

it reached within a line of the origin of the left carotid. This led into the main aneurism, which was about the size of a goose's egg, and contained no clot; on its posterior wall was seen the opening of the innominate artery, the whole extent of that artery, and a little of the right common carotid and subclavian, which were much flattened; besides a portion of the trachea, with two of its cartilages laid bare by ulceration. No perforation had taken place. There was a good deal of inflammatory thickening round the sac, and in this were included the right phrenic, pneumogastric, with its recurrent laryngeal branch, and sympathetic nerves; the innominate vein much compressed and flattened as it coursed over the aneurism. There was a distinct pressure upon the trachea, and in part on the œsophagus. At one point in the former, ulceration of the mucous membrane had been established, and had in part laid bare two rings; and in the latter there was a distinct point of rosy congestion. Thus, as had been anticipated by Dr Laycock, there was direct pressure on the trachea; pressure on the phrenic, preventing the act of coughing; on the recurrent laryngeal, impairing the voice; and on the veins hindering the return of blood from the head.

### III. ENDO-PERICARDITIS.

*Dr Stewart* also exhibited a specimen obtained from the body of a girl aged 18, who had died in the Royal Infirmary. Both layers of the pericardium were congested and coated with lymph. The sac had contained about 16 ounces of fluid. The heart was hypertrophied. The aortic valves were thickened and sacculated at their base. On the fibrous expanse, between the aorta and the mitral valve, there was a mass of vegetations of the size of a small walnut. At the base of the corresponding segment of the aortic valve there were two perforations, through which a probe could be passed through the vegetations into the ventricle. It was conceived that an aneurism had first been formed at the base of the valve, and the vegetations had formed on its surface, that the thin wall had given way, and so the aneurism become incomplete. At a point on the other side of the ventricle opposite the extremity of the mass of vegetation there were some minute fibrinous deposits on the surface. The whole of this disease must have developed within three weeks before death, for the heart-sounds were healthy up to that time, and then a systolic blowing, loudest at the base, became audible. There must have been great obstruction to the flow of blood from the ventricle; but there was no interference with the current through the mitral orifice. There was one fibrous mass in the spleen, a result of embolism. The central part of the mass had become decolorized; the margins were still red. No other important lesion had existed in the case.

### IV. TUBERCULAR LEPROSY IN THE ISLAND OF MADAGASCAR.

*Dr Warburton Begbie* communicated, on the part of Dr Andrew Davidson of Antananarivo, a paper on this subject, which will appear in an early number of this Journal.

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## DR STARK'S PROPOSED NEW CLASSIFICATION OF DISEASES FOR STATISTICAL PURPOSES.

### NEW SCOTTISH CLASSIFICATION.

Rule I.—The causes of death must be only entered once in the classification.

Rule II.—The diseases must be classified according to the primary cause or affection which led to the death.

Rule III.—So far as practicable, every disease causing death must be tabulated under the organ of the body which was primarily and chiefly affected.

CLASS I.—*Fevers.*

Ague  
Remittent — Yellow  
Fever  
Typhus — all varieties  
and infantile  
Smallpox  
Measles  
Scarlatina  
Diphtheria.

CLASS II.—*Diseases of Brain,*  
*etc.*

Hydrocephalus  
Cephalitis  
Apoplexy  
Paralysis  
Chorea  
Epilepsy  
Tetanus  
Insanity  
Convulsions  
Brain diseases — in-  
definite.

CLASS III. — *Diseases of*  
*Heart and Organs of Cir-*  
*culation.*

Pericarditis  
Aneurism  
Disease of Heart, etc.

CLASS IV. — *Diseases of*  
*Organs of Respiration.*

Phthisis  
Hooping-cough  
Croup  
Laryngitis  
Bronchitis  
Influenza  
Pleurisy  
Pneumonia  
Asthma  
Disease of Lungs (in-  
definite).

CLASS V.—*Diseases of Or-*  
*gans of Digestion.*

Thrush  
Diarrhoea  
Dysentery  
Cholera  
Teething  
Quinsey  
Gastritis

Enteritis  
Peritonitis  
Ascites  
Ulceration of Intestinal  
Canal  
Hernia  
Worms  
Ileus  
Intussusception  
Tabes Mesenterica  
Stricture of Intestinal  
Canal  
Disease of Stomach  
Disease of Pancreas  
Hepatitis  
Jaundice  
Disease of Liver  
Disease of Spleen.

CLASS VI. — *Diseases of*  
*Urinary Organs.*

Nephritis  
Nephria  
Ischuria  
Diabetes  
Stone  
Cystitis  
Stricture of Urethra  
Disease of Kidney (not  
defined).

CLASS VII. — *Diseases of*  
*Organs of Generation.*

Paramenia, etc.  
Ovarian Dropsy  
Childbirth  
Metria  
Disease of Uterus and  
other Organs  
Syphilitic Diseases.

CLASS VIII.—*Diseases of*  
*Organs of Locomotion.*

Arthritis  
Diseases of Joints, Bones,  
etc.

CLASS IX.—*Diseases of Skin*  
*and Cellular Tissue.*

Carbuncle (incl. Boil)  
Phlegmon  
Abscess (not scrofulous)  
Erysipelas  
Noma  
Ulcer  
Diseases of Skin.

CLASS X.—*Diseases of Un-*  
*certain Seat.*

Hæmorrhage  
Dropsy  
Fistula (all kinds)  
Mortification  
Cancer  
Purpura, Scurvy  
Scrofula  
Gout  
Rheumatism  
Atrophy.

CLASS XI.—*Malformations.*

Spina-bifida  
Cyanosis  
Other malformations.

CLASS XII. — *Debility at*  
*Birth and Premature Birth.*CLASS XIII.—*Old Age,* no  
disease specified.CLASS XIV.—*Sudden Deaths,*  
cause not ascertained.CLASS XV. — *Violent or*  
*Unnatural Deaths.*

Poison (taken into  
Stomach)  
Poisoned Bites, Wounds,  
Stings  
Hydrophobia  
Intemperance (Alcoholic  
Poisoning)  
Delirium Tremens  
Starvation  
Want of Breast-milk  
Neglect  
Cold  
Burns and Scalds  
Hanging  
Suffocation  
Drowning  
Fractures and Contu-  
sions  
Wounds  
Other violent causes.

CLASS XVI.—*Causes not*  
*Specified.*

## REMARKS.

The statistical classification of diseases adopted a few years ago in the English Registrar-general's reports has proved a failure, as I anticipated (see my remarks regarding it in the Edinburgh Medical Journal for June 1860), and already calls loudly for amendment. A movement is therefore being made to amend that classification. But as I am fully persuaded that that classification, from being drawn up on no fixed principles, is unimprovable, I venture to offer one which I know from experience will be easily workable, which panders to no medical theory which may be popular to-day and be refuted to-morrow; but is a classification drawn up on fixed, intelligible principles, which can be understood by the mass of mankind, as well as by the medical profession.

As we now have acts for the registration of births, deaths, and marriages in England, Scotland, and Ireland, and as the army and navy boards also publish statistics of deaths, it is extremely desirable that all should adopt the same classification. At the present moment, three classifications are in use, because the one now used by the Registrar-general of England will not answer for all purposes. For statistical purposes, however, all should follow the same classification; and when once a good and intelligible classification is adopted, no change should hereafter be made on it, otherwise all accurate comparison with the results of previous years is lost, and endless confusion generated.

As great misapprehensions exist regarding the difference between a *scientific nosology* and a *statistical classification of deaths*,—most persons imagining them to be the same,—a word of explanation seems requisite.

A *scientific nosology* being a purely theoretical classification of diseases, takes it for granted that every disease is with certainty recognised, and can be referred to its exact class and species. Hence, in such a nosology, every disease is arranged under its *primary affection*, and not under the *secondary complications* which may arise in the course of the disease. No vague terms are therefore used in a scientific nosology, nor ought any place be assigned to purely symptomatic or secondary affections.

A *statistical classification of deaths*, on the other hand, must be a practical one; and it must be so drawn up as to give an accurate abstract of all the causes of deaths which are entered on the registers. It ought, therefore, to take as its basis the best, the simplest, and the most intelligible nosology on which its framers can lay their hands; and must also adopt as one of its leading principles that every death must, so far as practicable, be tabulated under the *primary disease*, and not under its secondary complications. That is to say, that a case of phthisis proving fatal by an attack of pneumonia, or of bronchitis, is tabulated as phthisis, and not as pneumonia, or bronchitis; while a case of measles proving fatal by a supervening attack of bronchitis is tabulated as measles, and not as bronchitis. To this extent, therefore, there is no difference between a scientific and a statistical nosology.

But as a *statistical classification* has to deal with facts, and not with theories, and as the statistical tables must exhibit the whole deaths in the registers, else they are of no use, and all these deaths must, as far as practicable, be arranged under their proper heads, it requires to make additions to almost every class of diseases, in order that all those deaths, whose definitions are given too imperfectly in the registers to enable them to be assigned to their exact species, may, at all events, be tabulated under their proper class. Hence, for instance, after exhausting all the great leading species of brain diseases, such as cephalitis, apoplexy, paralysis, etc., the statistical classification requires to add the vague term "brain diseases," meaning thereby all the diseases of the brain and nervous system, so imperfectly defined in the registers that they were not able to be assigned to their exact species. The same additions require to be made to the lung, stomach, kidney, uterine, and other diseases.

But still further alterations require to be made in every *statistical nosology*. Many deaths are recorded as being caused by *secondary complications*, while the primary cause has not been ascertained, either from there being no medical attendant, or from the medical attendant being himself at a loss as to the primary affection. Dropsy is of this nature. In a *statistical classification of deaths*, therefore, dropsy must have a place; though it would have no place in a scientific nosology, seeing it is but the symptom of an organic lesion. But in the statistical nosology only those deaths are tabulated under dropsy in which the organ primarily affected was not distinguished; otherwise, had the death been entered on the register as "dropsy from heart disease," or "dropsy from diseased liver," the death would have been tabulated under heart disease, or under liver disease, and not under dropsy.

The same principle applies to many other diseases, or classes of diseases. Thus, atrophy is not a disease, but a symptom—a consequence of more than one organic lesion in some vital organ, which even the ablest medical men will

fail to trace to its primary cause in every case. Yet we must have a place for atrophy. Such is also the case with old age, etc.

For most practical purposes it is only important to know the total number of deaths in a population caused by certain classes of disease; say, for instance, of the respiratory organs. But were a purely scientific classification followed, a great number of lung diseases, whose names were too vaguely defined in the registers to enable them to be referred to their exact species, would be thrown out, and be altogether lost to science, because they would be thrown into the class termed "causes not ascertained." By following a purely *scientific* classification, therefore, the population would seem to be much more free from lung diseases than they really were; and an entirely false conclusion would be arrived at, because we were so foolish as to adopt a purely scientific nosology. By converting the *scientific*, however, into a *statistical classification*, and adding these vague terms at the end of every class, the deaths from each class of disease, at all events, are accurately ascertained, and correct conclusions arrived at relative to the comparative freedom from, or susceptibility to, certain classes of disease in certain populations.

But a classification of deaths for statistical purposes ought to be constructed on quite different principles from a scientific nosology. *A scientific nosology should alter with the progress of medical literature*, and be in each age a correct representation of the prevalent theories of the day regarding the origination or supposed causes of disease. But a *statistical nosology* being for an entirely different purpose, ought to be drawn up on a few known and intelligible principles, of which the most important is that given in the new Scottish classification, as Rule III., viz., "So far as practicable, every disease causing death must be tabulated under the organ of the body which was primarily or chiefly affected."

A statistical classification of deaths drawn up on such a clear and intelligible principle never could clash with any scientific nosologies. Whatever were the theories relative to disease, tables drawn up on such a principle could be consulted with advantage, and all the facts deducible from them be easily made applicable to any theoretical nosology of the day. Such a classification would, however, possess the immense advantage over every other, that besides being intelligible and easily worked, it pandered to no medical theory which was fashionable to-day, but refuted and abandoned to-morrow. Once adopted, therefore, such a classification would never hereafter require to be amended or departed from; so that the most exact comparisons could be made as to the prevalence of any class of diseases in former years with the year under consideration; changes in the form or prevalence of different diseases; the circumstance of one disease taking the place of another,—all could be traced; and then the most important consideration of all would be, that the vital statistics of all the various departments of Government, and the different divisions of this kingdom, would adopt the same classification.

A few words of explanation seem requisite relative to the proposed new classification itself. In every statistical classification of the causes of death, the number of diseases must be limited, in order to come within such limited space as we can afford for printing. All the rare diseases, therefore, have their names left out of the classification, because they are included in the vague terms appended to each class. In the tables themselves, however, they are all entered as side notes, so that nothing is lost.

In the above classification it has been attempted to carry out, to its full extent, the third rule,—viz., that every disease causing death must be tabulated under the organ of the body which was primarily and chiefly affected. A distinct class of diseases, however, affects every organ of the system simultaneously; but as these are always attended with that morbid affection to which we give the term "Fever," all such diseases conveniently arrange themselves under Class I., to which is applied the term "Fever." One disease alone is provisionally put under fevers, viz., diphtheria. This disease chiefly proves fatal through its extension to the respiratory organs; but it is not

primarily an affection of these, but of the mucous membrane of the mouth and throat, dependent on a general derangement of the whole system, of a nature entirely similar to that of one of the eruptive fevers. According to the rule laid down, therefore, diphtheria must either be classified under diseases of the organs of digestion, or, where I have provisionally put it, under fevers. It seems to me to be so closely allied to cynanche maligna and cynanche tonsillaris, both of which are undoubted forms of scarlatina, that it seems to me we have no choice left us but to place it after scarlatina.

For statistical purposes there can be no such class allowed as the tubercular; it would violate all our rules. Every disease now put under that class must be referred to the organ of the body chiefly affected; so phthisis must be referred to diseases of the respiratory organs; hydrocephalus, to diseases of the brain; tabes mesenterica, to diseases of the organs of digestion.

Hooping-cough and croup are so purely diseases of the respiratory organs, the wonder is they were ever put elsewhere. Diarrhœa, dysentery, and cholera, may be called the leading diseases of the organs of digestion, and that is their undoubted proper place.

Metria, itself a secondary affection, seeing it never can occur but during childbirth, can only stand under diseases of the organs of generation. Were it a primary disease, its proper place would have been under fevers; but being merely one of the modes in which the normal operation of nature, childbirth, proves fatal, it can have no other position than where I have put it.

The above remarks will prove the necessity which exists for having, in a statistical classification of deaths, a class which shall include diseases which occur in various organs, which attack no one unvarying seat or organ, or which are mere symptoms of the existence of other organic affections, whose nature was not satisfactorily ascertained. Class X. includes these diseases. Under the term *hæmorrhage* are only tabulated those deaths said to be caused by hæmorrhage, but in which the organ from which the hæmorrhage proceeded is not mentioned. If the organ is mentioned, the death is not tabulated under hæmorrhage, but under uterine, stomach, heart diseases, etc., as the case may be. I have already remarked as to why *dropsy* is in this class. *Fistula* I also put here; because, in most cases as yet, the registers only state that the death resulted from fistula, without saying whether it were anal or on the margin. *Mortification* is not confined to the skin, nor to one organ, and depends on many different causes; its proper place is therefore here. There is no other place for *cancer*. *Purpura* (with which we tabulate *scurvy*) is in one sense a blood disease; but it is equally a disease of all the tissues, depending on general causes which affect every organ of the body. This is therefore its proper place. The same may be said of *scrofula*. We still know too little regarding the pathology of *gout* and *rheumatism* to refer them with certainty to any one organ. They affect the bursæ, the synovial and the white tissues, the membranous tissues, the muscles, the diaphragm, and even the heart itself. Even when they prove fatal, it is generally through some secondary affection, as pericarditis, of which we take no note in a statistical table of deaths, seeing our rule is to tabulate the death under the primary affection. There is no other place for them, therefore, than in Class X. *Atrophy*, the last of this class, I have already remarked on, and given the reasons for its position here. It has no claim to be made a separate class.

There is both a propriety and a convenience, however, in making separate classes of *malformations*, of *debility at birth and premature birth*, of *old age*, and of *sudden deaths*. None of these can be strictly referred to any class under the three rules laid down for the construction of the table, yet they are causes of death under which many persons are registered, and we must find a place for them in a statistical classification.

Under the *violent and unnatural deaths* are classed *poison*, limiting the term to poisons taken into the stomach; *poisoned bites, wounds, stings*, and then one of the consequences of a poisoned bite, *hydrophobia*. As this last is not the primary but the secondary cause which led to the death, the bite being the

primary, so hydrophobia is most properly arranged here. In like manner, intemperance (which is alcoholic poisoning), and its frequent secondary affection, *delirium tremens*, naturally belong to this group. *Delirium tremens*, being a secondary affection and not a primary (which is the alcoholic poisoning), has no claim to be arranged under brain diseases; but here it is associated with its primary cause. All the other causes referred to the violent deaths would be so arranged under any classification, so that nothing need be said regarding them.

The *causes not specified* are required to complete the table, and they ought to form a separate class, as well as the sudden deaths.

As there is a pressing necessity for a good and easily workable classification of the causes of death for statistical purposes being adopted by England, by Scotland, by Ireland, and by the army and navy boards, I trust that the superintendents of these different departments, and the medical profession generally, will carefully examine the above-proposed classification; and if they cannot suggest a simpler or a better for statistical purposes, let us have a meeting here, or in London, and agree as to the adoption of this as a uniform system for the classification of the deaths, on which all our reports will be founded.

It will be seen that the number of diseases specified in the above table is limited. This is necessary in every statistical table, so as to bring it within moderate dimensions, both for working it and printing it; especially when we have to deal with large numbers and with numerous districts. To fit it, however, for the tabulation of the diseases which occur in civil, military, or naval hospitals, it only requires to be extended, so as to include every disease. Thus, in the above, and every similar table, under smallpox are included varicella, with vaccinia and its consequences. Under typhus are included typhus proper, synochus, gastric, typhoid, and infantile fevers. Under pericarditis, there are carditis and endocarditis. And so on with all diseases. To render the proposed classification a complete nosology, therefore, it only requires the same extension that every statistical nosology needs, no matter what may be the classification adopted. Specifying every disease would make no difference whatever in the classification.

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#### RECENT OUTBREAKS OF FLESH-WORM DISEASE, OR TRICHINIASIS, IN GERMANY.

A FEW months ago, there was a festive celebration at Hettstadt, a small country town near the Hartz mountains, in Germany. Upwards of one hundred persons sat down to an excellent dinner, and, having enjoyed themselves *more majorum*, separated, and went to their homes.

Of these 103 persons, mostly men in the prime of life, eighty-three are now in their graves; the majority of the twenty survivors linger with a fearful malady; and a few only walk apparently unscathed among the living, but in hourly fear of an outbreak of the disease which has carried away such numbers of their fellow-diners.

They had all eaten of a poison at that festive board, the virulence of which far surpasses the reported effects of *aqua topkana*, or of the more tangible agents described in toxicological text-books. It was not a poison dug out of the earth, extracted from plants, or prepared in the laboratory of the chemist. It was not a poison administered by design or negligence. But it was a poison unknown to all concerned; and was eaten with the meat in which it was contained, and of which it formed a living constituent.

When, about thirty years ago, the then demonstrator of anatomy at Guy's Hospital, Hilton, observed a little speck on a muscular fibre, and suspected it to contain a worm, he little dreamed that he had before his eyes the puny specimen of a race of parasites more fatal to man and animals than the virus of the blackest pestilence. When the student Paget sent to the Hunterian con-