

PHILIBERT JACQUES MELOTTE, F.R.A.S.

Philibert Jacques Melotte was of Belgian stock. His parents came to England from Namur as immigrants at the time of the Franco-Prussian war and, on settling in London, his father took the post of Lecturer in Mathematics and Languages at The Royal Naval College, Greenwich. The boy was born on the 29th January 1880 at Camden Town and when old enough was sent to the Roan School, Greenwich—a school at which a number of his subsequent professional colleagues received their early education. He entered the Royal Observatory as a temporary computer in 1895.

For many years it was the custom at the Observatory to employ boys straight from school in a temporary capacity. These boys furnished a pool, or perhaps more correctly a stream from which the major part of the permanent staff was drawn. But vacancies for permanent posts were rare and most of these lads ultimately found employment elsewhere, not a few in other government departments at home or overseas. On such occasions as a vacancy did occur a competitive examination set by the chief assistants would be held amongst the temporary employees wishing to follow an astronomical career. In 1902 Melotte was able to sit for one of these examinations in which he proved a successful candidate.

His early years were served under H. P. Hollis at a time when photography was already proving a powerful technique in positional astronomy and it was in this field that Melotte made his greatest contribution to the science. His close association with the Carte du Ciel and the part he played in the preparation of the Greenwich Astrographic Catalogue gave him ample opportunity of conducting searches upon the plates, which he did with the most painstaking care obtaining a great number of good positions of comets, asteroids and planetary satellites. In 1908 he reported the existence on a series of plates of a faint moving object near the 6th Satellite of Jupiter. An analysis of the positions he obtained revealed that the object was in fact a previously unknown satellite of Jupiter. The discovery of J VIII was of especial interest as this was the first satellite of Jupiter found to have a retrograde motion. Moreover, in view of the extreme faintness of the images, the discovery was a highly creditable one, in recognition of which Melotte, during the the following year, was awarded the Jackson Gwilt Medal of the Royal Astronomical Society.

Over the years he had acquired an understanding of the requirements of astronomical photography and, having successfully carried out the task of reproducing the astrographic chart plates upon paper, it is not surprising that it was he who was asked by the R.A.S. to undertake the reproduction of the Franklin Adams charts. The choice was a fortunate one; for not only was he able to produce excellent sets of charts but he was able also to use them himself in the advancement of astronomical knowledge. His systematic work on star counts carried out in collaboration with Chapman and his subsequent studies of faint objects conjointly with Lundmark were major pieces of research. Indeed, it was to the stellar chart, in one form or another, that Melotte instinctively turned for information. On one occasion, after night fall, the discovery of a nova was reported over the phone to the Royal Observatory. Within a few minutes several keen observers were training telescopes in the direction given in the report; but Melotte had disappeared. Shortly after he emerged from his office to announce that there was no cause for excitement; it was only η Cass that some misguided enthusiast had re-discovered!

Melotte accompanied Spencer Jones to Christmas Island to observe the total Solar eclipse on the 21 September 1922. Since the object of the expedition was to secure measurements of the gravitational bending of light rays passing near the Sun's limb, it was planned to obtain, some months before, photographs of the star fields in which the Sun would be situated at the time of the eclipse. The occasion also provided an opportunity of making photometric observations to bridge the gap between those already obtained in the Northern and Southern zones. But the choice of the site proved unfortunate, for the weather throughout was such as to render both projects a failure.

By this time Melotte had been placed in charge of the astrographic department. During the '20s the department was engaged on a programme of proper motions. New plates were obtained of the Greenwich Astrographic Zone, the exposures being made through the glass. This enabled the new plates to be clamped film to film with the corresponding original plates and the relative shifts of the two sets of star images to be measured as small quantities directly. Stars found to have large proper motions were subsequently selected to form the basis of a parallax programme at Greenwich on the assumption that such stars would be likely to have measurable parallaxes.

The international programme to redetermine the Solar parallax using observations of the apparent positions of Eros near the opposition 1931 placed a heavy task upon the Greenwich astrographic department. Prior to the opposition many plates had been taken at different observatories of the fields through which Eros would pass. Along the band covered by these plates Professor Schorr of Bergedorf had selected a large number of suitable reference stars, but the positions of these relatively faint stars were not known with sufficient accuracy. To secure revised positions of these stars involved measuring the coordinates of their images upon the plates together with those of brighter fundamental stars whose positions were well determined and to which the reference stars themselves could be referred. The great task of measuring and reducing these plates and those exposed upon Eros itself, amounting in all to nearly three thousand, was carried out by Melotte and his assistants.

This was Melotte's last major astronomical undertaking, but owing to the war he continued in office until well after the normal age of retirement. During part of this time he was engaged with Spencer Jones upon a spherical harmonic analysis of the Earth's magnetic field for the epoch 1942. Conducted from scratch without the aid of punched cards this hand computation ran into some five hundred pages and is a good testimony of Melotte's qualifications as a computer. He retired from office in 1948 after 53 years of service at the Royal Observatory.

Throughout his life he devoted much time to outside work. He was Secretary of the Association during the two periods 1913-1921 and 1926-1930 and was elected President in 1944. He was also for a number of years a very active Secretary of the Photographic and Instruments Committee of the Royal Astronomical Society. He took an active part in local affairs and was much interested in historical matters relating to Greenwich, a subject on which he had a fund of out-of-the-way information. He served on the Parochial Church Council and in Freemasonry he held high rank as a Mark Master Mason and was for thirty years Treasurer of the Trafalgar Chapter. Like many of his colleagues he had, as a young man, been a keen hockey player, and he never outlived his love of old books and prints which he prized, not for their monetary value, but for their associations and intrinsic interest.

He spent his thirteen years of retirement at Abinger, Surrey, where he died on 1961 March 30 leaving a widow and one son—a member of the Association.

H.F.F.