arsenic, whereas the resistant parasites contained none²⁰. Advances in technique made it possible to demonstrate fixation of a drug by parasites while they were circulating in the host's blood stream. This was done, in turn, for 'Trypaflavin', antimony, gold and arsenic^{21,22,23}.

Ehrlich had always maintained that a drug needs two active groups, one to assist its uptake by the parasite and another to combine with a vitally active group in the parasite. Hence it follows that the mere uptake of a foreign substance need not be harmful to an organism. This was neatly demonstrated in 1935 when it was shown that malarial parasites and trypanosomes take up the three acridines, 'Atebrin', 'Trypaflavin' and 'Rivanol', but that the 'Atebrin' harms only the malarial parasites, the 'Trypaflavin' only the trypanosomes and the 'Rivanol' injured neither²⁴.

It is now generally agreed that the action of chemotherapeutic drugs is directly on the parasite, that their reaction with the parasite is chemical in nature and that there are two distinct reacting groups in many of the most active drugs. The co-operation of the natural defence factors of the body is also recognized. These factors, among them the reticulo-endothelial system^{25,26}, are believed to cope with the parasite once the drug has disorganised the latter's metabolism. The suggestion that some of Ehrlich's chemoreceptors are located in vitally important enzyme-systems⁸ is one of the most stimulating suggestions made in recent years.

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OBITUARIES

Mr. John H. Reynolds

By the death of Mr. John H. Reynolds, British astronomy loses one of that long succession of amateurs who have contributed so much to the advance of the science they loved. In this case astronomical work in other countries has also been promoted by generous gifts. Early in this century, Mr. Reynolds secured a 30-in. Common mirror for his own use; but a visit to Egypt convinced him that more value could be obtained from his mirror if it were installed there than in his own garden. So an offer of a 30-in. reflecting telescope, with a mounting designed by Mr. Reynolds, was accepted for the Egyptian Government by Capt. H. G. Lyons, R.E. (later Sir Henry Lyons), of the Survey Department. A dome near Helwan was available, and the telescope began work on nebular photography in 1907. On the return of Halley's comet in 1910, the first photograph of it was secured at Helwan by Dr. Knox Shaw. Later, Mr. Reynolds installed a 28-in. reflector with the same type of mounting at his home in Harborne, where he began work in 1911. The 30-in. mirror was brought back from Helwan in 1923 to Birmingham. The second telescope was later presented to the Commonwealth Observatory on Mt. Stromlo, Canberra, where it is once more in full use in a photometric programme.

Mr. Reynolds's chief interest over many years was in nebular astronomy, particularly the extra-galactic nebulae. He studied them in monochromatic light and in polarized light, examining their spiral forms, the distribution of condensations within them and their stellar development from type to type. He also examined them photometrically for internal light distribution. He obtained his material partly in Birmingham and partly at Helwan, for he maintained a close connexion with this Observatory from its start. He joined two eclipse expeditions, to Algiers and Egypt. He served for many years on the Council of the Royal Astronomical Society, mainly as treasurer; he was president during 1935-37. The University of Birmingham gave him the honorary degree of M.Sc. in recognition of his work for astronomy.

In addition to his normal business activities, Mr. Reynolds had other interests, being an accomplished musician. For some years he was honorary secretary of the Midland Institute, Birmingham, taking great interest in securing lecturers for it. He died on November 22, aged seventy-five, having collapsed at the close of a meeting where he had just taken part in the discussion of an astronomical lecture, showing that he maintained an active interest in astronomy right to the end of his life. F. J. M. STRATTON

Mr. J. F. Marshall, C.B.E.

JOHN FREDERICK MARSHALL, who died on December 5, at the age of seventy-five, was a leading authority on British mosquitoes. Son of the late Charles Marshall of Huntingdon, he was educated at Rugby and King's College, Cambridge, where he took a first class in the Mechanical Sciences Tripos, Part 1, in 1896, and in Part 2 (with special distinction) in 1898, and was called to the Bar, Inner Temple, in 1902.

Marshall first became actively interested in British mosquitoes about 1920 when, owing to their great prevalence in the neighbourhood of his home at