

logical programme with Mr. R. C. Mossman is strongly advised. Magnetic work of the usual kind at the base station and, so far as possible, on the cross journey will fall in with other work that has been done; in both these departments of science it would be specially profitable to have other expeditions in the field synchronously. Local zoological and botanical work will also be of great interest. But, undoubtedly, solving some of the many great topographical and geological problems is the leading work to be done both in the vicinity of the base station and in the interior.

According to evidence at present at our disposal, Shackleton, if he penetrates southward from Coats Land, will gradually rise without much interruption over completely and heavily ice-clad land—over inland ice, in fact—until he reaches the South Pole, an ice-field that continues until it reaches the Beardmore Glacier and Axel Heiberg Glaciers. It would be a great triumph if, after Shackleton reached the South Pole, he could strike a new route, say, to the west of the mountains of South Victoria Land; but if this sacrifices the life or even limbs of the party, it is not worth attempting. Another expedition can carry out that work in time to come from the Pacific side. The intrinsic value of the expedition is to seek and find out what lies between Coats Land and the South Pole.

The route will probably be to the east of the antarctic continuation of the Andes, but possibly Shackleton may have to cross another range—the continuation of the South Victoria Land Mountains—but all is new, and all depends upon whether previous conceptions have been based on sufficient facts. It is expeditions such as Shackleton's that we require as the only way of obtaining data for the solution of many theories founded on too few facts. We therefore wish him all possible success, and trust that he will receive all the support he requires. The 50,000*l.* provided by a generous friend is an absolute minimum; 70,000*l.* is nearer the figure, and may we also trust that even another 10,000*l.* will be forthcoming to enable the gallant leader to have the scientific results of the expedition described in detail; for an expedition of this kind is not completely successful unless the technical results of the work are published. WILLIAM S. BRUCE.

DR. WEIR MITCHELL.

DR. SILAS WEIR MITCHELL died at Philadelphia on January 4, and in him has passed away one of the most remarkable men of America. At different times in his life he took a place in the very first rank of experimental physiologists, of practical physicians, and of novelists.

Dr. Weir Mitchell was born at Philadelphia, February 15, 1829, and was educated at the University of Pennsylvania and the Jefferson Medical College. He began researches on various physiological subjects in 1852, and in 1860 he published his researches "On the Venom of the Rattle

Snake," a work which, even at this day, remains a perfect model of what an investigation into the physiological action of a poison ought to be, and is of itself sufficient to establish his claim to a front rank amongst American physiologists, past or present.

During the American Civil War Dr. Weir Mitchell had charge of a hospital in which cases of injury to nerves by gunshot wounds were specially treated. In 1872 he published a book on the effect of such injuries. After the war was over his patients were scattered over many parts of the United States, and he was thus enabled to make some very extraordinary observations upon the effect of weather upon disease. He was struck by the fact that one day, for example, he would get a batch of letters from California, a day or two afterwards from Denver, and a day or two later from Chicago, in which the patients complained of pains in their old wounds. These coincidences led him to inquire into the cause of the pain, and on communicating with the meteorological office he found that a wave of rain and a wave of pain were passing simultaneously over the American continent from west to east at the same rate. The "rain area" and the "pain area" were concentric, but the pain area was much larger than the rain area. The radius of the rain area from the storm centre was 550 to 600 miles, while the radius of the pain area was 150 miles greater than this. As a consequence of this, patients in the rain area felt pains, and, seeing the rain, concluded that their pains were due to change of weather. Those in the pain area felt pains, but saw no rain, and could not understand why they were suffering, although the real cause of their pain was the climatic disturbance. He afterwards extended his observations to the effect of weather on chorea and infantile paralysis. The curve of cases of infantile paralysis closely corresponded with the curve of temperature, but no such relationship could be noticed in the case of chorea either with temperature, height of barometer, or relative humidity. But a very close relationship indeed could be observed between the number of attacks of chorea and the number of storm centres within a radius of 400 or even 750 miles of Philadelphia.

Dr. Weir Mitchell's attention having been thus directed to diseases of the nervous system, he was led to give special attention to the treatment of nervous diseases in women, and more especially to hysteria and neurasthenia. In the treatment of these diseases he effected a complete revolution, introducing the system of seclusion, rest, massage, and feeding, which is now known as the Weir Mitchell treatment. It has been extraordinarily effectual in very many cases which would have otherwise proved hopeless, and establishes his claim to rank as one of the greatest practical physicians of his time.

From the published catalogue of his works it appears that he did not begin to write novels or poems until 1880, when he published "Three Tales of the Older Philadelphia," and in 1882 he

published some poems. From that time onward he continued to write poems and novels. The most successful of these was "Hugh Wynne," a novel which dealt with life and manners in Philadelphia at the time of the Revolution. This novel showed an intimate knowledge of the history of the time, and of the people who took part in the great national movement. The figures he described were no mere puppets, but seem to be living and breathing men and women, and the work was of such high literary excellence that it at once placed him in the foremost rank of American novelists. Of very few men can it be said that as a young man he took a first place amongst the physiologists, as a middle-aged man amongst the physicians, and as an elderly man amongst the novelists of his country. His extraordinary mental power was combined with an almost equally extraordinary bodily activity, so that until about a year before his death he would think nothing of a walk of ten miles.

As a host he was most cordial and genial; as a friend he was most kind, trusty, and true; and his great information, broad views, and power of expression made a conversation with him a pleasure, and a stay in his house a delight to be remembered for the rest of life. He seemed to possess in a very marked degree the power of saying and doing the right thing at the right moment. His loss leaves the world the poorer, and will be a personal sorrow to everyone who has ever known him.

Little more than a week ago I received a Christmas card from him headed, "The Star of Bethlehem," containing four verses of poetry printed, but signed in his own handwriting, and I think probably his own composition. In view of his death so soon afterwards, the last verse seems almost prophetic, and it gives such an insight into his feelings, character, and hopes that I think perhaps I may be allowed to quote it:—

"Still in our heaven of memory keep
Remembrance of the gifts He gave;
The guiding life, the star of love,
To glow for us beyond the grave."

LAUDER BRUNTON.

NOTES.

THE chief distinction of interest to the scientific world in the list of New Year Honours is the appointment of Sir Archibald Geikie, K.C.B., F.R.S., to the Order of Merit, in recognition of the eminent services which he has rendered to the nation and to the world at large in the science of geology. Mr. James Bryce, O.M., F.R.S., who retired recently from the post of British Ambassador at Washington, is created a viscount. Sir Christopher Nixon, Bart., professor of medicine in University College, Dublin, has been made a Privy Councillor in Ireland. Sir Rickman J. Godlee, Bart., president of the Royal College of Surgeons, has been made a Knight Commander of the Royal Victorian Order, and Sir William J. Collins has received a like honour. Among the forty new knights are Prof. E. Rutherford,

F.R.S., Langworthy professor of physics, University of Manchester; Mr. R. Blair, education officer of the London County Council since 1904; Prof. H. B. Allen, professor of pathology, University of Melbourne; and Surgeon-General A. T. Sloggett, director, Medical Services in India. Major A. Cooper-Key, Chief Inspector of Explosives, Home Office, has been appointed a Companion of the Bath (C.B.); Dr. A. Theiler, director of veterinary research, Department of Agriculture, Union of South Africa, has been promoted to be Knight Commander of the Order of Saint Michael and Saint George (K.C.M.G.); and the new Companions (C.M.G.) of the same Order include Mr. A. G. Bell, Inspector of Mines, Trinidad; and Prof. J. Shand, professor of natural philosophy, University of Otago, New Zealand. Major J. D. E. Holmes, Imperial bacteriologist in charge of the veterinary laboratory at Muktesar, has been made a Companion of the Order of the Indian Empire (C.I.E.).

MR. W. POPPLEWELL BLOXAM, whose death we announced with regret last week, contributed to the Chemical Society many papers which testify to his work for the advancement of science. In the early 'nineties of last century he devoted his energies to the task of unravelling the mysteries surrounding the alkali polysulphides and their oxidation changes; no doubt his attention was turned in this direction by Debus, under whom he started his professional career. Having filled a position as *locum tenens* professor of chemistry at Presidency College, Madras, Bloxam was retained in India by the Government of Bengal to investigate the question of improving the cultivation and manufacture of indigo, and from 1902-5 much work was carried on at the Dalsingh Serai Research Station, culminating in a report in conjunction with H. M. Leak and R. S. Finlow, now cited as authoritative. The underlying chemical investigations are to be found in the Transactions of the Chemical Society. A further Government grant enabled Mr. Bloxam on his return to this country to continue his researches at Leeds, whence there emanated several papers for the Chemical Society, in conjunction with Prof. A. G. Perkin and others, on the constitution of indirubin, the analysis of indigo, and the like. Another subject which came under Mr. Bloxam's notice was the complexity of the proteids of blood, and in the Proceedings of the Physiological Society is to be found a paper dealing with the constitution of these compounds as they occur in horse serum. As a whole Mr. Bloxam's work was sound, and his death at a comparatively early age deprives us of a genuine enthusiast in the cause of chemical research.

DR. HUGO MIEHE, associate professor of botany in the University of Leipzig, has succeeded the late Prof. H. Potonié as editor of the *Naturwissenschaftlichen Wochenschrift*, published by Mr. Gustav Fischer, Jena.

DR. R. WORMELL, instructor in mathematics at the Royal Naval College, Greenwich, in 1873, headmaster of the Central Foundation School, London, from 1874 to 1900, and the author of several valuable works on scientific and educational subjects, died on January 6, at seventy-four years of age.