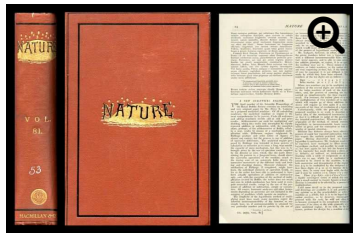


ATTICUS RARE BOOKS



"A New Analytical Engine" in Nature 81, 1909, pp. 14-15

Boys, C. V. [Charles Vernon]

London: Macmillan and Co. 1909. 1st Edition. BOUND FIRST EDITION OF RARE DESCRIPTION OF LUDGATE'S ANALYTICAL ENGINE.

In 1909, working entirely on his own and only as a 'hobbyist', completely unaware of Charles Babbage's designs, Dublin accountant P. E. Ludgate (1883-1922) designed an Analytical Engine — an original universal calculating machine.

However there are only two sources of information regarding Ludgate's machine — his initial brief description in the April 1909 Scientific Proceedings of the Royal Dublin Society and the description offered here by C. V. Boys in the July 1909 issue of Nature.

Charles Babbage (1791-1871) designed two classes of engine, Difference Engines which are, essentially, strictly calculators, and Analytical Engines — far more than calculators, they marked the progression from the mechanized arithmetic of calculation to full fledged computation. Though he never lived to see the Analytical Engine he designed built, Babbage defined an Analytical Engine as: "A machine to give us the same control over the executive which we have hitherto only possessed over the legislative department of mathematics" (Babbage, *Passages From the Life*, 129).

Ludgate's and Boys' papers show the engine to be "functionally very similar to that of Babbage, with storage for 192 numbers of 20 digits. [with numbers] to be represented by the transverse displacements of pegs held in small 'shuttles' (Hartley, *Mini and Microcomputer Systems*, 265). Ludgate's engine employed rods similar to slide rules and

used multiplication as its base mechanism rather than addition as did Babbage's.

Sir Charles Vernon Boys (1855-1944) was a British physicist respected for his careful and innovative work (MacTutor History of Mathematics Archive).

ALSO INCLUDED IN THIS VOLUME: John G. McKendrick's "Further Experiments with the Gramophone," pp. 488-490. Item #811

CONDITION & DETAILS: London: Macmillan and Co., Volume 81 (July to October 1909). 4to (10.5 x 8 inches; 263 x 200mm). 540pp. Complete. Ex-libris bearing the usual markings on the front ffp, but on the spine there is only a single handwritten '53'; there are no other spine markings whatsoever. Handsomely bound in the original Nature brown/orange; planetary gilt illustrations of a planet and stars on both the spine and the front board; black ruled and lettered. Slight scuffing at the edges and a small, closed tear at the head of the spine. Solidly bound and bright and very clean throughout. Very good condition.

Price: \$350.00

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