

## Hermann Alexander Brück CBE, 1905–2000

Fellow of the RAS, distinguished astronomer, noted educator and organizer, historian of astronomy and Astronomer Royal for Scotland.

**H**ermann Alexander Brück died on 4 March 2000, aged 94 and with a mind still lively and inquiring. He had retired in 1975 from the joint post of Regius Professor of Astronomy at the University of Edinburgh and Astronomer Royal for Scotland.

Born in 1905 in Berlin, he studied at Kiel, Bonn and at Munich where Arnold Sommerfeld supervised his doctoral studies on the wave mechanics of crystals. He followed his friend A Unsöld into the field of astronomical spectroscopy by securing a post at the Potsdam Astrophysical Observatory. From there he moved, via a short appointment at the Vatican Observatory, to Cambridge in 1937 to join the circle around Sir Arthur Eddington, whom he regarded as the leader of the new astrophysics. In time, Brück became assistant director of the Observatories and John Couch Adams Astronomer. Here he taught a well-remembered course in classical astronomy, and started the student astronomical society that has been nursery to many distinguished astronomers.

In 1947, at the invitation of Eamon De Valera, he took charge of the moribund Dunsink Observatory, transforming it into the centre of a vigorous astronomy programme as part of the Dublin Institute of Advanced Studies where he enjoyed the company of E Schrödinger. In 1950, the Observatory and the Royal Irish Academy hosted the first meeting of the RAS beyond the United Kingdom, and in 1955 the International Astronomical Union held their triennial Assembly in Dublin, at which were demonstrated equipment for photoelectric photometry developed by M J Smyth who had been Brück's student in Cambridge, and the UV solar work which formed part of the Utrecht Atlas.

In 1957, Hermann Brück moved to Edinburgh. Raising the Royal Observatory to an internationally ranked research centre required the determination and vision that were his hallmarks. At Edinburgh he collected a team of astronomers and engineers, headed initially by P B Fellgett and later by V C Reddish, with the skills he required for the creation of new automated instrumentation for scanning spectra, for measuring star and galaxy images, and for operating telescopes remotely.

The first projects were the adaptation of instruments to scan automatically the contents of photographic spectra onto paper tape for processing by computer, and the concomitant



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creation of software for data reduction. This technology enabled spectra to be reduced in minutes rather than months, changing the whole focus of astronomers' work.

The next major undertaking was the design and construction of machines to scan the myriads of stellar images on a photographic plate, and the acquisition of observing facilities that would produce high-quality source material. This programme gave birth to a dynasty of scanning machines (GALAXY, COSMOS and SuperCOSMOS), and to the evolution of the use of Schmidt telescopes for precision mass photometry of stars and galaxies. This went hand-in-hand with the setting up of overseas observing stations. Brück's warm relations with astronomers at Rome University (particularly M Cimino and L Gratton) made it natural to capitalize on good Italian weather by sitting a 16/24 inch Schmidt telescope at Monte Porzio near Rome in 1967; later the UK Schmidt Telescope at Siding Spring in Australia would be operated from the Royal Observatory Edinburgh. These developments put Edinburgh in the lead in the technological revolution sweeping through astronomy.

In 1965, at a critical time for British observational astronomy and as the Anglo-Australian Observatory was coming into being, Hermann Brück first proposed that a large (150 inch diameter) telescope be built in the northern hemisphere. The deliberations over the possi-

ble organization of such a facility by the Northern Hemisphere Review Committee during 1969–70 were protracted, and constituted the only anxious period of his career when the future of the Royal Observatories appeared to be under threat. Site testing was started and carried out under Edinburgh management. The final outcome was the Northern Hemisphere Observatory operated by the Royal Greenwich Observatory on La Palma, only an island away from where Piazzi Smyth in the previous century had demonstrated the excellent properties of the atmosphere.

During this empyrean phase, the Royal Observatory Edinburgh was charged with the commissioning and operation in Hawaii of the UK Infrared Telescope, the first 4 metre class telescope devoted entirely to infrared observations, which had a major impact on the direction of astrophysical research.

In parallel with this scientific development, astronomy teaching at the University expanded, with a new honours degree in astrophysics starting in 1967. Brück was an enthusiastic teacher and encourager. On arrival in Edinburgh he started the student astronomical society and gave it access to Observatory facilities, and for a period he acted as Dean of the Faculty of Science.

On his retirement in 1975 he and his colleague and wife Mary launched into historical studies of 19th century astronomy. This has led to the definitive work on the life of Piazzi Smyth, *The Peripatetic Astronomer*, as well as a history of Edinburgh astronomy, *The Story of Astronomy in Edinburgh*, and an extended paper in *Vistas in Astronomy* describing Lord Crawford's observatory at Dunecht which was the parent to the 19th century rebirth of the Royal Observatory Edinburgh.

Throughout his busy career he served as member and councillor of the Pontifical Academy of Sciences, and was proud and delighted when at age 90 he was made Knight Grand Cross of St Gregory the Great, the highest possible distinction. He was made CBE in 1966 for his work at Edinburgh and was awarded honorary degrees by the National University of Ireland (1972) and the University of St Andrews (1973). He was Member of the Royal Irish Academy (1948), Fellow of the Royal Society of Edinburgh (1958), and Member of the Akademie der Wissenschaften und der Literatur, Mainz (1955).

Despite his personal drive and the lasting success it brought, and despite his awe-inspiring and elegant presence, he was a modest and gentle man, seen to best effect in the heart of his family.

Peter Brand.