STATISTICS OF MORTALITY IN THE MEDICAL PROFESSION.

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THE mortality of the medical profession is a matter in which we are doubly concerned, having in it a personal as well as a scientific interest, so that no apology is required for bringing the subject before this Society; although I fear that some of the figures which I shall have to produce are scarcely calculated to give us much satisfaction.

When the census was taken in April, 1881, there were present in England and Wales 15,091 medical men, with the age-distribution shown in the first line of figures in Table 1. When the census was over, the death-registers for the whole of England and Wales were carefully gone through for three entire years, namely, 1880, 1881, and 1882, and the deaths of all males of fifteen years of age and upwards were abstracted with distinctions of age and occupation. In the second line of Table 1 are seen the results of this process so far as concerns medical men. On these data it is of course an easy matter to calculate the mean annual death-rate in each age-period, and the rates thus obtained are given in the last line of the table. The deaths thus recorded at the several age-periods give a total rate of 25·53 deaths annually to 1000 medical men of all ages

over twenty years. The mean annual death-rate of medical men between twenty and twenty-five years of age was 7·40 per 1000 ; between twenty-five and forty-five was 11·57 per 1000 ; between forty-five and sixty-five was 28·03 per 1000, and over that age was 102·85 per 1000.

TABLE 1.

Medical men.	Age-periods.				
	20-	25-	45-	65-	All ages.
Enumerated in 1881	810	8300	4435	1546	15091
Died in 1880-1-2	18	288	373	477	1156
Mean annual mortality } per 1000 }	7·40	11·57	28·03	102·85	25·53

Now, the first question which naturally suggests itself is whether this death-rate is a high or a low rate, and this question again divides itself into two ; firstly, Is this rate, which is based on the records of the three years 1880-1-2, high in comparison with the mortality rate of medical men in former times ? and secondly, Is it a high rate as compared with the death-rate of men engaged in other occupations ?

To the first of these two questions the data collected in 1861 and in 1871 by Dr. Farr, my distinguished predecessor at the General Register Office, enable us to frame an answer. The annual death-rates deduced from those data are given in Table 2, and it will be seen in the last column of that table that while the annual death-rate of medical men over twenty years of age was 23·63 in 1860-1, it was 24·99 in 1871, and finally rose to 25·53 in 1880-1. These death-rates, let it be observed, are corrected for any difference in age-distribution at the successive periods ; they are the death-rate for 1000 medical men, having the same age-distribution as existed in 1881.

TABLE 2. *Mean Annual Death-rates, per 1000, of Medical Men at Successive Dates.*

Date.	Age-periods.				Per 1000 with age- distribution as in 1881.
	20-	25-	45-	65-	
1860-1	5·86	12·78	23·47	91·69	23·63
1871	11·17	13·85	24·56	93·30	24·99
1880-1-2	7·40	11·57	28·03	102·85	25·53

It thus appears that there was a progressive increase in the mortality of the medical profession in the interval between 1861 and 1881, and our first question is therefore answered. The death-rate of the profession in 1880-1-2, was a high rate as compared with that of earlier periods.

It will be noted, however, on looking at the figures in Table 2, which gives the death-rates at each period of life, that the rise of the death-rate in 1880-1-2 as compared with 1871 was entirely due to an increase of mortality at the later periods of life, and that the mortality *fell* among medical men under forty-five years of age, while it *rose* in those of more advanced age. The same is also practically true when the 1880-1-2 rates are compared with those of 1860-1; for, though the death-rates of those who were between twenty and twenty-five years of age was lower in 1860-1 than in 1880-1-2, yet the proportionate number of medical men of that age is so small, only 54 in 1000, that the changes in the death-rate at that age scarcely affect the total result, that is to say are barely appreciable in the death-rate per 1000 at all ages over twenty.

It appears then that the mortality of medical men has increased at the later ages, namely, after forty-five years, while it has diminished at the earlier ages. The increase at the later ages has, however, been greater than the diminution at the earlier ages, and consequently the total result has been an increased death-rate.

This increase of mortality at the later ages, and this decrease of mortality at the earlier ages, was not peculiar to the medical profession. A similar increase and decrease occurred in the mortality of many, and indeed of most, other professions and industries, and was in fact the most noticeable phenomenon presented by the mortality of males generally in this country in the last decennium. What was exceptional in the medical profession as compared with most other occupations was this, that in that profession the increased mortality at the later ages was greater than the diminution at the earlier ages, whereas in most other occupations, and among the male population generally, independently of occupation, the contrary was the case, and the lives saved at the earlier ages were in excess of the lives lost at the later ages.

To the question, which cannot but present itself, why it is that there has been this strange increase of mortality among the male population of this country at the later age-periods coincidently with a decrease of mortality in the earlier stages of life, only a conjectural answer can be given. Two causes can be pointed out that must almost certainly have contributed to produce this result, and that not impossibly may account for the whole of it. Firstly, there is the increased wear and tear of adult life, brought about by the growth of population and by the keener struggle and competition which this growth necessarily brings with it. Secondly, the very efforts that have been made with such marked success to improve the sanitary condition of the country, while they have enormously reduced the mortality of the young, may very probably have tended to increase the mortality at the later ages; for a large number of comparatively weak lives, which in pre-sanitary times would have perished in infancy or childhood, have been preserved, and by their survival must have diminished the average vitality of the population of more advanced ages. The question, however, of the causes of the strange changes that have occurred in the male death-rates, though it is one which it was im-

possible to pass over altogether in silence, in reality lies almost outside the present inquiry ; for the changes affect the whole male population, whereas the present inquiry relates specially to the medical profession.

Let us pass on therefore to the second part of our first question, Was the mortality of medical men in 1880-1-2 not only high when compared with their mortality in former times, but also high as compared with the mortality of men engaged in other occupations ?

The answer to this question will be found in Table 3, which gives in the first column of figures the annual death-rates in 1880-1-2 for a number of different professions and trades, the death-rate being in each case calculated for 1000 males over twenty years of age, with an age-distribution similar to that of the medical profession.

TABLE 3. *Mean Annual Death-rates of Males in different Occupations corrected for Differences in Age-Distribution. 1880-1-2.*

Profession, Trade, or Industry.	Annual death-rate per 1000.		Profession, Trade, or Industry.	Annual death-rate per 1000.	
	Males 20 years of age and upwards.	Males 25 to 65 years of age.		Males 20 years of age and upwards.	Males 25 to 65 years of age.
All occupations .	22·83	15·42	Watch, Clock, Philosophical Instrument		
Medical Profession .	25·53	17·30	Maker, Jeweller .	21·20	14·86
Clerical .	15·93	8·57	Printer .	23·75	16·51
Legal .	20·23	12·97	Bookbinder .	25·36	18·00
Schoolmaster .	19·90	11·09	Earthenware Manufacturer .	35·98	26·83
Clerk (Commercial and Law) .	21·10	15·61	Cotton Manufacturer	27·19	16·76
Commercial Traveller	20·06	14·61	Woollen, Worsted Manufacturer .	26·47	15·91
Farmer .	17·49	9·73	Mason, Bricklayer, Builder .	22·29	14·94
Agricultural Labourer	18·28	10·80	Carpenter, Joiner .	19·30	12·64
Gardener .	15·08	9·24	Painter, Plumber, Glazier .	25·95	18·53
Innkeeper, Publican .	29·02	23·47	Cutler .	28·52	20·18
Brewer .	29·23	20·99	Blacksmith .	23·14	14·99
Chemist .	22·52	15·66	Quarryman .	26·42	17·29
Shopkeeper .	19·43	13·52	Coalminer .	23·97	13·72
Butcher .	25·89	18·05			
Baker .	21·87	14·77			
Tailor .	22·45	16·21			
Shoemaker .	20·66	14·20			

A glance at this table at once shows that the death-rate in the medical profession is far in excess of the death-rate in any one of the other professions which can be most fitly put into comparison with it. Thus the death-rate in the clerical profession is only 15·93, in the legal profession is 20·23, in the scholastic profession is 19·90, while in the medical profession, as before stated, it is no less than 25·53. Nor is the medical death-rate higher only than the rate in the other learned professions ; it is higher than the rates in most trades and industries, higher, for instance, than those of chemists, shopkeepers, bakers, tailors, shoemakers, blacksmiths, carpenters, coalminers, and of many other groups in the table, and is only itself exceeded by the rates in certain trades and occupations that are notoriously unhealthy.

There is, it is true, some little unfairness in the comparison of the death-rates in the medical and other learned professions with the death-rates in other occupations. A medical man, or a clergyman, when he has once adopted his profession, remains in it, as a rule, for the rest of his life ; and at whatever age death may overtake him it will almost certainly find him still calling himself a member of his profession, though he may have abandoned all practical exercise of it. The death of a medical man, therefore, or of a clergyman, will almost certainly be registered as such, however old the deceased may have been. But with most other occupations such is not the case ; a man engaged in one of them, when he becomes incapacitated for active work by disease or old age, gives up the occupation, and with it very often gives up the name. The death of such a man would be registered without specification of the occupation which he had followed in his active days. On this account, as also for some other reasons which it is unnecessary here to state, it is better, when comparing the death-rates in different occupations, to limit the comparison to males in the great working period of life, namely, in the four decennia that lie between the completion of the twenty-fifth and the

sixty-fifth years of life. A column has consequently been added to the table in which are given the death-rates in each profession and trade per 1000 males in this period of life, the age-distribution being as before assimilated to that which existed in 1881 in the medical profession. That is to say in each case the death-rate is that of 1000 males, of whom 652 were in the first half (25—45) and 348 were in the second half (45—65) of the whole age-period of forty years. The relative mortalities in the several occupations, as shown in this column, differ in some instances very considerably from the relative mortalities for the more extended age-period, as given in the earlier column. But the results, so far as our present purpose is concerned, remain unaltered; the medical death-rate, as before, is far in excess of the rates in the other learned professions, and also of the rates in most trades and industries. Do then what we may, we cannot avoid the unpleasant conclusion that the death-rate of medical men is excessively high, and this whether we compare it with the death-rate in the same profession at earlier dates, or with the death-rates of men engaged in other professions and in most trades and industries.

There are, of course, within the compass of the medical profession sub-groups of practitioners that differ very widely from each other in the social and other conditions under which they live. The life and habits, for instance, of a London physician or surgeon differ enormously from the life and habits of a practitioner in some out-of-the-way rural district, and these again from the life and habits of a surgeon in the army or in the navy; and were it possible to separate these sub-groups accurately from each other and to calculate their death-rates severally, it would assuredly be found that such rates would present wide differences of amount; and in this connection it may be pleasant to the Fellows of the Royal Medical and Chirurgical Society to be reminded, that, some thirty or more years ago, the records of the Society from its establishment in 1805 to the beginning of 1851 were inves-

tigated by a distinguished actuary, the late Mr. F. G. P. Neison,¹ and that it appeared from his calculations, that the mortality in the Society approximated very closely to that of the male population of England and Wales, or indeed was fractionally below it, the actual number of deaths among the Fellows having been 96, whereas it would have been 97·1 had their rate of mortality been equal to that of all males of corresponding ages in England and Wales. In strong contrast with this were the death-rates among the medical men in the army. Here the mortality, as calculated by Mr. Neison, was very greatly above that of the whole male population, the general result of his inquiries being, that out of equal numbers living and having the same age-distribution, there were for the general male population 100 deaths, for the army medical men 162 deaths, and for the Fellows of the Royal Medical and Chirurgical Society 99 deaths.

The existence of such differences of mortality within the profession itself is of course a matter of considerable interest and importance. The data, however, on which the present inquiry is based do not permit of any breaking up of the medical profession into sub-groups, and consequently in this paper the profession can only be dealt with in the aggregate, and treated as a homogeneous whole.

Having now seen that the mortality in the medical profession is extremely high, let us proceed to consider what are the causes to which this is attributable, or rather what are the diseases under which the excess of mortality occurs.

Let me first state what are the data by means of which I propose to examine this question. The local registrars of deaths throughout the country have directions, whenever they register the death of a medical man, to send up a full copy of the entry to the Medical Register Office, in order that the Medical Register may be duly corrected by the erasure of the deceased man's name. As a check on

¹ Cf. 'Contributions to Vital Statistics' (1857), p. 102.

the local registrars, who are paid half-a-crown for each such entry when transmitted, copies of such entries are also forwarded to the General Register Office at Somerset House, and I have availed myself of the accumulations of these copies of entries for my present purpose, and have been thus enabled to present to the Society a table which is, I think, unique, no similar table existing either for the medical or any other profession or industry.

TABLE 4. *Registered Causes of Death, with Ages, of 3865 Medical Men.*

Causes of death.	Age-periods.								All ages.
	20-	25-	35-	45-	55-	65-	75-	85 and upwards.	
Smallpox	...	1	...	1	...	...	...	...	2
Scarlet Fever	...	6	2	...	1	...	...	...	9
Typhus	4	5	1	1	...	1	...	...	12
Diphtheria	3	3	2	...	...	1	...	...	9
Simple continued Fever	...	2	1	...	1	1	...	...	5
Enteric Fever	1	18	8	5	9	5	1	...	47
Cholera	...	...	...	1	1	...	...	...	2
Diarrhœa	...	4	1	2	3	7	8	4	29
Malarial Fever	...	2	1	4	...	...	...	...	7
Erysipelas	...	3	6	8	2	6	1	...	26
Pyæmia, Septicæmia	...	2	2	3	2	2	...	...	11
Venereal Affections	...	...	1	1	...	1	...	...	3
Alcoholism	...	8	13	4	2	...	...	...	27
Rheumatic Fever and Rheumatic Affections of Heart	1	5	9	8	6	1	...	...	30
Rheumatism	...	1	...	1	2	3	1	...	8
Gout	...	1	1	9	13	11	9	...	44
Cancer	...	...	11	15	42	55	10	...	133
Phthisis	13	88	83	37	31	10	1	...	263
Diabetes Mellitus	...	...	3	5	15	19	1	...	43
Inflammation of Brain	...	2	3	3	2	3	...	1	14
Softening of Brain	1	2	6	13	25	35	19	1	102
Apoplexy	...	7	14	32	52	83	41	8	237
Paralysis	...	1	6	12	34	45	31	2	131
Paraplegia, Disease of Cord	...	5	4	10	12	16	2	...	49
Epilepsy	...	8	9	4	6	8	2	...	37
Insanity, General Paralysis of Insane	...	6	20	11	8	7	3	...	55
Other or undefined Diseases of Nervous System	...	6	13	8	17	16	5	1	66
Endocarditis, Valvular Disease, Pericarditis	1	9	8	13	22	32	11	1	97
Hypertrophy of Heart	...	1	...	...	3	6	1	...	11
Angina Pectoris	...	1	1	5	9	13	5	...	34

Causes of death.	Age-periods.								All ages.
	20-	25-	35-	45-	55-	65-	75-	85 and upwards.	
Aneurysm	...	4	11	7	6	4	...	...	32
Embolism	...	...	...	3	3	2	1	...	9
Other or undefined Diseases of Heart and Circulatory System	...	18	22	49	123	143	78	11	444
Bronchitis	...	6	14	11	32	48	54	14	179
Pneumonia	2	24	46	29	34	36	9	1	181
Pleurisy	...	3	3	1	5	4	1	1	18
Asthma, Emphysema	...	3	2	5	7	10	4	...	31
Laryngitis	...	1	4	1	1	2	1	1	11
Other and undefined Diseases of Respiratory System	...	9	9	7	13	13	14	5	70
Ascites	...	...	...	3	...	2	1	...	6
Gall-stones	...	...	...	...	6	2	...	1	9
Cirrhosis of Liver	...	3	20	31	27	9	...	...	90
Other or undefined Diseases of Liver	1	13	31	32	31	35	14	2	159
Diseases of Stomach	...	5	4	11	8	14	6	...	48
Hæmatemesis, Melæna	...	1	5	4	1	5	...	...	16
Enteritis	...	...	2	1	2	1	1	2	9
Ulceration of Intestine	...	2	3	4	2	5	...	...	16
Ileus, Obstruction, Stricture, Strangulation of Intestine	...	...	...	3	4	13	9	2	31
Hernia	...	...	...	...	...	1	1	...	2
Fistula	...	...	...	1	2	...	...	...	3
Peritonitis	...	2	2	1	1	3	...	...	9
Other or undefined Diseases of Digestive System	...	...	2	3	4	3	3	...	15
Nephritis	...	2	2	1	2	1	1	...	9
Bright's Disease	1	7	30	33	35	34	12	...	152
Calculus	...	...	2	3	6	1	1	...	13
Hæmaturia	...	1	1	...	...	3	1	...	6
Suppression of Urine, Uræmia	...	3	3	1	3	4	3	2	19
Diseases of Bladder and Prostate	...	...	2	1	11	42	38	2	96
Other or undefined Diseases of Urinary System	...	6	9	7	8	9	3	2	44
Caries and other Affections of Bones and Joints	...	3	2	3	5	3	...	...	16
Carbuncle	...	...	...	2	1	6	...	...	9
Old age	...	...	...	...	2	52	132	68	254
Accident	1	18	33	24	16	20	6	2	120
Suicide	2	14	11	16	5	4	3	...	55
Other or undefined causes	3	14	16	23	35	25	22	3	141
Total	34	359	520	537	761	946	571	137	3865
Age-periods	20-	25-	35-	45-	55-	65-	75-	85 and upwards.	All ages.

This table gives the registered causes of death in combination with age for no less than 3865 medical men, who died at some time within the ten years 1873-82, and the certificates of whose deaths have been preserved.

Seeing how large a number 3865 is, and seeing that these deaths came from all parts of the country indifferently, and were moreover spread over a period of ten years, we may assume with much confidence that they are a perfectly fair sample, representing with close accuracy the bulk of the mortality of medical men, when distributed by causes and by ages. Now, it has already been shown that the mean annual mortality of medical men in 1880-1-2 was 25.53 per 1000, or—as it will be convenient to avoid the use of decimals—25,535 per million. We can therefore divide out the 25,535 deaths, which occur annually among a million living medical men, in the proportions given us by the 3865 deaths of which we have the causes ; and by so doing we shall of course have the annual death-rate per million from each separate cause so dealt with.

The results are given in the first figure column of Table 5 ; while the second column of figures gives for comparison the corresponding rate for all males in England and Wales irrespectively of occupation, due correction having been made for difference of age-distribution. That is to say, the rates for all males are the annual rates for a million males, with the same age-distribution as existed in the medical profession in 1881. That distribution was as follows :

20 and under 25 years	=	53,674
25 „ 45 „	=	549,997
45 „ 65 „	=	293,884
65 and upwards	=	102,445

Total . . . 1,000,000

TABLE 5.

Causes of death.	Annual deaths per million living males over 20 years of age.		Causes of death.	Annual deaths per million living males over 20 years of age.	
	Medical men.	General population.		Medical men.	General population.
Smallpox . . .	13	73	Diseases of Circulatory System . . .	4142	2934
Scarlet Fever . . .	59	16	Diseases of Respiratory System . . .	3237	4408
Typhus . . .	79	38	Liver Diseases . . .	1744	744
Diphtheria . . .	59	14	Other Diseases of Digestive System . . .	973	632
Simple or ill-defined Continued Fever . . .	33	40	Calculus . . .	86	30
Enteric Fever . . .	311	238	Diseases of Bladder and Prostate . . .	634	287
Diarrhoea, Cholera . . .	205	274	Other Diseases of Urinary System . . .	1520	665
Malarial Fever . . .	46	11	Hernia . . .	13	88
Erysipelas . . .	172	136	Accident . . .	793	1105
Alcoholism . . .	178	130	Suicide . . .	363	238
Gout . . .	291	78	All other causes . . .	2869	2124
Rheumatic affections . . .	251	215			
Malignant diseases . . .	879	790			
Phthisis . . .	1738	3145			
Diabetes . . .	284	108			
Diseases of Nervous System . . .	4565	4268	Total from all causes	25,535	22,829

It will at once be seen that the figures in the two columns differ very widely ; and the general result of the comparison is to show that, with very few exceptions, the mortality of medical men is higher under every heading than the mortality of males generally, and that under some of the headings the medical mortality is twice or thrice, or even more times, greater than the average.

There are altogether in the table twenty-seven headings, and in only seven out of these is the medical death-rate lower than that of males generally. Moreover, of these seven headings under which the advantage is on the side of the medical men, there are but three of any numerical importance, viz. phthisis, diseases of the respiratory organs, and accident. Again, as regards the last-mentioned of these, namely, accident, although the mortality of medical men is very considerably below the average, this is only because the average is raised by the inclusion

in the general population of men employed in a small number of highly dangerous occupations, and, when these exceptionally dangerous industries are left out of the account, the death-rate of medical men from accident is, as will be shown later on, a high one. Thus there remain only two headings in the table, namely, phthisis and diseases of the respiratory system, under which the medical mortality is in any important degree lower than the average. The medical mortality from phthisis is 45 per cent., and from diseases of the organs of respiration 27 per cent., below that of the general male population. The advantage thus enjoyed by medical men is in all probability due rather to their social than to their professional position; phthisis and lung affections being diseases which are especially destructive among the classes that suffer from destitution; and the medical profession being of course, as compared with the general male population, a class in easy circumstances. Something also may fairly be put to the credit of the knowledge of the healing art which medical men who fall ill have at their command; and it is to this latter advantage, combined with the absence from their occupation of the necessity for any severe muscular strain or exertion, that the much smaller mortality of medical men, as compared with the general population, from hernia, is to be ascribed. The figure under this heading is for males generally 88, but for medical men only 13. To medical knowledge must also be attributed the fact that while the mortality of the general male population from smallpox is 73 per million, the mortality of medical men from that disease is only 13 per million. Medical men are not likely to be led astray in their own persons by the statements of anti-vaccinationists, and consequently, though they are of course much more exposed to the chance of infection, their mortality from smallpox is scarcely more than one sixth of the average; and this fact is the more striking, inasmuch as the reverse is the case with all those other infectious diseases against which no similar prophylactic

remedy is known, such as scarlet fever, diphtheria, typhus, enteric fever, and erysipelas. Under all these headings the mortality of medical men, as might be anticipated, is in considerable excess of the average. The slightly lower figure for medical men under the heading "Simple or ill-defined Forms of Continued Fever" is probably due to more than average accuracy of diagnosis, and more than average carefulness in statement of cause in the case of deceased medical men, who will scarcely ever have died without the presence of a brother practitioner.

The more than average mortality of medical men from remittent and intermittent fevers is attributable with much probability to the foreign element in the profession, that is to say, to the fact that a considerable number of army, navy, and other medical practitioners return to England from India and the colonies with diseases contracted in those parts.

Possibly the same explanation may account in some degree for the excessively high mortality of medical men from cirrhosis and other diseases of the liver, a mortality which is considerably more than twice as high as that of the general male population; but, seeing how great also is the excess of mortality in the profession under such headings as gout, alcoholism, and calculus, not to speak of diseases of other digestive organs than the liver, it becomes difficult to resist the conclusion that the main part of the enormous mortality from hepatic diseases is due, despite of the indignant protest of Professor Casper¹ to the contrary, to the neglect on the part of medical men, as a body, of those wise rules of diet which they lay down for the guidance of their patients.²

¹ 'Annales d'Hygiène Publique,' xi, 1834, p. 384.

² That doctors are prone to neglect in their own persons the rules of abstemiousness which they lay down for others is a charge of great antiquity, as is shown by the following fragment of Philemon :

τεκμήριον δε, τοὺς ἰατροὺς διδ' ἐγώ
ὕπὲρ ἑγκρατείας τοῖς νοσούνσι εὖ σφόδρα
πάντας λαλοῦντας, ἔντ' ἑάν παίσωσί τι,
ποιοῦντας αὐτοὺς πανθ' ὅσ' οὐκ ἔϊων τότε
ἑτέροις.

Scarcely smaller than the excess under the heading Liver Diseases is the excess of mortality in the profession from diseases of the urinary system. The liver-disease excess above the average for the general male population is 134 per cent.; the excess under the urinary headings is 128 per cent., or practically the same, for in calculations such as these, small differences are of course without much value. On the other hand the excess of mortality from diseases of the organs of circulation is only 41 per cent., and from diseases of the nervous system only 7 per cent., above that of the general population. Another disease in the table under which there is a remarkable excess is diabetes, the medical mortality from this disease being 284 per million living, while that of the general male population is only 108. The numbers are small, and consequently too much importance must not be attached to them; but I may point out that Dr. Richardson, I do not know on what basis of observed facts, mentions¹ diabetes as a disease to which medical men are especially liable, and explains this liability by the excessive nervous fatigue incident to a medical practice; and that other writers speak² of diabetes as a disease more common among the well-to-do classes than among the comparatively poor, who of course form the great bulk of the general population with which the medical profession is contrasted in our table.

There remains one other group of diseases in the table, namely, cancer and other malignant tumours, which requires notice before passing on to the mortality from violence. The medical mortality from cancer or malignant disease is 879 per million living, while the figure for the general male population is only 790, a difference of about 11 per cent. This apparent difference is not more, however, than can be rationally explained by the fact that the diseases to which medical men succumb are almost certain to be more accurately diagnosed and more carefully stated in death-certificates than the fatal diseases of the general population. A cancerous or malignant

¹ 'Diseases of Modern Life,' p. 408. ² 'Ziemssen's Cyclop.,' xvi, 863.

tumour which proves fatal to a medical man will almost certainly be diagnosed as such, and its nature stated by his brother practitioner in the death-certificate, whereas among the poorer classes it too often happens that the nature of the tumour is not made out, and the cause of death is simply given as "abdominal tumour" without further specification.

Let us now pass on from the mortality caused by disease to the mortality from violence, accidental or suicidal. The table shows an annual mortality from accident for medical men of 793 per million living, while the figure for the general male population is 1105. But, as was previously mentioned, the figure for the general population is unduly raised by the inclusion of men engaged in a small number of highly dangerous occupations, such as mining, quarrying, and sea-fishing; and, as is shown in Table 6, which gives the annual mortality of males between twenty-five and sixty-five years of age in various trades and industries, the medical accident-rate is in reality high, for of the twenty other occupations in the table there are but eight in which the rates are higher.

TABLE 6.—*Mean Annual Mortality from Accident per Million Males, from Twenty-five to Sixty-five Years of Age,¹ in different Occupations, 1881-2-3.*

Occupation.	Rate per million.	Occupation.	Rate per million.
Miners	2785	Commercial Travellers	557
Fishermen	2351	Butchers	541
Quarrymen	2290	Agricultural Labourers	511
Cabmen	1299	Farmers	464
Painters, Plumbers, and Glaziers	1129	Cotton Workers	464
Blacksmiths	758	Wool, Worsted Workers	418
Builders, Masons, and Bricklayers	696	Gardeners	371
Innkeepers, Publicans	696	Pottery Workers	371
Medical Men	644	Bakers	325
Carpenters, Joiners	588	Tailors	278
		Shoemakers	263

¹ The rates in this table are for males between twenty-five and sixty-five

To what forms of accident is this high mortality among medical men to be ascribed? To this question it is impossible to give a thoroughly satisfactory answer, owing to the inadequate manner in which the nature of a fatal accident is too often stated in a coroner's certificate. The following table gives, however, the registered causes of the 120 fatal cases of accident that occurred among the 3865 deaths tabulated on pages 225, 226.

Registered Causes of 120 Deaths of Medical Men from Accident.

Railway accident . . .	7	Laudanum, morphia . . .	18
Carriages or horses . . .	17	Chloroform	6
Cut	2	Nitrous oxide (tooth extraction) .	1
Fall from height . . .	1	Chlorodyne	1
Fall downstairs . . .	4	Chloral hydrate	9
Other falls	7	Prussic acid	9
Burn	2	Carbolic acid	2
Gas explosion	1	Poison (kind unstated) . . .	2
Lightning	1	Fracture	11
Sunstroke	1	Kind of accident not stated .	8
Gelatio	1		
Drowning	7		
		Total	120

It will be seen that a not inconsiderable proportion of the 120 deaths, namely 17, were caused by accidents with carriages or horses, a kind of accident to which medical men, especially in rural parts, are, of course, much more exposed than the average of men; very probably, moreover, many of the fatal fractures and injuries, of which the causes are not given, may have been due to similar kinds of accident. But the most notable feature in the table is the overwhelming amount of accidental death from poison. In no less than 49 out of the 120 accidental deaths, or in 40 per cent. of the whole, the death was caused by poison, and in the great bulk of these cases

years of age, and are based on the data given in the 'Supplement to the Registrar-General's 45th Annual Report;' whereas the rates in Table 5 are for all males over twenty years of age.

the poison was either some or other form of anodyne or prussic acid. It must be remembered that in all cases in which a person is found dead, without distinct evidence of the circumstances under which the death occurred, the death is considered to be accidental; but that some, at any rate, among these numerous deaths from poison were not accidental can scarcely, I think, be considered an improbable or uncharitable hypothesis.

It remains to consider the mortality from suicide. The mean annual death-rate among medical men from this cause is given in Table 5 as 363 per million, while the figure for the general male population of corresponding ages is only 238, thus showing an excess of 52 per cent. on the side of medical men. Moreover, if in place of dividing out the total medical death-rate to the separate headings by means of the 3865 deaths in Table 4, which are spread over ten years, 1873—1882, the calculation of the suicide rate be made directly (as it chanced there are means for doing) upon the deaths in the six years 1878—1883, it is found that suicide is apparently on the increase in the profession, for by this fresh calculation the suicide-rate for medical men rises to 464 per million instead of 363. The rate in Table 5, being based on a longer period of years, is doubtlessly the more trustworthy of the two; but I have been induced to give also the rate for the later and shorter period, because I am able for this period only to draw a comparison between the medical and the clerical and legal professions. The mean annual death-rate from suicide in the six years 1878—1883 was 123 among clergymen, priests, and ministers; 354 among barristers and solicitors; and, as already stated, 464 among medical men; in each case per million living and with the age-distribution of medical men in 1881.

It must, of course, not be forgotten that in treating of the annual mortality in any single occupation from suicide, as also from several others of the causes in the table, we are dealing with a small number of actual deaths, and that under such circumstances too much weight must not be

given to slight differences or slight fluctuations. But while on this account it would be unwise to insist upon the figures now given being taken as representing the constant proportions of suicides in the three great professions, they can, I think, be accepted without hesitation as showing that this mode of death is far more common in the medical than in the other professions. The figures represent accurately the proportions for six years, and in all probability the proportions would not be found very different if we had the data for a much longer period.

As regards the methods of self-destruction selected by medical men the most notable point is their preferential choice of poison. Out of the 55 cases of suicide in Table 4 26, or 47 per cent., were brought about by poison, and in no less than 15 of these 26 the poison used was prussic acid. This is what might have been expected, for medical men have free access to poisons, are familiar with their effects, and know which are the most expeditious and cause the least suffering.

Such are the statistics, so far as I have been able to ascertain them, of the mortality in recent years among the members of our profession. The figures, as was said at the beginning of this paper, are not such as to give us unmixed satisfaction. The ancient belief, which for ages was accepted by the general public and was supported by the theses of learned writers, that the life of a medical man was as a rule longer and freer from disease than that of an ordinary individual, inasmuch as, when in health, he guided his steps by the laws of hygiene, and when in sickness had the advantage of the best advice, after scarcely surviving the ridicule of Voltaire, received its death-blow so soon as the pitiless test of statistical inquiry was applied to the subject. But though figures, such as those I have brought before the Society this evening, are utterly incompatible with that ancient optimistic view, it is at any rate not unsatisfactory to note, that my figures give on the whole a much less gloomy view of the condition of the

profession than those put forth by some previous inquirers. Thus, Escherich,¹ writing some thirty years ago, stated that 75 per cent. of medical practitioners die before they reach the age of fifty, and more than 90 per cent. before they have completed their sixtieth year. But the figures given in my 4th Table show that instead of 75 per cent. dying before the age of fifty only 37 per cent. die before the more advanced age of fifty-five; and that instead of 91 per cent. dying before the age of sixty only 57 per cent. are gone before the age of sixty-five. Professor Casper² gives figures which are somewhat less appalling than those of Dr. Escherich, but nevertheless are much less favorable than those given in this paper. Casper, writing in 1834 of medical men in Germany, states that only 24 per cent. of them reach the age of seventy, this being a smaller percentage than in any other liberal profession. My figures (Table 4) show that 42·8 per cent. reach the age of sixty-five, and 18·3 per cent. the age of seventy-five; and calculating from the most recent life-table³ this would mean a survival of 30·7 per cent. at the end of the seventieth year of life instead of only 24 as in Casper's estimate. Again, the average duration of life of the 624 medical men who formed the basis of Casper's calculation was 56·4 years, while the average duration of life of the 3865 medical men in my table was 59·3 years.⁴ It is not then forbidden us to hope that some future statistician, when another few decennia shall have passed away, may find that the figures of his date may present a like improvement upon those which I have

¹ Cf. 'Dict. Encycl. des Sc. Médicales,' 2nd Sect., Tome v, 576.

² 'Annales d'Hyg. Publ.,' xi, 1834, p. 375.

³ Cf. 'Suppl. to 45th Ann. Rep. of the Registrar-General,' p. vi.

⁴ Dr. Guy ('Journ. of Statist. Soc.,' ix, 346) gives figures of apparently a much more favorable character than any quoted in the text. But Dr. Guy's calculations as to the mean duration of medical life were based exclusively on the deaths recorded in the Annual Register; and these would, as a rule, be only the deaths of such medical men as had attained some eminence in their profession, who, of course, would on the whole be of more than average age.

given, and that the sting may by that time have vanished from the old proverb—Physician, heal thyself.

(For a report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' New Series, vol. ii, p. 45.)