

may draw an analogy from the moon. The real existence of a term with coefficient nearly three seconds and period sixty-four years is now generally admitted in the motion of the moon. This term was first defined in 1904, and the case for its real existence was not a strong one until Prof. Newcomb arrived in 1909 at an almost identical conclusion from the totally different evidence of occultations. The term in the motion of Uranus must therefore be doubtful for the present. We are not entitled to do more at present than hope that it is real, and that a corresponding planet will reward M. Gaillot's admirable work. This doubt is fully admitted by M. Gaillot.

"Ces résultats ne doivent être acceptés d'ailleurs qu'avec une extrême réserve. En effet, les différences entre les positions observées d'Uranus et celles qui sont calculées à l'aide de nos Tables ne dépassent guère les limites des erreurs probables des observations augmentées de celles qui résultent des imperfections de la théorie. . . ."

It is noteworthy that, like Prof. Pickering, M. Gaillot bases his hypothetical planet upon Uranus and not upon Neptune. It appears, therefore, that the motion of Neptune is in good agreement with the tables, and that no extra-Neptunian planet can exist of a mass and epoch to produce sensible inequalities in the motion of Neptune since its discovery. This is an important negative result; in fact, if it be assumed that the unknown planet has a mass at least one-third that of Neptune, a considerable part of the ecliptic is excluded from the domain where this planet can possibly be found.

#### THE SORBY RESEARCH FELLOWSHIP.

IT will be remembered that the late Dr. H. C. Sorby, F.R.S., of Sheffield, bequeathed a sum of 15,000*l.* to the Royal Society of London to be held in trust for the establishment of a professorship or fellowship for original scientific research, the testator expressly desiring the professorship or fellowship thus founded to be associated with the University of Sheffield. Accepting this trust, the council of the Royal Society appointed a committee to confer with representatives of the University of Sheffield with the view of drawing up a scheme for giving effect to the intentions of Dr. Sorby's will.

A scheme, prepared by this committee for the establishment of a "Sorby Fellowship for Scientific Research" to be associated with the University of Sheffield, has now been approved and adopted by the council of the Royal Society, and by the senate and council of the University of Sheffield. This scheme provides for the administration of the income of the fund by a joint committee consisting of four persons appointed by the council of the Royal Society, one person appointed by the council of the University of Sheffield, and two by the senate of that University.

The object of the fellowship is not to train students for original research, but to obtain advances in natural knowledge by enabling men of proved ability to devote themselves to research; and in making an appointment the committee will pay special attention to the capacity for original work of a candidate, as shown by the work already done by him, and to the likelihood that he will continue to do valuable work. Each appointment will be in the first instance for five years, subject to the control of the committee, but may in special circumstances be prolonged for further periods if the committee is satisfied with the fellow's work.

The fellow will be required to carry out his research, when possible, in one of the laboratories of the University of Sheffield, and provision is made under

the regulations for the setting aside of a sum not exceeding 50*l.* a year to form an apparatus fund, from which grants may be made from time to time to the fellow for the purchase of special apparatus and material required in his research. The stipend of the Sorby Research Fellow will probably be about 500*l.* per annum, and it is hoped that the committee will be in a position to make the first appointment to the fellowship early in the coming autumn.

#### PROF. T. W. BRIDGE, F.R.S.

WE regret to record the death, on June 30, of Dr. T. W. Bridge, Mason professor of zoology in the University of Birmingham. By his death the University is deprived of one of its oldest and most experienced teachers, and zoological science has lost one of those workers who, under the influence of Balfour and the Cambridge school, have contributed largely both by example and precept to our knowledge of vertebrate morphology.

Prof. Bridge was born in Birmingham in 1848, and after studying science at the Birmingham and Midland Institute, went in 1870 to Cambridge as assistant to Mr. J. W. Clark, then director of the Museum of Zoology. In 1872 he was elected to a foundation scholarship at Trinity College, and appointed demonstrator in zoology under the late Prof. Newton. After his graduation in 1875, he spent six months at Naples working in the zoological station, where, on the advice of F. M. Balfour, he carried out research into the "abdominal pores" of fishes. In 1879 he was appointed professor of zoology in the Royal College of Science at Dublin. In 1880 he became one of the original professors at the Mason College, Birmingham, holding the chair of biology; and when this chair was divided in 1882 he retained the title of Mason professor of zoology and comparative anatomy, and kept the same position when the Mason College became a University in 1900.

The original work carried out by Prof. Bridge dealt chiefly with the osteology of ganoid fish, the "pori-abdominales" of vertebrates, and the air-bladder of Teleosts. The most important of these memoirs are undoubtedly those dealing with the last subject, and the large paper by Profs. Bridge and Haddon, published in the Philosophical Transactions in 1893, on the air-bladder of Siluroids, has become a classic. This work was the first thorough investigation dealing with the structure and physiology of this organ which had appeared since Weber's original discovery and fundamental treatise on the air-bladder published in 1820. In certain Siluroids, Weber found that extraordinary apparatus which still bears his name. He described in a few families the vertebral elements that link the air-bladder with the ear, and concluded that the apparatus subserved the function of hearing in these fish. What was now required was a systematic inquiry into the variation of this mechanism and into the use or uses of it; and it is this monographic treatment that we owe to Prof. Bridge and his collaborator. They investigated 100 species of Siluroids, and concluded that this highly specialised mechanism was employed, not for audition, but for the registration of varying hydrostatic pressures. These memoirs not only advanced our knowledge of this interesting structure, but threw light on many points of ecological interest in connection with other physostomatous Teleosts.

Prof. Bridge's most recent work was his article on fishes in the "Cambridge Natural History" (1904). This article has proved one of the most useful treatises on this subject both to teachers and students. The