

OBITUARIES

Clement Osborn Bartrum

It will be a long time before we, members of the B.A.A. who personally knew him, cease to deplore the absence from our midst of Clement Osborn Bartrum. At the council table and in the meeting-room his presence seemed to have become almost necessary for the proceedings, while at all times his genial personality had endeared him to every one of us.

Bartrum was virtually a Londoner, for although born in Bradford, on 1867 October 6, he came to Hampstead with his parents when nine years old and lived there until his death on April 28 last. His early desire was to be an engineer, for which, undoubtedly, he had the right kind of mind, but fate decided otherwise. Educated at the Mercers School, where he won a scholarship, he afterwards assiduously devoted his evenings, at the Birkbeck College, to the study of science in all its branches and eventually took his B.Sc. degree. On leaving school at the age of sixteen he entered a firm of worsted manufacturers, and later purchased, with a partner, a small business from which he retired in 1929. His marriage with Kate Isabel Shattock took place at Hampstead in 1906, and he leaves, besides his widow, a son and two daughters.

It is, however, with Bartrum's scientific career that our Association is more closely connected. His all-round scientific knowledge was remarkable. In his youth he had apparently regarded examinations as a magnificent incentive to the acquisition of knowledge, for he had taken certificates in almost every department of science. His versatility is perhaps nowhere more clearly evident than in the titles of his lectures and papers to scientific societies. Here are a few: "Bicycles," "The Form of the Earth," "Star Fields," "Variation and



[Photo, by Lafayette Ltd.]

CLEMENT OSBORN BARTRUM

Heredity," "Saturn's Rings," "Guns," "Philosophy and Science," "A Clock of Precision," "International Trade," "Stellar Astronomy," "Thought as a Physical Agent," "Time" and so on. Doubtless, this versatile understanding gave to his conversation, no matter what the subject discussed, that interest we knew so well and enabled him to be so kindly helpful with sound advice to those who consulted him.

From so varied a list it is difficult to assign the first place, but probably Bartrum himself would have said that horology, particularly precision clocks, held his special interest.

He was one of the first inventors of a slave clock for timing the impulse of a master pendulum, and, in 1913, designed and made a clock on this principle. Among the many clever and unique devices included in the mechanism of this clock was one giving, what he termed, "negative backlash." This was, perhaps, the most remarkable of these inventions, as it secured synchronisation in "rate" as well as in "phase," between the pendulums, without "hunting," which, as far as I can ascertain, has never yet been done by anyone else. This clock was tested over some years, and, I believe that I am correct in stating, comprised the first successful mechanism for the control of a slave clock by a master pendulum.

Bartrum read a paper describing this before the Physical Society in 1916 wherein he discussed the problem from a mathematical as well as from a mechanical viewpoint.

Many of our members will remember his paper on "A Barometric Compensator for Clock Pendulums" read at our meeting on 1934 March 18 (*Journal*, 44, No. 6). Other papers presented to the B.A.A. include "Star Chains in the Milky Way" (*Journal*, 24, No. 5), dealing with probabilities; "Appearance of Saturn at Opposition" (*Journal*, 24, No. 7), treated graphically and mathematically as regards the double or false shadow and the appearance of notches between ring and ball; "Lunar Eclipse, 1920 May 2" (*Journal*, 30, No. 8); and "The Inertia Escapement of the Synchronome Astronomical Regulator" (*Journal*, 26, No. 1).

Among Bartrum's inventions is also an open scale barometer in which a special coloured liquid rests upon the mercury surface and is raised and lowered by it in a capillary tube, readings on the critical part of the scale thus being magnified about eight times.

His interest in and knowledge of geophysics were recognised by his appointment as representative of the B.A.A. on the Geophysical Committee of the Royal Society, and his efficient handling of the "papers received" on all kinds of astronomical and allied subjects in his office of Secretary of the B.A.A. was well appreciated, particularly by members of the Council.

Bartrum's long and efficient service to our Association (which he joined in 1912) not only as Secretary since 1930, but also as Curator of Instruments, is too well known to need much comment, but I, as his colleague, know perhaps better than other members what immense pains he took to insure that everything was done for the best, and how

thoroughly and methodically he carried out whatever he undertook, and, moreover, how he enjoyed it.

He was elected a Fellow of the Physical Society in 1898 and of the Royal Astronomical Society in 1920. He was one of the founders of the Hampstead Scientific Society with which he had been closely associated for about thirty-six years, twenty-six as Secretary and ten as Treasurer. Some thirty years ago he set up a Foucault pendulum at one of this Society's conversaziones, and it was due to his efforts and persistence that the present site of the Hampstead Observatory was secured.

In his home life Bartrum was exceedingly happy. His son, P. C. Bartrum, a member of the B.A.A., took his B.A. in mathematics, with distinction in Relativity, at Queen's College, Oxford, and is now Meteorologist in Bermuda. Bartrum was a great lover of music, an interest which every member of his family shared, and I remember with delight the madrigals which Mr and Mrs Bartrum, their son and their daughters sang to us after we had all taken part in instrumental music.

Bartrum was writing letters on B.A.A. business only a few hours before he died. That he was able to do so is, perhaps, some consolation, for he dreaded, most of all, the possibility that he might become a permanent invalid.—F. J. S.