tinct, and in some cases the disease may even take a fatal course.

PROTECTIVE INOCULATION.

Mixing rinderpest blood with glycerine, its activity was lost almost immediately, the infective material thus differing from small-pox lymph, which is preserved by the addition of glycerine. Inoculation of blood mixed with carbolic acid appeared to produce no typical disease, but the animal injected with the mixture appears to be protected against an injection of untreated blood, which was not the case with the animals injected with the glycerine and blood mixture. Water and saline solution when mixed with the blood appeared to have little effect upon its virulence. Blood dried for four days at a temperature of 31° C., and then dissolved in water, produced no ill-effects in the animal inoculated, and also exerted no protective action, an animal that had received such an injection contracting rinderpest readily when subsequently inoculated with fresh blood.

ANTITOXIC SERUM.

During the course of the experiments 4 animals that have suffered from rinderpest on the experimental station have recovered. Two of these "salted" animals, as they are called at the Cape, and an animal that had not suffered from the disease, were inoculated with the rinderpest blood: "the result was that the latter died of rinderpest, whilst the other two never evinced the slightest symptoms of the disease, not even the slightest rise of temperature." Professor Koch goes on to say: "Having thus proved the thorough immunity of these animals, I drew from the stronger one a large quantity of blood, and inoculated one beast with 100 c.cm. serum. After this animal, which on the next day was inoculated hypodermically with 1.5 c.cm. (?) rinderpest blood, had remained well for six days it was reinoculated with a larger quantity of virus, namely, 1 c.cm. (?) of rinderpest blood. Another animal was vaccinated with a mixture of both serum and blood, which previous to the operation was kept for one night in the ice chest. This animal likewise did not show anything amiss during the next six days, and was then on the seventh day inoculated with a large quantity of rinderpest blood. Both these animals withstood even the second inoculation without any injurious results. These experiments clearly demonstrate that the serum of immune animals possesses a certain protective power; but before having made further experiments, it is not possible for me to say for how long a period this immunity will last, and if this period can be carried out in practice." Koch finds that birds are not susceptible to rinderpest; dogs and small rodents are similarly immune, whilst pigs appear to have a certain degree of susceptibility to the disease.

It is evident from these experiments that although Koch has not been able to demonstrate the etiological factor in the disease, he has been able to localise its seat (the blood) during some period of its development, and has also been able to demonstrate, as was foreshadowed in his previous report, that in rinderpest as in diphtheria an antitoxic substance collects in the blood, a substance which appears to interfere with the activity of the virus and to prevent the development of the disease. This is a most interesting phase of the serum treatment question, and there can be little doubt that if Koch can only determine the nature of the virus, he may be able to throw considerable light on the nature and treatment of some of the specific infective diseases in the human subject, in which as yet we have not been able to detect the primary causal agent.

GERMAN BALNEOLOGICAL SOCIETY.—The seventeenth annual meeting of the German Balneological Society will be held in Berlin on March 11th and 12th. Among the communications promised are *The Treatment of Syphilis and Balneotherapy*, by Dr. Neisser, of Breslau; *The Movement Cure in Diseases of the Brain and Spinal Cord*, by Professor Eulenburg, of Berlin; *The Treatment of Renal and Vesical Calculi by Mineral Waters*, by Dr. Mendelsohn, of Berlin; *Researches on the Effects of Artificial Baths*, by Dr. Stiffler, of Steben; *Mineral Waters in relation to Chemical Analysis*, by Professor Oscar Liebreich; *Palpation of the Pelvic Organs in Warm Baths*, by Dr. Schuster, of Naunheim; and *The Hydrotherapy of Exophthalmic Goitre*, by Dr. Winternitz, of Vienna.

IRISH WORKHOUSE REFORM.

By W. R. MACDERMOTT, M.B.,

Poyntz Pass, Newry.

VII.—OLD AGE AS A FACTOR IN THE WORKHOUSE MORTALITY. In the recent conference held in Dublin the workhouse death-rate, as given by Dr. Moorhead, was met offhand by the statement that the institutions were virtually hospices for the dying and aged, and we were solemnly cautioned against putting forward disingenuous and exaggerated statements reflecting on the authorities. Whatever statements Dr. Moorhead made, and whatever were made in the *BRITISH MEDICAL JOURNAL*, we may be sure they are tame, cold, and colourless compared to the expression the people would themselves give of the evil repute in which they hold the workhouses and their management.

How can we look with hope for rational and intelligent action on the part of the authorities when at a conference specially called to promote reform, we find their representatives treating as matter of doubt the data on which life insurance companies conduct their vast business with certainty? We can hope for little from men who not merely take the death-rates at various age periods as unknown and indeterminate quantities, but accuse us of being disingenuous and indulging in exaggeration, because with the insurance companies we take them as determinable values.

The expectation of life of the Irish pauper on admission to a workhouse is 4 years, which is that of a person 84 years of age. If the mean age of the pauper on admission was 84 the workhouse death-rate would be normal. It is claimed as far as age is a factor in it to be normal, only what we might expect. In fact the aged, relieved from the pressure of want and better cared for, as it is said, in the workhouses than outside, ought to live longer in them. Not only, however, is the death-rate of the aged claimed to be normal, but it is made to account for the general workhouse death-rate.

At the census of 1891 the number of workhouse inmates was found to be 42,348.¹ The number of these who were 85 years and upwards was only 931. But the number of deaths in the workhouses in the year 1891 was 10,029,² to which, of course, a constant of 931 persons 85 and upwards would make but an insignificant contribution at the normal or any rate. The number of inmates 75 years and upwards was only 5,264, which still would make no material contribution. Taking the low limit of 60 for old age of the 42,348 inmates, 38 per cent., or 16,327, were that age and all ages upwards. The whole number of deaths in Ireland in 1891 was 86,053, of which 43.4 per cent., or 37,697, was of persons 60 and upwards.³ The whole number 60 and upwards in Ireland was 492,113, and the death-rate for them 76.5 per 1,000. At the normal rate, therefore, the 16,327 inmates 60 and upwards would account for only about 1,250 out of the 10,029 deaths. This is on the base of a daily average of 42,348, the number at the date of the census. The true daily average was only 40,914.⁴ The death-rate 76.5 for the age period 60 and over was exceptionally high for 1891. It was only 72 in 1895. It follows from this that the absolute numbers of those over 75 in the workhouses give no explanation whatever of the enormous death-rate, and that at the normal rate the number of those 60 and upwards would give only from 1,100 to 1,200 out of the 10,000 deaths.

It is contended that the death-rate among the aged in the workhouses is normal, but if we allow the contention we shall have to make the 26,021 under 60 account for 8,800 deaths. But, apart from the fact that a large portion of the fluent quantity is made up of hardy vagrants of brief stay, by the census returns only 14,789 of the 42,348 were sick in hospital, and by the reports of the Local Government Board only one-fifth of the admissions were in sickness. At pages 29 to 33, and in the tables indicated of the General Report of the Census of 1891, will be found data enabling us to judge of the nature of the disease treated in the workhouses, and how far it can account for the death-rate. Of 3,030 cases of phthisis pulmonalis in the country only 480 were in the workhouses, of 434 cases of cancer only 107 and 80 on. On the other hand, of the 14,789 sick in hospital

¹ General Report, Census of Ireland, 1891, p. 442.

² Report, Local Government Board, Ireland, p. 9.

³ Report, Registrar-General, Ireland, 1891, p. 268.

⁴ Report, Local Government Board, 1895, p. 10.

1,088 were suffering only from skin disease. The absolute number of necessarily or usually fatal cases, like the absolute numbers of the very aged, are quite insufficient to account for the high mortality.

That mortality is abnormal throughout. For those over 60, instead of a normal figure of about 1,200 we have 2,283 set against age alone, with evidence that deaths from many diseases of age are not included.⁵ But when we allow a doubled or trebled rate for age, and further, on any reasonable estimate, for incurable cases, an altogether abnormal balance remains to be set against the young and those suffering from curable disease.

The apologists for our Poor-law administration do not know the meaning of their own argument. If of the 37,000 persons 60 and upwards who die every year in Ireland from 10,000 to 13,000 died in the workhouses, at normal rate our social state would be very much worse than it is. It would be horrible that such a proportion of the aged should end in the workhouse. Our position is that a constant of 40,000 of all ages dying at an abnormal rate give the 10,000 deaths. That is bad enough, but it does not mean the intolerable social state which self-satisfied ignorance so lightly affirms for us.

THE MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union, Limited, was held at the Medical Society Rooms, 11, Chandos Street, on February 25th, Mr. VICTOR HORSLEY, F.R.S., in the chair.

In opening the proceedings the CHAIRMAN said that the negotiations for amalgamation with the London and Counties Medical Protection Society had been abruptly broken off by that Society, although the Council of the Medical Defence Union had agreed to place at the head of all reports and official documents the fact that the London and Counties Medical Protection Society was amalgamated with the Union, which was all that was required in the matter of historical record. In regard to the scheme issued by the Committee of the British Medical Association for medical defence, it was clearly drafted on the present principles of constitution and action of the Medical Defence Union, and so long as these principles were strictly observed the British Medical Association could successfully undertake the duties; but inasmuch as the matter involved the interests of the Union, he hoped that every member would attend the meetings of the Branches called to discuss this scheme. Whether the Association accepted or rejected the scheme, it seemed to him that the objects for which the Medical Defence Union was so successfully established would still be attained, because in the former case operations would be conducted on a larger scale; and, in the second case, if the Association failed to take the matter up, then, by reason of their being better informed on the subject, the profession would doubtless join the Medical Defence Union in greatly increased numbers, and so further and promote its work. The Chairman then drew attention to the work done during the year 1896. It was a momentous year, because the Union had not only been specially successful in defending its members, but had carried into the law courts various very important cases in order to see how far the Medical Acts protected the profession, and by the experience thus gained to push forward the work of amendment of these Acts, and to secure more correct enforcement of the law as it was evidently designed to be administered. In these operations, which were of the utmost value to the profession as a whole, the Union did not receive the credit which was justly due to its members, and he hoped that the nature of the work thus accomplished would be more generally recognised. The Council of the Union wished it to be known that the remarkably favourable results which the Union secured this year were primarily due to the tactful ability and skill of their solicitor, Mr. Hempson. The Council felt that in its work it was responsible to the Union from two points of view, medical and legal. As medical men the members of the Council could see most clearly what was expedient from the professional standpoint, but naturally relied upon the knowledge and experience of Mr. Hempson to correctly appreciate the chances of actions in the courts of law,

and the result of the year's work had fully justified that reliance. The annual report was the most gratifying record of the continued and unabated development of the Union. The Chairman then moved the following resolution:

That the report of the Council now formally presented, and previously circulated to all the members of the Union, be received, adopted, and entered upon the minutes.

Dr. RANSOM, in seconding the resolution, pointed out the helpless position of medical men in the matter of legal redress unless they belonged to a medical defence union, and quoted as an example the case of two surgeons who were accused on the evidence of a bonesetter of sending away from the hospital with which they were connected cases of unredressed dislocation. The only evidence which that Hospital Committee had before them was the word of a bonesetter. If those two surgeons had been members of the Medical Defence Union this attack on their reputation would not have been passed by without redress and compensation. He considered it would be possible in the case of lecturing quacks (who sold appliances at a high price to ignorant people and promised to cure cancer) to collect evidence sufficient for the purpose of prosecution. In one case the vicar of a parish was with difficulty dissuaded from collecting a fee of ten guineas to enable a quack to cure a case of cancer. Something should be done to prevent medical men giving their services to medical aid societies, which by advertising and touting were crushing the general practitioner out of the country. He also hoped that negotiations would be reopened with the London and Counties Medical Protection Society.

Dr. MARK SHARMAN (Rickmansworth) asked under what conditions the Union would be absorbed into the British Medical Association.

Dr. BENHAM said that he did not belong to the British Medical Association, and that the proposal by that Association ought to be opposed, because if it were accepted those members of the Union who did not belong would be subjected to the hardship of being left out.

Dr. FELCE disapproved of absorption into the British Medical Association, because he thought that medical defence work might be a cause of dissent in the Association, and that the work of the Union was so extraordinarily successful, it was best left to conduct the business alone.

Dr. SNAPE said he understood that the Council of the Union would probably be translated bodily into the British Medical Association scheme for defence, and so the continuity of the mode of working of the Union be preserved.

Dr. NORMAN KERR said that he would do all he could to induce his Branch of the British Medical Association to accept the proposed scheme, since what they all wanted was co-operation and more union.

Dr. BOUSFIELD considered that the British Medical Association was not the best body to take up the work of the defence. He urged that the Union should authorise their solicitor to more frequently make use of the name of the Medical Defence Union in certain cases. On the matter of medical aid companies a strong expression of opinion should be forwarded from this Union to the General Medical Council insisting on the necessity of preventing unqualified persons trading as medical societies making a profit from the labours of salaried qualified men.

Dr. BEVERLEY, in advising the Union again to move the General Medical Council on the subject of medical aid societies advertising and touting, observed that the General Medical Council was also being approached on this subject by means of representation through the qualifying bodies.

Dr. LOUIS PARKES pointed out the necessity for promptness in medical defence work, and feared that if taken up by the British Medical Association the work would be hampered by formalities.

Dr. SNAPE asked when the report of the Revision Committee would be issued.

The CHAIRMAN, in reply, said that concerning the questions asked regarding the negotiations for amalgamation, he himself was always in favour of amalgamation, and worked hard to bring it about. The Council of the Union opened the last negotiations, but these were broken off, as already explained, by the London and Counties Medical Protection Society, and the opposition to amalgamation in that Society was so marked, that he was afraid there was no use in again trying to reopen

⁵ Report Local Government Board, 1895, p. 9.