The operation of the Contagious Diseases Acts among the troops in the United Kingdom, and men of the Royal Navy on the home station : from their introduction in 1864 to their ultimate repeal in 1884 / by Robert Lawson.

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OF THE

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TROOPS IN THE UNITED KINGDOM,

AND

MEN OF THE ROYAL NAVY ON THE HOME STATION,

FROM THEIR INTRODUCTION IN 1864 TO THEIR ULTIMATE REPEAL IN 1884.

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ROYAL STATISTICAL SOCIETY:

AN OUTLINE OF ITS OBJECTS.

THE *Royal Statistical Society* was founded, in pursuance of a recommendation of the British Association for the Advancement of Science, on the 15th of March, 1834; its object being, the careful collection, arrangement, discussion and publication, of facts bearing on and illustrating the complex relations of modern society in its social, economical, and political aspects,—especially facts which can be stated numerically and arranged in tables;—and also, to form a Statistical Library as rapidly as its funds would permit.

The Society from its inception has steadily progressed. It now possesses a valuable Library of more than 27,000 volumes and a Reading Room; Ordinary Meetings are held monthly from November to June, which are well attended, and cultivate among its Fellows an active spirit of investigation: the Papers read before the Society are, with an abstract of the discussions thereon, published in its *Journal*, which now consists of fifty-three annual volumes, and forms of itself a valuable library of reference.

The Society has originated and statistically conducted many special inquiries on subjects of economic or social interest, of which the results have been published in the *Journal*, or issued separately.

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From the Journal of the Royal Statistical Society,
March, 1891.

The Operation *of the* Contagious Diseases Acts *among the* Troops *in the* United Kingdom, *and* Men *of the* Royal Navy *on the* Home Station, *from their* Introduction *in* 1864 *to their* Ultimate Repeal *in* 1884.

By Robert Lawson, LL.D., *Inspector-General of Hospitals.*

[Read before the Royal Statistical Society, 20th January, 1891.
The President, F. J. Mouat, M.D., F.R.C.S., LL.D., in the Chair.]

The great prevalence of venereal affections among the troops serving in the United Kingdom, and the men of the Royal Navy on the Home Station, from 1860 to 1863, led to the adoption of measures to reduce the frequency of that class of diseases, by subjecting the unfortunate females, who were the chief sources of its diffusion, to medical treatment while in a state capable of communicating it to healthy persons. The first Act, passed in 1864, merely provided for the treatment of such persons as applied voluntarily to have the advantage of it, or who were specially reported to a magistrate, and, while undergoing this, they were at liberty to leave the hospital whether cured or not. The Act of 1864 was amended in 1866, and this again in 1869, the additions being calculated to render them more efficient in their operation. This state of things went on with little alteration until 1882, when personal examination was stopped, and in 1884 the Acts were repealed. The records of disease of this nature, both among the troops, and the crews of H.M. ships at the stations where the Acts were in force, and at other points, are available to show its progress under the different conditions in which these men lived, and the whole may be regarded as a most interesting experiment on public health, in which we have not only the marked improvement under the employment of measures favourable to that end, but relapse to its former state on their abrogation. Our President is desirous that an authentic relation of these facts should appear in the *Journal* of the Royal Statistical Society, and has invited me to undertake its preparation, I having arranged the army statistics bearing on it for Dr. Sloggett, Inspector-General of Hospitals, R.N., who was Superintendent of the Lock Hospitals under the Acts at the time,

and conducted their case before the Parliamentary Committee which sat from 1879 to 1881 to investigate their working.

Before proceeding to the proper subject of this paper, it is necessary to indicate the forms of disease which came under the operation of the Acts; the different manner in which separate bodies of men, at the same place and at the same time, were affected by these diseases; and a very remarkable fluctuation, of an epidemic nature, extending over several years in succession, which is quite as great as that of measles, and the area it occupies very extensive.

Primary venereal affections present themselves as sores, or increased discharges of a more or less inflammatory nature from the urinary passages. The sores are frequently followed by a constitutional affection called secondary syphilis, and, of late years, a further transition of the constitutional complaint has been recognised which is named tertiary syphilis. The discharges from the urinary passages are followed occasionally by rheumatism, and more frequently by local inflammation, which may cause much trouble, but they do not affect the system in the injurious manner that syphilis does.

Primary venereal sores are far most commonly met with on the genital organs, but they may be produced on any part of the body, either intentionally by inoculation from an existing sore, or take place unintentionally by a portion of the surface discharge from a sore in one person coming into contact with a raw surface in another. The primary sores have long been known to be of two descriptions, viz., those that are followed by the constitutional disease, and hence designated "infective sores," and those which do not lead to this, and for this reason called "non-"infecting," or "simple sores." It was found at an early period that sores which left much thickening and induration around their site, and hence named hard sores, were frequently followed by constitutional symptoms, and this idea gave rise to the opinion that hard sores were the true infecting sores, and those which healed without induration were devoid of such troublesome consequences. Mr. Lane, of the London Lock Hospital, and Mr. Macnamara, the medical officer of the Dublin Lock Hospital, stated in their evidence before the Committee that, in their experience, the constitutional affection did not follow the indurated sore exclusively, and that in most cases it was impossible to say whether any given sore would eventuate in the constitutional affection, but neither of them was able to give a numerical statement of the relative frequency in which each of these sources occurred. Regimental medical officers, who formerly remained in the same corps for many years, and had the same men under

observation, and who were interested in the investigation, had thus an opportunity of connecting the secondary disease with the particular form of sore which it followed, and among such the general belief was that the constitutional disease frequently followed soft sores. The following striking instance occurred under my own observation in the west of Ireland. The depôt companies of the 47th Regiment, with an average strength of 254 for the year, under my charge, marched into Castlebar on 20th and 21st July, 1842, in a healthy condition. From this date to 24th November 90 men were admitted with primary venereal sores; from 24th November to 16th March, 1843, when the depôt left for Boyle, fresh admissions had almost ceased; and after arrival at Boyle there were very few admissions of primary sores, and these of a mild description. From 20th May, 1842, to 1st July, 1843, there had been 27 cases of hard sores treated and 49 cases of secondary syphilis, so that, admitting every hard sore eventuated in the constitutional affection, there were still 22 other instances following sores in which the induration was not observed. Indeed, it was expressly mentioned in the notes made at the time that excoriated sores were more frequently followed by the constitutional disease than other forms. Practically, in short, the matter comes to this—that it cannot be shown, with certainty, that the constitutional affection will follow a given sore in any particular instance until the general system shows unmistakeable signs that it is so affected.

During the investigation of the Select Committee objection was taken to syphilitic sores and simple sores being included together, under the term "primary venereal sores," in the returns sent in by the Army Medical Department, as being an unscientific arrangement, and calculated to involve the question in greater obscurity. This is not so, however, for, as has been shown in the last paragraph, it cannot be indicated with certainty that the constitution will become affected, in any particular case, until unequivocal manifestations of such infection make their appearance, any attempt to separate the two forms of sores must be altogether arbitrary, and the results so obtained can afford a very untrustworthy basis for statistical inquiry. In some instances hard sores fail to produce the constitutional affection, and even when that does arise, it may be very slight, and escape notice; but with a possible reduction in numbers from these causes, the frequency of the secondary disease is the only satisfactory test of the prevalence of true syphilis, and the estimated amount from the arrangement of the primary sores may be much in error. In Table I at the end, the returns of admissions among Dragoon Guards and Dragoons in the United Kingdom for primary syphilis, simple sores, and secondary disease,

are given for the periods 1830-37, 1837-47, and 1860-64. Similar returns are added for the last two periods for the Foot Guards and the infantry. From these it appears that the ratios per 1,000 of admissions from primary syphilis, simple sores, and secondary disease, were as under:—

Periods.	Dragoon Guards and Dragoons.			Foot Guards.			Infantry of Line.		
	Syphilis, Primitive.	Simple Sores.	Secondary Syphilis.	Syphilis, Primitive.	Simple Sores.	Secondary Syphilis.	Syphilis, Primitive.	Simple Sores.	Secondary Syphilis.
1830–37	31·7	48·1	7·6		No	return	availabl	e	
'37–46	25·7	53·7	8·6	118·7	22·0	13·3	61·5	133·7	20·9
'60–64	118·8	0·6	45·7	153·7	0·3	33·5	106·8	0·3	32·0

Here, in the first period, the primary syphilis returned by the cavalry was moderate in number, and the simple sores were about a half greater; the constitutional syphilis was 7·6 per 1,000, which was equal to 1 in 4·2 of the primary syphilitic sores, or, taking those and the simple sores together, as primary venereal sores, to 1 in 10·5. In 1837-46 the cavalry had rather less primary syphilis, but the simple sores were increased in number; the ratio for secondary syphilis was 8·6 per 1,000, being 1 to 3 on the primary syphilis, and 1 in 9·2 of the syphilitic and simple cases combined. The infantry had twice as many primary syphilis cases as the cavalry, and the simple sores were again more than twice the number of the syphilitic; the secondary cases were 20·9 in the 1,000, and were equal to 1 to 2·9 of the syphilitic, or to 1 in 9·6 of these and the simple cases combined, corresponding very closely with the same proportions in the cavalry. In the Guards the distribution of the respective forms was very different: the admissions for primary syphilis were practically twice as numerous as among the infantry, while those for simple sores were one-sixth as numerous only; the cases of secondary disease were 13·3 per 1,000, being 1 in 8·8 of those returned as primary syphilis, or 1 in 9·6 cases of other forms taken as primary venereal sores, showing that considerably more than twice the number of non-infecting sores had been classed as primary syphilis in the Foot Guards than in the cavalry or infantry of the line during the same period. From 1860 to 1864 there was a very remarkable increase of admissions for primary syphilis, as well as of secondary disease, in all three descriptions of force, while those for "simple sores" had dwindled to a small fraction; in the cavalry, the admissions for the secondary disease, 45·7 per 1,000, were in the ratio of 1 to 2·6 cases of primary; in the infantry the secondary cases were 32·0, or 1 in 3·4 of the

primary; and in the Foot Guards 33·5, equal to 1 in 4·6; the Foot Guards in each of the two periods including a greater number of simple venereal sores, under the head of primary syphilis, than either the cavalry or infantry of the line, and, even in the latter, two cases out of every three returned as primary syphilis seem really to be simple venereal sores. It was for these reasons that the Army Medical Department included all primary sores under the single group of "primary venereal ulcers," which involved no hypothesis, and avoided the obvious error of the arbitrary division ordinarily made. In 1885 the College of Physicians, in the latest edition of their "Nomenclature of Diseases," have separated the simple sores from the primary syphilitic, and have placed the former among the affections of the generative organs. In compliance with this the same change has been made in the Army Medical Returns, but a continuance of the practice, without the necessary precautions, will only serve to substitute an arbitrary conclusion for a more trustworthy result, and thus seriously impede the advance of our knowledge of this important disease.

The extent to which bodies of men, even at the same station, at the same time, become affected, though apparently equally exposed to the same chances of infection, varies to a degree that could hardly have been anticipated. On the recommendation of the late Mr. Acton, that there should be a lavatory in every barrack, where men might have an opportunity of washing after return to their quarters, an experimental one was erected in the east infantry block at Aldershot, in 1868, and I received instructions to report on the results. The portion of the permanent barracks, at Aldershot, set apart for the artillery and infantry, consists of four separate blocks of buildings, in a line extending from east to west, facing the town, and within a quarter of a mile of it. The artillery barrack is on the east, and the east infantry block, the centre, and west blocks follow in succession. The artillery barrack was occupied during the period of observation by two batteries of Field Artillery, numbering 280 men; the infantry blocks had each a battalion averaging 630 men; they are designated here A, B, and C, passing from east to west. As the night lavatory was erected in the east infantry block, it was obviously necessary to keep the returns of disease for each of these corps separate as a check on A; and this continued from 26th September, 1868, to 30th July, 1869, a period of forty-four weeks, except in the case of A, which left the station in the 30th week. There were at the same time three infantry battalions of similar strength in the North Camp (wooden huts), two miles from the town, indicated here as D, E, F. Of these D was forty-four weeks under observation, E thirty-four weeks, and F thirty

weeks. All the regiments had returned from foreign service in the early half of 1867, B from the Cape of Good Hope, the other five from India. The admissions for primary venereal sores and gonorrhœa in each of these corps, reduced to the ratio per 1,000, for one year, gives the following results :—

Artillery.		A.		B.		C.		D.		E.		F.	
Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.
141·1	120·4	84·0	101·2	42·5	110·6	124·4	234·7	114·5	69·4	58·9	56·6	22·9	56·9

So far as I could ascertain, the men of A did not make much use of the night lavatory; those of B in the next block had the lowest admission rate for primary sores of any of those in the permanent barracks, though they had no regimental arrangements for night ablution; while those of C, in which there was a room beside the guard room, in which appliances for this purpose were available, and to which all prisoners in the guard room, and men returning to barracks after tattoo, were sent before going to their rooms, had nearly the highest admission rate for primary sores, and far the highest rate for gonorrhœa of any of those in the table. In the North Camp, D had a high rate for primary sores; E had one little more than half as high, and in F the rate was 22·9 per 1,000 only, or one-fifth only that of D. Here there was a regimental arrangement for night ablution carried on in E, to which the surgeon of the regiment attributed the low admission rate from primary sores, but as in the permanent barracks, F, the next corps to E, had no night lavatory, yet had the lowest admission rate by far of all those referred to. The prevalence of gonorrhœa in the North Camp was little more than half that in the permanent barracks. The amount of gonorrhœa in both situations shows the intercourse was pretty general, and the fluctuation in the primary sores is evidence not that facilities for ablution were useless, but rather that in B, E, and F it was had recourse to immediately after exposure to infection, when it was much more likely to prove efficient.

Another important inference is to be drawn from the numbers in this table, viz., that no great weight, as regards the incidence of the disease on the country, can be attached to the sickness of small bodies of men taken by themselves. Many small detachments, well spread over a considerable area, may afford a pretty correct view as to its state of diffusion, but it is always desirable, and the larger the numbers are the more satisfactory and trustworthy they become.

When the records of syphilis from year to year are available

in such a form as admits of precise calculation, it is found they fluctuate very considerably like other epidemic diseases. Thus in Table II, which shows the admissions for primary venereal sores and gonorrhœa among the Dragoon Guards and Dragoons in the United Kingdom, annually, from 1830 to 1837, and those of the same force, and of the Foot Guards (chiefly quartered in London) from 1837 to 1847, with their millesimal ratios throughout, among the Dragoon Guards and Dragoons the mean ratio of primary venereal sores for the seventeen years was 79·5 per 1,000; it was 72 per 1,000 in 1830, 96 in 1831, 80 in 1832, 95 in 1833; after which it went down to 63 and 62 in 1836-38. The ratio rose again to 82 in 1839-40, and fell to 61 the following year, from which it rose to 108 in 1843-44, declining to 79 again in 1845-46. In the Foot Guards the mean rate for the ten years was 140·8; in 1837-38 the ratio was 107 only, rising to 143 the following year, and it fell back to 126 in 1839-40; it then rose to 153 in 1841-42, and to 217 in 1843-44, falling to 135 the following year, and to 102 in 1846-47. Similar fluctuations occurred in gonorrhœa, but in different years, and not quite so pronounced. From 1847 there are no detailed returns of the diseases among the troops in the United Kingdom until 1859. In 1860 the ratio per 1,000 of admissions for primary venereal sores among the troops at the whole of the home stations was 140, and from this date there was a continuous fall, though with frequent minor fluctuations, till 1875, when the ratio was 46. A rise then commenced, and the ratio went up to 125 in 1884; since which it had fallen to 83·5 in 1889. The causes which led to these results will now be explained.

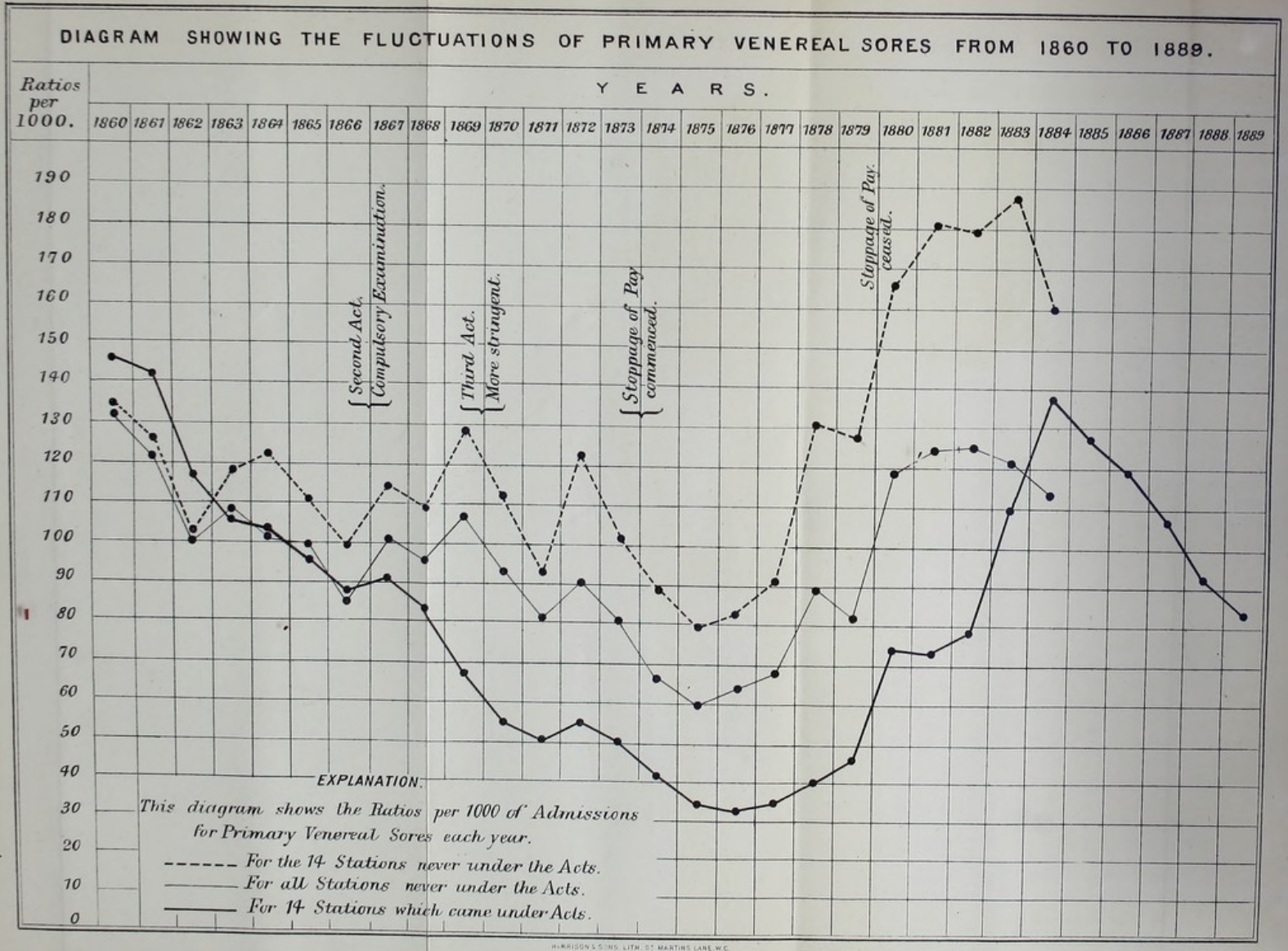
When arrangements came to be made for carrying out the details of hospital treatment under the Act at different points, fourteen of the largest stations were selected, which were known subsequently as the "stations which came under the Acts," and fourteen others, all of those remaining at which an average strength of 500 or upwards was quartered annually, were chosen to compare with them, which were named "the fourteen stations never under the "Acts;" these groups respectively embraced:—

14 Stations which came under Act.	14 Stations never under Act.
Devonport and Plymouth	Isle of Wight
Portsmouth	London
Chatham and Sheerness	Warley
Woolwich	Hounslow
Aldershot	Pembroke Dock
Windsor	Sheffield
Shorncliffe	Manchester
Colchester	Preston
Winchester	Edinburgh
Dover	Fermoy
Canterbury	Limerick
Maidstone	Athlone
Cork	Dublin
Curragh	Belfast

Subsequently, when it was found that other stations never under the Acts had a considerable number of men distributed amongst them, they were added to the fourteen, and designated, "all the "stations never under the Acts." The object of these arrangements was to show the varying incidence of the disease concerned over the country, from year to year, at points where its progress was not interfered with by the operation of the Acts, so that it might be eliminated at the stations under them, leaving the changes due to the Acts apparent. Taking the returns for all stations "never " under the Acts" give considerably lower ratios of sickness, and less boldness of curve than when compared to the "fourteen " stations under them," as was anticipated; but from 1860-84 every fluctuation which appears in the curves for the fourteen stations, except two slight ones for 1864 and 1882, is found in that for all the stations never under the Acts. The accompanying diagram gives the curves for the fourteen stations "never under the Acts" uppermost, that for *all* the stations "never under them" in the middle, and that for the "fourteen stations which came under " them" lowermost.

The Acts commonly described as the C.D. Acts are those of 1864, 1866, and 1869; these may be considered as coming into force in each instance on 1st January of the following year; and the diagram shows how the progress of the primary sores in each of the groups was affected thereby. The Act of 1864 provided in substance that on information being laid before a Justice of the Peace by a Police Superintendent or Inspector, or a medical practitioner, showing that he had reason to believe a woman was a common prostitute, and infected with venereal disease, and that she had been within the limits of certain districts within a specified time for purposes of prostitution, the magistrate could order her to be taken to a certified hospital for examination. Provision was also made for voluntary submission to examination on the part of the woman, and on the certificate of a medical officer that the woman was diseased, the Justice could issue an order for her detention in hospital for a period not exceeding three months. Penalties were also imposed on persons aiding and abetting, which need not be specified here. By the Act of 1866 the Admiralty, or Secretary of State for War, were authorised to provide hospitals for the treatment of the contagious diseases. Periodical examination of prostitutes once a fortnight was ordered, and the period a woman might be retained under treatment was extended to six months if found necessary. The order for examination was to be in force for twelve months only, but could be renewed by the magistrate on reason shown that the female had rendered herself subject to its repetition; and, on the other hand, any woman deeming herself unjustly treated might

DIAGRAM SHOWING THE FLUCTUATIONS OF PRIMARY VENEREAL SORES FROM 1860 TO 1889.



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apply to a magistrate to hear the case, and if he were satisfied she had ceased to be a common prostitute, or if, with his approval, she entered into a recognisance for her good behaviour during three months, he could order her to be released therefrom. A woman on discharge from hospital well, after any period of treatment, was no longer subject to the order of periodical examination, unless under a fresh decision of a magistrate. By the Act of 1869 it was provided that if the examining surgeon had reasonable grounds for believing a woman was affected with a contagious disease, but found she was not in a condition that he could examine her properly, she might be detained in a certified hospital for five days to enable this to be done. It was also enacted that, if at the expiring of six months' treatment a female was not cured of her disease, she might be detained for another three months for this purpose. Voluntary submission by a woman, in writing, was also declared to have the same effect as a magistrate's order subjecting her to examination.

The limits of many of the "fourteen stations which came "under the Acts" included, for the purposes of the Acts, localities geographically outside them. Thus, for instance, Plymouth and Devonport include, amongst other places, Dartmouth. The Acts applied not merely to common prostitutes residing within the limits of the subjected districts, but also to common prostitutes who, being resident within ten miles of such limits, or, having no settled place of abode, have, within fourteen days, been either within these limits for the purposes of prostitution, or been outside those limits for the purposes of prostitution in company of men resident within those limits. The hospital accommodation was provided gradually, and with the necessary organisation came fully into operation at all the stations in the beginning of 1870. In the end of 1873 an order was issued by Lord Cardwell, then Minister of War, stopping the pay of soldiers in hospital, labouring under primary sores or gonorrhœa, during their period of treatment. It was pointed out at the time by the Medical Department that this would tend to much concealment of disease, and have no effect in restraining the number affected; but, nevertheless, it continued in force until the end of 1879. The personal inspection was suspended in 1882, and in 1885 the division of military stations into those under the Acts and not under them ceased.

In Table III the strength and numbers admitted for primary sores, secondary syphilis, and gonorrhœa, annually, with the ratios per 1,000, are given for each of the three classes of stations, from 1860 to 1884, and a smaller Table, IIIB, is added, giving the corresponding numbers for the whole force at home from 1885 to 1889. In Table III the years have been grouped so as to correspond with the changes introduced from time to time, and

bring out their effects more distinctly. In the accompanying diagram, which gives the ratio per 1,000 of admissions for primary sores at the groups of stations in the successive years, these features are strongly marked. Thus in 1860, at the fourteen stations which came under the Acts, the ratio was 146; at "all the stations never under them" the ratio was 131; and at the "fourteen unsubjected stations" it was 134. From these points all fell, so that in 1862 they stood at 117, 99, and 103 respectively. In 1863 the admissions at the "fourteen "unsubjected stations" rose to 117, while those at the "fourteen "subjected" were 107, and at the whole unsubjected, 108; and from this year the "fourteen unsubjected stations" continued much above the ratios for all the unsubjected stations in the diagram. The compulsory examination began to take effect in 1867, and though there was an increase of the incidence of the disease on the country, as indicated by rises in the ratio of 17 per 1,000 in both the "fourteen" and "whole unsubjected districts," that at the fourteen stations under the Acts was 4 per 1,000 only, and from this year the ratios at the fourteen subjected stations were always much under those in the whole until 1884, the last year of the comparison. In 1868 there was a fall of the ratios at all these classes of stations of from 5 to 8, followed in 1869 by a rise of 19 in 1,000 at the "fourteen unsubjected stations," of 11 at "all the subjected," but a fall of 17 at the fourteen subjected. In 1871 the incidence of the disease on the country seemed at the lowest, being 93 for the fourteen unsubjected stations, 81 for all the unsubjected, and 51 only for the fourteen subjected. There was a considerable rise in 1872, followed by a subsidence to nearly the same points in 1873 as in 1871. The stoppage of pay showed its effects in 1874 by a fall at each class of stations, and which was continued in 1875, and still traceable up to 1877, after which the advance of another epidemic wave caused a rise at the "fourteen "unsubjected stations" of 40 per 1,000; at "all the unsubjected" of 20; while at the fourteen subjected it was 5 only. In 1879 there was a slight reduction of the ratio at both classes of unsubjected stations, but a rise of about the same amount at the fourteen subjected; but in 1880, with the cessation of stoppage of pay, there was a general rise amounting to 39 at the fourteen unsubjected stations, to 37 on the whole unsubjected, and to 27 at the fourteen subjected stations; a portion of this was due, no doubt, to an increasing incidence of the disease over the country, but a large portion also to the removal of the inducement to conceal primary forms of the disease by stoppage of pay. In May, 1883, the compulsory examination of women was abolished, and the last impediment to the increase of the disease at the fourteen subjected stations having been removed, the ratio of admissions at these

increased 32 per 1,000, against a fall of 2 at all the unsubjected stations, and a moderate rise of 9 at the fourteen unsubjected; and in 1884 there was a further rise of 28 at the subjected stations, against a fall of 8 at the whole of the unsubjected stations, and of 28 at the fourteen unsubjected. This extraordinary rise in the ratio of primary sores at the subjected stations, placed them in 1884 at 138 per 1,000, midway between those at the two sets of unsubjected stations, and 13 above the general mean for all the troops on the home station last year. It differed little from what they were in 1860, and following as it immediately did on the removal of the last restriction on its propagation, there can be no doubt of its cause. The returns for the army do not give the distribution of the troops into subjected and unsubjected stations after 1884. The strength and numbers which came under treatment for the same forms of disease from 1885, on the home stations, have been consolidated, and are placed in the diagram in continuation of the curve for the subjected stations; they indicate a reasonably rapid diminution in the incidence of the disease in the country, which among the troops had fallen to 83·5 per 1,000; the details are given in Table III B at the end; that this reduced incidence of the disease on the country is real, is manifest from the Registrar-General's Returns, which show a striking diminution of deaths from syphilis among the civil population, at the same time, three-fourths of which is among children under one year of age.

The general course of the contagious diseases at the three classes of stations specified above, has been detailed in Table III, and the curve for each has been represented in the diagram, but now a more exact estimate may be made by using the sums for the periods into which the table is divided, each of which embraces the operation of one or more of the factors specified above as having influenced their frequency. The first period, 1860-63, the four years before the Act of 1864 was introduced, shows the prevalence of the three forms of disease in each class of stations, when subject to the influences in operation at these during the period. During the second period, 1864-69, the Acts were being gradually introduced, as hospital accommodation and other necessary arrangements were completed at the several stations comprised in the group, and hence was altogether a transitional one, showing nothing further than that the restrictive measures adopted had already produced a marked reduction of disease, and may therefore be passed over. The third period, 1870-73, the Acts were in force for the whole time, under their fullest development, at all the fourteen stations which came under them, with one or two exceptions of single stations in January and February, 1870, and the results show their full influence in limiting the extension of

these diseases; but as there had been a considerable reduction of them at the other two groups, indicating their diminished incidence over the country, this must have acted at the fourteen subjected stations as well, and has to be subtracted from the results there, leaving the portion really caused by the repressive measures under the Acts. Thus, taking the ratios per 1,000 from Table III, the admissions were :—

Periods.	At 14 Stations under Acts.			At all Stations never under Acts.			At 14 Stations never under Acts.		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860-73, no Act in force	129·8	39·9	134·6	116·3	30·5	116·1	120·6	31·6	112·1
1870-73, Acts in force at fourteen stations	52·5	20·2	100·3	86·0	27·4	95·0	107·9	31·8	71·6
Difference between 1860-63 and 1870-73	77·3	19·7	34·3	30·3	3·1	21·1	12·7	+ ·2	40·5
Percentage of fall or rise	−60	−49	−25	−26	−10	−18	−10	+ $\frac{1}{158}$	−36

Here, at the stations under the Acts, the fall in primary sores from 1860-63 to 1870-73 was 60 per cent.; at all the unsubjected stations the fall was 26 per cent., and, taking this from 60, 34 remains as due to the repressive action of the Acts. Taking the fourteen stations never under the Acts, where the intensity of the disease was greater than the mean over the whole country, and not very different from what it was in the fourteen under the Acts, the fall in the period under consideration was 10 per cent. only; and this, taken from 60, would leave 50 per cent. as the reduction due to the Acts; and it is probable it really lay between 34 and 50, or about 44. Proceeding similarly with secondary syphilis, the fall for the same period under the Acts was 49 per cent.; at all the stations never under them it was 10 per cent. only, leaving 39 as occurring under the Acts. At the fourteen stations never under them there was a small fractional rise, too small to be taken into consideration. With gonorrhœa the fall under the Acts was 25 per cent.; at all the unsubjected stations it was 18, leaving an excess of 7 under the Acts; while at the fourteen unsubjected stations it was 36, or 11 more even than under the Acts.

The effect of stopping the pay of soldiers under treatment in hospital, with primary sores or gonorrhœa, comes next for consideration. The warrant was signed in October 1873, and cancelled on 17th November, 1879, and practically was in force from 1874 to 1879, inclusive. Comparing the facts for this period with those for 1860-63, as already done for 1870-73, the

results will show the difference between them and those for 1870-73 as already obtained :—

Periods.	At 14 Stations under Acts.			At all Stations never under Acts.			At 14 Stations never under Acts.		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860-63, no Act in force	129·8	39·9	134·6	116·3	30·5	116·1	120·6	31·6	112·1
1874-79, stoppage of pay in hospital.....	38·7	23·0	67·6	71·5	31·0	72·9	97·4	38·8	63·3
Difference between 1860-63 and 1874-79	91·1	16·9	67·0	44·8	+·5	43·2	23·2	+72	48·8
Percentage of fall or rise	−70	−42	−50	−38	+1	−37	−19	+23	−44
Increased percentage fall under stoppage of pay	+10	+ 7	−25	+12	+11	+19	+ 9	+23	+ 8

Here the increased fall after stoppage of pay came into force was 10, 12, and 9 per cent. for primary sores, in the three classes of stations respectively. In secondary syphilis the additional decline under the Acts was 7 per cent.; on the other hand, at all the stations never under them there was an increase of 11 per cent., and at fourteen never under them of 23 per cent. For gonorrhœa there were 25 per cent. fewer treated under the stoppage of pay at the stations under the Acts ; at all the stations never under them they were 19 per cent. fewer; and at the fourteen stations never under them 8 per cent. fewer.

In the next period, 1880-82, whilst compulsory examination remained in force (this was stopped in May, 1883), the following changes occurred :—

Periods.	At 14 Stations under Acts.			At all Stations never under Acts.			At 14 Stations never under Acts		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860-63, no Act in force	129·8	39·9	134·6	116·3	30·5	116·1	120·6	31·6	112·1
1880-82, stoppage of pay terminated	75·6	26·6	99·0	123·0	32·5	110·4	175·9	38·9	128·4
Difference between 1860-63 and 1880-82	54·2	13·3	35·6	+6·7	+2·0	5·7	+55·3	+7·3	+16·3
Percentage of rise and fall	42	33	26	+6	+7	5	+23	+23	+15

While the strong epidemic influence, in operation during this period, raised admissions at all the stations never under the Acts as high as they were in 1860-63, and at the fourteen stations never under them much higher, the repressive action of the compulsory examination at the subjected stations, though it could not prevent an increase of the low ratios previously found at them, still retained them for the three years at nearly the same elevation, and much below the ratios found in the other two groups.

The period 1883-84 only now remains to be considered. As already mentioned, the personal examination was suspended in May, 1883, and for the remainder there was little to prevent the disease, at the fourteen stations which had previously been under the Acts, assuming the frequency it had presented before 1863, save that the various hospitals remained open for the treatment of such females as chose to avail themselves of them. The results were as follow :—

Periods.	At 14 Stations under Acts.			At all Stations never under Acts.			At 14 Stations never under Acts.		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860-63, Acts not in force	129·8	39·9	134·6	116·3	30·5	116·1	120·6	31·6	112·1
1883-84, Acts gradually terminating	123·9	25·4	100·1	118·3	32·7	109·4	174·0	46·8	135·1
Difference between 1860-63 and 1883-84 ...	5·9	14·5	34·5	+ 2·0	+ 2·2	+ 3·7	+ 53·4	+ 15·1	+ 23·0
Percentage of difference	4	36	26	+ 2	+ 7	+ 3	+ 44	+ 48	+ 21

The following facts will enable the beneficial assistance derived from the hospitals after May, 1883, to be estimated approximately. The admissions of females into these in the three years 1880-82 differed very little, and their means were :—

	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
Mean admissions, 1880-82	994	676	1,899
Admissions in 1883, including those before May	710	502	845
Admissions in 1884	288	375	291

Under these circumstances the primary sores among the troops rose to within 4 per cent. of their number in 1860-63, though the

secondary syphilis remained 36 per cent. below the former rate, and gonorrhœa 26 per cent. below it. In this last period the admissions at the stations never under the Acts, taking them as a whole, resulted in the same frequency, practically, as they had presented in 1860-63. But, separating the fourteen stations never under the Acts, the admissions for primary sores at them were 44 per cent. higher than they were in 1860-63; those for secondary syphilis, 48 per cent. more frequent; and those for gonorrhœa, 21 per cent. The enormous numbers who came under treatment for primary sores at some of the stations since 1880 deserve notice. Thus the ratio per 1,000 of admissions for primary venereal sores was:—

In 1880, at Belfast..... 273, and above 200 at another three
„ '81, at Sheffield .... 279, „
„ '82, at Dublin..... 304, and above 200 at another two
„ '83, „ ..... 265, London and Manchester showing same ratio
„ '84, „ ..... 260, and two other places above 200

The separation of the stations into three groups has not been continued since 1884, and the diseases among the troops are all brought into one general return. These are given from 1885 to 1889 in Table III B. These show the ratio per 1,000 of admissions for the three forms of disease to have been in 1885, as compared with 1860:—

	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
In 1860. Ratio per 1,000 of admissions	140	36	133
In 1885. Ratio per 1,000 of admissions	127	27	121

which, as they are for single years only, approach nearer than might scarcely have been anticipated. What is remarkable, also, is that, in both instances, there should have been a considerable fall in the following four years, and that in each the amount of this has not been very different. Thus the ratios per 1,000 were:—

	1860 to 1864.			1885 to 1889.		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
	140	34	133	127	27	121
	101	37	110	84	36	93
	39	+ 3	23	43	+ 9	28
A percentage of	− 28	+ 9	− 17	− 34	+ 33	− 23

As the Act of 1864 was promulgated late in that year, and could have had no sensible influence on the admissions, the changes indicated by these figures are deserving of special notice.

In Table IV will be found an abstract of the numbers under treatment in hospital, daily, among the troops in the United Kingdom, for primary sores, and secondary syphilis, at the fourteen stations under the Acts, and at all those never under them, arranged for the same periods as in Table III, and their ratios per 1,000. From this it is seen that the daily sick in—

	Fourteen Subjected Stations		All Stations never under Acts.	
	Primary Sores.	Secondary Syphilis.	Primary Sores.	Secondary Syphilis.
In 1860-63	9·27	2·95	8·11	2·61
„ '70-73	4·34	1·62	7·07	2·09
Showing reductions of	4·93 53 per cent.	1·33 45 per cent.	1·04 13 per cent.	0·52 20 per cent.

The operation of stoppage of pay, between 1874 and 1879, led to the further reduction of the admission for primary sores to—

2·87 1·83 4·79 2·21

though with some increase of secondaries to a slight extent in both groups; the explanation of which is that the stoppage of pay was imposed on men affected with the primary affections, and did not extend to those under treatment for the secondary disease. The numbers under treatment daily for secondary syphilis, at the two groups of stations, since 1880, are not given separately, but those for primary sores are available to 1884. These show a very large increase at the fourteen unsubjected stations in 1880-82, with a still further one in 1883-84; while at the stations under the Acts in the former period, during the continuance of the personal examination there was a much smaller rise; but in the latter, when hospital treatment was open to voluntary applicants alone the ratio was nearly doubled. These remarks confirm the conclusions arrived at from the discussion of the admissions under the varying conditions the men were subjected to during the different periods embraced in this paper.

During the sittings of the Select Committee on the C.D. Acts in the House of Commons, the question of the relative frequency of infecting and simple sores arose several times; this can be ascertained only by finding how many cases of constitutional disease follow the primary sores, observed among a large number of persons under observation for a lengthened period; thus

it was found that from 1861 to 1872, inclusive, the admissions for primary sores among the troops in the United Kingdom, were 73,238, and those for secondary syphilis 24,742, or 1 case of secondary in 2·95 primary cases. Subsequent returns, embracing some men omitted in those just referred to, raised the admissions to 90,915 and 27,807, which gives 1 case of secondary per 3·27 primary sores; but two sources of uncertainty present themselves here, viz., in how many instances have the constitutional affection been obviated by the treatment of the primary affection, and how far does the relative frequency of the infecting and non-infecting sores vary at the same place from year to year, or every few years. It is well known that the diagnosis of the constitutional forms of syphilis has been much improved of late years, and it may be, partly at least, that the explanation of the very low ratios of secondary disease mentioned above was due to the non-recognition of their slighter forms, or to their being attributed to another cause. Be that as it may, however, within the last five years, when there has been no obvious interference with the progress of the primary and constitutional forms of the disease, the ratio of the latter to the former has varied a good deal more than it should have done were the relative frequency of the infecting sores not materially altered. Table III B affords a good example of this; in that it may be seen that in 1885, with an admission rate of 127·4 per 1,000 for primary sores, that for secondary syphilis was 26·8 only; in 1887 these were respectively 107·5 and 42·6, and in 1889 85·5 and 35·7: the secondaries increasing very rapidly, while the primaries decreased, leading to the conclusion that the decrease was in the non-infecting sores.

Gonorrhœa has been but little commented on during the course of this investigation; but in general terms it may be stated that, though not responding so readily to the preventive aid of the Acts, it nevertheless ultimately was materially reduced under their operation.

The influence of the Acts on the prevalence of the different forms of venereal affections in the Royal Navy may now be considered. In the "Statistical Report on the Health of the Navy "for 1881," there is a table detailing the strength, and admissions, for primary venereal sores, and secondary syphilis, and gonorrhœa, year by year, from 1860 to 1881, in the various ships at the ports on the home station where the Acts were in force, and at those which were never under them. I have added the results for 1882, from the report of that year, to this table, so as to complete the period to that for the Army (Table III) already given.

The ports referred to are as under :—

Those which came under the Acts.	Those never under the Acts.
Dartmouth	Hull
Plymouth	Liverpool
Portsmouth	Kingston (Dublin)
Southampton	Greenock
Queenstown	Leith

The force was very unequally distributed between these groups, 87 per cent. of it being at places under the Acts, and 13 only at those never under them. The points of contact with the unprotected population being so few, and the numbers at them so limited, much greater irregularity must be looked for than was found in the army returns under such different conditions.

The Naval returns included primary venereal sores and secondary syphilis under the same heading from 1860 to 1865 inclusive, afterwards they were shown separately. It had been the practice in the Navy not to enter slight cases of gonorrhœa on the sick list, until the discussions on the Act arose, and attention was drawn to the subject, when instructions were issued for all to be included ; this seems to have taken place about 1870. Table V in the Appendix embodies the details for the twenty-three years 1860-82, arranged in a similar manner to Table III for the Army, but the conditions just mentioned will show that the analysis of the results cannot be expected to be so close as was found in the Army. To proceed on the same plan, however, the period 1860-63, before any restrictive measures were in force, may be compared with that of 1870-73, when they were in full operation ; 1864-69 being a transition period, may be omitted, as was done with the army. The following shows the relative frequency of primary sores and secondary syphilis taken together, and gonorrhœa, in the force under the Acts, and not under them, in the two periods :—

Period.	Under Acts.		Not under Acts.	
	Syphilis, Primary and Secondary.	Gonorrhœa.	Syphilis, Primary and Secondary.	Gonorrhœa.
1860-63, no Act in force	74·9	26·5	70·2	29·5
'70-73, Acts in full operation	45·6	62·0	106·8	50·4
Difference between 1860-63 and 1870-73	− 29·3	+ 35·5	+ 36·6	+ 20·9
Percentage of fall or rise	− 39	+ 134	+ 52	+ 71

Had the increase of 52 per cent. of the syphilitic disease at stations never under the Acts been due to greater epidemic incidence, the improvement under them would have amounted to

39 + 52, or 91 per cent. But, as shown by the Army returns, there was a sensible decrease of epidemic influence over the country in the latter period; and, in face of this, it is probable that the large increase of 52 per cent. was due to some of those irregularities presented by small numbers. All that can be proved by this comparison then is, that where the restrictive measures were in operation a material reduction of disease took place. As to gonorrhœa, the remarks made above obviate further comment.

In the next period, 1874-79, where the stoppage of pay deranged the admission rates in the Army, there was no such interference with those in the Navy. The results from Table V are as below:—

Period.	Under Acts.		Not under Acts.	
	Syphilis, Primary and Secondary.	Gonorrhœa.	Syphilis, Primary and Secondary.	Gonorrhœa.
1860-63, no Act in operation	74·9	26·5	70·2	29·5
'74-79, Acts in full operation	36·7	62·4	88·8	50·3
Difference between 1860-63 and 1874-79	− 38·2	+ 35·9	+ 18·6	+ 20·8
Percentage decrease or increase	− 52	+ 135	+ 26	+ 70

Here the percentage of reductions in the syphilis has increased from 39 in 1870-73 to 52 at the protected stations, but it has fallen from 32 at the former date to 26 at the latter, at those not under the Act, corresponding with what took place among the troops in duration, though not so closely in quantity.

In the years 1880-82 the following were the results:—

Period.	Under Acts.		Not under Acts.	
	Syphilis, Primary and Secondary.	Gonorrhœa.	Syphilis, Primary and Secondary.	Gonorrhœa.
1860-63, no Act in operation	74·9	26·5	70·2	29·5
'80-82, compulsory examination still in force	53·4	75·4	148·9	69·6
Difference between 1860-63 and 1880-82	21·5	48·9	78·7	40·1
Percentage decrease or increase	− 29	+ 185	+ 112	+ 136

The decrease at the protected ports in 1880-82 as shown here was still 29 per cent. of that between 1860-63, notwithstanding the much greater prevalence of syphilis over the country at large, as is obvious from the military experience as well as that of the Navy, in the general Tables III and V for the respective services.

The naval returns did not give the force at the protected stations and at those never under the Acts separately after 1882, but the strength and admission for the whole force at home last

year are given in Table VB in the Appendix. From this it appears syphilis reached its highest point in 1884, the same year as in the army, though the ratios in the latter were much higher than in the former, being for primary sores 124·0 per 1,000, and for secondary syphilis 30·2, while for the navy they were 83·2 and 26·9 only. Subsequent to 1884 the disease diminished considerably though irregularly, but contrasting remarkably in these respects with the large and more regular fall in the Army.

Syphilitic affections are considerably more frequent among the troops than among the seamen at the protected stations, than would have been expected. Thus the admissions per 1,000 for primary venereal sores, secondary syphilis, and gonorrhœa, were at these stations for the undermentioned periods :—

Periods.	In Army.			In Navy.		
	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1870–73.....	52·5	20·3	100·3	32·6	13·0	62·0
'74–79.....	38·7	23·0	67·6	26·9	9·8	62·4
'80–82.....	75·6	26·6	99·0	38·7	14·7	75·4

This immunity may be due, in part at least, to the seamen living on board ship a large portion of their time, and so less exposed to sources of infection than soldiers, who are always on shore, and possibly, to some extent, to their employing ablution earlier after such exposure than is customary among soldiers. Under any circumstances it is worthy of note.

The progress of syphilis among the civil population is a matter of much interest, but authentic information upon it is very limited. The returns of the registrar-general give the deaths from this form of disease, but the general impression seems to be that these are frequently attributed to some other disease, and that the record is therefore very imperfect. Be this as it may, there is, at present, no other source of information suitable as a basis for statistical investigation save the records preserved in his annual reports. Table VI in the Appendix gives the population, with the deaths from syphilis (in both sexes and at all ages) among them, taken from these, for every year from 1860 to 1889, from which it appears 56,551 persons died of this disease, 41,828 of whom were children under one year of age; of the remainder, 3,955 were between 1 and 5 years of age, and 10,768 above 5 years, being respectively very nearly 74·7 and 19 per cent. of the whole. As the deaths among young children constitute so large a portion of the mortality from syphilis, a separate column has been added to the table, giving the births each year, with the deaths of infants

under 1 year, with their ratios per 1,000, which show the fluctuations from year to year more plainly than the ratios per million adopted for the whole population.

Forty to fifty years ago the diagnosis of constitutional syphilis was by no means so well understood as it has since become; and during the period of transition the returns show traces of this in gradually increasing ratios per 1,000, without any intermediate falls. Thus in the second part of Table VI the deaths among children under 1 year give a ratio of 1·12 in 1860, then rise gradually to 1866, when it amounted to 1·57. In 1867 the ratio was 1·62 per 1,000, and from this year until 1889 it fluctuated between that and 1·99, there having been no less than four occasions when it fell below 1·70, with intermediate waves of varying amounts. The mean ratio for the whole thirty years is 1·69 per 1,000, but if the years up to 1866 inclusive be omitted, there remain 19,710,458 births, among which 34,989 deaths from syphilis occurred within the year, or 1·78 per 1,000, which represents the mean state, when confined to its normal limits, more correctly. During these years the ratio was constantly fluctuating, having been under 1·78 on twelve occasions, and at or above it on eleven. The great wave which caused the Military and Naval returns to increase so rapidly, and which culminated in these in 1883 and 1884, is also well marked here, and the abrupt fall to 1888 and 1889 equally so.

Table VII gives the distribution of the deaths from syphilis among the civil population of the different divisions of the Registrar-General, which have been arranged so as to throw the whole country into five continuous groups, the metropolis forming one of them, the period being for the six quinquenniads from 1860 to 1889. The first of these quinquenniads, being a transition one, may be passed over here as affording no secure basis for generalisation. The second, 1865-69, embraces the first introduction of the Contagious Diseases Acts, and with those that follow enables the influence of these Acts on the frequency of deaths from syphilis to be traced. The deaths per million living in each of these groups in the respective quinquenniads were as under:—

Periods.	England and Wales.	Districts.				
		I.	II and V.	III, IV, and VI.	VII and XI.	VIII, IX, and X.
1865-69	80	144	68	67	44	85
'70-74	80	127	62	72	49	88
'75-79	85	128	60	77	58	97
'80-84	84	127	55	75	56	96
'85-89	73	112	55	61	51	83

It is apparent from these numbers the beneficial action of the Contagious Diseases Acts had not been confined to the troops and seamen, but had reduced the mortality from syphilis among the civil population in the districts where they came into operation, to a material extent since 1870. Ten of the twelve protected stations in England are in the counties south of the Thames and Bristol Channel, constituting the II and V divisions of the Registrar-General; one station, Woolwich, is in the I or metropolitan division, and one, Colchester, in the IV division. Taking the quinquenniads 1865-69, 1870-74, and 1875-79, the mortality at all ages from syphilis in the II and V divisions was 68 per million living in the first period, declining to 62 in the second, and to 60 in the third, a reduction of 12 per cent. In the III, IV, and VI divisions, extending from the east coast to the Welsh border, immediately north of the II and V, the mortality from syphilis in 1865-69 was 67 per million, almost the same as in the two southern divisions, but instead of falling in the next quinquenniad it rose to 72, and to 77 in the following one, a rise of 15 per cent. In the next group to the north comprising the VII and XI divisions, the deaths from syphilis in 1865-69 were 44 per million, rising to 49 in the following quinquenniad, and to 58 in 1875-79, a rise of 32 per cent. In the remainder of England to the north the deaths rose from 85 in 1865-69, to 88 in the succeeding period, and to 97 in 1875-79, an increase of 14 per cent. London presented the only exception to the general rise; this, with the neighbouring county comprised in the I division, had a mortality of 144 per million from syphilis in 1865-69; this fell to 127, or 12 per cent., in 1870-75, and virtually remained at the same rate. These facts point clearly to the influence of the Contagious Diseases Acts having diminished materially the mortality from syphilis, not only in the immediate localities where they were enforced, but to a large distance around them, while in London there had been a smaller reduction, and in the rest of the country a very marked increase. In the quinquenniad 1880-84 there were indications of a commencing change which went on to the great decrease observed in the country generally in 1885-89, and in every group of divisions as well. The fall in 1880-84 was much accelerated in the II and V divisions, where the compulsory examination was continued until May, 1883.

APPENDIX.

TABLE I.—*Aggregate Strength, with the Admissions for Primary Syphilis, Simple Venereal Sores, and Secondary Syphilis, among the Dragoon Guards and Dragoons, the Foot Guards, and Infantry of the Line, Serving at Home, with their Ratios per* 1,000, *for the undermentioned Periods.*

Periods.	Dragoon Guards and Dragoons.						
	Strength.	Admissions.			Ratios per 1,000.		
		Primary Syphilis.	Simple Sores.	Secondary Syphilis.	Primary Syphilis.	Simple Sores.	Secondary Syphilis.
1830–37	44,611	1,415	2,144	339	31·7	48·1	7·6
'37–46	54,374	1,396	2,920	467	25·7	53·7	8·6
'60–64	46,130	5,482	26	2,108	118·8	0·6	45·7

Periods.	Foot Guards.						
	Strength.	Admissions.			Ratios per 1,000.		
		Primary Syphilis.	Simple Sores.	Secondary Syphilis.	Primary Syphilis.	Simple Sores.	Secondary Syphilis.
1830–37	—		No return available				
'37–46	40,170	4,769	883	536	118·7	22·0	13·3
'60–64	24,229	3,699	30	811	153·7	0·3	33·5

Periods.	Infantry of Line.						
	Strength.	Admissions.			Ratios per 1,000.		
		Primary Syphilis.	Simple Sores.	Secondary Syphilis.	Primary Syphilis.	Simple Sores.	Secondary Syphilis.
1830–37	—		No return available				
'37–46	100,103	6,157	13,380	2,092	61·5	133·7	20·9
'60–64	126,534	13,497	36	4,048	106·8	0·3	32·0

TABLE II.—*Return of Primary Venereal Sores, and Gonorrhœa, among Dragoon Guards and Dragoons in United Kingdom.**

Years.	Strength.	Admissions to Hospital for		Ratios per 1,000.	
		Primary Venereal Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.
1830	6,402	458	383	72	60
'31	6,018	579	374	96	62
'32	6,408	512	343	80	54
'33	6,379	607	363	95	57
'34	6,261	504	294	81	47
'35	5,902	442	289	75	49
'36–37.....	7,241	457	403	63	56
'37–38.....	5,506	342	377	62	69
'38–39.....	5,060	373	392	74	77
'39–40.....	5,267	432	392	82	74
'40–41.....	5,330	326	323	61	61
'41–42.....	5,309	371	350	70	66
'42–43.....	4,995	391	348	78	70
'43–44.....	5,335	577	327	108	61
'44–45.....	6,225	578	474	93	76
'45–46.....	5,864	466	392	79	67
'46–47.....	5,483	460	350	84	64
Sums	98,985	7,875	6,174	—	—
Means	5,823	463	363	79·5	62·3

* "Statistical Reports on the Sickness, Mortality, and Invaliding among the "Troops in the United Kingdom, the Mediterranean, and British America from "1830 to 1837," p. 25, and from 1837 to 1847, p. 58.

TABLE II—*Contd. Return of Primary Venereal Sores, and Gonorrhœa, among Foot Guards in United Kingdom.**

Years.	Strength.	Admissions to Hospital for		Ratios per 1,000.	
		Primary Venereal Sores.	Gonorrhœa.	Primary Sores.	Gonorrhœa.
1830	No return for these years				
'31					
'32					
'33					
'34					
'35					
'36–37.....					
'37–38.....	4,502	481	265	107	59
'38–39.....	3,010	431	119	143	40
'39–40.....	3,234	408	307	126	95
'40–41.....	3,246	434	226	134	70
'41–42.....	3,180	488	203	153	64
'42 43.....	3,227	486	247	151	77
'43–44.....	4,879	1,060	222	217	45
'44–45.....	4,996	674	183	135	37
'45–46.....	4,931	690	183	140	37
'46-47.....	4,915	500	243	102	49
Sums	40,120	5,652	2,198	—	—
Means	4,012	565	220	140·8	54·8

* "Statistical Reports on the Sickness, Mortality, and Invaliding among the "Troops in the United Kingdom, the Mediterranean, and British America from "1837 to 1847," p. 60.

TABLE III.—*Annual Strength and Admissions for Primary Venereal Sores, Secondary Ratios per* 1,000

Periods.	Stations which came under Contagious Diseases Acts.							All Stations never			
	Strength.	Admissions for			Ratio per 1,000.			Strength.	Admissions for		
		Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.		Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860	57,479	8,405	2,157	7,966	146	38	139	40,224	5,291	1,160	4,998
'61	51,328	7,267	2,077	7,133	142	40	139	37,627	4,577	1,103	4,063
'62	45,322	5,314	1,874	6,283	117	41	139	32,851	3,264	949	3,925
'63	43,419	4,653	1,774	5,202	107	41	120	32,526	3,521	1,150	3,638
Sums and ratios	197,548	25,639	7,882	26,584	129·8	39·9	134·6	143,228	16,653	4,362	16,624
1864	40,694	4,135	1,631	4,803	102	40	118	32,558	3,297	1,087	3,252
'65	43,078	4,077	1,344	4,937	95	31	115	29,921	2,956	931	3,373
'66	39,476	3,444	1,138	4,573	87	29	116	30,816	2,594	806	2,993
'67	39,911	3,640	1,259	5,274	91	32	132	33,509	3,367	932	3,946
'68	42,595	3,533	1,354	5,685	83	32	133	35,666	3,370	1,230	4,061
'69	42,017	2,765	1,091	4,468	66	24	106	31,747	3,366	954	3,431
Sums and ratios	247,771	21,594	7,817	29,738	87·1	31·5	120·0	194,217	18,950	5,940	21,056
1870	41,580	2,268	996	4,081	55	24	98	33,734	3,134	937	3,195
'71	54,096	2,763	932	6,254	51	17	116	38,571	3,122	1,035	3,969
'72	50,794	2,752	1,045	5,280	54	20	104	41,424	3,736	1,178	4,013
'73	48,039	2,420	969	3,946	50	20	82	40,918	3,307	1,096	3,508
Sums and ratios	194,509	10,203	3,942	19,561	52·5	20·2	100·3	154,647	13,299	4,246	14,685
1874	48,136	2,039	1,074	2,968	42	22	62	38,701	2,555	1,052	2,596
'75	48,006	1,717	1,185	2,825	35	24	58	39,541	2,374	1,352	2,488
'76	48,620	1,622	1,121	3,302	33	23	68	38,073	2,412	1.217	2,642
'77	52,422	1,809	1,060	3,585	35	20	68	39,721	2,690	1,131	3,376
'78	55,813	2,235	1,222	4,352	40	22	78	45,316	3,970	1,469	3,144
'79	42,646	2,005	1,136	2,939	47	27	69	38,054	3,108	1,205	3,218
Sums and ratios	295,643	11,427	6,798	19,971	38·7	23·0	67·6	239,406	17,109	7,426	17,464
1880	44,026	3,280	1,331	4,387	74	30	100	39,869	4,756	1,225	4,543
'81	39,558	2,920	1,067	3,821	74	27	97	45,184	5,673	1,536	4,840
'82	41,783	3,275	940	4,199	78	22	100	45,064	5,582	1,473	4,990
Sums and ratios	125,367	9,475	3,338	12,407	75·6	26·6	99·0	130,117	16,011	4,234	14,373
1883	38,089	4,172	961	3,788	110	25	99	43,588	5,339	1,369	4,785
'84	37,859	5,235	970	3,818	138	26	101	45,276	5,175	1,538	4,944
Sums and ratios	75,948	9,407	1,931	7,606	123.9	25·4	100·1	88,864	10,514	2,907	9,729
Total and ratios	1,136,786	87,745	31,708	115,507	77·2	27·9	101·7	950,479	92,534	29,115	93,931

* The annual details in this table are taken from a return from the Army Medical Department giving the admissions into the female hospitals, from

*Syphilis, and Gonorrhœa, among the Troops in the United Kingdom, together with the of Strength.**

under Acts.			Fourteen Stations never under Acts.							Periods.
Ratio per 1,000.			Strength.	Admissions for			Ratio per 1,000.			
Primary Sores.	Secondary Syphilis.	Gonorrhœa.		Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	
131	29	124	22,900	3,058	459	2,671	134	20	117	1860
122	29	108	22,893	2,888	747	2,322	126	33	101	'61
99	29	120	19,781	2,031	691	2,437	103	35	123	'62
108	35	112	20,119	2,357	805	2,177	117	40	108	'63
116·3	30·5	116·1	85,693	10,334	2,704	9,607	120·6	31·6	112·1	Sums and ratios
101	33	100	19,987	2,455	729	2,025	123	37	101	1864
99	31	113	19,482	2,156	586	2,355	111	30	121	'65
84	26	97	19,835	1,945	503	1,985	98	25	100	'66
101	28	118	20,589	2,372	540	2,670	115	26	130	'67
95	34	114	19,486	177	683	2,236	109	35	115	'68
106	30	108	17,739	2,273	622	1,428	128	35	81	'69
97·6	30·6	108·4	117,118	13,331	3,663	12,699	133·9	31·3	108·4	Sums and ratios
93	28	95	17,852	2,022	555	1,367	113	31	76	1870
81	27	103	19,951	1,865	592	1,383	93	30	69	'71
90	28	97	19,950	2,457	684	1,445	123	34	72	'72
81	27	86	19,801	2,025	632	1,367	102	32	69	'73
86·0	27·4	95·0	77,554	8,369	2,463	5,551	107·9	31·8	71·6	Sums and ratios
66	27	67	18,879	1,661	644	1,043	88	34	55	1874
59	34	63	19,573	1,552	827	996	79	42	51	'75
64	32	69	18,790	1,554	745	834	82	39	44	'76
68	28	85	19,076	1,730	693	1,295	91	36	68	'77
88	32	69	20,749	2,723	874	1,401	131	42	68	'78
82	32	84	18,058	1,943	691	1,719	127	38	95	'79
71·5	31·0	72·9	115,125	11,209	4,473	7,288	97·4	38·8	63·3	Sums and ratios
119	31	114	18,054	3,010	668	2,305	166	37	127	1880
125	34	107	19,643	3,559	804	2,403	181	41	123	'81
124	33	110	19,449	3,481	739	2,618	179	38	135	'82
123·1	32·6	110·5	57,146	10,050	2,211	7,326	175·9	38·9	128·4	Sums and ratios
122	31	110	18,274	3,441	810	2,443	188	44	134	1883
114	34	109	18,635	2,980	916	2,542	160	49	137	'84
118·3	32·7	109·4	36,909	6,421	1,726	4,985	174·0	46·8	135·1	Sums and ratios
97·4	30·6	98·8	489,535	59,774	17,240	47,456	122·0	35·2	96·9	Total and ratios

to House of Commons, dated 31st July, 1885, signed T. Crawford, D.G., and with another War Office, ordered to be printed 6th August, 1885.

TABLE III B.—*The Strength, and Admissions for Primary Venereal Sores, Secondary Syphilis, and Gonorrhœa, among the whole Troops in United Kingdom, from* 1885 *to* 1889 *inclusive.*

Year.	Strength.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Ratios per 1,000.		
					Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1885.....	87,105	11,095	2,336	10,561	127·4	26·8	121·2
'86.....	92,601	11,002	3,097	10,632	118·8	33·5	144·8
'87.....	101,114	10,862	4,311	10,417	107·5	42·6	103·0
'88.....	101,695	9,479	4,095	9,268	93·2	40·3	91·1
'89.....	100,790	8,414	3,601	9,362	83·5	35·7	92·9
Sums and means....	483,305	50,652	17,440	50,240	104·8	36·1	104·9

TABLE IV.—*Numbers under Treatment in Hospital, Daily, among the Troops in the United Kingdom, for Primary Venereal Sores, and Secondary Syphilis, at the Fourteen Stations which came under the Acts, and at all the Stations never under them, with their Ratios per* 1,000 *of Mean Strength.*

Periods.	Fourteen Stations under Acts.				All Stations never under Acts.			
	Under Treatment Daily.		Ratios per 1,000.		Under Treatment Daily.		Ratios per 1,000.	
	Primary Sores.	Secondary Syphilis.	Primary Sores.	Secondary Syphilis.	Primary Sores.	Secondary Syphilis.	Primary Sores.	Secondary Syphilis.
1860–63	1,834	582	9·27	2·95	1,161	374	8·11	2·61
'64–69	1,632	581	6·59	2·35	1,416	449	7·29	2·31
'70–73	845	316	4·34	1·62	1,093	323	7·07	2·09
'74–79	848	542	2·87	1·83	1,148	528	4·79	2·21
'80–82	742	—	5·91	—	738*	—	12·93	—
'83–84	800	—	10·50	—	558*	—	14·98	—

* These two numbers are those for the fourteen stations never under the Acts, and have to be divided by the strength for the periods in the third division of Table III instead of the second, as the heading to this table would indicate. The numbers remaining under treatment for secondary syphilis are not given in the Army Medical reports for the stations under the Acts, and never under them from 1880.

The above table is condensed from No. 2 in Appendix to "Report from the "Select Committee on Contagious Diseases Acts, 1881," p. 446, Parliamentary Paper.

TABLE V.—ROYAL NAVY. *Showing the Strength, and the Admissions for Primary Venereal Sores, Secondary Syphilis, and Gonorrhœa, at the Stations which came under the Acts, and at those never under them, from* 1860 *to* 1882, *with their Ratios per* 1,000 *of Strength.*

Periods.	Stations which came under Acts.						
	Strength.	Admissions for			Ratios per 1,000.		
		Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860	7,560	481		150	63·6		19·8
'61	9,195	613		241	66·7		26·2
'62	9,345	795		288	85·1		30·8
'63	10,210	830		285	81·3		27·9
Sums and ratios	36,310	2,719		964	74·9		26·5
1864	9,880	1,055		196	106·8		19·8
'65	10,140	840		253	82·8		25·0
'66	10,945	510	171	159	46·6	15·6	14·5
'67	10,300	338	104	154	32·8	10·1	15·0
'68	10,445	322	154	281	30·8	14·7	26·9
'69	9,980	311	124	329	31·2	12·4	33·0
Sums and ratios	61,690	1,895 1,481	553	1,372	63·7		22·2
1870	9,690	314	95	534	32·4	9·8	55·1
'71	11,260	313	135	630	27·8	12·0	56·0
'72	11,475	413	160	832	36·0	13·9	72·5
'73	11,315	388	177	716	34·3	15·6	63·3
Sums and ratios	43,740	1,428	567	2,712	32·6	13·0	62·0
1874	11,155	337	129	709	32·2	11·6	63·6
'75	10,660	251	98	639	23·5	9·2	59·1
'76	10,615	255	83	653	24·0	7·8	61·5
'77	11,280	291	112	619	25·8	9·9	54·1
'78	11,000	264	83	673	24·0	7·5	61·2
'79	10,950	366	137	801	33·4	12·5	73·2
Sums and ratios	65,660	1,764	642	4,094	26·9	9·8	62·4
1880	11,510	411	134	830	35·7	11·6	72·1
'81	11,535	442	155	804	38·3	13·4	69·7
'82	9,845	421	194	846	42·8	19·7	85·9
	32,890	1,274	483	2,480	38·7	14·7	75·4
Totals and ratios	240,290	4,614 5,947	2,245	11,622	81·9* 32·3*	12·2	48·4

* These ratios are obtained by dividing 4,614, the sum of the primary and secondary cases under the Acts for 1860-65, by 56,330, the strength for these years, and 5,947 and 2,245, the numbers of these cases respectively for 1866-82, by 183,960, the strength for that period.

TABLE V *Contd.*—ROYAL NAVY. *Showing the Strength, and Admissions for Primary Venereal Sores, Secondary Syphilis, and Gonorrhœa.*

Periods.	Stations never under Acts.					
	Strength.	Admissions for			Ratios per 1,000.		
		Primary Sores.	Secondary Syphilis.	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1860	1,705	100		43	58·7		25·2
'61	1,590	115		49	72·3		30·8
'62	1,660	89		39	53·6		23·5
'63	1,725	165		66	95·7		38·3
Sums and ratios	6,680	469		197	70·2		29·5
1864	1,525	170		39	111·5		25·6
'65	1,555	139		42	89·4		27·0
'66	1,435	74	25	26	51·6	17·3	18·1
'67	1,770	99	44	63	55·9	24·9	35·6
'68	1,630	91	39	50	55·8	23·9	30·7
'69	1,750	110	31	78	62·9	17·7	44·6
		309					
Sums and ratios	9,665	374	139	298	85·0		30·8
1870	1,605	110	70	82	68·5	43·6	51·1
'71	1,650	124	67	71	75·2	40·6	43·0
'72	1,765	127	77	115	72·0	43·6	65·2
'73	1,925	122	45	82	63·4	23·4	42·6
Sums and ratios	6,945	483	259	350	69·5	37·3	50·4
1874	1,790	117	26	76	65·4	14·5	42·4
'75	1,845	135	25	126	73·2	13·5	68·3
'76	1,880	123	31	71	65·4	16·5	37·8
'77	1,895	114	20	101	60·2	10·5	53·3
'78	695	82	10	28	118·0	14·4	40·3
'79	1,015	106	21	57	104·1	20·7	56·2
Sums and ratios	9,120	677	133	459	74·2	14·6	50·3
1880	1,045	142	28	74	135·9	26·8	70·8
'81	990	104	39	65	105·0	30·9	65·6
'82	940	96	34	68	102·1	36·2	72·3
	2,975	342	101	207	115·0	33·9	69·6
		778			79·7*		
Totals and ratios	35,385	1,876	632	1,511	73·2*	24·7*	42·7

* Similarly at the stations never under the Acts, 778, the sum of the primary and secondary cases from 1860 to 1865, on a strength of 9,760, gives their conjoined ratio 79·7, and 1,876 and 632, on a strength of 25,625, from 1865 to 1882, give the ratios 73·2 and 24·7 respectively. From "Statistical Report on Health of the Navy, 1881-82."

TABLE Vb.—ROYAL NAVY. *Showing the Mean Strength and Admissions for Primary Venereal Sores, Secondary Syphilis, and Gonorrhœa, in the Force on the Home Station from* 1883 *to* 1889 *inclusive, with their Ratios per* 1,000.

Years.	Strength.	Admissions for			Ratios per 1,000.		
		Primary Sores.	Secondary Syphilis	Gonorrhœa.	Primary Sores.	Secondary Syphilis.	Gonorrhœa.
1883	22,200	1,585	442	1,968	71·4	19·9	88·6
'84	18,570	1,545	499	1,613	83·2	26·9	86·9
'85	23,100	1,637	563	1,883	70·9	24·4	81·5
'86	21,800	1,512	449	1,691	69·4	20·6	77·6
'87	23,700	1,827	512	1,873	77·1	21·6	79·0
'88	24,000	1,515	558	1,824	63·1	23·3	76·0
'89	24,730	1,769	583	2,138	71·5	23·6	88·5
Sums and ratios	158,100	11,390	3,606	13,040	72·0	22·8	82·5

TABLE VI.—CIVIL POPULATION. *Deaths from Syphilis among the Civil Population in England and Wales (both Sexes and all Ages), with the Ratios per* 1,000,000 *Living; also the Deaths from Syphilis among Children (both Sexes) under* 1 *Year of Age, with their Ratios per* 1,000 *on the Births.*

Years.	Population—all Ages.			Children under 1 Year.		
	Population. [000's omitted.]	Deaths from Syphilis.	Ratios per 1,000.	Births.	Deaths from Syphilis.	Ratios per 1,000.
1860	19,903,	1,067	54	684,048	767	1·12
'61	20,119,	1,177	59	696,406	798	1·15
'62	20,371,	1,245	62	712,684	867	1·22
'63	20,626,	1,386	68	727,417	983	1·35
'64	20,884,	1,550	75	740,275	1,089	1·45
'65	21,145,	1,647	79	748,069	1,155	1·54
'66	21,410,	1,662	79	753,870	1,180	1·57
'67	21,678,	1,698	80	768,349	1,241	1·62
'68	21,949,	1,886	88	786,858	1,364	1·73
'69	22,223,	1,859	85	773,381	1,361	1·76
'70	22,501,	1,858	84	792,787	1,422	1·79
'71	22,789,	1,742	77	797,428	1,317	1·65
'72	23,096,	1,831	80	825,907	1,410	1·71
'73	23,409,	1,843	80	829,778	1,376	1·66
'74	23,725,	1,997	85	854,956	1,484	1·74
'75	24,045,	2,134	90	850,607	1,554	1·83
'76	24,370,	2,134	89	887,968	1,580	1·78
'77	24,700,	2,074	86	888,200	1,550	1·75
'78	25,033,	2,182	88	891,906	1,647	1·85
'79	25,371,	2,039	81	880,389	1,493	1·69
'80	25,714,	2,162	84	881,643	1,589	1·80
'81	26,062,	2,097	80	883,642	1,540	1·74
'82	26,414,	2,227	84	889,014	1,666	1·87
'83	26,771,	2,313	84	890,722	1,773	1·99
'84	27,132,	2,280	84	906,750	1,733	1·91
'85	27,409,	2,196	80	894,270	1,652	1·85
'86	27,871,	2,231	80	903,760	1,701	1·88
'87	28,247,	2,064	73	886,331	1,584	1·80
'88	28,629,	1,927	67	879,868	1,452	1·65
'89	29,016,	2,053	71	865,944	1,500	1·73
Sums and ratios	722,610	56,551	78	24,773,227	41,828	1·69

Population, births, and deaths, from registrar-general's returns.

TABLE VII.—CIVIL POPULATION. *Showing the Mean Population, and Deaths from Syphilis (both Sexes and all Ages) in Civil Life, in England and Wales in the Successive Quinquenniads from* 1860 *to* 1889, *with their Ratios in* 1,000,000 *Living; also their Distribution in the Groups of the Registrar-General's Division, specified in Tables for the corresponding Periods.*

[The population for the middle year of each quinquenniad has been taken as the mean for the period, and 000's are omitted.]

Periods.	Middle Year of each Period.	England and Wales.			I Division.			II and V Divisions.		
		Population. [000's omitted.]	Deaths.	Ratios per 1,000,000.	Population [000's omitted.]	Deaths.	Ratios per 1,000,000.	Population [000's omitted.]	Deaths.	Ratios per 1,000,000.
1860–64	1862	20,371,	1,285	63	2,857,	317	111	3,727,	221	59
'65–69	'67	21,678,	1,750	80	3,078,	442	144	3,907,	268	68
'70–74	'72	23,096,	1,854	80	3,319,	423	127	4,084,	252	62
'75–79	'77	24,700,	2,111	85	3,595,	462	128	4,231,	255	60
'80–84	'82	26,416,	2,216	84	3,893,	495	127	4,385,	242	55
'85–89	'87	28,247,	2,094	74	4,215,	472	112	4,546,	250	55

Periods.	Middle Year of each Period.	III, IV, and VI Divisions.			VII and XI Divisions.			VIII, IX, and X Divisions.		
		Population. [000's omitted.]	Deaths.	Ratios per 1,000,000.	Population. [000's omitted.]	Deaths.	Ratios per 1,000,000.	Population. [000's omitted.]	Deaths.	Ratios per 1,000,000.
1860–64	1862	4,936,	241	49	2,629,	94	36	6,230,	411	66
'65–69	'67	5,186,	347	67	2,741,	119	44	6,766,	575	85
'70–74	'72	5,452,	394	72	2,874,	141	49	7,364,	644	88
'75–79	'77	5,742,	445	77	3,064,	177	58	8,062,	780	97
'80–84	'82	6,048,	453	75	3,267,	184	56	8,791,	841	96
'85–89	'87	6,376,	387	61	3,447,	179	51	9,632,	804	83

Note.—Details compiled and computed from data in registrar-general's returns.

DISCUSSION *on* INSPECTOR-GENERAL LAWSON'S PAPER.

DR. NEVINS said that the diagram which Dr. Lawson had so admirably drawn excited his envy. His own diagram was rough in comparison, but it would be found that their figures, practically speaking, were the same. He himself began with 1860, because then the annual reports of the army were first published regularly, and the amount of disease was so great that a commission was appointed by Lord Herbert, Secretary for War, which investigated the matter with the greatest care, and made recommendations with respect to sanitary arrangements of barracks and healthy occupations for the men, such as libraries, and so on, cricket and football, &c., to improve their condition. These recommendations began to

be put in force as rapidly as the votes of the House of Commons would permit, and circumstances allowed. It was important to mention, that in 1860 the army was divided for sanitary purposes in the reports into camps, seaports, manufacturing towns, &c., as the conditions varied so much that the sanitary conditions of different sets of stations were likely to be different, and accordingly the army was divided into large camps, large seaports, and large dockyards; while London was put by itself, because there was nothing to compare with it. Dublin also was put by itself, and the large manufacturing towns were put by themselves, and also the battalion depôts —and the remainder of the less strongly characterised places, in which the rest of the army was distributed, were thrown together as "remaining stations." In these large camps, large seaports, and large dockyards the improvements recommended by Lord Herbert's Commission were pushed forward as rapidly as possible. When he (Dr. Nevins) was giving his evidence before the Select Committee of the House of Commons, he took out for every station for every year the whole work that had been done, and laid the result before the committee. Before the Act of 1866 important improvements, suggested by Lord Herbert's recommendations, had been carried out in thirty-five instances in the large camps, seaports, and dockyards, but in London and Dublin, and the fourteen subsequently non-subjected stations, only twenty important improvements were carried out. Coincident with those improvements an enormous fall in disease took place, which he represented by the black line in his diagram. The fall amounted to 28 per cent. in the large camps; to 33 per cent. in the seaports, and to 29 per cent. in the dockyards. In the large manufacturing towns the fall amounted to only 21 per cent., while London was worse than at the beginning, and Dublin was the worst of all on the average of the whole periods. The average annual fall in the stations afterwards put under the Acts amounted to 6·7 per cent. He had not mentioned the Act of 1864, because it was only in operation in four stations in all, and in these only for a short time, and there were no periodical examinations or compulsory detention in hospitals. The improvements recommended by Lord Herbert's Commission still continued to be carried out, and at a more rapid rate than before, for after the Act was passed there were forty-eight important improvements carried out in the camps, dockyards, and so on, but only twenty-three in the fourteen non-subjected stations. The whole of the camps, which had already improved 28 per cent., were then "selected" to be put under the Acts; the whole of the seaports, which had already improved 33 per cent., and two out of the three great dockyards, which had already improved 29 per cent., and five minor stations, which had shown no particular character previously, were also placed under the Acts for comparison with fourteen stations not under them. London, which had already fallen off, was taken, and Dublin, which was the worst of all; four of the largest manufacturing towns were also taken, and one dockyard and seven minor stations from the "remaining" numbers which had no particular character among them, and then the fourteen stations which had been so improved, by Lord Herbert's

suggestions, were put forward as a fair comparison with the wretched seat of London, Dublin, and the large manufacturing towns, where vice and crime always seem to gravitate, and which had been left with only twenty-three instead of thirty-five of Lord Herbert's important improvements. Furthermore, in order to prevent disease being brought into the stations under the Acts by the men belonging to the fourteen stations under them, an army regulation was issued, though without any warrant from the Acts themselves, that the men coming into these subjected stations were to be examined to see whether they had disease before they were allowed to join their comrades, and if diseased were at once sent to hospital; but in the stations that were not under the Acts there was no such examination, and the men were allowed to bring in any amount of disease that they had contracted during their furlough. The first women they consorted with could go and spread it, and then the thing worked its vicious round. The question was asked before the Select Committee of the House of Commons, "why is this not applied to all the stations?" and the answer was, that a great experiment was going on, and every precaution must be taken to prevent its failing. These conditions continued for six years, and in the diagram Dr. Nevins showed Lord Herbert's improvements still going on, indicated by the black line, and he had indicated the additional influence of the Acts by red lines. The disease continued to fall, and naturally so, but instead of 6·7 per cent. yearly, it fell only 6·3 per cent. annually for the next six years; then it appeared that the army authorities were dissatisfied, and Lord Cardwell issued an order that all men suffering from primary disease should have their pay stopped. When that order came into force he (Dr. Nevins) had added a third line in his diagram, to indicate it in order to show the deterrent influence of stoppage of pay. Of course that prevented the men reporting themselves to the army doctors when they only had trifling cases, and they went to druggists instead. Then disease apparently fell in four years from 54 to 33 per 1,000, but then, in spite of the Acts and of punishment, it began to rise for three years, and it rose until the warrant was withdrawn. But it would be seen from the diagram that by 1879 the disease had risen to very nearly the same height as before concealment first took place in 1873. Then when concealment was put an end to a very large and rapid rise took place. The previous rise had been for three years in existence, and it continued for three years more, at the end of which time (1882) the disease was 78 per 1,000. There had been an improvement of only 9 per 1,000 among the men in the subjected stations during the whole sixteen years of the Acts. Then in the middle of 1883 the Acts were suspended, that was to say, the periodical examinations and the compulsory detention in hospital were put a stop to, and then there was a sudden rush of disease from 78 to 110 per 1,000, which excited great alarm in the House of Commons, and among the medical profession and the public. Questions were asked in the House of Commons over and over again, and Lord Hartington, who was the Secretary for War, answered that there were so many causes operating at the same

time, that it was impossible to say to which of them the increase was due, but he especially mentioned the great amount of disease that the troops were bringing from Egypt. Those troops came back in 1883 and 1884 to England, and they brought back with them a large amount of disease. Was it then to the suspension of the Acts or to this imported disease that this great increase of disease in the home army was due? The fact was that in Gibraltar also, where the Acts were still in full force, the disease rose by above 90 per cent., and in Malta also, which had always been held out as the *beau ideal* of a protected place, the disease also increased by 76 per cent., while in the home army the increase was only 41 per cent. The fact was that the troops which were left at these places communicated their disease on the way, and the remainder brought the increase of disease with them into the home army. At the end of 1884 we start fair with an entire absence of Acts, and what was found to be the result? There was immediately a fall of disease, which continued without interruption till 1888. He had written to Mr. Stanhope and asked for the returns for 1889, but had not been able to obtain them, but it would be seen from Dr. Lawson's diagram that the fall still continued in 1889 without interruption, so that five years without the Acts showed that the disease had fallen from 138 to 82, or at the rate of above 8 per cent. yearly—a larger fall than at any previous period. He submitted, from these figures, that the application of the Acts, at first, did not increase the rate of improvement, and certainly did not prevent the increase of disease afterwards. He had taken his figures from the returns that were moved for, and granted by the House of Commons to Mr. Cavendish Bentinck, but they were limited to the fourteen stations under the Acts.

Dr. Lawson said that he took his figures from a return published by the House of Commons in June, 1885.

Dr. Nevins said that Mr. Cavendish Bentinck moved in 1888 and 1889 for returns of the amount of gonorrhœa and primary syphilis in the fourteen stations under the Acts, and it was from these more recent returns he had taken his figures.

Dr. Lawson said that was quite true.

Dr. Nevins pointed out that his table showed what the composition of those two sets of "selected" stations was, and how far they were capable of being compared one with another; but in 1875 the army report for the first time began to publish the amount of disease in other stations besides the fourteen selected ones not under the Acts. The home troops were distributed in about 130 stations. In addition to the fourteen "selected," there were about 100 more to which the Acts had never been applied, containing about 25,000 troops, which were distributed among these 100 stations throughout the whole country. In 1885 Mr. Stansfeld moved for a return of the amount of disease in these 100 previously discarded non-subjected districts. In one of the diagrams exhibited they would see that on the average of the whole period of the Acts the fourteen stations under them had a ratio of 80 per 1,000, but the 100 rejected stations, containing above half the non-subjected troops, had only 74 per 1,000: while

the fourteen non-subjected stations "selected" for comparison had a ratio of 136. But no one could wonder that London, Dublin, and the large manufacturing towns had an enormous amount of disease. The fact was that if London, Dublin, and the large manufacturing towns were left out, the stations not under the Acts would show a very small amount of disease. Thus it would be seen that more than half of the army not under the Acts had had a smaller amount of disease than the fourteen stations that had been under the Acts for sixteen years.

Secondary disease had never in the army reports been divided into stations under the Acts and the stations not under the Acts. It was impossible to trace the origin of secondary disease to its actual source, as it does not appear until weeks or months after the original primary, so that Dr. Balfour, whose death they all lamented, said that it was no use having returns of secondary disease except for the whole army. In 1866 secondary disease had fallen to 24 per 1,000, at which date the Act was put in force, and in 1883, when the suspension of the Acts took place, the ratios for the whole sixteen years showed that the average over the whole period during which the Acts had been in force was higher by ·076 than when the Acts were passed. There was a sudden and entirely exceptional rise in 1887, followed by a fall the next year, and he was utterly unable to explain it. He had tried all manner of theories, but without success. Between 1884 and 1888 the amount of fall in primary sores was in Chatham 32 per cent., and yet secondary syphilis rose 86 per cent. Primary sores fell in Woolwich 38 per cent., but the secondary sores rose 41 per cent., and similar discrepancies existed throughout nearly all the subjected stations. He had no theory to account for such remarkable discrepancies, and could merely place the following table before the Society. Possibly Dr. Lawson might be able to suggest some explanation.

Discrepancies between Primary and Secondary Disease in the Fourteen Subjected Stations between 1884 *and* 1888, *the Acts being absent the whole time.*

Chatham	fell in primary	32	per cent.,		yet secondary rose	86	per cent.
Woolwich	,,	38	,,		,,	41	,,
Aldershot	,,	47	,,		,,	53	,,
Colchester	,,	33	,,		,,	65	,,
Canterbury	,,	29	,,		,,	230	,,
Curragh	,,	62	,,		,,	9	,,
Plymouth	rose ,, only	1·5	,,		,,	95	,,
Portsmouth	,, ,,	23	,,		,,	195	,,
Windsor	,, ,, ,,	55	,,		,,	118	,,
Shorncliffe	,, ,,	6·6	,,		,,	66	,,
Dover	fell ,,	26	,,		,, fell only	4	,,
Winchester	,, ,,	42	,,	and	,, ,,	39	,,
Cork	,, ,,	27	,,	,,	,, ,,	20	,,
Maidstone fell totally. It had not a single case in 1888			,,	,,	,,	82	,,

Mr. Ernest Walford said that, not being a medical man, he had some diffidence in making any remarks, but Dr. Lawson had mentioned that from 1884, according to the Registrar-General's returns, there had been a decided falling off in syphilitic diseases in the country generally. He concluded that the Registrar-General's returns would show it in the form of deaths. Of course deaths from syphilis, either acquired by the individual or inherited, must have been acquired some years previously. For instance, a man who died in 1890 of syphilis must have caught the disease several years previously. Therefore, did not the falling off in the Registrar-General's return point to a decrease in primary syphilis during some years previous to 1884, and was it not an argument in favour of the Acts?

Dr. Fox said that, as a medical man, he felt some considerable amount of interest in this question, and on other grounds still more. There appeared to be some rather curious discrepancies, and yet both sides seemed to be in some degree substantiated by statistics. Some of the conclusions were not easy to understand. He himself had not gathered how it was explained that in Dr. Lawson's table there was that remarkable fall at the end after what appeared to him to be the improvement owing to this suspension of the Acts. Of course it was impossible not to feel that this was rather a moral than a statistical question, and that there were other ways of abating the evil which perhaps might be more successful than those that have been adopted—in the neglect of which such measures became requisite and must always be; and, although it was probably made out that the suspension of the Acts had done some good in a humanitarian point of view, some might regret the mere treating of soldiers or women as creatures as tending to degrade.

Mr. Bourne said they were all indebted to Dr. Lawson for the elaborate tables he had prepared, and also to Dr. Nevins, who had taken a different view of the question. He thought they might satisfactorily conclude one thing, viz., that the case in favour of the Acts had not been made out. Other causes might have been in operation at the same time as the Acts were in force, and it was not fair to compare all the results as due to the existence of the Acts. He gathered that the remarkable rise shown on the diagram was very much accounted for by the return of the troops from Egypt infected with disease. He felt assured that the whole question was still in a state of great ambiguity and uncertainty, but nothing whatever had been made out to justify the re-imposition of Acts which were repugnant to the feelings of the people as Englishmen, moralists, and Christians, and they were therefore emboldened to rely on moral and spiritual influences to effect the good they desired.

Mr. Shillitoe said that he could speak with some authority with regard to the present state of these diseases, he having been connected with the Lock Hospital for the last twenty-eight years.

During the last five or six years he had noticed a great increase in the severer forms of the disease, particularly amongst the women. Indurated sores are now much more frequently met with than formerly. One effect of the removal of the Contagious Diseases Acts is that the hospital authorities have now no power to keep the women in hospital until they are fit to be discharged. Women often come into the hospital, get partially relieved of the more painful symptoms, and then, regardless of the fact of their being in a highly infectious condition, insist upon going out; sometimes a batch of women, all of whom are more or less diseased, will agree to leave the hospital simultaneously, and however diseased they may be, they cannot be prevented. The effect of this is seen in the general increase of the disease throughout the country.

Sir Rawson W. Rawson thought it right to mention his experience of the operation of the Acts in Barbados. In 1869 or 1870 the Acts were brought into operation there, to the very great benefit of the community, the military, and the women themselves. It was his duty to keep a close watch upon the operation of the Acts, and occasionally to visit the hospitals, and he certainly thought it right to bear his testimony to the advantageous operation of the Acts there from 1870 to 1875.

Mr. J. B. Martin said he must apologise for intruding in the discussion, as this was a subject on which he had no knowledge or authority whatever, but as a statistician he wished to make one remark on the tables submitted to them. They could see the fall to which Dr. Nevins had called attention, from 148 to 67, during the six years when Lord Herbert's recommendations were in force; that was at an average of 6·7 per cent. per annum. During the next cycle there was the continued operation of Lord Herbert's recommendations, assisted by the operation of the Contagious Diseases Acts, and Dr. Nevins had pointed out that the fall was 6·3 as against 6·7; that was a very small difference. It seemed to him that in such a case one might reasonably expect that the fall would be more and more difficult to maintain in its ratio, that, except by the introduction of some new force, the fall would tend to diminish year by year. A third cycle was indicated by the violet line, when the motive of concealment came into play. From that point there was a rise to the period when the Act was abolished. The result of the observations to be deduced from these tables seemed to him to be that it was a great advantage that they had opposite views stated from a purely statistical standpoint, so as to enable the meeting to sift accurately the facts and phenomena which were brought under its observation.

Dr. Lawson said it had been his lot to hear a great deal of the evidence on both sides of the question, and almost every word of Dr. Nevins's statements had come before him previously; on most occasions he had, he believed, refuted them, at all events to his belief satisfactorily, though apparently not so to Dr. Nevins.

Dr. Nevins had compared London, Dublin, and large manufacturing towns with places where there was no manufacturing. He maintained that that in this case was an error which no man of statistical knowledge would support. He had been frequently asked if he compared Manchester and Shorncliffe, but his answer was "no." In the group of stations never under the Act he compared Manchester at one period with Manchester at another, and similarly in the group under the Act, Shorncliffe with Shorncliffe. Dr. Nevins had attributed the amelioration after the introduction of the Acts, not to the Acts, but to measures of sanitation, &c., that were introduced after 1860; but to his own knowledge numbers of those things had been introduced twenty years before. Then Dr. Nevins was altogether wrong in supposing that those improvements were introduced at the camps chiefly or principally. Had the reduction of venereal affections from 1866 to 1873 been due to the sanitary measures then introduced at stations under the Acts, these same measures being continued and improved should have prevented their rise again subsequent to 1877; but they failed altogether to do it, and Dr. Nevins affords us no explanation why. A great deal had been said about the people who came home from Egypt in 1883 introducing the disease, but there was a very marked increase at home in 1879 and 1880, and what was the cause of that?

The PRESIDENT in closing the discussion intimated his intention to take no active part in the proceedings, beyond stating that in his opinion Inspector-General Lawson had fully proved his contention, and that he regarded the repeal of the Contagious Diseases Acts as disastrous in its consequences, particularly in India. He considered that it was the duty of the State to maintain its sea and land force in a condition of efficiency for the work it has to perform, without reference to any of the side issues raised in the discussion, and concluded with moving a cordial vote of thanks to Dr. Lawson for his able and conclusive statement. This was carried unanimously.

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