

# Hobson, Ernest William I

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(b. Derby, England, 27 October 1856; d. Cambridge, England, 19 April 1933)

*mathematics.*

Hobson was the eldest of six children of William Hobson, a prominent citizen of Derby, the founder and editor of the *Derbyshire Advertiser*. His mother was Josephine Atkinson. His brother, J. A. Hobson, became a well-known economist. Hobson went to Derby School and did well in languages and music as well as mathematics and science. He was brought up in a strictly religious atmosphere, from which he later broke away.

In 1874 he won a mathematical scholarship to Christ's College, Cambridge, and in January 1878 he was placed first in order of merit (the senior wrangler) in the mathematical tripos. He was elected a fellow of Christ's in the same year and spent the rest of his life in teaching and research at Cambridge. In 1883 he was elected one of the first university lecturers (as distinct from college lecturers) in Cambridge. Hobson married Selina Rosa, the daughter of a Swiss merchant, in 1882; they had four sons.

Until 1910 the mathematical life of Cambridge was unduly dominated by the famous tripos examination. The undergraduates were coached in the solving of problems, and much of the college teachers' energy went into this coaching. Many of the teachers, therefore, made no effort to break new ground in their subject. There were, indeed, famous pure mathematicians, notably Cayley and Sylvester, but they worked largely in isolation. Moreover, their interests were in formal algebra. The theory of functions, actively developed in Germany and France since the 1850's, only began to be recognized in England in the 1890's.

In 1891 Hobson published *A Treatise on Trigonometry*, which, except for Chrystal's *Algebra* (Edinburgh-London, 1886–1889), is the first English textbook of mathematical analysis. His early interests were mainly in the functions of mathematical physics, and the first of the papers on which his reputation rests, on general spherical harmonics, appeared in 1896. During the next ten years he became aware of the work of the French school (Baire, Borel, Lebesgue), realizing that this school formed the necessary foundation of the systematic theory of trigonometrical and other special functions. His *Theory of Functions of a Real Variable* (1907), together with W. H. Young's *Theory of Sets of Points* (Edinburgh-London, 1906), introduced to English readers the vital Borel-Lebesgue concepts of measure and integration. In addition, this work incorporated Hobson's own research on the general convergence theorem and convergence of series of orthogonal functions. By the age of fifty Hobson had developed into a pure mathematician. This unusually late maturity is a reflection of the existing academic conditions at Cambridge.

In 1910 Hobson succeeded A. R. Forsyth in the Sadleirian chair of pure mathematics; he was recognized as one of the leaders of English mathematics. He resigned in 1931. He had few research pupils and did not found a school. Toward the end of his life his influence was overshadowed by the rise of younger men of great analytical power, notably G. H. Hardy and J. E. Littlewood.

Hobson was a distinguished figure in the university and served on the central administrative committees. His views were progressive and, appropriately enough, he was one of the leaders in reforming the mathematical tripos and abolishing the order of merit.

## BIBLIOGRAPHY

I. Original Works. Hobson's works include *A Treatise on Trigonometry* (Cambridge, 1891); *Theory of Functions of a Real Variable* (Cambridge, 1907), later eds. in 2 vols; *Squaring the Circle* (Cambridge, 1913), with six excellent lectures on this classical problem; *The Domain of Natural Science* (Cambridge, 1923), the Gifford lectures in Aberdeen; and *Spherical and Ellipsoidal Harmonics* (Cambridge, 1931), with Hobson's early researches of the 1890's.

II. Secondary Literature. See G. H. Hardy, in *Obituary Notices of Fellows of the [Royal Society](#) of London*, no. 3 (1934), with portrait; and *Dictionary of National Biography* (Oxford, 1931–1940), pp. 433–434.

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