No. 2

Harry Bateman*

29 May, 1882-21 January, 1946

In the sudden death (from coronary thrombosis) of Harry Bateman while en route to New York, near Milford, Utah, mathematics in the United States lost its outstanding representative of the British School of the generation just closing. Like his contemporaries and immediate predecessors among Cambridge mathematicians of the first decade of this century, before the new regulations for the Mathematical Tripos took effect, Bateman was thoroughly trained in both pure analysis and mathematical physics, and retained an equal interest in both throughout his scientific career. In bare outline the relevant details of his life are as follows:

Harry Bateman was born at Manchester, England, 29 May, 1882, a son of Samuel and Marnie Elizabeth (Bond) Bateman, and received his secondary education at the Manchester Grammar School. Bateman ascribed much of his subsequent success at Trinity College, Cambridge, to the excellent instruction he received at the school. In 1903 he was (bracketed) Senior Wrangler in the Tripos, and took his B.A. degree, proceeding to the M.A. in 1906, having been a Smith's Prizeman in 1905. From 1905 to 1911 he was a Fellow of Trinity College: the year 1905-06 was spent in study at Göttingen and Paris. From 1906 to 1907 he was a lecturer at the University of Liverpool, and from 1907 to 1910 a reader at the University of Manchester. He came to the United States in 1910 (he later became a naturalized U.S. citizen), as a lecturer at Bryn Mawr College, where another English mathematician, the late Charlotte Angas Scott, was the efficient and scholarly head of the mathematics department. In 1912, he went to the Johns Hopkins University as a Johnston scholar for three years, incidentally taking his Ph.D. (a curious proceeding for a mathematician of his eminence) in 1913. From 1915 to 1917 he was a lecturer at Johns Hopkins, and in 1917 he accepted the position which he held till his death, a professorship of mathematics, physics, and aeronautics at the then recently organized California Institute of Technology. He was a member of the American Mathematical Society (vice-President, 1935, Gibbs lecturer, 1943), the American Physical Society, the American Acoustical Society, the American Philosophical Society, the British Association for the Advancement of Science, the London Mathematical Society, the National (U.S.) Academy of Sciences, and a Fellow of the Royal Society (London). He is survived by his wife, Ethel (Horner Dodd) Bateman, and his daughter, Joan; a son died in childhood.

^{*} Professor Bateman was a member of the Board of Collaborators of the Quarterly of Applied Mathematics from its foundation to his lamented decease.

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Bateman was an almost unique combination of erudition and creativeness. It is most unusual for a mathematician to have the extraordinary range of exact knowledge that Bateman had, and not be crushed into sterility by the mere burden of an oppressive scholarship. But, as his numerous publications testify, Bateman retained his creative originality till his death. In pure mathematics, his dominating interest was in the analysis that has developed from classical mathematical physics. His technical skill in this broad field was unrivalled. His numerous contributions to mathematical physics are marked by a vivid, at times almost romantic, imagination. Students of the history of general relativity will find much of interest in some of his papers on electromagnetism.

A singularly modest and gentle man, Bateman was always ready to place his skill and his knowledge at the disposal of others, with no thought of personal credit. War work absorbed most of his time during the last four years of his life; and it is to be regretted that the incessant correspondence in connection with such work prevented him from putting the finishing touches to what he regarded as his most useful contributions to mathematical scholarship: an exhaustive work on definite integrals, and a critical census of all the special functions that have been considered in mathematics. If these works can be put into shape for publication, they will form a lasting memorial to Harry Bateman.

E. T. Bell

April, 1946.

LIST OF PUBLICATIONS BY HARRY BATEMAN*

- 1. Question 14943. Educational Times (2) 1, 98-100 (1902).
- 2. Question 15119. Educational Times (2) 3, 110-111 (1903).
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- 5. Question 15440. Educational Times (2) 5, 68 (1904).
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- Certain definite integrals and expansions connected with the Legendre and Bessel functions. Mess. (2) 33, 182–188 (1904).
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- 12. Note on the solution of linear differential equations by means of definite integrals. Mess. (2) 35, 140-141 (1906).
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* This bibliography was prepared by Joan Bateman. The following abbreviations are used: Bull. A. M. S. = Bulletin of the American Mathematical Society; Mess. = Messenger of Mathematics; Proc. C. P. S. = Proceedings of the Cambridge Philosophical Society; Proc. L. M. S. = Proceedings of the London Mathematical Society; Proc. N. A. S. = Proceedings of the National Academy of Sciences; Trans. A. M. S. = Transactions of the American Mathematical Society; Trans. C. P. S. = Transactions of the Cambridge Philosophical Society.

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