

PROFESSOR WILHELM SCHUR.<sup>1</sup>

IT was with great regret that we had to announce last week the death of Prof. Wilhelm Schur, of Göttingen, a loss which deprives, not only astronomy of one of its most ardent and enthusiastic workers, but many of us of a kind and devoted friend. The loss will be felt personally by a great number of Britishers and Americans who have studied at the Göttingen University and who met Schur, not only in the lecture theatre and observatory, but at his private home.

Schur was born on April 15, 1846, and first took a great interest in astronomy at the Altona Observatory, where the director of the Observatory, Prof. A. C. Petersen, was one of his near relations. His first studies were commenced at Kiel in 1863, and three years later he migrated to Göttingen, where he graduated, his thesis being a computation of the orbit of the double star  $\gamma$  Ophiuchi after the new formulæ of Klinkerfues. Schur always took a great interest in after years in this double star, as is shown by later publications. Leaving the University, he made a tour for further study, working at Berlin under Auwers at the new reduction of Bradley's observations, and under Foerster at the Observatory. While at Berlin he was made assistant at the Geodetic Institute, and remained there until he was called (in 1873) by Winnecke to Strassburg. After spending some time there, he was made observer, and worked, as he had always done, with untiring zeal and energy. He was chosen to form part of the transit of Venus expedition in 1874, which set out for the Auckland Islands under the direction of Seeliger.

It was in connection with this work that Schur became so intimately familiar with the working and details of the heliometer, and since then he proved himself to be one of the greatest authorities, if not the greatest, upon this important instrument. Schur, however, was not content to restrict his energies to this instrument alone, but developed a many-sided interest for all the instruments at the observatory. Thus, to take two instances, he made a series of important lunar observations with the transit instrument of Cauchoix, and numerous observations of variable stars, and completed a minute investigation on the optical properties of different varieties of glass, before the construction of the large refractor.

In 1886 Schur was called to Göttingen to fill the chair of practical astronomy, which had become vacant owing to the death of Klinkerfues. The first few years spent there were devoted to the rebuilding of the observatory, the arrangement of the library, and the laborious computations and publication of Klinkerfues' observations. The observatory became the possessor of a fine new large Repsold heliometer, so that Schur was able to return again to his favourite instrument. In his hands and with his energy a great amount of useful work was accomplished, and he investigated more especially in the greatest detail the constants and many peculiar sources of error of the instrument.

Perhaps the most important of these researches was contained in the very complete work on the stars in the cluster of Præsepe, in which he brought together in a masterly way everything that is necessary for the reduction of heliometer observations. His most recent great work, and one which he laid before astronomers at the Heidelberg conference, was that relating to the triangulation of the star clusters  $\zeta$  and  $\chi$  Persei.

Up to the last, Schur sustained his interest in collecting and working up old observations, and in the past few years, under his guidance, Dr. Sticthtenoth made a new reduction of Olbers' observations of comets, which appeared in 1898 as an appendix to Schilling's "Leben Olbers." More recently Schur was busy with collecting material of astronomical work done by astronomers in

<sup>1</sup> For most of the details in this notice I am indebted to information given in the *Astronomische Nachrichten* (No. 3731).—W. J. S. L.

the province of Hanover, and the results of this study are already completed, but not yet published.

Although Schur was not among the favoured few to whose name some epoch-making discovery could be attached, yet his observations and reductions will endure as examples of exact and careful work and will prove both valuable and useful in future investigations.

WILLIAM J. S. LOCKYER.

## BARON DE LACAZE-DUTHIERS.

THE death of Prof. de Lacaze-Duthiers on July 21, in his eighty-first year, deprives the world of science of a renowned and energetic naturalist whose active life was devoted to the advancement of scientific knowledge and interests.

From an obituary notice in *La Nature* we learn that Henri de Lacaze-Duthiers was born at Montpezat (Lot-et-Garonne) on May 15, 1821. He began the study of medicine at Paris, but soon devoted himself to zoology, and in 1854 was appointed professor of zoology in the University of Lille. At his request he was afterwards entrusted by the Government with the task of studying the nature of corals on the Mediterranean coasts. He spent several months along the Algerian coast, and then returned to Paris with an abundance of material. His great work, the "Monographie du Corail," was the result of this expedition, and its publication inaugurated a new stage of appointments in his career. He was appointed maître de conférences at the Normal School in 1864, and in the following year became professor of zoology at the Paris Museum of Natural History. Three years later Lacaze-Duthiers passed from the Natural History Museum to the Sorbonne, where he accepted the chair of zoology, and finally, in 1871, he was elected a member of the Paris Academy of Sciences, and later became president of the Academy.

Among Lacaze-Duthiers' published volumes may be mentioned his "Histoire naturelle du corail," "Histoire de l'organisation et du développement des mœurs du Dentale" and "Le Monde de la mer et ses laboratoires." In 1873 he founded the *Archives de la zoologie expérimentale*, and he was the author of numerous papers and memoirs which have contributed to the development of zoology. The two Government stations of marine biology, established by the exertions of Lacaze-Duthiers, are memorials of his influence upon zoological science. The first was founded at Roscoff, in one of the most attractive and favourable collecting regions in Brittany, and has continued to grow in importance for more than a quarter of a century. As this station, however, could be serviceable during summer only, it gave rise to a smaller dependency of the Sorbonne in the southernmost part of France, on the Mediterranean, at Banyuls-sur-mer, which has the additional advantage of a Mediterranean fauna.

Many British and American students have been welcomed to these institutions and have enjoyed the advantages they afford. Describing the Roscoff laboratory several years ago, Mr. Bashford Dean said: "The stranger who writes to Prof. de Lacaze-Duthiers is accorded a work place which entitles him gratuitously to every privilege of the laboratory—his microscope, his reagents, even his lodging-room should a place be vacant. It seems, in fact, to be a point of pride with Prof. Lacaze-Duthiers that the stranger shall be welcomed to Roscoff and, upon entering the laboratory for the first time, feel as much at home as if he had been there a week." This liberal spirit was a characteristic of Lacaze-Duthiers; he was always ready to facilitate the study of nature by any means within his power, and right up to the time of his death he occupied himself with investigations of scientific problems. As a tribute of admiration for the good and useful work done by him in zoology, his



pupils presented him with a magnificent engraved portrait of himself in 1887; and at a dinner given in his honour by the Scientia Club in 1890, M. Charles Richet, who presided, referred to him as "the conqueror of the sea and apostle of zoology." His pupils and colleagues were, in fact, deeply sensible of his great services to science, and lost no opportunity of expressing their esteem.

Lacaze-Duthiers worked in his laboratory at Banyuls up to a few days of his death, and almost up to his last hour his faculties were engaged in the extension of scientific knowledge. He was the animating spirit of French zoology and the mentor of many living naturalists. He devoted his life and his means to science, and worked for her interests without regard for fatigue or considerations of age. In announcing his death to the Paris Academy of Sciences, which adjourned the meeting of July 22 to show regard for him, M. Fouqué, the president, remarked:—"Son esprit était ouvert à toutes les nouveautés scientifiques, sa parole claire et facile, son enseignement plein d'entrain. Il aimait la discussion et savait en faire jaillir la lumière. Il laisse parmi nous le souvenir d'un Confrère érudit et laborieux, doué d'une prodigieuse activité, habile à résoudre les problèmes compliqués que soulève l'organisation du règne animal."

Not only France, but the whole scientific world is poorer by the death of so great a naturalist.

#### NOTES.

WE regret to see the announcement that Prof. Baron von Nordenskjöld, the renowned Arctic explorer, died at Stockholm on August 12.

ACCORDING to the Copenhagen correspondent of the *Temps*, the two Nobel scientific prizes of 200,000*fr.* have been awarded to Prof. Finsen, of Copenhagen, for his treatment of lupus by light, and the Russian physiologist, M. Pawloff, for his works on nutrition.

THE Fifth International Congress of Zoology was opened at Berlin on Monday in the buildings of the Reichstag, the interior of which has been arranged for the convenience of the members of the congress. In the absence of the Crown Prince, who is the patron of the congress, the foreign delegates were welcomed by Prof. Moebius, the president, who moved that the assembly should send a telegram expressing profound sympathy and regret to the Emperor of Germany. This proposal was seconded by Prof. E. Perrier, of Paris, and was unanimously adopted. A telegram expressing thanks for the sympathy was received from the Emperor on Tuesday. Other speakers at the opening meeting were the Chief Burgomaster of Berlin, Herr Kirchner, and the Rector of Berlin University, Prof. Harnack. The meetings will be held throughout this week, and the congress will be concluded on Sunday with a visit to the biological station on Heligoland.

THE annual awards of prizes by the Reale Accademia dei Lincei, of Rome, are as follows:—The Royal prize for chemistry has been adjudged to the late Prof. Amerigo Andreocci for his researches on heterocyclic compounds and on the santonine group, and other papers. The Royal prize for philosophy and moral science has been adjudged to the late Prof. Carlo Giussani. In political science and jurisprudence no award has been made, and the same is true of the Santoro prize relating to agricultural zoology. The two prizes instituted by the Minister of Public Instruction in favour of teachers in secondary schools for work in natural science have been divided, awards being given to Profs. Liberto Fantappiè (Viterbo), Antonio Neviani (Rome), De Toni (Venice), and Giacomo Trabucco (Florence). Two "Ministerial" prizes of a similar

character for philosophical and social sciences are awarded to Profs. Luigi Einaudi (Turin) and Aurelio Covotti (Palermo). At the special meeting of the Accademia at which these awards were made, an obituary discourse on the late Prof. Angelo Messedaglia was given by Signor Luigi Luzzatti, and an address was read by Signor Gerolamo Boccardo on science and social progress. A list of Prof. Messedaglia's writings is appended to the former discourse in the *Rendiconti delle Sedute solenni* containing the report of the meeting.

THE twelfth annual general meeting of the Institution of Mining Engineers will be held at Glasgow on September 3-6 under the presidency of Sir W. T. Lewis, Bart.

A REUTER telegram from Geneva states that a meeting of the International Association of Botanists was held in the University there on August 7. A number of foreign universities and societies, including the Universities of Oxford, Cambridge and Glasgow, and Trinity College, Dublin, were represented.

THE Paris correspondent of the *Chemist and Druggist* states that with a view to give an impetus to the study of applied chemistry in Paris, it has been decided to build additional laboratories at the Conservatoire des Arts et Métiers. The initial expense is estimated at 500,000*fr.* (20,000*l.*), and the annual upkeep at something over 3000*fr.* The laboratories will also be used for experiments in physics and mechanics.

THE *Times* records that the German South Polar expedition sailed from Kiel on Sunday by the steamer *Gauss*. Herr Rothe, Imperial Under-Secretary of State for the Interior, thanked the members of the expedition in the name of the Emperor and of Germany, and hoped that their labours would meet with complete success. Prof. von Drygalski, the leader of the expedition, replied on behalf of the expedition.

THE balloon in which M. Santos Dumont made his recent trial trips has met with an accident which has placed it beyond repair, so a new one is being constructed and will be ready by September 1. The new balloon will have nearly the same volume as the one that came to grief on August 8—34 metres in length and 6 metres in diameter in the centre—but, instead of being cylindrical, it will be ellipsoidal in shape, and the *ballonet*, instead of being at one end, will be placed in the middle.

THE wireless telegraph station established on the Nantucket lightship by the *New York Herald* enables passengers by incoming vessels equipped with the Marconi instruments to enter into communication with the American Continent and through it with the whole world from fourteen to sixteen hours earlier than is the case at present. The installation of the station is rapidly approaching completion. The *Lucania*, which sailed from Liverpool on Saturday last, will be the first Transatlantic liner to greet the New World with a wireless message sent from a ship at sea.

THE *Pioneer Mail* of Allahabad states that as a consequence of the continued fall in prices, the area under indigo in the North-West Provinces of India is rapidly falling. In 1900 there was a slight and temporary recovery, but during the present year there has again been a very marked decline. According to the preliminary statement received from the village accountants, the total area sown with indigo up to the middle of April this year amounts to 119,313 acres, as compared with 188,645 acres returned last year; while that reported to be irrigated from canals up to the end of May last is 78,894 acres, against 162,298 acres returned last year. The decrease in the former area amounts to about 37 per cent., in the latter to 50 per cent.

THE Society of German Engineers has decided to prepare and publish the trilingual technical dictionary proposed a year