PROJECTS

Correspondence and manuscripts relating to article-length descriptions of large-scale projects involving one or several scholars should be addressed to the department editor, Dr. I. Grattan-Guinness, Enfield College of Technology, Queensway, Enfield, Middlesex EN3 4SF, England. Brief announcements of short-term projects, including doctoral theses in progress or recently completed, proposals, and requests for information or assistance may be sent either to the department editor or the HISTORIA editorial office.

THE LIFE AND JOURNALS
OF THOMAS ARCHER HIRST, FRS (1830-1892)

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In the world of Victorian science, few social documents can compare with the diaries of the mathematician Thomas Archer Hirst (1830-1892). Kept from the age of 15 almost daily for over 45 years, the 22 volumes of these journals represent virtually a *vade mecum* to the metropolitan scientific circles of England. Although shy and retiring in disposition and not well known to historians of science and mathematics, Hirst was both a Baedeker and a Boswell -- both a model guide to the path taken by the aspiring young Victorian middle-class artisans to the world of science, and a raconteur of the daily affairs of such intellectual Olympians as T. H. Huxley, J. J. Sylvester and Herbert Spencer. Hirst's accounts have been preserved at the Royal Institution, London, in five typescript volumes (prepared by Mrs. John Tyndall after Hirst's death), amounting to nearly two million words. Today, when historians are beginning to examine the social context of science and mathematics, these volumes are of extreme importance and should be made available to a wider audience. We have accordingly undertaken to prepare for publication a carefully annotated edition of Hirst's journals.

Born in Yorkshire, Hirst began at the age of 16 a life-long friendship with John Tyndall, then chief assistant to Richard Carter, a land agent in Halifax. In 1849, Hirst followed Tyndall to Germany, where both took Ph.D. degrees, and then succeeded Tyndall as mathematics and physics master at Queenwood College, Hampshire. In 1860, Hirst moved to London as mathematics master at University College School, and began a quiet, unassuming but dignified career which was to last for over thirty years.

In 1864, soon after his election to the Royal Society, Hirst joined with J. D. Hooker, Edward Frankland, John Tyndall, William Spottiswoode, John Lubbock, Herbert Spencer, and George Busk to create the famous "X Club," which soon became a leading instrument of the "Young Guard" of metropolitan science. In 1866 Hirst became General Secretary of the British Association. In 1865, he was made professor of mathematical physics at University College, London; in 1867, professor of pure and applied mathematics there (in succession to Augustus de Morgan); and in 1868, professor of pure mathematics.

In 1865, Hirst took a prominent part in the foundation of the London Mathematical Society; he served as its president from 1872-1874, and was a member of its Council for nearly twenty years. In 1870, he resigned his chair to make more time for his research, and became Assistant Registrar of London University. Three years later, however, on the creation of the Royal Naval College he accepted the post of Director of Naval Studies, and continued at Greenwich until ill health forced his retirement in 1883. He contributed notable papers in abstract geometry to the *Proceedings of the London Mathematical Society* and to the *Philosophical Transactions*.

Nevertheless, Hirst's influence upon mathematics was more that of a teacher and administrator than that of a contributor to new knowledge. He shared J. M. Wilson's opinion that the reform of geometrical teaching in Great Britain was overdue, and that the syllogistic system of Euclid should be superseded by some more direct and practical methods of demonstration. He was the first president of the Association for the Improvement of Geometrical Teaching (now the Mathematical Association) from 1871 to 1878.

Following his young wife's sudden death in 1857, after only three years of marriage, Hirst devoted himself almost wholly to his geometry and his friends. His ties with the Royal Society, the Athenaeum and the Royal Institution drew closer and he became the "maths master" of the London scientific circle. His quiet voice was rarely heard in scientific debate, but his vote went steadily in support of those institutional reforms in scientific and mathematical education which the London circle advocated. His journals are filled with reports on conversations, books, parties and lectures, and with his ruminations on science, education, politics, economics, religion, beauty and truth, and on music, theatre and the arts. He once caricatured himself: "What an inconsistent fellow that Tom Hirst is!... He talks about religion, politics, sciences, attends Mutual Development Societies and the very same night is seen dancing with the most insignificant at a ball" (23 January 1849, Vol. 1, p. 352). Through these journals we learn of scientific rivalries, hidden motives, political reform, and the background to administrative reforms in the patronage of science at a critical period in its

professionalization. In the 1880's, as the "Young Guard" grew
old, he retired from public life, living alone in Marylebone
until his death in 1892.

With the aid of small grants from the Nuffield Foundation and
the Royal Society we are preparing the work for publication by
Mansell Ltd., which has had long experience of producing volu-
minous bibliographies and catalogues by photographic processes
which by-pass many of the expensive stages of traditional type-
setting. We propose to publish the journals in three volumes
(including chapter introductions, illustrations and footnotes),
together with a companion volume, which will contain a biograph-
ical essay, editorial apparatus and a comprehensive index of
over 30,000 entries prepared by Mrs. Margaret Friday, A.L.A.

We would draw the attention of readers of HISTORIA
MATHEMATICA to the unique character of this document and to the
potential importance of its index as a research tool for
historians of science and mathematics as well as for students of
social and cultural history. Recent work on the correspondence
and papers of Henry Oldenburg (by A. R. and M. B. Hall) and
Isaac Newton (I. B. Cohen and D. T. Whiteside) have shown how
fruitful such works can be to scholars. To those who study the
Victorian age of science and invention, the Hirst journals will
be no less important.

SMITHSONIAN INSTITUTION PROJECT
IN MEDIEVAL ISLAMIC ASTRONOMY

BY DAVID A, KING
AMERICAN RESEARCH CENTER IN EGYPT, CAIRO

In September 1972 a project in the history of science was
initiated at the American Research Center in Egypt sponsored and
financed by the Smithsonian Institution. The purpose of this
project is to cooperate with the Egyptian National Library in
making a survey of the Library's vast holdings of medieval Arabic
astronomical and mathematical manuscripts. There are several
thousand such manuscripts preserved in Cairo, most of which are
untouched by modern scholarship.

Following an agreement between the Egyptian National Library
and the Smithsonian Institution Project signed in May 1973, the
manuscripts will first be cataloged, and then detailed analyses
will be prepared of works of particular importance.

The Principal Investigator of the Smithsonian Project is
Prof. Owen Gingerich of the Smithsonian Institution Astrophysical
Observatory and Harvard University, and the Principal Consultant
is Prof. E. S. Kennedy of the American University of Beirut.