

# Forsyth, Andrew Russell I

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(*b.* Glasgow, Scotland, 18 June 1858; *d.* London, England, 2 June 1942)

*mathematics.*

Forsyth was the son of [John Forsyth](#), a marine engineer, and of Christina Glenn, of Paisley. The family moved to Liverpool, where Forsyth soon revealed his mathematical ability. He entered Trinity College, Cambridge, in 1877 and was senior wrangler in January 1881. He became a fellow of Trinity the same year with a remarkably powerful thesis on double theta functions. In 1882 he was appointed to the chair of mathematics at University College, Liverpool, but in 1884 he returned to Cambridge as a lecturer. He was elected a fellow of the [Royal Society](#) in 1886.

As a mathematician Forsyth belonged to the school of his Cambridge master, Cayley, and was outstanding in his ability to marshal complicated formulas. His importance in the history of British mathematics is due, however, to his being a great traveler and a good linguist; he was thus the first to realize the deficiencies of the Cambridge school, which was almost completely ignorant of Continental mathematics. Forsyth was determined to rectify this situation, and in 1893 he published his *Theory of Functions*, which, according to Sir Edmund Whittaker, “had a greater influence on British mathematics than any work since Newton’s *Principia*.” As a result, for many years function theory dominated Cambridge mathematics.

In 1895 Forsyth succeeded Cayley as Sadlerian professor of pure mathematics but resigned in 1910 in order to marry Marion Amelia Boys, the former wife of the physicist C. V. Boys. After a short time in Calcutta, he was appointed chief professor of mathematics at Imperial College, London, in 1913. Although he retired in 1923, he continued to write mathematical treatises; but his point of view was antiquated, his work being based on manipulative skill rather than on logical processes.

Ironically, Forsyth’s main achievement was having brought to Cambridge the modern style of mathematics that superseded his own, and as a result his reputation in his later years was less than it deserved to be.

## BIBLIOGRAPHY

I. Original Works. Forsyth’s most important books were *A Treatise on Differential Equations* (London, 1885; 6th ed., 1931), also trans. into German and Italian; *Theory of Differential Equations*, 6 vols. (Cambridge, 1890–1906); and *Theory of Functions of a Complex Variable* (Cambridge, 1893; 3rd ed., 1917). He also published *Lectures on the Differential Geometry of Curves and Surfaces* (Cambridge, 1912); *Lectures Introductory to the Theory of Functions of Two Complex Variables* (Cambridge, 1914); *Calculus of Variations* (Cambridge, 1927); *Geometry of Four Dimensions*, 2 vols. (Cambridge, 1930); and *Intrinsic Geometry of Ideal Space*, 2 vols. (London, 1935). He also contributed to British mathematical journals, *Proceedings of the [Royal Society](#)*, and other publications.

II. Secondary Literature. Biographical notices are E. H. Neville, in *Journal of the London Mathematical Society*, **17** (1942), 237–256; and E. T. Whittaker, in *Obituary Notices of Fellows of the Royal Society of London*, **4** (1942–1944), 209–227. The latter contains a complete bibliography of Forsyth's writings. See also the article on Forsyth by E. T. Whittaker, in *Dictionary of National Biography, supp.* VI (1941–1950), 267–268.

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