Yule, George Udny | Encyclopedia.com

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(*b*. Morham, near Haddington, Scotland, 18 February 1871; *d*. Cambridge, England, 26 June 1951)

statistics.

Yule was the son of Sir Geroge Udny Yule and his wife, Henrietta Peach.Sir George was an adminstrator in the India Civil Service and a member of an old Scottish farming family with a history of some government, military, and literary distinction. In 1875 Sir George moved his family to London and Yule was sent first to a day school there, and then to a preparatory school near Rugby. He was subsequently educated at Winchester College and University College, London, where, where between 1887 and 1890, he read civil engineering but did not take a degree, there being none in the subject at the time. After two year's training in a small engineering works, however, Yule decided against engineering as a career and spent a year under Heinrich Hertz at Bonn, investigating the passage of electric waves through dielectrics. THis was the subject of his first published paper.

Yule returned to London, in 1893, at the invitation of Karl Pearson, to become demonstrator (lecturer) at University College, In 1896 he was promoted to assistant professor of applied mathematics. Three years later he married May Winifred Cummings, but the marriage was annulled in 1912. One consequence of his marriage was that Yule felt obliged to earn a higher salary, and he accepted a dreary administrative post at the City and Guilds of London Institute. Between 1902 and 1909 he held concurrently a lectureship in statistics at University College, delivering evening lecture that were the basis of his first book, *An Introduction to the Theory of Statistics* (1911). This was for long the only comprehensive textbook on the subject (the fourteenth edition, revised by M.G. Kendall, appeared in 1958). The *Introduction,* and his repuations as a lecture, led to his being offered the newly created lectureship in statistics at Cambridage in 1912

Yule soon had a range of practical statistical experience. He was university lecturer, and during World War I he was statistician to the School of Agriculture at Cambridge while he was statisician first to the director of army contracts, and later to the Ministry of Food. In 1922 Yule became a fellow of both St. John's College, Cambridge, and the Royal Society. He resigned his university position in 1931. The following year he obtained a pilot's license; but a serious heart ailment obliged him to spend most of his retirement in a quieter pursuit, a study of the statistical of literary style.

Yule's principal achievements in statistical theory concern regression and correlation, association, time series. Mendelian inheritance, and epidemiology. His early memoirs on correlation (1897, 1907) and association coefficients (1900) have proved to be fundamental . In the first of these he introduced the concept of partial ("net") correlation, and in 1907 he demonstrated that the sampling distributions for partial correlation coefficients are of the same form as those for total correlation coefficients . In the paper of 1900, Yule presented the coefficient of association for the measurment of the degree of association in 2X2 contingency tables. His introduction of his former mentor and friend Karl Pearson, who joined with David Heron in a protest that M.G.Kendall said was "remarkable for having missed the point over more pages (173)than perhaps any other memoir in statistical history" *(There Advaced Theroy of Statistics*.**1** [1943], 322).

From 1912 Yule and Major M. Greenwood laid the foundations of the theory of accident distributions. In 1921 he wrote on time correlation and began work leading to a well known paper on sunspogts (1927) that marked the beginning of the modern theory of oscillatory time series.

Yule introduced many new ideas into statistical theory and corrected many errors, especially in biometrics. He made important studies of the mathematics of biological evolution and of the statistics of agricultural filed trials. He was perhaps the first to consider (1902) whether the observed correlations between parents and offspring could be accounted for by multifactorial Mendelian inheritance, a problem taken up later by R. A. Fisher.

BIBLIOGRAPHY

Yule wrote two books: *An Introduction to the Theory of Statistics* (London, 1911) and *The Statistical Study of Literary Vocabulary* (Cambridge, 1944.) A bibliography of 71 scientific papers, plus, 12 on other subjects, is in the notice by F. Yates, in *Obituary Notices of Fellows of the Royle Society of london*,**8** (1952), 309–323, with portrait.

J. D. North