As evidence in favour of this view, experiments are described where the stapes was loaded with water or mercury in radical mastoid cavities. A series of experiments made in a diving bell showed that bone conduction in the normal subject sank with increased pressure and sank further during the fall; where stapedial ankylosis was present bone conduction was unchanged. Ménière patients sometimes showed increase under increased pressure; they always showed decrease under the falling pressure. In the same way it is possible to explain the decrease of bone conduction in normal subjects in a noise. Here the vibration of the stapes disturbs the contact with the annular ligament.

The hypothesis presented has the great advantage that it provides a common basis for phenomena apparently widely different. Final judgment must be suspended until we have studied the further evidence that will be provided by Dr Mygind's paper. But whether or no we accept the conclusions unreservedly, this paper deserves the closest attention. The full case histories and discussions alone are invaluable, and Dr Dederding must be congratulated for the most important and stimulating research on this difficult subject that has appeared for some time.

F. W. WATKYN-THOMAS.

OBITUARY

SIR WILLIAM MILLIGAN.

DEATH has deprived aural surgery the world over of one of its greatest exponents, and of a great leader passionately devoted to his life-work.

Born in 1864, Milligan was educated in Aberdeen, where he graduated in the University with Honours. He soon migrated across the border, and after a period of study in Göttingen and Vienna, settled in Manchester. He there gave his attention to Oto-Laryngology, and infused into the study of our specialty in that city both new methods and new life, a reform which was needed. At that time a critic was said to have remarked to his students—"There are two kinds of ear disease, those you can cure with a syringe and those you cannot." Milligan was quick to realise the empiricism and the entire absence of pathology in the aural surgery of that day, and set his face to build up a scientific basis for his future work with a success which is known to all.

He was soon appointed Aural Surgeon to the Manchester Royal Infirmary, and in due time became Chairman of the

Medical Committee, and finally of the Board of the Hospital—a rare event for an aural surgeon. The highest honours in his specialty fell to his lot—he became President of the Sections of Otology and Laryngology in the Royal Society of Medicine, and finally the first President of the Visiting Association of Throat and Ear Surgeons of Great Britain—the young Society which he did so much to form and of which he was so proud.

As an operator he was brilliant: the rapidity of his action, his technique, his asepsis, his masterly handling of a difficult situation and his control of the theatre were remarkable. Twice a week he operated at 9.15 A.M., punctual to the minute, in a threatre crowded with visitors drawn from all parts of the country, and happy were they who took the trouble to go and see him. As a surgeon he was rapid in discussion, incisive in speech, and definite in his opinions. He would always listen to argument, and assess its value accordingly. But he did not suffer fools gladly. Once he was performing a radical mastoid and chiselling away the facial ridge with rapid and effortless action, when an unfortunate asked him—"How do you avoid damage to the facial nerve, Sir William?" The answer came in a flash, "Luck, Sir, just luck." After that there was silence in the theatre.

His judgment, born of ripe experience, was widely sought and greatly valued: his opinion carried great weight and was expressed in a manner suitable to the occasion.

As a teacher and lecturer he was unequalled. He had the happy facility, not possessed by many, of putting briefly, forcibly, and clearly the essential facts of any subject under consideration. He quickly realised the value of lantern slides, models, and diagrams, and his lectures were given to crowded audiences. In Committee work he was excellent, keeping discursiveness out and discussion to the point.

His early research work is noteworthy for the introduction of Pathology into Aural Surgery, and all his work was based on a rational and scientific basis. He will long be remembered for his work on the radical mastoid, and for his labyrinth operations. In his later years he was attracted to the possibilities of radium, and he was one of the first, if not the first, to apply radium to the larynx. Twelve years ago he designed an applicator which he affixed to a tracheotomy tube to hold radium between the vocal cords. He was a pioneer in the use of both radium and diathermy in the mouth and throat.



WILLIAM MILLIGAN

Of hobbies he had few—he delighted in his carpenter's shop and in long walks over his Scotch moor, but he could not be induced to hold a gun, and although a river rushed through his estate he never fished.

In politics he was a life-long Liberal. He did much quiet political work in Committee, and was Chairman of the Executive for many years, but once he was induced, rather against his will, to stand for the West Salford Division of Manchester. He fought a triangular fight, and came out at the foot of the poll, at a time when the Liberal fortunes were at a low ebb. Unaccustomed to defeat, he did not appear again in political life. He was, however, a man of broad, wise, and statesmanlike views, and would have proved an asset at Westminster.

His social activities were immense. Early to appreciate the possibilities of radium, and the necessity for procuring a large supply for the needs of his city, it was in great part due to him that the Radium Institute was founded by Sir Edward Holt. The local division of the Royal National Lifeboat Association will mourn their late Chairman, and the Institute for the Deaf and Dumb, and many smaller hospitals, a benefactor.

Few knew of his intense interest in finance. On giving up his hospital work he entered an entirely new domain, and had formed a large Financial Trust Company in Edinburgh, of which he was the first Chairman of Directors, and at the time of his death he was actively engaged in the formation of a second Company.

Who can do justice to his character, or express his virile personality? Hear his quick, unhesitating footsteps coming down the corridor of the Hospital; hear his incisive "Yes," "No"; see the dignity of his bearing and his immaculate dress, and you behold a leader of his profession. A man of decision and of strong and wise judgment, and with force of character to carry his resolutions through against all opposition. And yet with a kindliness and compassion known well to the poor, by whom he will be missed and mourned. A man who made short shift with obstructionists, but infinitely patient with those of lesser intelligence, sincerely anxious to learn and understand.

A most generous host, around whose hospitable table the leaders in civic life, the professions, art, the stage and commerce, were accustomed to associate. A man with a large circle of friends and acquaintances, but who admitted few to the intimate

paths of his friendship. But to those fortunate few, what did it mean? Always the best of everything was freely at their disposal, and no one who has experienced them will ever forget those intimate and inspiring talks, the memory of which will last a lifetime.

If any man fulfilled the postulates of Kipling's famous poem, "If," he did.

"If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the earth and everything that's in it,
And, which is more, you'll be a man, my son!"

And he was a man.

Early in 1928, he was seized with an acute abdominal malady, and after a severe operation followed by pneumonia, his life hung in the balance for several months, but with indomitable will power, he gradually pulled through, and in February 1929, he presided over the Meeting of the Visiting Association of Throat Surgeons in Birmingham. In full possession of his vigour, and with his brain alert as ever, he carried through the Meeting with success. But a few weeks ago, he was again seized with an acute abdominal condition, to be followed by pneumonia, and after a severe illness, borne with patience and courage, he succumbed on 19th December 1929.

Thus ended a life cut off in the full possession of his faculties, and humanity has suffered the loss of many years of active and beneficent service.

And so a great man has passed on.

MUSGRAVE WOODMAN.

CHARLES W. RICHARDSON, M.D., F.A.C.S., Washington, D.C.

The death of Charles W. Richardson on the 25th August 1929, at the age of 68, has removed from amongst us one of the leaders in our specialty in the United States. As his name was well known and honoured in this country, it is fitting that the *Journal* should pay tribute to him, to his ability, to the value of his work, to the position which he held among his contemporaries, to his zealous devotion to his profession and to the high moral standards which throughout life guided all his thoughts and actions.