Facts and suggestions on the registration of disease / by Benjamin W. Richardson.

FACTS AND SUGGESTIONS

ON THE

REGISTRATION OF DISEASE.

BY

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REGISTRATION OF DISEASE.

In order to arrive at a correct knowledge of the causes of the diseases of the community, and to see the way clearly and scientifically to the prevention of disease, the first great step consists in securing systematic and widely-extended tables of facts bearing on the existence of particular diseases, occurring at the same periods, in different localities, and under differing social conditions. This method of research would apply to all diseases,—to those which are fixed amongst us, such as cancer and consumption, and to those which are recurrent, such as measles, scarlet fever, and small-pox.

But, in recognising the necessity for the registration of all the diseases that afflict humanity, I do not think it a practical plan to broach the idea of a system of registration which should at once attempt to embrace diseases in their universality. I consider that registration will commence best by a plan that shall confine the labour to disorders transitory and migratory in character, I mean to disorders of the epidemic class.

These last-named affections offer themselves primarily to our consideration owing to the facts that they present, an acuteness of outline and a demonstration which are peculiarly marked; they thus attract more immediate attention and become objects for contemplation to all practitioners of medical science; and not to these only, but to the public at large. I wish it to be understood, therefore, that in this communication I shall consider the question of registration in its simple application to epidemic affections.

For the sake of order, I will classify the subject-matter to be submitted under the following heads:—

I. The study of epidemic diseases.

II. Method of registration, its principles and objects.

III. The attempts that have been made to establish method of registration.

IV. A plan for the complete registration of these diseases in England.

I. In the study of epidemic diseases we observe (however widely we may extend the list of the diseases) a unity, presenting a variety of phenomena. This is the fact first to be learned in this study.

M. Jules Guérin, in the *Memoirs* of the Imperial Academy of Medicine for 1853 and 1854, admirably remarks, "that the study of epidemics, submitted as yet to too few regulations, and left too much to individual choice, has never rendered the service it is capable of yielding to science and to mankind.

"Considered in their highest characteristics, epidemics are the great manifestations of a sole and identical cause which impresses a uniform and well-marked character on all its products, leaving to surrounding actions only a limited and secondary influence.

"It results from this predominance of the great epidemical cause, that all the diseased individualities in the same epidemic have a general and principal resemblance, and exhibit only particular and accessory differences.

"As a consequence of this general proposition, epidemics become immense centres of observation, in which the extent, number, and diversity of the facts, and the variable conditions of their manifestations, are constantly throwing light upon the most obscure problems of disease. That which is only seen imperfectly, or in separate letters, in occasional diseases, may be read in large characters and entire words during epidemic visitations. The cause of the occasional disease is almost always feeble and isolated; and dividing its influence with the ordinary producing conditions of age, sex, constitution, and season, it gives rise to mixed and ill-characterized products, the comparison of which is a matter of difficulty. In a word, in occasional diseases the elements of uniformity are almost equally balanced by those of diversity, and the products are as the factors. In epidemics the essential cause is one and absolute, and of sufficient energy to take the lead. In the presence of these grand manifestations the mind requires to make scarcely any effort to seize at once and to compass in its entirety that which observation in ordinary diseases is obliged to seek, from its useful auxiliaries, analysis, comparison, and enumeration."

That which M. Guérin has here so ably written I would fully indorse. It is and must be clear to every thinking mind, that these great visitations of disease which ever and anon enter our homes, shaping the same course, presenting the same general features, destroying, on an average, the same numbers of persons, and passing away, as it were, in disciplined order, offer marks for the scientific inquirer, which ought at once to be read off by him, and to suggest to him how such grand and steadily governed armies of disease may be arrested in their march or even annihilated altogether.

But, when we look round at the progress which has been made, and is being made, towards the perfect comprehension of these disorders, we see no system as yet, developed or developing, that promises anything like a successful attainment of objects as beneficent as they are great. The majority of disease observers, indifferent as to causes, are content to rest their exertions on the remedial department of their art—in curing those conditions which ought never to have been permitted; whilst others, who look for

causes and study prevention, are carried away by their own thoughts and experiences. Possessing no common language, guided by no standard, working by no system, their labours are confined to their individual intellects: they leave behind no data from which others may make a start, and offer no suggestive thought which their followers may work out to a solution. Nor are these the only shortcomings: there is another, having reference to the periods during which the disease should be studied, of no small moment.

The study of an epidemic admits of being pursued at two different times—first, when the epidemic itself is present; second, when it is absent, from the data which it has supplied. Unless this division of labour is introduced into the work, no organized system of observation will prove of avail. I believe, indeed, that half the want of success that has appeared in the study of epidemics has arisen from the fact, that by the majority of observers these diseases are only thought worthy of consideration at such times as they are present. Hence we see, during a serious epidemic visitation, all thoughts roused and every eye observing; but no sooner has the visitation fled by, than, as if wearied outright by the duties of the task, all thought rests and every eye sleeps.

I need not say to what an extent this mode of conducting an inquiry is hasty, fretful, and useless; but I would, for the sake of instituting a striking contrast and result, add this observation, that if the eclipses of the sun or moon had always been observed in the same manner as physicians observe recurring diseases, the nature of an eclipse would have remained as yet an unsolved problem. Taken simply as a natural phenomenon, an eclipse resembles an epidemic in many particulars: it comes suddenly, it conveys to the unlearned the idea of irregularity, it lasts only for a limited period, it rouses the fears of the common mind to the fullest extent; and amongst those who do not understand the subject in its simple, true form, every kind of vague and absurd theory is set up in reference to its causes. It is obvious, however, that the mere observance of an eclipse *per se* could never have explained the reason of its appearance, and have proved the truth of that reasoning, by the prediction of a recurrence of the same phenomenon. More was required. The facts of the phenomenon had to be taken at the time: the reason of the phenomenon had to be collected from more general observations and relationships, from after study, and from a comprehension of the order and plan of the stellar universe as a whole.

In instituting this comparison between an astronomical and an epidemiological inquiry, I do not wish to lay down an absolute parallelism. I know, indeed, that such does not exist. But there is an analogy in the two studies; and my object is to show, that the time in which an epidemic is present is not the only time when such epidemic admits of being studied; nay, that the discovery of the laws of an epidemic visitation can only be attempted properly when the epidemic is fairly past, and when the facts which it has presented are fully laid out before the reasoner.

II. In instituting a method for the registration of disease, two objects must be kept fully in view. The first is the collection of all the facts relating to any current epidemic ; the second consists in the classification, analysis, and computation, of the facts collected. In pursuance of the first of these endeavours four elements are required—

1. The whole competent mental strength of the district or country in which the epidemic exists.
2. Uniformity in the system of observation.
3. A ready and easy mode of recording observations.
4. A properly constituted plan, by which the facts observed may be collected and prepared for subjection to analysis and induction.

In pursuance of the second great object a central authority is necessary. This authority, whether consisting of one man aided by an efficient staff, or of a board, ought to exist independently of the observers of the facts. The duties of this central authority would consist simply in analyzing everything that was put before it, irrespective of all theories or suggestions. It should be composed of men well conversant with mathematical science, and who should have no other labours on their hands except those peculiar to their office as registrars of facts.

III. Attempts to effect a registration of disease have as yet failed. They have indeed been very few in number, many of them have been indifferently organized, and all of them have been miserably encouraged by the public and even by the scientific world itself. In France the State has physicians whose business it is to visit any place where an epidemic is raging, and to report the facts observed to the Minister of Agriculture and Commerce. But that any law relating to the diseases should be educed from this plan is impossible, for the inspection is only made at particular periods, and then imperfectly. I believe, also, that the attempt, as it is carried out, leads to much jealousy between the physicians sent by the Government and the local practitioners.

In Germany, efforts at registration have been made by private societies of scientific men ; but never to continue long in organization and action.

In England, the Epidemiological Society—certainly one of the most useful bodies in existence—has made attempts, admirable in their way, to gather the particulars of special epidemics, such as cholera and diphtheria.

For a short time the Medical Officers of Health in London tried to establish a registration system, and with some success ; but their efforts have now ceased.

To a certain limited extent the institution of the mortality returns of the Registrar-General have operated as a registration of disease. These returns are invaluable as showing, on a grand scale, the mortality of epidemics, their prevalence, their course, their effects on the sexes, their relationships to season, and, it may be in an imperfect manner, their connexion with meteorological conditions. Still, these

returns are only valuable, absolutely, as regards mortality; this, their original object, is their only direct good. They exhibit accurately the balance paid over by disease to death, but not that which is paid over by health to disease.

In 1854, an endeavour was commenced in the "Journal of the British Medical Association" to register diseases as occurring in connexion with meteorological phenomena. Several stations of observation were appointed, and for some years returns were supplied and published week by week. The scheme was good, but was too special in its intention. It ceased before any definite results were obtained.

The immense work, the Census of Disease in Ireland, may be looked on as connected with the registration of disease, inasmuch as it supplied the facts of the amount and character of the diseases present at a given time in a great country, the social position of which was being chronicled at the same moment. But the information thus gathered, all-important as a standard, was struck out too suddenly to admit of analysis, as a register of the progress of the disorders specified.

The history of the various attempts at registration of disease by other observers thus glanced at, I pass to notice my own experience of an attempt in the same direction, which, commencing in 1855, was carried on, without intermission, for four years.

The results of this attempt were published regularly each quarter in the pages of the *Sanitary Review:* at one time as many as fifty fellow-labourers were working with me in the inquiry: and as the organization was carefully laid, and the labour was sustained much longer, and on a larger scale, than in any previous attempt, I hope it may be acceptable to the Association to receive in outline an account of the plan on which the registration was carried out, of the working of the plan, and of the reason why it ceased.

My first endeavour was to obtain a certain number of stations in different parts of the country, and to supply to one or more resident medical man forms of returns in which they could note the current diseases. The first difficulty consisted in securing willing and competent observers, and this was great. However, in the latter part of 1854 I had the nucleus of a force, and was able to receive reports from twelve stations—viz., Hastings, Bridgewater, Canterbury, Wanstead, Putney, Swansea, Saffron Walden, Bedford, Thetford, Nottingham, Hawarden, and Gainsborough. The observers in every case were medical men enjoying a large share of practice and possessing opportunities for knowing of the existence of any disease which might occur near them. They were requested to confine their observation to the following allied disorders:—Scarlet fever, measles, small-pox, hooping cough, croup, catarrh, influenza, erysipelas, cholera, ague, remittent fever, diarrhœa, dysentery, typhus, puerperal fever, and carbuncle.

To make their observations uniform, each observer was supplied quarterly with a sheet of which the following is a specimen:—

TABLE I.

Sanitary Review.—Local Report of Epidemic and Endemic Diseases.

INSTRUCTIONS FOR FILLING UP THE RETURN.

The object of this Return is simply to show what epidemics have been present in certain localities during given periods of time. It is hoped that, by a condensed series of these observations, taken in different parts of the kingdom at similar periods, much light may be thrown on the origin and progress of Epidemics.

The mode of filling up the Table is simple. Each observer will, at the end of every week, place in its proper column a cross (×) opposite the name of such of the diseases mentioned as may have occurred in that period within the sphere of his observation.

As it is the object of the Table to ascertain the presence of the disease named rather than the number of cases, the occurrence of even a single case should be chronicled. But observers who may wish to notice other important facts, such as the extent and mortality of an epidemic, its mode of origin or importation, meteorological phenomena, &c., may do so in the blank space headed "Additional Observations." Observers will please return the Report, punctually, on the first days of March, June, September, and December.

Place of Observation _____ Latitude _____ Longitude _____

Quarter ending _____ 185 .

Week ending.....							
1. Scarlet Fever							
2. Measles							
3. Small-pox							
4. Hooping Cough.....							
5. Croup							
6. Catarrh							
7. Influenza							

As will be seen from the instructions supplied with the sheet, the object of this return was to show what epidemics had been present in the localities of the observers during given periods of time. The mode of filling up the table was very easy. Each observer at the end of every week placed in its proper column a cross, opposite the name of such of the diseases as had occurred in that period within the sphere of his observation; and as it was the object of the table to ascertain the presence of the diseases named, rather than the number of cases, the occurrence of even a single case was chronicled. Observers who wished to notice other important facts, such as the extent and mortality of an epidemic, its mode of origin or importation, or meteorological phenomena, did so in the blank space headed "Additional Observations." The returns were made up to me quarterly. When all the returns of each quarter had been collected, they were analyzed and tabulated as is shown in specimen table.

TABLE II.

SPECIMENS OF LOCAL RETURNS FOR REGISTRATION OF DISEASE.

PROGRESS OF EPIDEMICS.

Local Reports of Epidemic and Endemic Diseases during the Months of March, April, and May, 1857.

Place.	County.	Lat.	Long.	Observer.
St. Mary, Scilly	Cornwall	49.50 N.	6.24 W.	J. G. Moyle, Esq.
Teignmouth ...	Devonshire ...	50.32 N.	3.29 W.	W. C. Lake, Esq.
Odiham.....	Hampshire ...	51. 8 N.	1. 3 W.	J. McIntyre, M.D.
Canterbury ...	Kent	51.17 N.	1. 4 E.	G. Rigden, Esq. W. Haffenden, Esq.
Chatham	Kent	51.21 N.	0.14 E.	F. J. Brown, M.D.
Wandsworth..	Surrey	51.28 N.	0. 7 W.	G. E. Nicholas, Esq.
Putney	Surrey	51.28 N.	0. 8 W.	R. H. Whiteman, Esq.
Up. Holloway.	Middlesex ...	51.32 N.	0.03 E.	W. B. Kesteven, Esq.
Swansea	Glamorgansh.	51.38 N.	3.50 W.	W. H. Michael, Esq.
Aspley Guise..	Bedfordshire...	52. 1 N.	0.37 W.	J. Williams, M.D.

QUARTERLY STATEMENT—No. X.

[*The dates denote that the disease appeared in the weeks then ending.*]

SCARLET FEVER.

Canterbury—Mar. 13-20, April 10-17, May 8-22.
Swansea—All April, May 8-15.
Bedford—April 10-17.
Beccles—March 20-27.

MEASLES.

Chatham—March 27.
Wandsworth—April 24.
Upper Holloway—March 20, May 8-15.
Saffron Walden—March 13-27, All [April and May.

SMALL-POX.

Canterbury— April 17-24.
Chatham—March 20.
Swansea—May 22-29.
Sharnbrook—April 3-10.

HOOPING COUGH.

Canterbury—All March, April 3-17, May 1-22.
Chatham—March 6, April 10-17.
Wandsworth—April 24, May 1.
Putney—April 17.

CROUP.

Canterbury—April 10-17, May 8-15.
Chatham—April 3-17.
Upper Holloway—March 27, April 10-17.
Swansea—March 20-27, April 3.

CATARRH.

St. Mary's, Scilly—April 24, May 1-15.
Teignmouth—March 6-20, April 10-24, May 1-15-29.

DYSENTERY.

Teignmouth—March 13-27, May 22.
Chatham—March 6.
Wandsworth—March 27, April 3-10, May 1.
Putney—April 17, May 1-8.

TYPHUS.

Teignmouth—March 20, April 3-10.
Odiham—March 13.
Canterbury—Every week.
Chatham—Every week.

PUERPERAL FEVER.

Putney—May 1.
Saffron Walden—March 27, April 3.
Newport Pagnell—May 8.
Alford—March 20.

CARBUNCLE.

St. Mary's, Scilly—May 1-8.
Teignmouth—April 24.
Canterbury—Every week.
Chatham—March 20-27, April 3.

VARICELLA.

Wandsworth—March 6.

ACUTE RHEUMATISM.

Wrexham—All March, April 3-10.

We obtained from these tables at one glance a perfect view of the progress of the diseases named at given points of latitude and longitude, their prevalence according to season, the relative duration of each form of disease, and the order in which one epidemic followed another.

To these essential facts much interest was added through the "additional observations" made by each observer. Knowing well how much the time of the busy medical practitioner is occupied, and feeling sure that any intrusive and organized encroachment on his time and industry would be safe to carry with it its own destruction, I abstained from doing more than suggest what information would be most useful, leaving the details to volunteer effort. In the suggestions thus respectfully offered I took care, however, always to throw in major considerations. The following points of information were specially asked for:—

1. Notes of meteorological changes taken daily, and classified side by side with the report of disease.
2. Notes on the diseases of inferior animals, classified by the side of the diseases occurring simultaneously in the human subject.
3. Notes on the condition of the vegetable world and of the diseases of vegetables, classified in the same way.
4. Notes on the water supply of the different stations, and on the real or apparent connexion of such supply with the prevailing diseases.
5. Notes on the sanitary state of the station—of drainage, of food, of architecture, and, in fact, of the social condition in general of the locality.
6. Notes bearing on the mortality of the disorders specified in the returns.
7. Special note as to the method by which any given epidemic found its way into any given locality: whether a case of the same disease had been imported, or whether any article had been imported, which could have contained a poison.
8. Special note as to the outbreak of any new epidemic disease within the bounds of any station, and as to the mode of origin and propagation of such epidemic.

The plan thus arranged, we commenced the first publication of our labours in April, 1854. The reports came in from the twelve towns I have already named. In our next return, made the succeeding quarter, three new stations were enrolled, and we went on adding to the number, till, in 1858, we brought our number up to as many as forty-four stations. It will be seen that our line of observation extended from the extreme southern to almost the extreme northern point of the country—*i.e.*, from St. Mary's, Scilly, to Lerwick, Shetland.

Divided into counties, the points of observation were arranged as follows, the names of the observers being also supplied: *

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* I am prevented by limitation of space from completing this table, which, in its perfect form, gives the names of all the observers who lent me their valuable aid in the labours now under description. I think it requisite to add the names of the remaining observers, and publicly to acknowledge how deeply indebted I am to every one who has assisted me in these inquiries. The remaining names stand as follows:—Mr. Whiteman, Putney; Mr. Nicholas, Wandsworth; Mr. Kesteven, Holloway; Mr. Cox, Hawkesbury; Mr. Michael,

Counties.	Stations.	Observers.
Cornwall	St. Mary's, Scilly	Mr. Moyle.
Devonshire	Teignmouth	Dr. Lake.
Hampshire	Portsmouth and Odiham	Drs. McIntyre & Jackson.
Somersetshire	Bridgewater	Mr. A. Haviland.
Kent, &c.	Chatham	Dr. Brown.
	Canterbury, &c.	Messrs. Rigden & Reid, and nine observers by Mr. Haffenden.

It would take up too much of the time of the Association to give the particulars of the whole of the materials collected by these indefatigable observers. Their labours would make up, indeed, a volume of some 300 closely-printed octavo pages. I would, however, claim permission to offer a brief account of the working of this voluntary scheme. I may observe, then, that with care on the part of the collection, the reports were obtained with a regularity and precision which I had by no means expected, and that in the neighbourhood of the stations no material fact relating to the disorders was omitted. In many cases, moreover, all the additional particulars asked for were supplied with the greatest care. Meteorological records were kept by several of the observers, and the influences of the various meteorological conditions on the progress of existent diseases were accurately noted. In many cases, also, the diseases of the inferior animals were regularly given, and connexions were traced as occurring between diseases of the chest in the human subject and in the cattle of neighbouring parts. Some of these facts, affirmative in kind, were of great value, as tending to show that pleuro-pneumonia in the inferior animals is usually co-existent with diseases in man of an inflammatory exudative character taking on an epidemic type.

In a vast number of cases evidences of the origin of diseases from local causes were cited with a circumstantiality which was irresistibly conclusive, and over and over again the subsidence of epidemics on the removal of such producing causes was clearly demonstrated.

The occurrence of new forms of disease, and of peculiarities of types in diseases common to the neighbourhood, were supplied with much fidelity. Thus, the fact that diphtheria was present in England was first communicated to me by Mr. Rigden, of Canterbury, and was published by Mr. Haffenden, of Canterbury, in his quarterly statement

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Swansea; Dr. Barker, Bedford; Dr. Williams, Aspley Guise; Mr. Stedman, Sharnbrook; Mr. Laver, Colchester; Messrs. Spurgeon and Stear, Saffron Walden; Mr. Rogers, Newport Pagnell; Mr. Dalby, Wellingborough; Dr. Crowfoot, Beccles; Dr. Vincent, East Durham; Dr. Bailey, Thetford; Mr. A. Freer, Stourbridge; Mr. Houghton, Dudley; Dr. Thomson, Burton-on-Trent; Mr. Swann, Barrowden; Dr. Hole, Wisbeach; Mr. Cartwright, Oswestry; Mr. Eddowes, Pontesbury; Dr. Robertson, Nottingham; Dr. Williams, Wrexham; Dr. Moffat, Hawarden; Mr. Thorpe, Stavely; Dr. Lowe, Lincoln; Dr. West, Alford; Mr. Bickerton, Liverpool; Mr. Spinks, Warrington; Mr. Hussey, Wigan; Mr. Pendlebury, Bolton; Mr. Proctor, York; Mr. Radcliffe, Bramley, (now of London;) Mr. Todd, West Auckland; Mr. Summers, Rothbury; Dr. Spence, Lerwick.

for April, 1856, from the nine observers on that station. In a word, the working of the plan was as effective as the most sanguine could desire. As the records became known, fresh volunteers from different parts came in ; and had I continued the proceeding I could in time have secured at least one observer in every large town in the kingdom. I could also have changed the character of the return so as to have received it monthly or even weekly; but I regret to say that the success which so completely followed the effort was the immediate cause of the cessation ; for in proportion as the registration became more effective, the expenses attendant on the carrying of it out became proportionately large, so that after a four years' struggle to sustain it, I was compelled to relinquish the project altogether. I fear the same fate would attend any other single-handed effort in the same direction, unless the conductor had an independency, or adequate assistance and encouragement from without. At the same time, after an experience longer by far, and much more laboured, than has ever before been made in the registration of disease, I am convinced that the perfection of a system of registration, and the carrying of it into practice, is the most certain of tasks ; and that an entire comprehension of the laws by which epidemics, at least, are governed would be the result of such a task, if it were well sustained for ten or fifteen years.

IV. The last point to which I would ask the attention of the Association has reference to a plan for the complete registration of disease in England. Six years ago I placed the details of this plan before the Epidemiological Society, and in January, 1858, I brought it again forward in the *Sanitary Review:* I hope now to obtain for it a third and wider reading.

The principle on which this proposed plan is based consists in nothing more than a simple arrangement for transferring the present weekly returns of the Poor Law medical officers into accurate official records of the diseases of each parochial district.

Let us, for a moment, glance at the extent and capabilities of this proposed system of registration.

In the first place, the whole of England is fairly divided amongst the union medical officers. The poor of the districts are mainly under their care ; and the inference therefore is tolerably safe, that no important epidemic could occur in any part without being duly noticed.

Secondly, the points of observation are numerous. I find, from a return made by Mr. Baines to the House of Commons, in the year 1853, that there are not less than 3,233 parochial medical officers in England and Wales.

Thirdly, the observers thus occupied are of all men the most fitted for the task. They are stationed in their special localities for great lengths of time ; they are well acquainted with the characters of the localities, with the manners, habits, and diseases of the people ; and they are, as a general rule, among the most zealous, humane, and educated members of the community.

Fourthly, and this is the most important of all, the parochial medical officer, as we know from experience, could make returns of his observations of disease with the least possible labour. He does, in fact, already make these returns, in great part, without any reference to their more important bearings. In order to supply his board of guardians with correct information on the condition of the poor under his charge, he is furnished with a weekly return-sheet. In this sheet it is his duty to enter the name, the sex, the age, the residence, and the disease of each of his poor patients. He has, further, to state the days on which he visited the patient, the diet required, and such other general observations as he may think proper.

Having myself made use of these return-books in collecting facts on disease, I can speak with certainty as to their value, even in their present rudely constructed form ; and could these records, as they now exist, be brought together, we might glean from them a large amount of valuable information. But if these 3,233 weekly returns, drawn up for trifling objects, comparatively speaking, were so modified as to become really scientific registers of epidemic diseases, and, if thus modified, they were regularly transmitted to some central authority who could use them for a definite purpose, what truly important tablets of disease they would become. There would then be no disease registration in the world like that of England.

As regards the forms themselves, it is worthy of remark, that in their present state they perform only a temporary purpose. They supply the guardians of unions with information for the week, and are then forgotten. I believe that under any new system, which should require the papers to be sent away after the meeting of the board, a duplicate need scarcely be retained. Pile upon pile, mouldering away amongst dust and rubbish in the cellars of workhouses, and in the surgeries of medical men, lie what might become the greatest records of disease ever published—veritable histories, which Government has often sought after at great pains, great cost, and little advantage.

The modifications required in the book supplied by the guardians to their Poor Law medical officers are few and simple. The size of the book would remain the same, but one addition should be made :—upon the inner side of the cover, and on the fly leaf, should be pasted a map of the observer's district, together with a brief description of the geological characters, extent, latitude, longitude, produce, number of towns, population, and the like. These particulars, once drawn out and printed, would remain for many years without any material alteration. At all events, they would give the medical observer no trouble, though rendering his reports infinitely valuable.

The modifications required in the weekly returns themselves are also very few. The columns would remain unaltered. In the columns, however, now set apart merely to express the number of visits paid, another letter or two should be introduced to indi-

cate certain important facts. The V or the X might still stand to represent the visit; but the letters D D should be inserted to show the day of commencement of disease, the single D to represent the day of death, the letter C to show when convalescence commenced, and R to point out the time of complete recovery.

By an extension of the day columns, and by a few cross lines, an arrangement might be formed for recording the meteorological readings of the week; while the date at the top, as given in present returns, would decide the question of seasons. The last two columns might well remain unchanged—the one for necessaries would show the diet of the patient; the one for general observations would leave room for notes on treatment, hygienic conditions, or other special points. This column would be better if left rather larger than it now stands in the return-book. (See Table IV.) In intrusting to medical officers of districts duties so important, a fair scale of remuneration should be adopted, for by this means they would be led to accept the labour as part of the business of their professional life.

The weekly return of disease, immediately after it has served its local purpose, should be despatched at once to the Metropolis, to be reported upon weekly, after the manner of the reports of the Registrar-General of Births, Marriages, and Deaths.

I feel it possible that one objection may be made to these records. It may be said that they will not represent the epidemics of a whole population. To this I answer, that the number of cases occurring in any given epidemic is of no importance whatever if the course of the disease be observed over an immense and isolated tract of land, such as England, if its general characters be carefully described, and if the conditions which peculiarly favour its manifestations be accurately pointed out. From three thousand weekly returns, all constructed on the same principles, these and many other facts could not fail to be elicited; while from the facts themselves, carefully stored up for some years, would eventually be wrought out the historical formula of every epidemic disease.

In conclusion, while I have felt it my duty to bring before the notice of the Association the great fact, that in England there exists a registration of disease which, slightly amended and applied, would lead the medical profession to a fixed scientific knowledge of the laws by which great pestilences are moved and governed, and, as a result of such knowledge, to the entire removal of these pestilences, I have little hope at present that the reform suggested will be carried out. The question of Poor Law medical relief is in itself so difficult, and so many obstacles stand in the way of its reform, that we must, I fear, be content for a long time to see three thousand returns of disease thrown away weekly;—a sacrifice of science, in her noblest efforts, to political necessities and public apathy.

Meanwhile, as the diseases continue to destroy, we must trust, as we have as yet trusted, to individual effort; and if the history given above should prove an incentive to new exertions, the object for which it was composed will have been richly fulfilled.

TABLE IV.

RETURN AS IT AT PRESENT STANDS.

WEEK ENDING FRIDAY, 13TH DAY OF NOVEMBER.

Name.	Age.	Residence.	Parish to which chargeable.	Nature of Disease.	Days when attended, or when Medicines were furnished.							Necessaries ordered to be given to the Patient.	Present State or Termination of the Case.	Observations.
					SAT.	SUN.	MON.	TU.	WED.	TH.	FRI.			
John Williams	10	Chiltern...	Chiltern...	Scarlet Fever	X	X	X	X	X	X	...	2 ozs. of Wine daily	Serious ...	First Case. Imported case.

REMODELLED FORM.

Charles Jacob...	12	Chiltern ...	Chiltern...	Scarlet Fever	V, DD	V	V	V	V	V	D	2 ozs. of Wine daily	.....	Disease of malignant type. This was a second case and conveyed clearly by infection.
Jno. Jones	24	St. George	St. George	Rheumatism	V	V	...	V	...	V, C	...	.....	Convalescent	A mild case.
W. Thompson ..	16	Dunwich...	Dunwich...	Measles.....	V, DD	V	V	V	V	V	V	.....	Improving...	Bronchial symptoms severe. The epidemic has been prevalent during last two months.
Mary Atkins ...	36	Dunwich...	Dunwich...	Measles.....	...	V,DD	V	...	V	...	V	1oz.ofWine daily	Nearly well	A mild case.
Thos. Williams	14	Stone.....	Stone	Influenza.....	...	...	V,DD	V	V	V	V	2 ozs. of Wine daily	Serious	The epidemic spreading rapidly.

Direction of Wind.....	N.E.	N.	N.W.	N.	N.	N.	N.E.
Ozone	1	0	1	3	0	1	5
Mean Temperature	47°	49°	50°	40°	41°	43°	46°
Barometer	29·7	29·	29·6	30·	29·8	29·7	29·
Rain in twenty-four hours (inches).....	·004	012	·010	·007	·000	·000	·002