partly by pipes and partly by open channels.	Midden privies of bad type; often sources of nuisance from closeness to dwellings.

NORTHUMBERLAND.

TYNEMOUTH, R. - Dr. Page, Sept. 1885. P. 31,405. (Collieries, ship-building, and agriculture.)	Unsatisfactory -	Sewering of district progressing satisfactorily.	Uncovered, objectionable, midden privies remain as at Dr. Barry's inspection in 1883.
CASTLE WARD, R. Dr. Page, Oct. 1885. P. 15,594. (Collieries, brick-making, steel-working, agriculture.)	Unsatisfactory -	Sewering generally defective or wanting.	Midden privies of a type and in positions to be common sources of nuisance.

DURHAM—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Very unsatisfactory, except where undertaken by colliery owners.	Public supply constant and good to most of the villages. Some villages still dependent on wells.	Generally good, but damp from lack of spouting and drainage of subsoil. Many are unwholesome from filthy surroundings.	Little crowding -	None.
Unsatisfactory -	Mostly public supply constant and good. Some villages without adequate or readily accessible supplies.	Better than formerly, but many damp from want of eave-spouting, &c. Many of the worst villages now depopulated.	Little crowding -	None.
Scavenging done by colliery owners with varying efficiency. Bad at Trindon Poultry.	Villages as a rule supplied by owners from magnesian limestone tapped in sinking mine shafts, but the arrangements for distribution vary from good to unsatisfactory.	Dwellings in older colliery villages sometimes very defective. Some new, well arranged dwellings.	No crowding -	Some at Castle Eden.
Fair on the whole	Public supply; constant and good to nearly every village.	Generally good -	A few back-to-back houses, and a few crowded and without back yards.	Rare.
At Chester-le-Street satisfactory. Elsewhere varying.	Public supply to many villages; in progress of supply to others. In some villages a supply from colliery workings or from wells.	Fair, but with some bad exceptions. Dampness from lack of eave-spouting, &c., a common evil throughout district.	Some crowding, and bad tenemented houses.	Not much at present time.

NORTHUMBERLAND.

Still unsatisfactory.	Considerable improvement since Dr. Barry's inspection.	Varying; but a general absence of eave-spouting; but some improvements effected.	None remarkable	Infrequent.
Unsatisfactory -	The Tyneside villages have an inadequate public supply from Newcastle and Gateshead Works; other parts have an inadequate supply from wells and springs.	Fair, except as regards dampness from want of eave-spouting. Some unfit for habitation.	None very remarkable.	None.

DURHAM—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
LANCHESTER, R. Dr. Page, Nov. 1885. P. 40,519. (Collieries and coking mostly.)	Fairly efficient, especially of recent years.	Three M.O.H.'s (D.M.O.'s). Satisfactory.	Efficient. I. of N. is surveyor also.
DURHAM, R. Dr. Page, Jan. 1886. P. 33,539. (Collieries, coking, &c.)	Administration improved since Mr. Spear's inspection in 1881.	M.O.H. (not D.M.O.). Highly efficient.	Active and efficient. I. of N. is surveyor also.
EASINGTON, R. Dr. Page, Feb. 1885. P. 33,384. (Collieries.)	S.A. do little themselves in the way of sanitary administration, relying on colliery owners for the management of their respective villages. Still some progress has been made since Mr. Power's inspection in 1879, especially as respects water supply and new dwellings.	M.O.H. (not D.M.O.). Satisfactory and earnest.	Satisfactory - - -
HOUGHTON - LE - SPRING, R. Dr. Page, March 1885. P. 28,104. (Collieries.)	Fairly efficient. District much improved since Mr. Power's inspection in 1874.	Two M.O.H.'s (not D.M.O.). Satisfactory.	Satisfactory - - -
CHESTER - LE - STREET, R. Dr. Page, Jan. 1886. P. 43,352. (Collieries, iron works, chemical works.)	A good deal of permanent work done in recent years, but sanitary administration otherwise might be more efficient.	Two M.O.H.'s (D.M.O.'s). One newly appointed, the other satisfactory and advising soundly.	Systematic and satisfactory -

NORTHUMBERLAND—*continued.*

TYNEMOUTH, R. Dr. Page, Sept. 1885. P. 31,405. (Collieries, ship-building, and agriculture.)	Active and efficient in many essential matters. Improvements in sewerage, water supply, and privy accommodation progressing.	Two M.O.H.'s (one a D.M.O.). Very good. M.O.H.'s advise well, and have influence with S.A.	Energetic and efficient - - -
CASTLE WARD, R. Dr. Page, Oct. 1885. P. 15,594. (Collieries, brick-making, steel-working, agriculture.)	Very inefficient. Only the most trivial kind of work carried out. P. H. Act almost a dead letter.	M.O.H. (not D.M.O.) (80l. per annum.) Has made no systematic inspection, and has apparently given S.A. none of that detailed advice which the circumstances of the district urgently require.	I. of N. energetic and really does the work that the M.O.H. ought to do, so far as he can.

DURHAM—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector ; with Date of Information.
Not thoroughly satisfactory.	Now in course of construction in conjunction with some other S.A.'s.	None -	Only distribution of handbills.	May 1886. S.A. "are very busy with sanitary works." No details given.
Fair - - - -	None - - - -	None -	Some preparation.	May 1886. Nothing done on Inspector's advice.
Capable of much improvement.	Small cottage hospital, which has proved useful.	—	—	No subsequent inquiry to date. May 27th, 1886.
Efficient - - - -	None - - - -	None -	None -	M.O.H. Park in 1885 report says many of Dr. Page's suggestions have been acted on. Two hospitals, each of ten beds, to be provided.
Inefficient on account of imperfect dealing with recurring nuisances.	None - - - -	None -	None -	May 1886. Some action as to water supply and drainage. Questions of bye-laws and hospital provision under consideration. S.A. not sufficiently alive to scope of present powers.

NORTHUMBERLAND—*continued.*

Efficient - - - -	None - - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but loans to amount of 4,000 <i>l.</i> sanctioned since inspection for works of sewerage and water supply. Apparently nothing done as to hospital provision.
Inefficient - - - -	None - - - -	None -	None -	June 1886. Some action being taken and in contemplation on Dr. Page's advice. Hospital question deferred for a time.

NORTHUMBERLAND—continued.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
MORPETH, R. - Dr. Page, June 1885. P. 14,064. (Collieries, agri- culture.)	Very good - -	Colliery villages satisfactorily drained and drainage looked after by owners.	Midden privies looked after by colliery owners, and on the whole kept from being nuisance.
ALNWICK, R. - Dr. Page, Oct. 1885. P. 12,609. (Agriculture, col- lieries, fishing.)	Fair, with excep- tions.	In most localities systems of sewerage and house drainage, but no ventilation. Some important localities still undrained.	Mostly midden privies; often in unwholesome positions in respect of dwellings. Some improved systems (w.c's or pail privies) in limited use.
BELFORD, R. - Dr. Page, Sept. 1885. P. 5,737. (Agriculture, but fishing at Sea Houses and North Sunderland.)	Satisfactory, except at Sea Houses.	Villages generally unsewered and in much need of sewerage.	Midden privies often in too close proximity to dwellings. Houses without any privy accommodation at Sea Houses and elsewhere.
BERWICK, R. - Dr. Page, Sept. 1885. P. 7,050. (Agriculture; at Holy Island fishing.)	Fair, with excep- tions.	Villages all undrained and some in consequence abounding in sloop nuisances.	Midden privies often in too close proximity to dwellings, and sources of nuisance. Some houses in every village without any privy accommodation.

SOUTH WALES.

PONTYPRIDD, R. - Dr. D. S. Davies, May 1885. P. 16,978. (Coal mining, agriculture.)	Fair - - -	Partly sewerage at Caerphilly. Elsewhere mason or stone sloop drains, and surface channelling.	At Caerphilly some w.c's, and a satisfactory pail system. Elsewhere cesspools, privy pits, and unsatisfactory pail system.
BRIDGEND, R. - [Partial survey.] Dr. D. S. Davies, Feb. 1886. P. 28,535.	Roads in mining valleys very badly kept.	Many colliery towns and villages more or less completely drained.	Pail system largely in use, but not under management of S.A., and hence in rows of cottages without sufficient space there are excrement nuisances. Neglected cesspools and privies leaking into ditches, &c. Pont-y-Cymer especially bad.
NEATH, R. - Dr. D. S. Davies, Oct. 1885. P. 28,670. (Mining and metal works.)	Roadways much neglected in parts.	Drainage generally deficient, but work in this direction now in hand.	Mostly privy pits without systematic supervision of S.A., and consequent excrement nuisances. Some ash closets.

NORTHUMBERLAND—*continued.*

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Satisfactory -	Water to villages from colliery workings to village stand pipes; elsewhere pump-wells in suspicious positions.	Satisfactory. Some excellent colliery dwellings recently erected.	None - - -	None.
Pair - - -	Some public supply by S.A., but mostly villages supplied by owners. Some villages have a scanty supply of condensed steam from colliery engines.	Generally good -	None - - -	None.
Unsatisfactory -	Inadequate, and mostly from wells.	Generally good; but older cottages damp from lack of eave-spouting.	None remarkable	At Sea Houses during herring fishery.
Satisfactory -	Public supply at Norham; elsewhere wells or other sources often at too great distance from dwellings.	Dampness from lack of eave-spouting, a prevalent fault; but otherwise dwellings generally good.	None - - -	None, except at Holy Island.

SOUTH WALES.

Satisfactory -	Public supply at Caerphilly. Elsewhere wells of variable quality according to surroundings; some very obviously liable to pollution.	Miners' houses satisfactory on the whole.	No remarkable crowding.	Only in newer mining districts before a sufficiency of houses are built.
Unsatisfactory -	Town and villages at head of Garw Valley from Garw Water Company's reservoir. Elsewhere "pistills" and wells.	Unwholesome in many parts.	—	—
Unsatisfactory -	Public supply in parts. Elsewhere wells and other supplies liable to dangerous pollution.	The various parts of district differ in character, some being practically urban, with too little air space about houses and with dwellings requiring attention.		Only in a newly worked district, where as yet there are not sufficient number of houses.

NORTHUMBERLAND—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
MORPETH, R. - Dr. Page, June 1885. P. 14,064. (Collieries, agriculture.)	Good administration. S.A. give effect to advice of M.O.H.	M.O.H. (a D.M.O.). Does good work and advises soundly [M.O.H. Morpeth U. also].	Office vacant - - - -
ALNWICK, R. - Dr. Page, Oct. 1885. P. 12,609. (Agriculture, collieries, fishing.)	Administration active and good.	M.O.H. (not D.M.O.) Very good.	Very good and energetic - -
BELFORD, R. - Dr. Page, Sept. 1885. P. 5,737. (Agriculture, but fishing at Sea Houses and North Sunderland.)	No public works yet carried out. Little sanitary work done.	M.O.H. (not D.M.O.). Efficient.	Efficient - - - -
BERWICK, R. - Dr. Page, Sept. 1885. P. 7,050. (Agriculture; at Holy Island fishing.)	Inefficient - - - - .	M.O.H. (a D.M.O.). Advises soundly, but without much result.	I. of N. intelligent and active, but not sufficiently supported by S.A.

SOUTH WALES—*continued.*

PONTYPRIDD, R. - Dr. D. S. Davies, May 1885. P. 16,978. (Coal mining, agriculture.)	Appear inclined to adopt suggestions offered by Board's Inspector.	Four M.O.H.'s (D.M.O.'s). Badly paid, and work unsatisfactory.	Not very satisfactory. I. of N. is a publican by trade, and is the Surveyor of the district also.
BRIDGEND, R. - [Partial survey.] Dr. D. S. Davies, Feb. 1886. P. 28,535.	Unsatisfactory. Pont-y-Cymer cannot be dealt with effectually by the S.A. at Bridgend.	The D.M.O.'s are M.O.H.'s -	—
NEATH, R. - - Dr. D. S. Davies, Oct. 1885. P. 28,670. (Mining and metal works.)	S.A. doing some good work. District appears to suffer from the division of medical sanitary control.	Six M.O.H.'s (all D.M.O.'s.)	Two I.'s of N., one of whom is also surveyor. Would do better under a single M.O.H.

NORTHUMBERLAND—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendation of Inspector; with Date of Information.
Very efficient - - -	None - - -	None -	None -	No subsequent inquiry to date (May 27th, 1886), but M.O.H. in 1885 report says Dr. Page's advice has not been overlooked.
Efficient - - -	None - - -	None -	None -	No subsequent inquiry to date. July 15th, 1886.
Inefficient - - -	None - - -	None -	None -	December 1885 and February 1886. S.A.'s replies not satisfactory, but some sanitary activity reported.
Inefficient - - -	None - - -	None -	None -	In December 1885 S.A. report progress on certain of Dr. Page's recommendations, and in January 1886 forward copy of statement of Sanitary Committee as to measures of improvement needed for Holy Island.

SOUTH WALES—*continued.*

Inefficient - - -	None - - -	None -	None -	No satisfactory reply to date from S.A. to Board's repeated inquiries. M.O.H.'s 1885 reports show a sad state of affairs as still existing in the R.S.D., but some action as to scavenging and water supply. Nothing done as to hospital provision.
Inefficient - - -	None - - -	None -	None -	Dr. Davies has made a complete inspection of the district (April) since his partial survey of February 1886, but no inquiry has yet been addressed to S.A. July 8th, 1886.
Fairly satisfactory	None - - -	None -	None -	February 1886. The whole of "the recommendations" made by Dr. Davies "have been carried out." Loans sanctioned in 1885 for 3,700 <i>l.</i> and 460 <i>l.</i> in respect of sewerage and water supply.

SOUTH WALES—continued.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
PONTARDAWE, R. - Dr. D. S. Davies, Nov. 1885. P. 20,185. (Coal mining and tinplate works.)	Fair - - -	No complete system of drainage, but partial slop drainage in most places.	Deep privy pits mostly - - -
SWANSEA, R. - - Dr. D. S. Davies, Nov. 1885. P. 29,404. (Tinplate and other metal works.)	Fair - - -	Partial drainage in some parts, none in others. A scheme to embrace parts near Swansea U. in progress.	Privy pits and excrement nuisances. Pail system, under supervision and control of S.A., being introduced.
GOWER, R. - - - Dr. D. S. Davies, Nov. 1885. P. 7,615. (Scattered population; agricultural and fishing.)	Fair - - -	No regular system of drainage in any of the towns, but slop drains in larger places.	Privy pits mostly. Some pails recently introduced at Pen-clawdd.
LLANELLY, R. - - Dr. D. S. Davies, Aug. 1885. P. 24,856. (Collieries, tinplate works, agriculture.)	Unsatisfactory -	Drainage deficient in many places	Bad forms of midden privies in existence. Many houses without privy accommodation.
CARMARTHEN, R. - Dr. D. S. Davies, Nov. 1885. P. 24,561. (Agriculture.)	Fair - - -	Drainage very partial and unsatisfactory.	Privy pits and some pails; unsatisfactory.
NARBERTH, R. - - Dr. D. S. Davies, Nov. 1885. P. 19,451. (Agricultural, partly colliery.)	Roadways fair -	Narberth and Saundersfoot drained. Whitland partially so. Most other villages undrained.	Privies and cesspools in many cases needing attention.
PEMBROKE, R. - - Dr. D. S. Davies, Oct. 1885. P. 11,441. (Agricultural, railway and docks.)	Unsatisfactory -	Drainage almost non-existent, although greatly needed at Neyland and larger villages.	Privy pits and cesspits in some cases dangerously near sources of drinking water, as at Neyland.
HAVERFORDWEST, R. Dr. D. S. Davies, Sept. 1885. P. 23,581. (Chiefly agriculture.)	Unsatisfactory -	No systematic drainage except for slop purposes at Fishguard, and that not satisfactory.	Few privies of any kind - - -

SOUTH WALES—continued.

5.	6.	7.	8.	9.
Refuse Removal.	Water Supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
Unsatisfactory -	Public supply mostly, which is tolerably satisfactory, but Pontardawe supplied from several sources, some of which are unsafe.	Varying, and mostly satisfactory. Some "under-dwellings" on steep hill side very objectionable.		None.
Fair - - -	Public supply in some parts, and a general scheme is now in progress.	Fair, but bad and crowded in some parts. New building byelaws lately adopted.		None
Unsatisfactory -	No public supplies. Wells and "pistills" (spouts) looked after by S.A.	Fair - - -	None - - -	Occasional.
Unsatisfactory -	Wells, &c., looked after by M.O.H., protected, and closed on becoming suspicious.	Many bad dwellings closed as occasion has arisen. Pig nuisances about cottages frequent.	Crowding only at Kidwelly.	—
Unsatisfactory -	Pumps, "pistills," and, in places, some public supply. Mostly satisfactory, and in some cases protection against pollution provided.	Some of the older cottages damp, ill-ventilated, and without drainage or privy accommodation.	Occasional crowding.	None.
—	Public supply at Narberth. Other supplies various. S.A. have in many cases erected pumps and protected drinking supplies.	Many houses dilapidated and unfit for habitation. S.A. have been and still continue dealing with them.	No very remarkable crowding.	Dealt with when discovered.
No scavenging arrangements. Very bad at Neyland.	Mainly from wells liable to dangerous pollutions.	Unsatisfactory, both by reason of damp and also by reason of deficiency of drainage and privy accommodation.	None - - -	None.
Very unsatisfactory.	Mainly from wells. Something done towards protecting them.	Very unsatisfactory. Many unfit for human habitation.	Crowding in some of the larger places, e.g., St. David's and Fishguard.	None.

SOUTH WALES—continued.

1.	10.	11.	12.
Rural Sanitary District.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
PONTARDAWE, R. Dr. D. S. Davies, Nov. 1885. P. 20,185. (Coal mining and tinplate works.)	Fairly satisfactory, but S.A. weakly submit to outside dictation.	Two M.O.H.'s (D.M.O.'s). Interest themselves in their work.	Fair. I. of N. would probably work better under direction of a single M.O.H.
SWANSEA, R. Dr. D. S. Davies, Nov. 1885. P. 29,404. (Tinplate and other metal works.)	Take little interest in sanitary work. Very small attendance of R.S.A. at meetings, notwithstanding the importance of district, and its exposure to importation of disease.	Two M.O.H.'s Satisfactory	One chief and two sub-inspectors. Satisfactory.
GOWER, R. Dr. D. S. Davies, Nov. 1885. P. 7,615. (Scattered population; agricultural and fishing.)	Variable, but have taken action for the protection of wells.	M.O.H. (D.M.O.). Efficient	Efficient. I. of N. is also road surveyor.
LLANELLY, R. Dr. D. S. Davies, Aug. 1885. P. 24,856. (Collieries, tinplate works, agriculture.)	Slow, but progressive. Lax in administering building byelaws.	M.O.H. (D.M.O.) Does very good and careful work, and has obtained full confidence of the S.A.	Unsystematic, but S.A. are dealing with this fault.
CARMARTHEN, R. Dr. D. S. Davies, Nov. 1885. P. 24,651. (Agriculture.)	Inactive. I. of N.'s report not dealt with for three months. Since Mr. Power's inspection in 1878, however, some unwholesome cottages removed and some water supplies protected.	Four M.O.H.'s (D.M.O.'s)	I. of N. about to be dismissed and two new ones appointed.
NARBERTH, R. Dr. D. S. Davies, Nov. 1885. P. 19,451. (Agricultural, partly colliery.)	Sanitary committee not inactive.	Four M.O.H.'s (D.M.O.'s)	I. of N. is an architect and master builder. Satisfactory on the whole, but his business hinders very efficient work in so large a district.
PEMBROKE, R. Dr. D. S. Davies, Oct. 1885. P. 11,441. (Agricultural, railway and docks.)	Inefficient. No systematic dealing with common nuisances. Little improvement since Dr. Airy's inspection in 1880. District, especially Neyland, in a dangerous condition for advent of cholera.	M.O.H. is D.M.O. Reports to S.A. unwholesome conditions.	I. of N. active and intelligent, but requires more assistance and support.
HAVERFORDWEST, R. Dr. D. S. Davies, Sept. 1885. P. 23,581. (Chiefly agriculture.)	Apathetic S.A. Disregard reports of the M.O.H.'s.	Four M.O.H.'s (D.M.O.'s)	I. of N. is also school attendance officer; a capable man, but district too large for his management.

SOUTH WALES—continued.

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospita Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector ; with Date of Information.
Fair - - - -	None - - - -	None -	None -	April 1886. Sanction applied for to loan of 1,450 <i>l.</i> for works of water supply for Pontardawe.
Fair - - - -	None - - - -	None -	None -	M.O.H.'s 1885 reports show that satisfactory arrangements have been made for excrement disposal, and that some works of water supply are under consideration. Board are awaiting information on other points. July 1st, 1886.
Fair - - - -	None - - - -	None -	None -	April 1886. Action taken as to Penclawdd school privies only.
Not decisive enough hitherto, but promise of improvement.	None; but erection under consideration.	None -	Preparing	No subsequent inquiry to date. May 27th, 1886.
Inefficient - - -	None - - - -	None -	None -	No subsequent inquiry to date. May 27th, 1886.
Unable to deal satisfactorily with recurring nuisances.	None - - - -	None -	None -	December 1885. No public slaughter-house to be provided. June 1886. Matter of Saundersfoot water supply in progress. No information as to Dr. Davies's other recommendations.
Inefficient - - -	None - - - -	None -	None -	December 1885. S.A. propose forthwith to carry out Dr. Davies's recommendations.
Quite inefficient -	None - - - -	None -	None -	November 1885. S.A. report some action, but reply considered generally unsatisfactory.

NORTH WALES.

1.	2.	3.	4.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Cleanliness of Roadways and Domestic Premises.	Sewering and Drainage.	Excrement Disposal and Removal.
HOLYWELL, R. Dr. D. S. Davies, July 1885. P. 33,268.	This large rural district contains many parts which are urban in character, inhabited by Sources of water supply various, and in many cases require attention. Some progress is,		

NORTH WALES.

5.	6.	7.	8.	9.
Refuse Removal.	Water supply.	Sanitary Condition of Dwellings of Poor.	Crowding of Dwellings on Area.	Overcrowding of Dwellings.
a poor population, and work is not brisk. Many unsatisfactory conditions of excrement and refuse removal, however, being made.				

NORTH WALES—*continued.*

1.	10.	11.	12.
Rural Sanitary District. Inspector and Date of Report. Population (1881). Industries, &c.	Administration by Sanitary Authority.	Work of Medical Officer of Health.	Work of Inspector of Nuisances.
HOLYWELL, R. - Dr. D. S. Davies, July 1885. P. 33,268.	It is difficult to obtain sanitary improvements.		—

NORTH WALES—*continued.*

13.	14.	15.	16.	17.
Abatement and Prevention of Nuisances.	Hospital Provision.	Disinfecting Apparatus.	Special Preparations for Cholera.	Result of Board's subsequent Inquiry as to Action taken by S.A. on Recommendations of Inspector; with Date of Information.
—	Hospital now being erected.	—	—	No subsequent inquiry to date. May 27th, 1886.

No. 10.

APP. No. 10.
On the Relation
of Bacteria to
Asiatic Cholera;
by Dr. Klein.

On the RELATION of BACTERIA to ASIATIC CHOLERA, being a communication by Dr. E. KLEIN, F.R.S., to the Royal Society (Feb. 5, 1885); reprinted from the Proceedings of the Royal Society, Vol. xxxiii.—With a SUPPLEMENT by Dr. Klein; April 1886.

I PROPOSE to bring before the Royal Society the results of an inquiry into the etiology of Asiatic cholera, undertaken, at the instance and expense of the Secretary of State for India, by myself, Dr. Gibbes, and Mr. Alfred Lingard, while in India. This investigation will be published *in extenso* by the India Office, but permission has been granted to us to bring to the notice of the Society some of the more important points of our inquiry, particularly those regarding the relation of bacteria to Asiatic cholera. I shall supplement them by giving the results of further observations which I have made since my return from India.

As is now well known, Dr. Robert Koch, in an extensive inquiry into the etiology of cholera in Egypt, Calcutta, and in France, 1883-84, undertaken by him, Drs. Gaffky and Fisher, at the instance of the German Government, has arrived at certain conclusions, which, briefly stated, are these:

1. In all persons suffering from Asiatic cholera, there occur in the rice-water stools during the acute stage of the disease certain well-characterised bacteria, which, on account of their curved shape, Koch called "commabacilli."

2. These commabacilli are mobile rods, of small size, of about the same thickness as tubercle-bacilli, but only of half their length; they are always more or less curved, sometimes as much as to form half a circle; they vary in length according to the state of growth; they occur either singly or in couples, in the latter case arranged like an S.

3. The commabacilli occur in great numbers in the mucus-flakes as well as in the fluid of the choleraic evacuations. They occur in the lower part of the ileum of persons dead in the acute stage, almost to the exclusion of other bacteria, and in such great numbers, that the lower part of the ileum may be considered to contain almost "a pure cultivation of commabacilli."

4. The mucous membrane of the ileum, particularly that of the lower part, around, and in the lymphatic glands located here—the solitary and Peyer's lymph-glands—exhibits in typical and rapidly fatal cases characteristic alterations: loosening and detachment of the epithelium of the surface, and of that lining the glands of Lieberkühn; swelling of the mucous membrane, and congestion of blood vessels, particularly at the peripheral portions of the lymph-glands. These alterations are due to the presence, growth, and multiplication of the commabacilli in these tissues, and the disease cholera is caused by the production on the part of these commabacilli, and by the absorption on the part of the system, of a special chemical ferment.

This state of the presence of the commabacilli in the tissue is best pronounced in the lower part of ileum, higher up it is more limited, and gradually diminishes, and finally disappears in the upper part of the small intestine.

5. The blood and other tissues are free of any organisms.

6. The commabacilli grow well outside the body at the ordinary temperature of the room, but better still at higher temperatures up to 38° or 40° C. They divide transversely; after division, the two offsprings may remain joined end to end in the shape of an S; and, by further division, they may grow into a spiral-like or wavy form. They grow well in the mucus-flakes taken from the intestine, and placed on linen kept in a moist cell; they grow well on potato, in broth, in Agar-Agar jelly, in solid nourishing gelatine mixture (gelatine, peptone, and beef extract). In this latter substance they exhibit a peculiar and definite mode of growth not seen by Koch on any other bacteria. The commabacilli require for their growth an alkaline medium; they are killed by acid, by drying, and various antiseptic media.

7. On account of their constant occurrence in the intestines of patients suffering from Asiatic cholera, on account of their absence in all other diseases of the intestine, and on account of their peculiar mode of growth in nourishing gelatine, Koch vindicates for these commabacilli not only an important diagnostic value, but also considers them as the true cause of cholera.

8. Since his return to Germany, Koch has convinced himself of the correctness of the observations of Nicati and Rietsch, who maintain that cholera can be produced in dogs and guinea-pigs by injecting directly into the small intestine of these animals the commabacilli taken either directly from the choleraic evacuations or from artificial cultivations.

Our investigations enable us to say this:—

1. Koch's statement as to the almost constant occurrence of commabacilli in the rice-water stools of cholera patients is correct; the commabacilli vary greatly in numbers in different stools and in different cases, in some being exceedingly scarce, in others numerous.

2. These commabacilli vary greatly in length, some being twice and three times as long as others, some well curved, as much as to form half a circle, others showing only just a slight bend. The name commabacillus is inappropriate, as in reality they are vibrios.

3. The commabacilli occur in the mucus-flakes of the rice-water stools, as well as in those taken from the ileum of a person dead of cholera. The sooner after death the examination is made, the fewer commabacilli are found in the mucus-flakes; in several typical rapidly fatal cases, the mucus-flakes taken from the ileum, and examined soon after death (from between 14 minutes and an hour or an hour and a half), contain the commabacilli only very sparingly indeed, and not to the exclusion of other bacteria. Our investigations do not bear out Koch's statement as to the lower part of the ileum being, in acute typical cases of cholera, almost "a pure cultivation of commabacilli." In not one of the many post-mortem examinations of typical acute cases have we found such a state.

4. The mucous membrane of the ileum of typical rapidly fatal cases, if examined soon after death, does not contain in any part any trace of a commabacillus or any other bacteria, not even in the superficial loosened epithelium.

If the post-mortem examination is sufficiently delayed, commabacilli and other bacteria may be found penetrating into the spaces of the mucous membrane.

The theory of Koch's as to the commabacilli present in the mucous membrane secreting a chemical poison inducing the disease cannot, therefore, be correct.

5. Neither the blood nor any other tissue contains commabacilli or any other micro-organisms of known character.

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6. The behaviour of the commabacilli in artificial media is not such as to justify their being considered as specific. They grow well in alkaline and neutral media, are not killed by weak acids, and their mode of growth in gelatine-mixtures, however peculiar, is not more peculiar than that of other putrefactive bacteria; they show marked differences when grown in different media, but not more so than the ordinary putrefactive bacteria when compared in their growth with one another. The manner in which the choleraic commabacilli grow in gelatine is identical with that shown by some forms of the commabacillus of the mouth of healthy persons (Lewis); in that same medium they show the same peculiar character of growth in gelatine as Koch's commabacilli.

7. Koch overlooked that "commabacilli" occur in other intestinal diseases, in the mouths of healthy persons, and, as shown recently, even in some common articles of food.

8. The experiments performed by Koch and others on animals do not in the least prove that the commabacilli are capable of producing cholera or any other disease. The results obtained by them are much easier explained in a manner opposed to that given by Koch and others.

9. There is direct evidence to show that the water contaminated with choleraic evacuations, and containing, of course, the commabacilli, when used for domestic purposes, including drinking, by a large number of persons did not produce cholera.

10. The mucus-flakes taken from the small intestine of a typical rapidly fatal case of cholera, contain numerous mucus-corpuscles filled with peculiar minute straight bacilli; in this state they are found when the examination is made very soon after death; soon, however, the mucus-corpuscles swell up and disintegrate, and then their bacilli become free.

The small bacilli are never missed in the mucus-flakes. They are only one-third or one-fourth the length of the commabacilli, and only about half their thickness. They are non-mobile; they grow well in Agar-Agar jelly, but show in their modes of growth no peculiarity by which they could be considered as specific. When grown on the free surface of the nourishing material they form spores.

11. These small bacilli are not present in the blood, in the mucous membrane of the intestine, or in any other tissue.

12. Experiments made with these small bacilli on animals produced no result.

13. Since my return to London, I have ascertained that the commabacilli of cholera show two distinct modes of division, one the known one of transverse division, and a second one of division in length. When growing in neutral Agar-Agar jelly at the ordinary temperature of the room, after some days the bacilli swell up, owing to the appearance in their protoplasm of one or more vacuoles; as these vacuoles increase, so the commabacilli become gradually changed, first into plano-convex, then into oblong bi-convex, and ultimately into circular corpuscles. The longer the original commabacillus, the larger the final circle. These circular organisms are mobile, just as the commabacilli; and, by disintegration of the protoplasm at two opposite points, two perfect more or less semicircular commabacilli are formed. Growing the commabacilli in Agar-Agar jelly kept at higher temperatures (30° to 40° C.), they multiply by transverse division only; but, transferring these to neutral Agar-Agar jelly, and keeping this at the ordinary temperature of the room, they again gradually change into circular organisms, which, by division in the diameter of the circle, form two new commabacilli.

SUPPLEMENT, by Dr. KLEIN; April 1886.

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Since Koch first pointed out the occurrence of commabacilli in the discharges from, and in the contents of, the bowels of persons affected with Asiatic cholera, and since he maintained (Berlin. Klin. Wochens. No. 31, 1884) that neither he nor others with whom he consulted had ever seen any bacteria like them, however many fluids and substances containing bacterial mixtures they examined; a number of observations have been published to show that commabacilli do occur elsewhere than in "cholera asiatica." Finkler and Prior were the first to point out that in stale stools of patients suffering from cholera nostras or sporadic (English) cholera, there occur commabacilli. I have in the above paper pointed out that also in other intestinal disorders (dysentery, intestinal tuberculosis, diarrhoea), commabacilli occur. T. R. Lewis has drawn attention to the fact that in the normal fluid of the mouth commabacilli are to be met with which in morphological respects resemble those found in the bowels of cholera asiatica; and Deneke found commabacilli in old cheese; and I have pointed out that in the contents of the cæcum of perfectly normal guinea-pigs there occur crowds of commabacilli, some differing from, others identical in morphological aspects with, those found in cholera asiatica. Koch and his supporters had therefore in view of these observations to modify their original view as to the sole occurrence of commabacilli in cholera asiatica. Their proposition was then put in this form: true commabacilli occur also in other conditions besides the intestinal discharges or contents of the bowels of patients affected with cholera asiatica, but the commabacilli in this last-named disease differ from all other commabacilli in their peculiar mode of growth in nutritive gelatine.

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Commabacilli,
where found.

Are some
peculiar to
Cholera?

As regards the commabacilli of Finkler and Prior, generally known as Finkler's commabacilli, there can be no question whatever that these differ from Koch's commabacilli. They are in the first place larger, in the second place they grow conspicuously more rapidly in nutrient gelatine and on potato than Koch's. Two tubes,—each containing nutrient gelatine (10 p.c. gelatine) of exactly the same composition,—one of them inoculated with Koch's, the other with Finkler's commabacillus, show in the course of two to three days, when growing at a temperature of 19-21° Centigrade, such well marked differences, that a distinction between the two is easily made. There can then be no doubt whatever that the two kinds of commabacilli are two distinct species. Dr. Miller (Deutsche Med. Woch., No. 40, 1884) has pointed out that some of the commabacilli derived from the fluid of the mouth, or rather from a carious tooth, are in size and mode of growth identical with Finkler's commabacilli. Quite recently Kuisl (Aerzt. Intelligenzbl. 1885, Nos. 36 and 37) isolated from the contents of the cæcum of a person who had committed suicide, commabacilli which in all respects were identical with Finkler's commabacillus. From this it follows that Finkler's commabacillus is an organism which occurs in normal fluids of the animal body when they have become putrid.

Species and
habitat.

The commabacilli pointed out by T. R. Lewis in the normal fluid of the mouth are not the same as those described by Miller, for they certainly do not grow like them. In a large series of experiments which I have made, I have in two instances succeeded in cultivating Lewis' commabacilli, and I am quite clear that they are identical with Koch's both in morphological respects (*i.e.*, as to shape, size, and aspect) and in their mode of growth in nutrient gelatine.

Deneke's commabacillus, although identical with Koch's in morphological respects, shows (according to Deneke) in its mode of growth, slight

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differences from Koch's; but it seems to me that these differences are very slight, so slight indeed that Deneke himself at first thought his commabacillus identical with Koch's. In his later publications he has, however, modified this view inasmuch as he states that his commabacillus grow a little faster than Koch's in nutrient gelatine. As to the experiments with these commabacilli on animals, see later on.

The commabacilli which I have referred to as occurring in the normal contents of the cœcum of guinea-pigs, are of very different varieties; some in size, in shape, in arrangement as S and as spirals are identical with Koch's; others are much larger and are differently curved; these latter are being described and figured by Mr. Watson Cheyne (for the British Medical Journal). He says they occur in the contents of the cœcum of a guinea-pig dying in consequence of the injection into its intestine of choleraic commabacilli. As to these Mr. W. Cheyne maintains that "by careful cultivation he has convinced himself that they are identical with Koch's commabacilli." Mr. Watson Cheyne, when making this statement, and in concluding that his guinea-pig had died of cholera, evidently was not aware that these organisms are found normally in the contents of the cœcum of healthy guinea-pigs.

Intestinal
commabacilli.

There can be no doubt about the almost constant occurrence of Koch's commabacilli in the intestinal contents of cholera patients, but as pointed out in the paper to which this is a supplement, their number is subject to very great variation; in some cases the mucus-flakes of the contents of the ileum contain them numerous, in others very sparingly indeed. Now there can be no doubt that, so far as our knowledge goes, in no other *intestinal disorder* have Koch's commabacilli been yet discovered. But at the same time it must be added that our knowledge of the bacteria occurring in the intestine in various intestinal disorders is far too limited, nay, I may say, it is next to nought; in point of fact, thorough and systematic observation, and by many different workers, has not yet been made of any other intestinal disorder besides asiatic cholera. Until this has been done we are entitled to regard exclusive occurrence of Koch's commabacilli in asiatic cholera as not yet established.

But assuming that Koch's commabacilli are peculiar to the intestine of cholera, an important question arises, viz., whether these commabacilli which are present in cholera asiatica in the ileum only,—and more particularly in the mucus-flakes and fluid suspended in the cavity of the ileum,—occur there as the result of some antecedent condition specially favourable to the growth and multiplication of such bacilli; or whether they are to be regarded as in any sense a *cause* of the disease.

Significance of
Koch's bacilli
in cholera.

Koch, in his first paper, laid great stress on the occurrence of the commabacilli in acute typical cases within the tissue of the mucous membrane, particularly in and around the Peyer's glands. This observation has not however been verified, and any significance it may be supposed to have had may be set aside. All that remains to be discussed, therefore, is the question of the significance of the presence of Koch's commabacilli in the intestinal contents of cholera asiatica. As to this the following alternatives present themselves: either (a.) the commabacilli are, as maintained by Koch, the real cause of cholera, or (b.) their conspicuous presence in the contents of the intestine in cholera is but an incident of the peculiar state of the intestine. As regards the first alternative, neither the distribution of the organisms nor their very unequal occurrence in the dead matter contained in the intestinal cavity afford any presumption in its favour; and against it we have the important consideration that no infectious disease is known in which *the organism causing the disease is not present in the blood or in the affected tissues themselves*. Such not being the case with the commabacilli in cholera,

as shown in the former paper, the other alternative; for our present argument, becomes provisionally a far more reasonable assumption. Upon this assumption the commabacilli would be always present in the intestine of the healthy body; but not finding here favourable conditions would remain extremely limited in numbers. Only when the alimentary canal undergoes those peculiar alterations characteristic of cholera do the conditions for their multiplication become more favourable and then their number increases rapidly. Whether the commabacilli are normally present in the contents of the healthy human intestine, has not been proved or disproved; in fact no systematic observations have been made on this subject. To prove the existence of Koch's commabacilli by cultivation (the only sure method if present in very small numbers), even in early cases of cholera, is not such an easy matter as is represented by some of the adherents of Koch. I am quite sure that there are cases of pronounced cholera where the demonstration of Koch's commabacilli by cultivation is extremely difficult, if not practically impossible, owing to their great scarcity and to the abundance of other bacteria. How much more difficult then would be their uniform demonstration in the healthy intestine if they are normally present there only in very small numbers?

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As bearing on sudden increase and consequent easy demonstration of commabacilli in the intestine of cholera, is the important influence (well known in bacteriological inquiries) that the nature and character of a nutritive medium exerts on the power of multiplication of certain species of bacteria. Thus, many and diverse micro-organisms co-existing in a certain nutritive medium, and different species multiplying therein with different rapidity, various alterations in the nature of the medium will be effected by their life processes; some species perhaps adding matters to, while others perhaps subtract matters from, the medium, with the result that the nutritive qualities of the latter become so far modified that species which at first could not get sufficient nutriment from it to make any advance get in the end such abundance as to enable them to dominate all other dissimilar species that were associated with them.

As illustrating the difficulty of discovering commabacilli in a living and normal intestine which nevertheless contains enough of them to set up, under artificially-made favourable conditions, myriad multiplication of these organisms, I cite a recent experiment of my own upon a monkey. A loop of the monkey's ileum near the ileo-cæcal valve was ligatured so as to completely isolate it from the rest of the gut. Of the mucous contents which the isolated loop contained, a few drops were withdrawn with a Pravaz syringe, and carefully examined for commabacilli, but none could be found. Then 5 C.C. of a saturated solution of magnesium sulphate were injected into that loop, the loop returned into the abdominal cavity, the wound stitched up, and one gramme of chloral hydrate injected under the skin of the groin of the monkey. The animal was killed 48 hours later, and the ligatured loop was found filled with fluid, containing numerous mucus-flakes, and in these flakes crowds of commabacilli were met with; in fact in microscopic specimens prepared in the usual way, the number of commabacilli ascertained to be present after staining was greater than in similar specimens prepared from undoubtedly typical cases of cholera. This experiment proves conclusively that the condition artificially induced in the loop of the ileum had an important influence on the multiplication of the commabacilli, of which there must have been present some few examples previously, though too few to be demonstrable.

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and their
teaching.

A large number of experiments have been performed by Koch and other observers to prove that by injection of commabacilli into the intestines of animals other than man cholera can be produced. If this were really the case, *i.e.*, if by injection in this fashion of artificial cultivations of the choleraic commabacilli the disease "Asiatic cholera" could be produced in animals, then proof that the choleraic commabacilli are the *vera causa* of the disease would have been definitely furnished, and the question practically set at rest.

These experiments may be classed in two categories:—

In the first, comprising experiments made on dogs, guinea-pigs, and rabbits, the abdominal cavity is opened, the duodenum is drawn out, and into its cavity commabacilli from an artificial cultivation are injected. The animals, at any rate some of them, die in one or two days, the bowels are found inflamed, in their interior are mucus-flakes and numerous commabacilli. These experiments, as is obvious from their nature, cannot possess a high value, since death of the experimental animals by septic infection is not excluded. That in the intestine of the animals which died the commabacilli that were injected should have greatly multiplied, cannot surprise us, since an inflamed intestine would be, so to speak, their natural breeding ground.

Accordingly doubt must attach to all the experiments performed first by Nicati and Rietsch, then by Koch, by Babes, by van Ermengem and others. A large number of these experiments were indeed repeated by myself and by my friend Mr. G. Dowdeswell, both on dogs and guinea-pigs, but under strictly antiseptic precautions, and under carbolic spray; but in not one single instance did death occur, although several C.C. of fresh or old culture of Koch's commabacilli had been injected into the duodenum of each animal.

The other category of experiments are those performed by Koch and by Finkler. Koch (Conferenz über Cholera, Berlin, 4 May 1885) states that if guinea-pigs are kept without food for 24 hours, and then 5 C.C. of a 5 p.c. solution of sodic carbonate are administered to them *per os*, the contents of their stomachs remain alkaline even three hours afterwards. Twenty minutes after the introduction of the solution of sodic carbonate each animal receives *per os* 10 C.C. of a culture of the choleraic commabacilli in broth, and immediately after, for each 200 grammes weight of the body, it receives *into the peritoneal cavity* 1 C.C. of German tincture of opium. Most of the animals so treated die in $1\frac{1}{2}$ to 3 days, and after death both small and large intestines are found filled with, and distended by, a watery fluid in which occur great numbers of the commabacilli. Here then is a kind of choleraic appearance in animals receiving into their alimentary canal commabacilli. The introduction of the sodic carbonate preparatory to the introduction of the culture of commabacilli is necessary, according to Koch, in order to enable the commabacilli to reach the small intestine unscathed, the acid gastric juice having a fatal effect on them. But now we have to note a curious confession by Koch respecting these experiments, *viz.*:—that unless the animals receive the opium tincture into the peritoneal cavity, they remain perfectly well. In a series of animals which received first the sodic carbonate, then the commabacilli, but which were spared injection of tincture of opium into their peritoneal cavities, Koch found that all remained well; and he ascertained, on examining microscopically and by culture the contents of the ileum of such animals 20 hours later, that there were present the same commabacilli as had been injected. This inability of commabacilli to provoke mischief in the absence of the peritoneal injection is regarded by Koch as due to the too rapid passage of the commabacilli through the small intestine, and to their not having, there-

fore, sufficient time to multiply therein. But considering that Koch himself has shown that even after 20 hours they can be recovered from the small intestine in a living state, and considering too the extreme rapidity with which commabacilli are capable of multiplying at the temperature of the body (a litre flask of broth inoculated with a trace of a droplet of a culture of commabacilli and kept at 35° C. becomes uniformly turbid with them in a night), this explanation of the failure of the commabacilli to produce in the above guinea-pigs any bad effect is evidently very unsatisfactory.

[Seemingly, in Koch's opinion, in order to allow the commabacilli on their passage through the small intestine time to sufficiently multiply and to produce their fatal effect, it is necessary to stop the movement of the small intestine, and thus he injects the tincture of opium into the peritoneal cavity. The assumption on the part of Koch that the injection of tincture of opium into the peritoneal cavity relaxes the intestine and stops the peristaltic movement is a perfectly arbitrary one; the only experiments known as to the effect of the injection of tincture of opium into the peritoneal cavity were made on dogs, and here the effect was just the reverse from that assumed by Koch, viz., increased peristalsis.]

Upon the whole there are ample grounds for suspecting that the method of opium administration adopted by Koch, and especially the quantity of the drug injected by him into the peritoneal cavity, had much to do with the fatal malady he induced in guinea-pigs. I myself repeated his experiments, modifying only the method of opium administration and the quantity of it introduced, with the result that in no instance did I produce a fatal effect on the guinea-pigs operated upon. Thus, after dosing guinea-pigs with sodic carbonate, followed up by administration of choleraic commabacilli, I injected subcutaneously into each of them tincture of opium in sufficient quantity to keep the animal narcotized for several hours (or with similar object I injected into the peritoneal cavity watery solution of extract of opium instead of the German tincture); but, as I have said, without ill effect in any case. In all probability so long as the intestine of a guinea-pig remains normal, commabacilli will not multiply in it; but should local damage be done or local irritation be set up in the gut or its neighbourhood, as by injection of tincture of opium in large quantity into the peritoneal cavity, or by injection of saturated solution of sulphate of magnesia into an isolated loop of the ileum, abundant increase of the commabacilli, simultaneously introduced or normally present in the intestine, will quickly follow, with or without death of the animal from the injury done to it. In any case the conclusion that commabacilli *per se* can bring about the death of the animal experimented on, is not warranted; since Koch himself has shown that these organisms introduced in huge quantity* into guinea-pigs have no deleterious effect on those animals. If further illustration be wanted of the important influence of peritoneal injection of tincture of opium in producing death of animals dosed with quantities of commabacilli, it is forthcoming from some other and similar experiments of Koch and Finkler, made with totally different varieties of this micro-organism. Thus, Koch experimenting with Deneke's comma-

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* In order that the nature of these experiments of Koch may be duly appreciated, I append an estimate, based on these guinea-pig experiments, of the quantities that would be required in the case of man. Thus: after 24 hours fasting the human stomach would receive 1800 C.C. of nauseous fluids (solution of carbonate of soda and culture of comma-bacilli), followed by injection into the peritoneal cavity of 10 ounces of tincture of opium! This is a method of "infection with cholera" very different from what occurs in the human subject under actual conditions of cholera reception.

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Experiments
fail to show
causative
relation.

bacillus of stale cheese, found that administration of cultures of these micro-organisms to guinea-pigs, in sequence to a dosing with sodic carbonate, and just before injection of tincture of opium into the peritoneum, was followed by death of the animals so dealt with. And Finkler, who made a large number of similar experiments with the commabacillus which bears his name (*Ergänzungshefte zum Centralbl. f. allg. Gesundheitspf.*, I Band, Heft 5-6), records results which are identical in every respect with those obtained by Koch. It is true that Finkler concludes from his experiments that his commabacilli must be regarded as pathogenic for cholera nostras; but since Finkler's commabacilli are present in fluids of the mouth (Miller) and in the contents of the intestine (Kuisl) it is clear that in all probability they have nothing whatever to do with cholera nostras. On the other hand since the results obtained under like methods of experimentation with Koch's and with Finkler's commabacilli, are identical in all respects, both as regards the nature of the disease induced and the condition of the intestine found after death, the disease from which the guinea-pigs died after the introduction of Koch's commabacilli cannot well have been Asiatic cholera. And indeed we find that the symptoms under which Koch's animals died were not such as belong exclusively to cholera; the presence of mucous fluid in their small and large intestine, the fall of their temperature two or three hours before death, the impairment also of their mobility a few hours before death, are symptoms commonly present in rodents dying of septic and septicæmic poisoning, and are by no means special to cholera. In many rodents dying from septic and septicæmic poisoning changes in the intestine and severe diarrhœa are very conspicuous symptoms.

It is further necessary to remember in this connexion that certain bacteria are known to have pathogenic properties on rodents, although these bacteria are derived from putrid secretions,—*e.g.*, the micrococcus isolated by Pasteur and Sternberg from the fluid of the mouth, the bacillus isolated by Bienstock from normal human fœcal matter, the micrococcus isolated by myself from pneumonic sputum, the bacterium isolated by Brieger from human fœcal matter, the bacillus isolated by Escherich from the fœcal matter of milk-fed infants, and the bacillus isolated by myself from the mesenteric glands of a child that died of infantile diarrhœa.

In this connexion also it deserves mention that Von Emmerich has described a species of bacterium (probably bacterium termo) which he found in the intestinal contents of patients dead of cholera asiatica; and more recently Buchner and Von Emmerich found this bacterium also in the mucus of the bronchial tubes of patients dead of cholera asiatica. This bacterium Von Emmerich and Buchner consider as the active cause of cholera; it acts very poisonously when subcutaneously inoculated into guinea-pigs. But Brieger has shown that this is the same bacterium that was isolated by him from normal fœcal matter. For myself I was first under the impression that this bacterium of Von Emmerich, the so-called "Naples bacillus," is identical with the minute straight bacillus found by me in the mucus-flakes of the cholera intestine and described in the above paper, but there can be no doubt that the two are totally different.

Ptomaine theory.

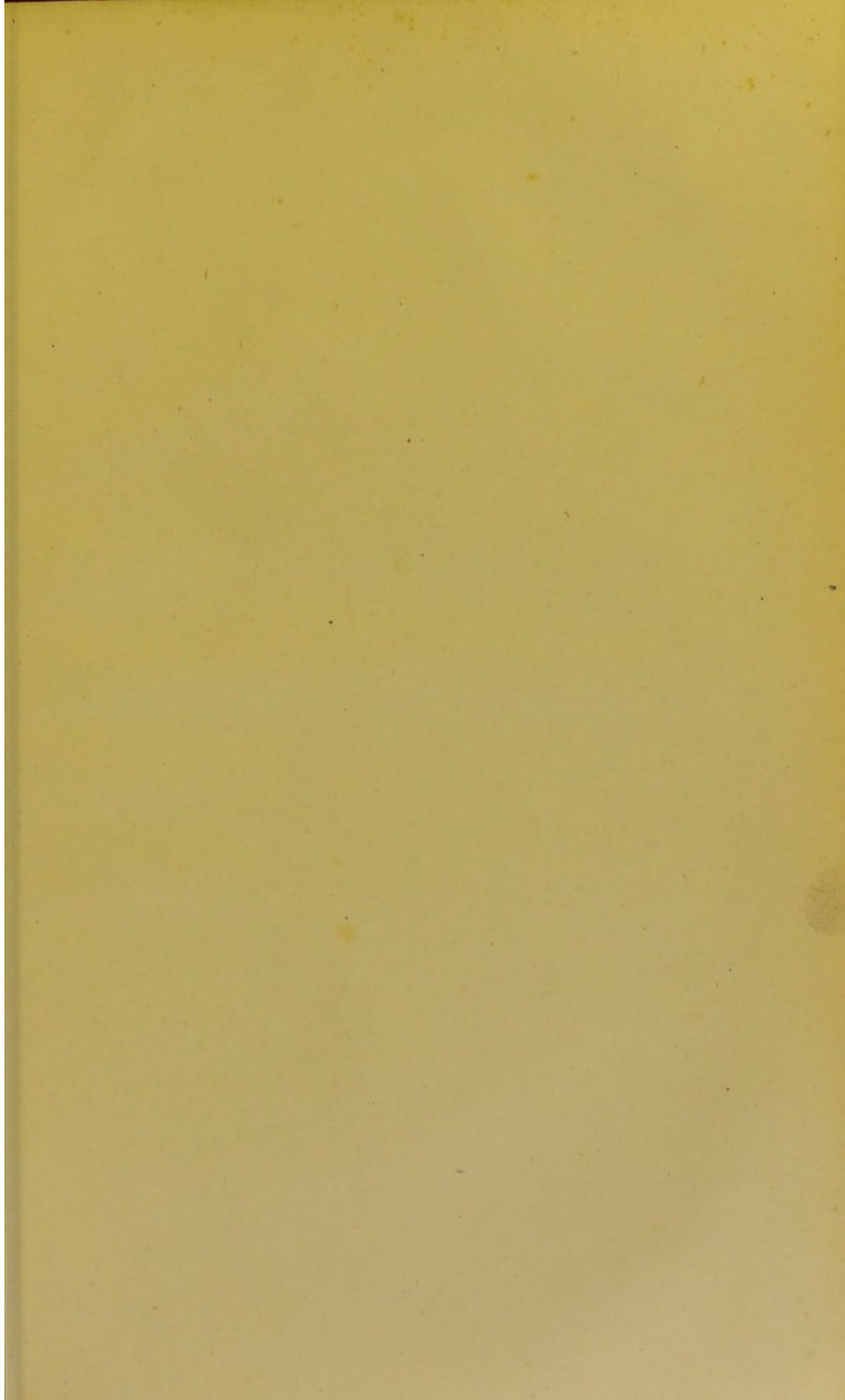
Finally, in reference to Koch's theory of a special chemical ferment, manufactured by commabacilli in the intestine of the cholera patient, acting as the direct cause of cholera symptoms, certain experiments by Nicati and Rietsch, by van Ermengem and by Klebs require notice. They go to show that the commabacilli, when multiplying in culture media, produce a chemical substance akin to a ptomaine, which is

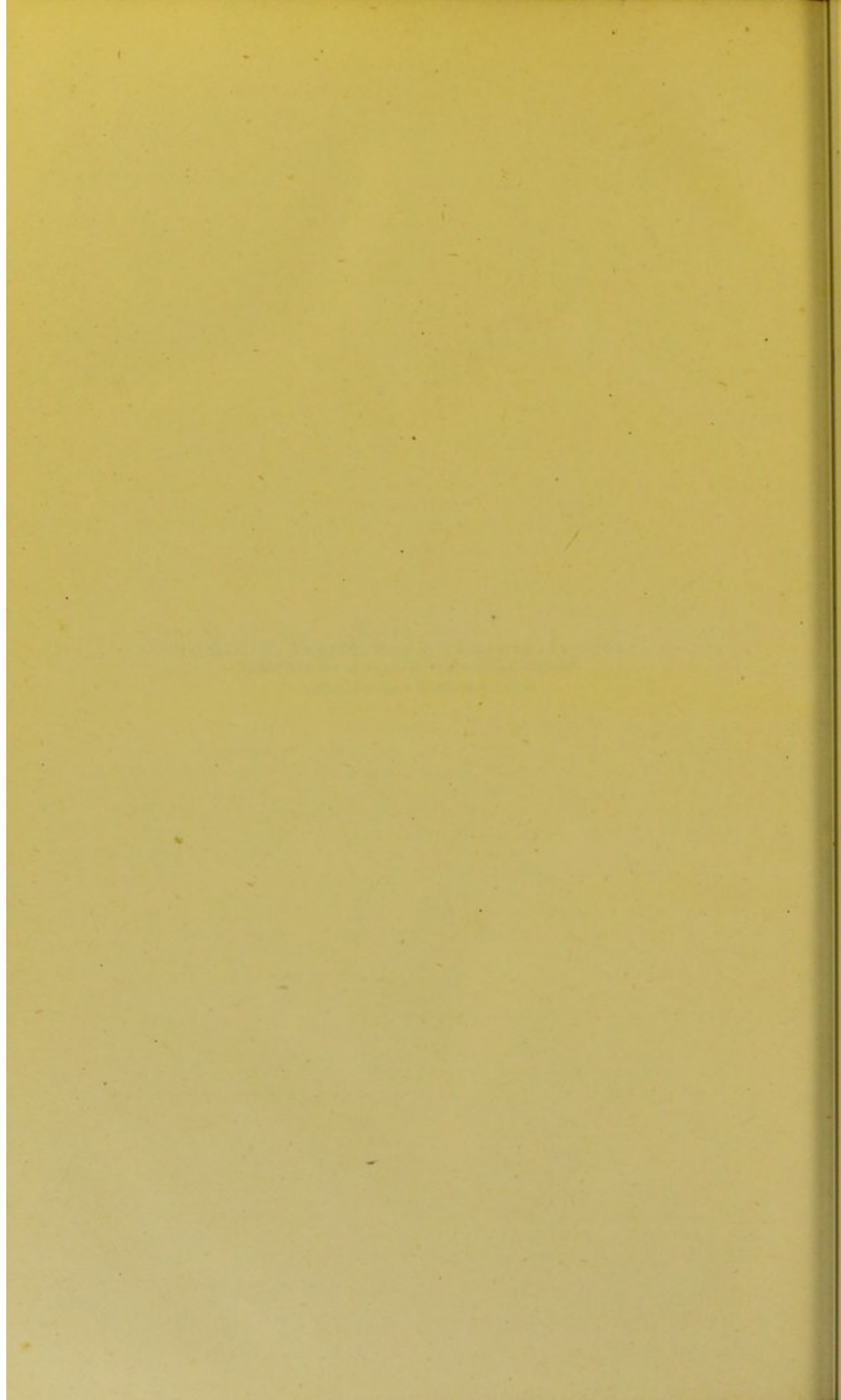
capable of producing infection and death when injected subcutaneously into certain animals. And further, these experiments of Nicati and Rietsch, and of van Ermengem (not to mention the Ferran inoculations), show that the result obtained by subcutaneous injection of the cultures depends on the *quantity* thus administered; a fact compatible only with the assumption of a non-organized *chemical* poison. It is, however, erroneous to regard, as Klebs does, the production of a poisonous ptomaine as peculiar to cultures of commabacilli; since Berdez, who carried on his investigations under my direction, has distinctly proved (British Medical Journal, 1885,) that in cultures of septic bacillus subtilis, as well as in cultures of Koch's and of Finkler's commabacilli, there is present a chemical poison, obtainable apart from the organism; and that this chemical substance subcutaneously injected in large quantities has the same poisonous effect on animals as that attributed to cultures of Koch's commabacilli.

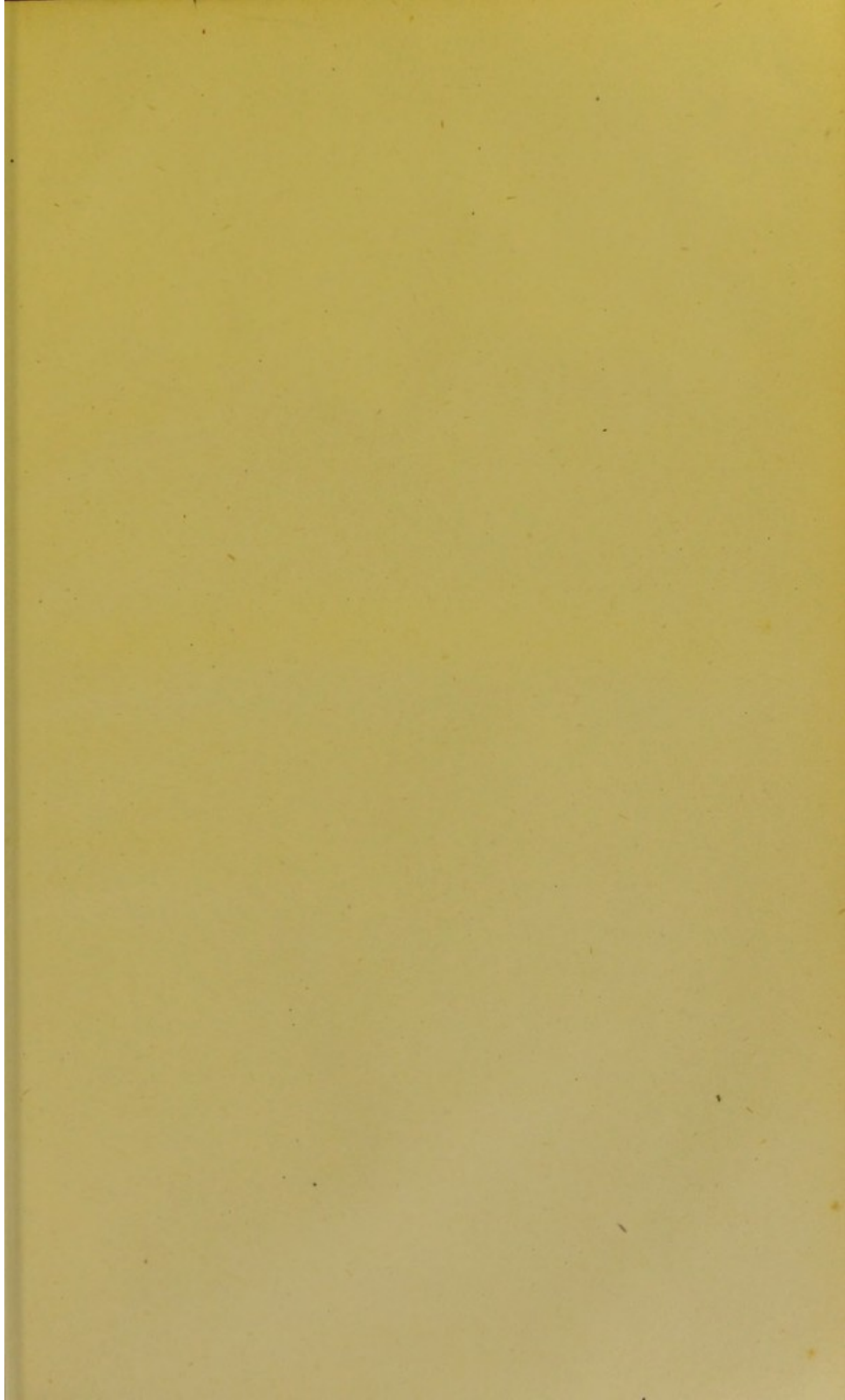
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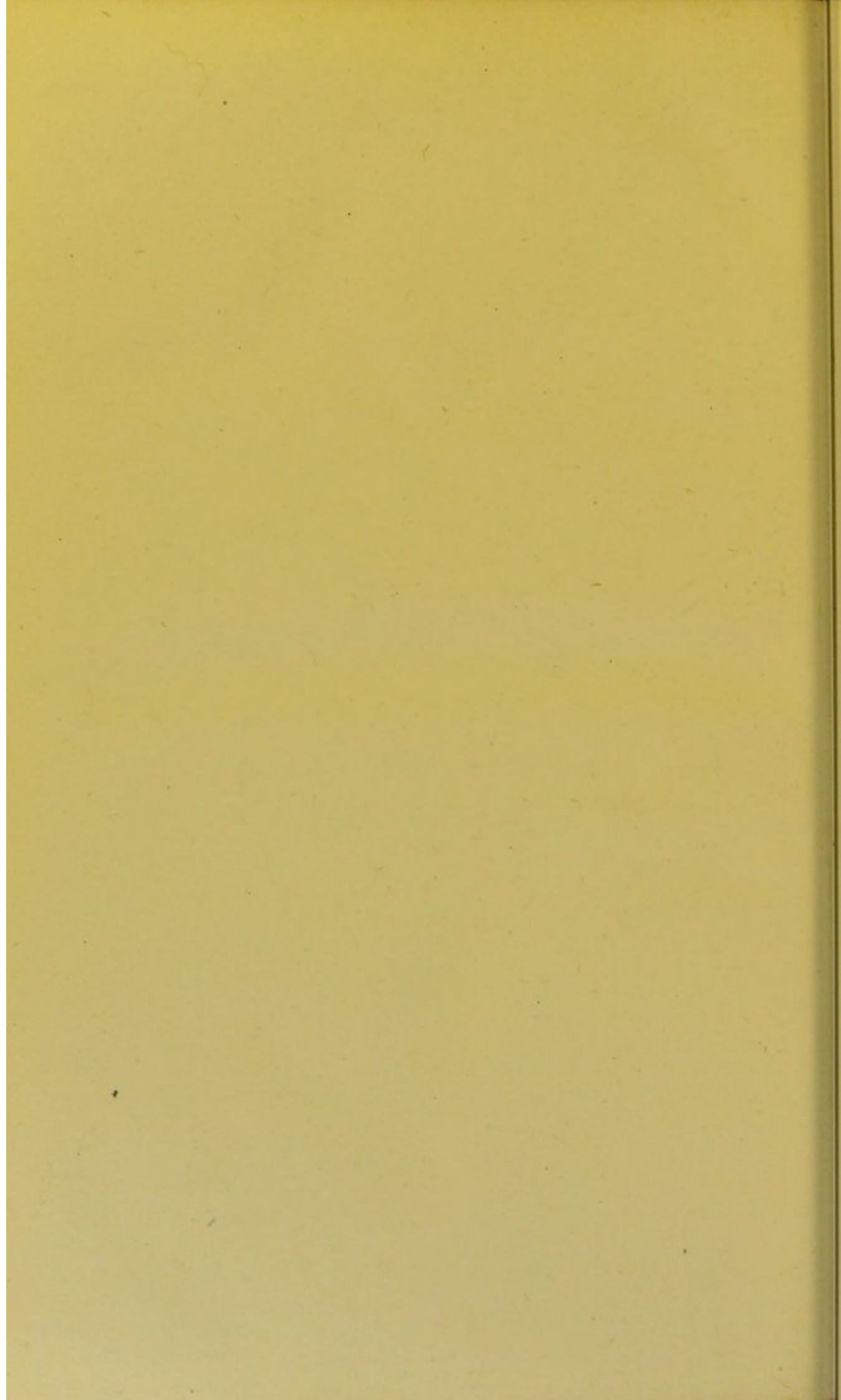
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LONDON: Printed by EYRE and SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office. 5

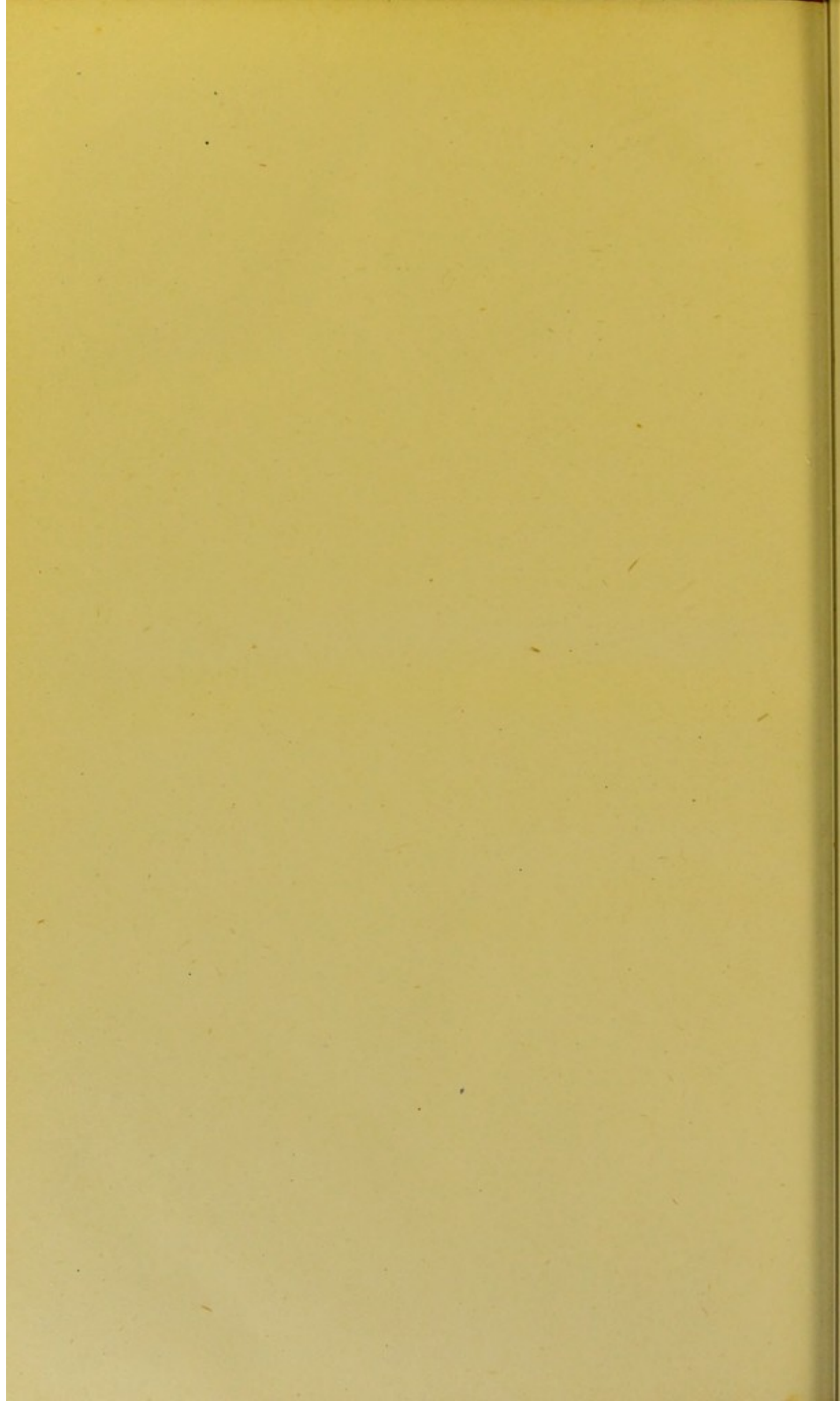


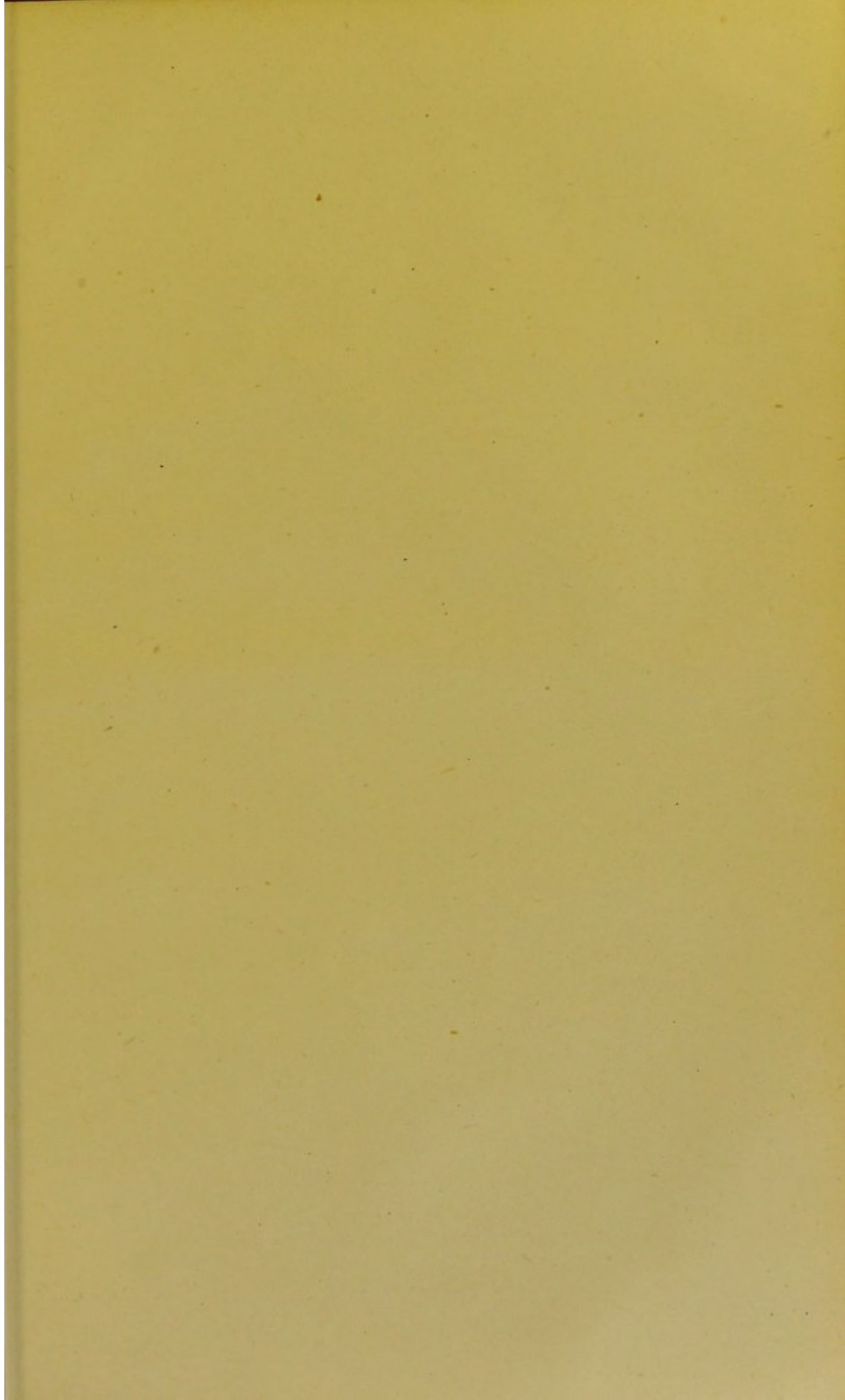


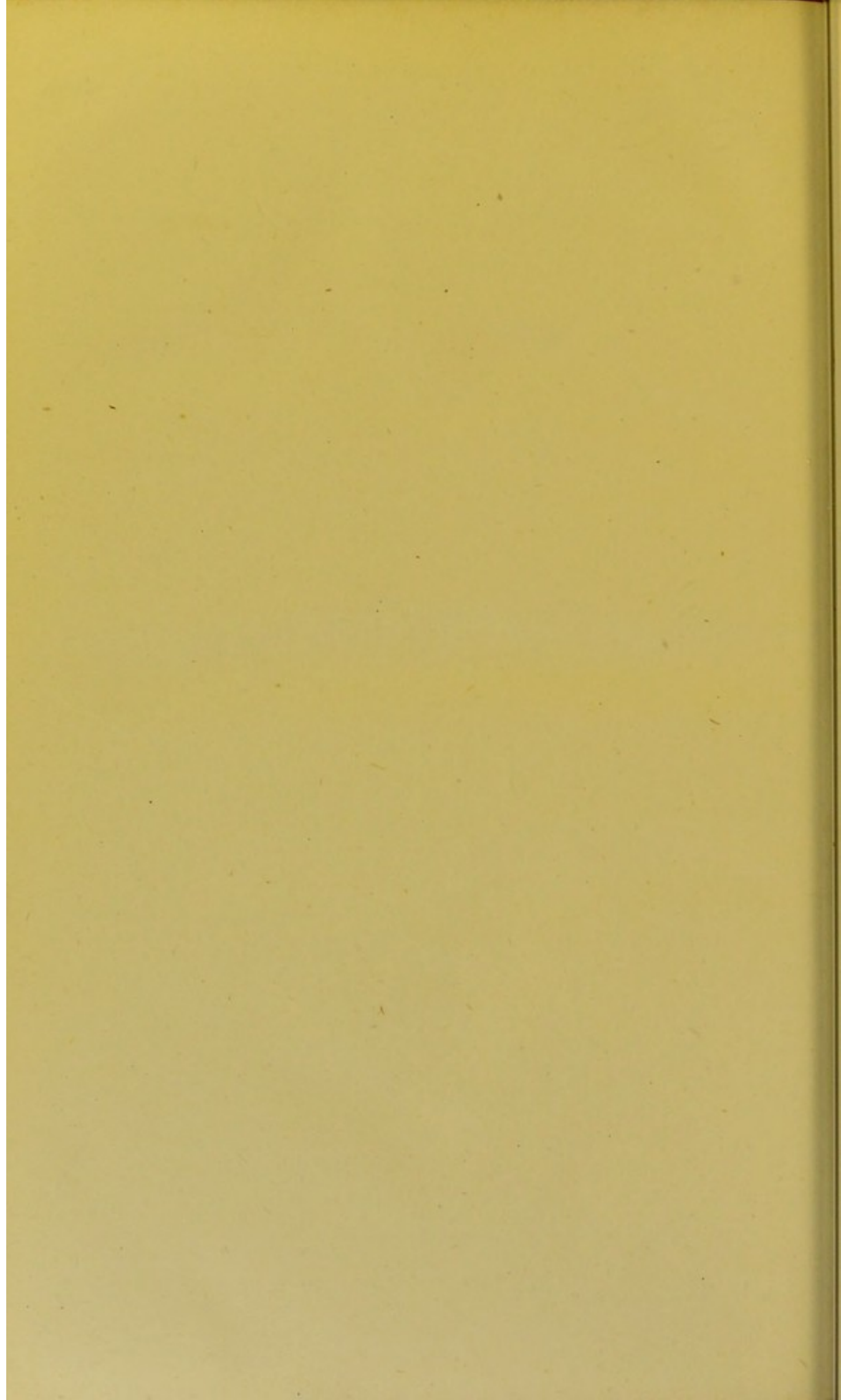




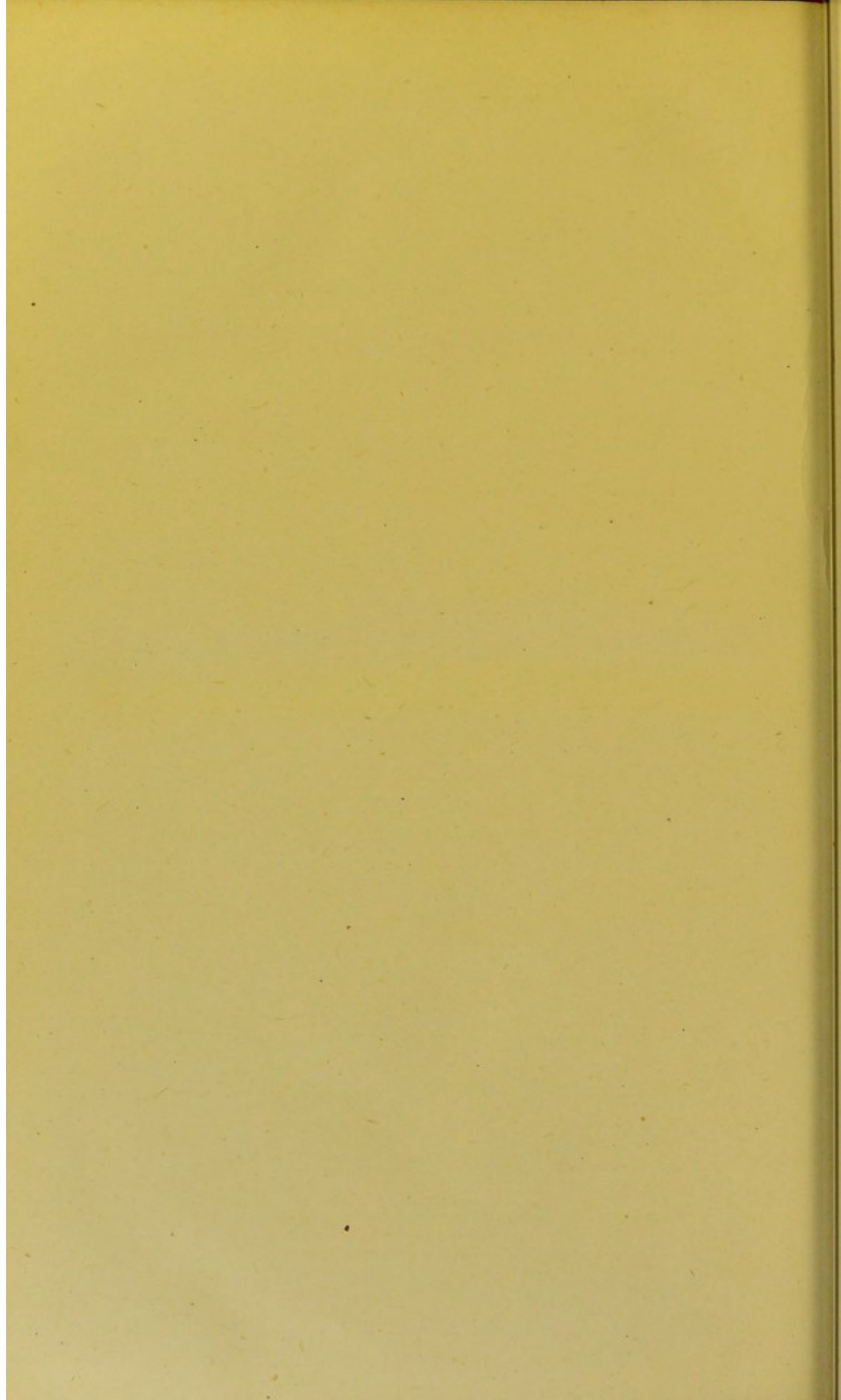


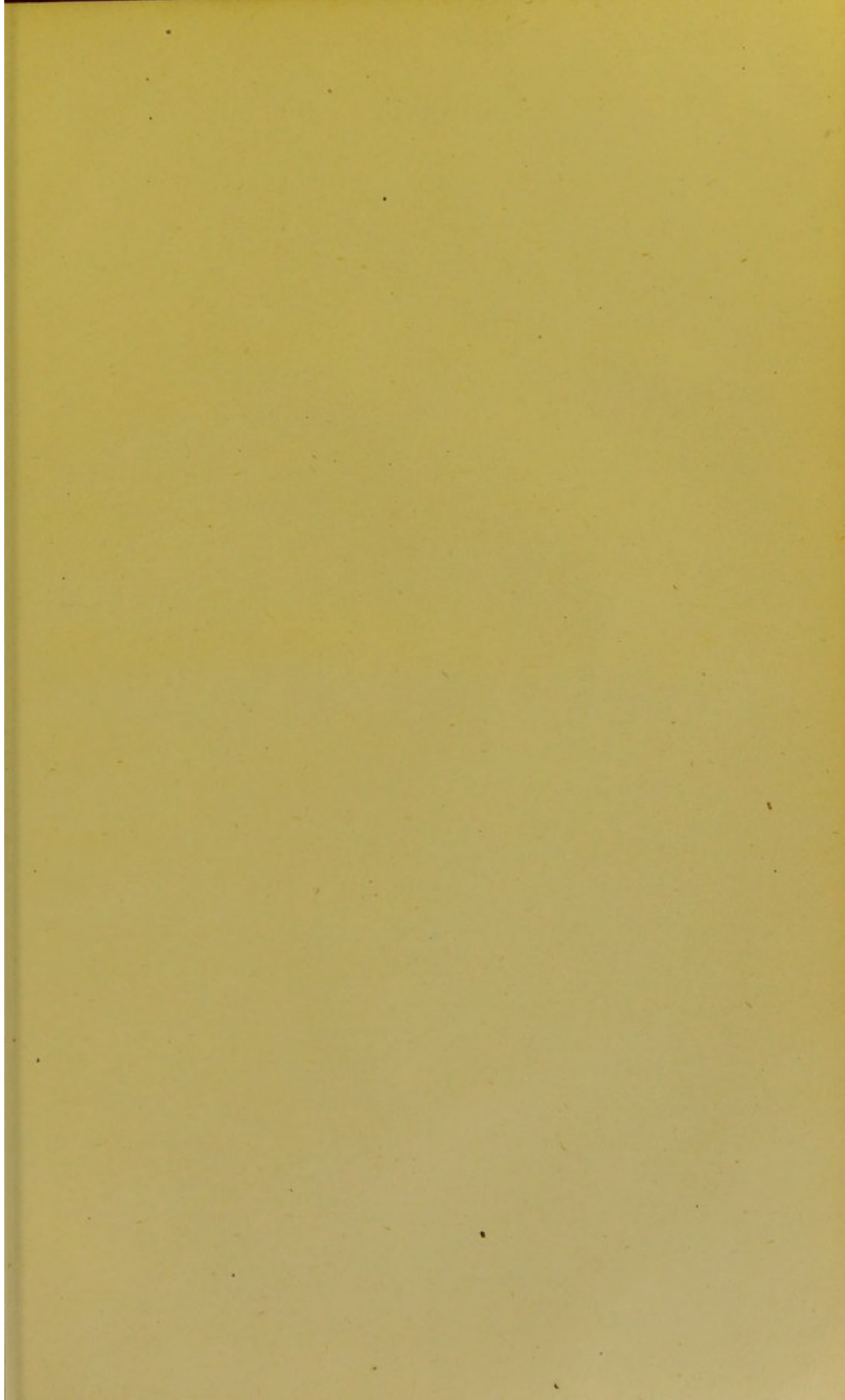


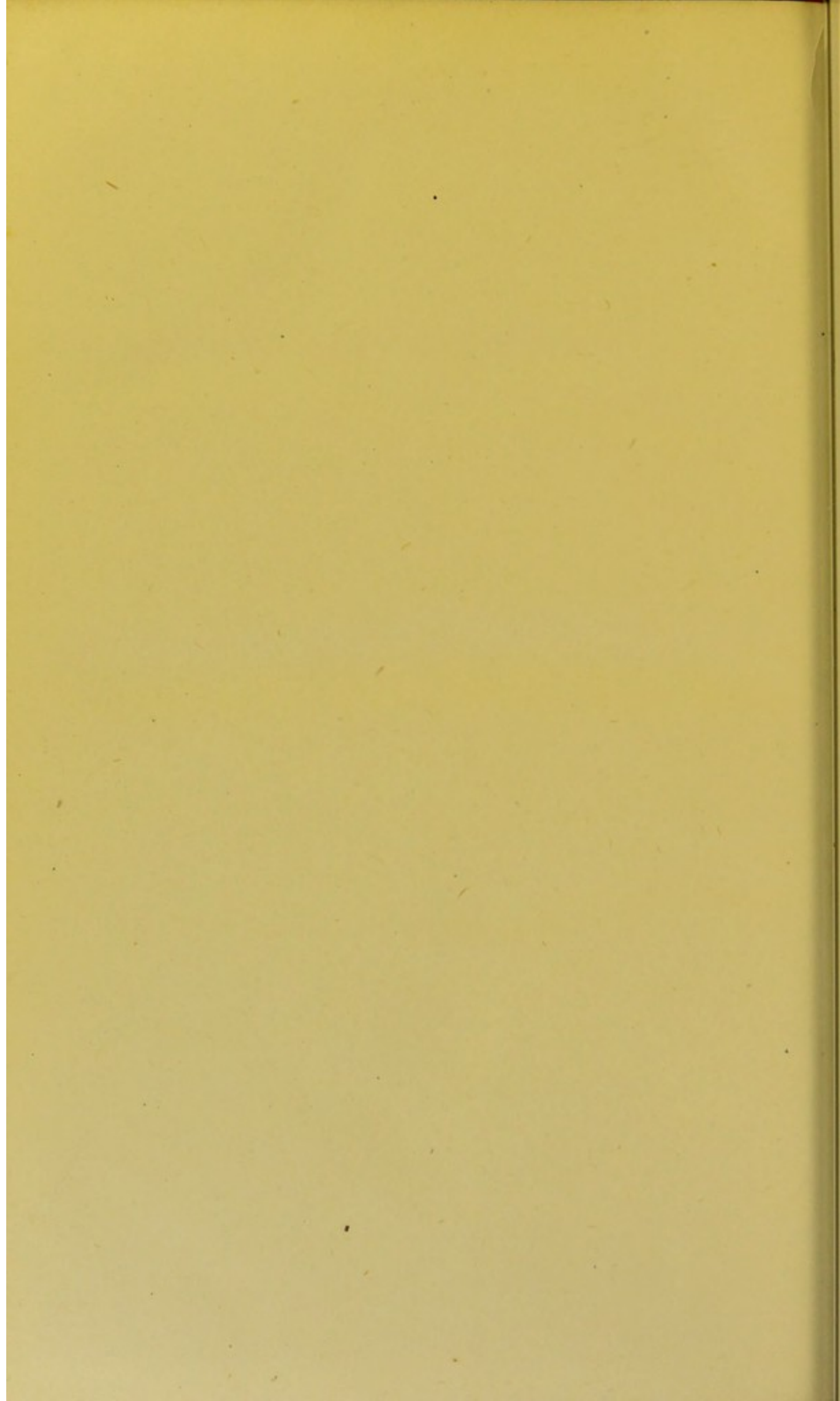




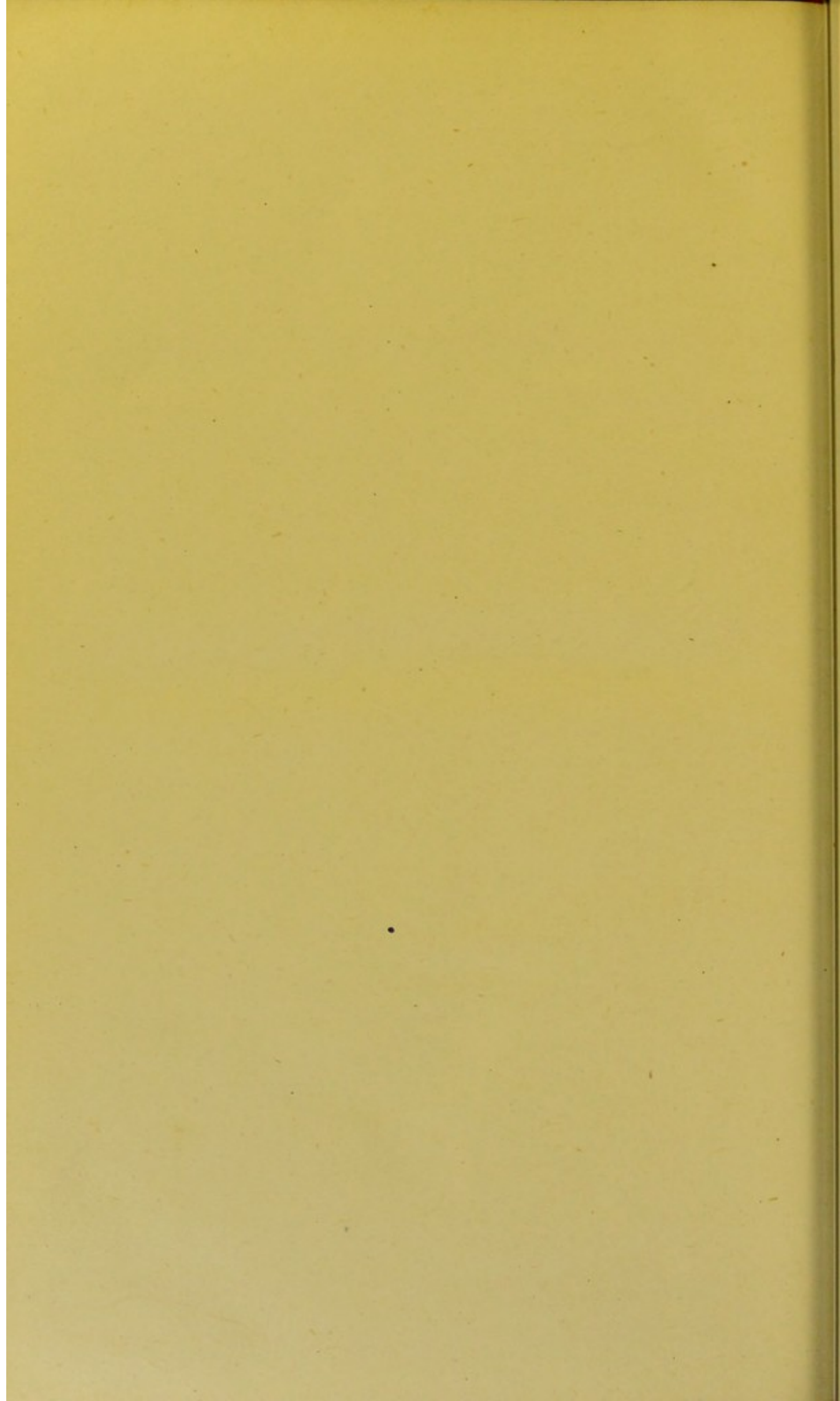


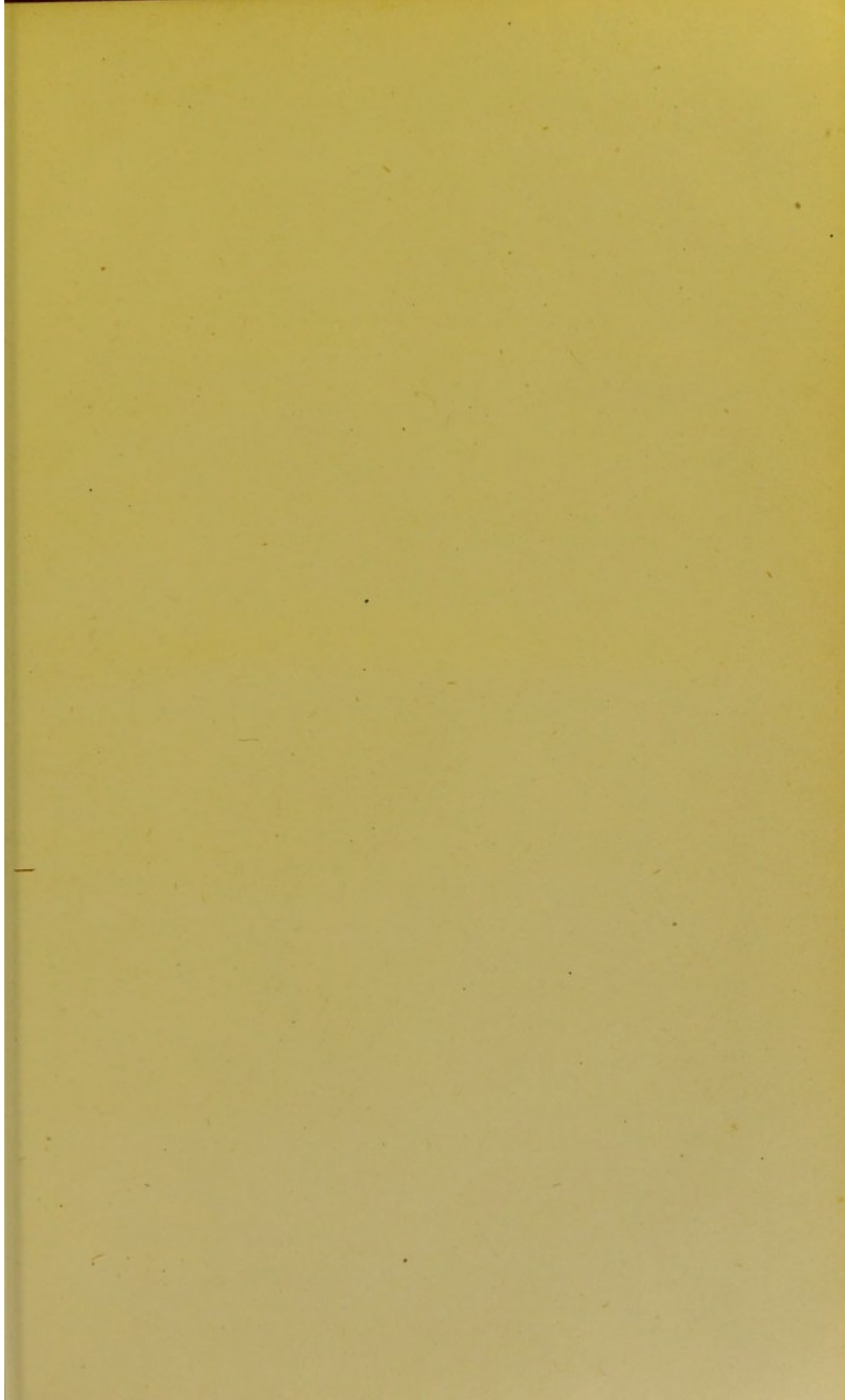


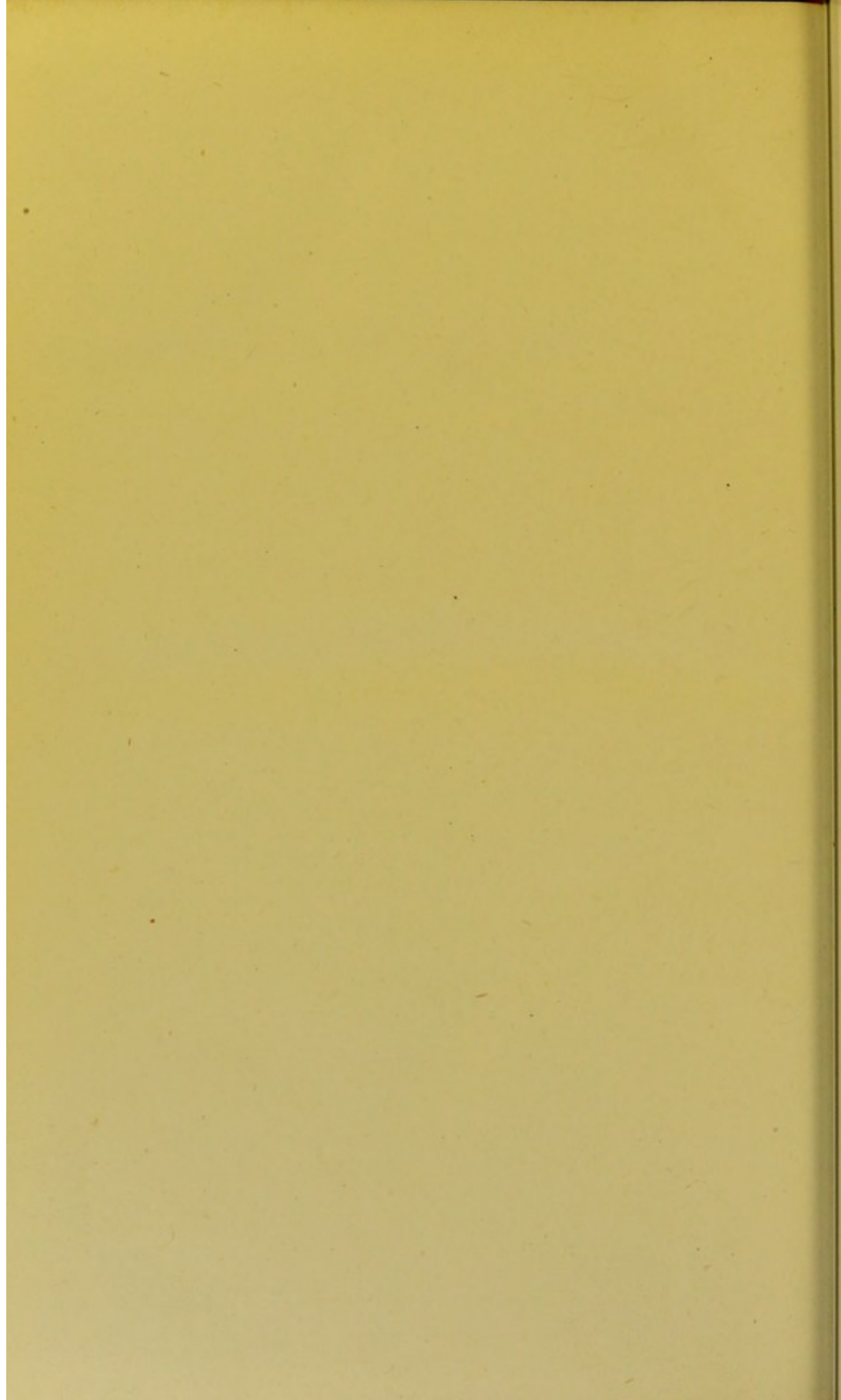




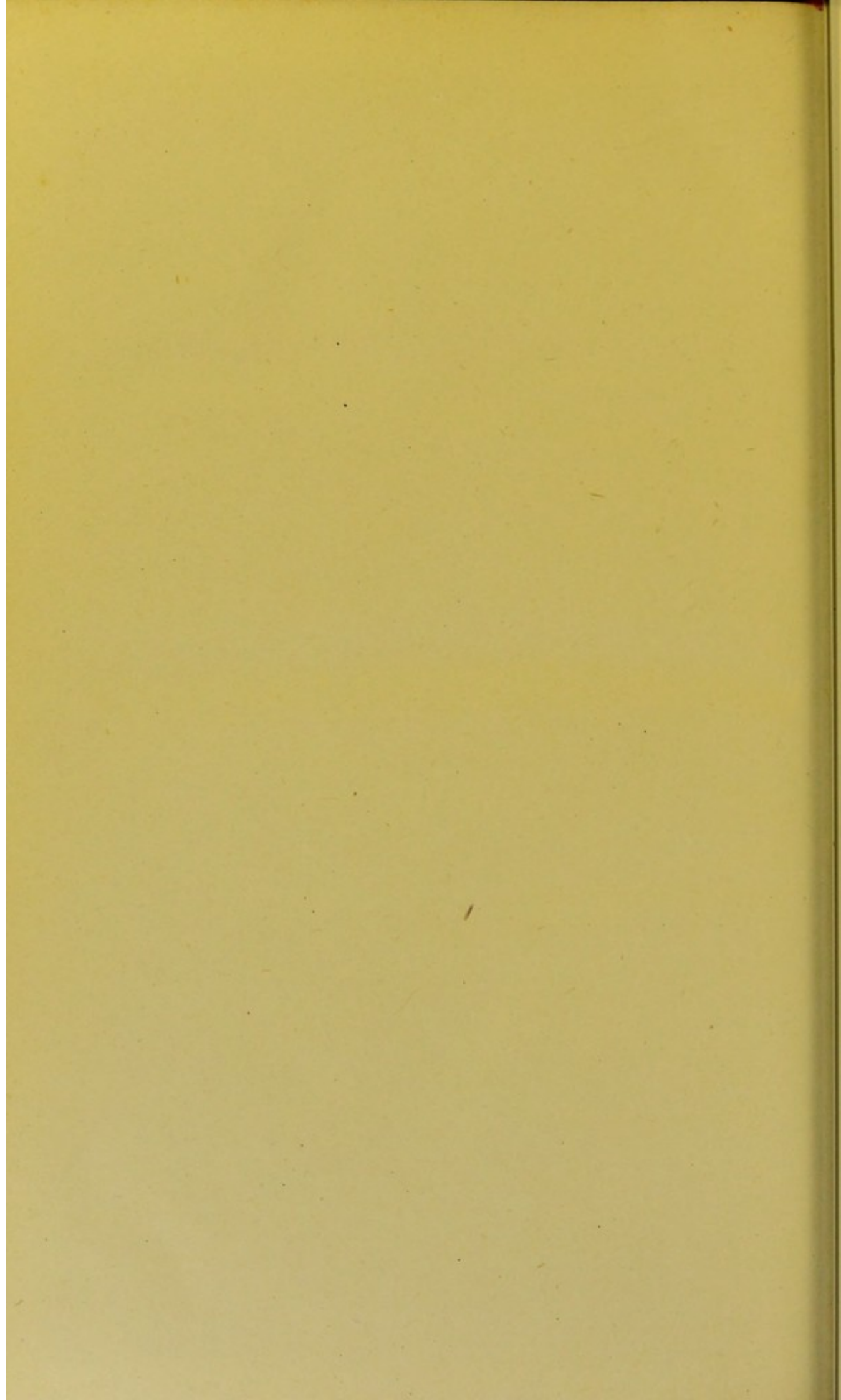






















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