

SOURCES

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A Note on *The Educational Times* and *Mathematical Questions*

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The literature of mathematics is peppered with peripheral journals which are mentioned from time to time in history but are normally remembered only by name or rumour. One of this genre is noted here; however, the purpose is not just to reduce the number of little-knowns by one but to draw attention to a unique pair of journals.

The parent body was the College of Preceptors in London, which was founded in 1846 as a national body to supervise standards of teaching and teacher training in the public service. During the following year it launched *The Educational Times* (hereafter “ET”), “a monthly stamped journal of education, science and literature” to deal with general educational questions at school and university level. The first issue contained worked answers to examination questions in algebra, and correspondence on mathematics soon started up. Mathematical questions were first posed in the November 1848 issue of Volume 2, for readers to solve (one Thomas Morely of Bromley, Kent being prominent in the early ones), and a numbering system for them began the following August. The poor state of professionalization of mathematics in Britain had caused a tradition to start in England in the 18th century of journals containing, or even comprising, mathematical questions and solutions [Archibald 1929], so it is not surprising that the department rapidly expanded; the numbering was converted from the Roman to the Arabic system! Indeed, it developed to such an extent that in 1864 an offshoot journal was extracted from ET, under the title “Mathematical Questions with Their Solutions From the ‘Educational Times’ ” (hereafter “MQ”). Soon it was adding to its title phrases such as “with Many Problems and Solutions Not Published in the ‘Educational Times,’ ” although the problems were almost always stated and solved there first.

The publisher of ET from the January 1849 issue, and of MQ from the start, was Francis Hodgson of London. The editor from the late 1850s was W. J. C. Miller (1832–1903), a largely autodidact mathematician then teaching at Huddersfield College in Yorkshire; a contributor from his teens, he conducted the department in ET for some years before launching MQ [Finkel 1896]. The work was always his hobby; in 1876 he changed career, to become the Registrar of the General Council of Medical Education (later called the “General Medical Council”).

Miller served as editor until 1897, when ill-health forced him to retire from both his Council and both journals [Anonymous 1903]. He had put out 66 volumes of MQ by then; he shared Volume 67 (1897) with the surgeon and statistician (and regular contributor) D. Biddle, who took over for volumes 68–75 (1897–1901). Then a “new series” was launched, in a larger page format, under the editorship of Miss C. I. Marks; it ran for 29 volumes from 1902 to 1916. But with Volume 69 of that year ET ceased to publish its department of mathematics (presumably because of economic difficulties or material shortages caused by the First World War); so Miss Marks launched a third series under the title “Mathematical Questions and Solutions in Continuation of the Mathematical Volumes of ‘The Educational Times.’ ” She produced six volumes of around 100 pages each, the later volumes coming out in 16-page monthly issues. The journal stopped at the end of 1918, with problem 18,769. ET itself closed in its original form five years later, after a run of 75 volumes.

Until the final years each volume of the first two series of MQ was published (or at least conceived) in “integral” form rather than in issues. It began with a list of contributors and their towns of residence, continued with a detailed contents list of the problems treated (in the numbering of ET), proceeded with a restatement (sometimes from earlier volumes) of problems together with their current solutions and related commentary, and finished with a list of still unsolved problems. MQ also contained material not in ET, especially short mathematical papers related to problems. In ET contributors were listed in the general index of each volume.

The majority of problems came from geometry, algebra, and number theory; but mechanics, probability theory, and the calculus and mathematical analysis provided proportions. Not all the problems were elementary; several received quite extensive discussion when solutions were presented.

Most of the authors are not remembered now and were little-known then, but quite a number of leading British mathematicians contributed; among very many names I mention M. W. Crofton, W. K. Clifford, A. Cayley, J. J. Sylvester, P. A. Macmahon, E. T. Whittaker, and G. H. Hardy. Some well-known figures from the British educational community, such as W. J. Greenstreet, were also active. Other regular contributors included C. L. Dodgson (Lewis Carroll) and H. MacColl. Numerous foreign mathematicians from many countries also took part, with some distinguished regulars; for example, Frenchmen such as C. Hermite and E. C. Catalan, the German E. Lampe, and Americans such as E. V. Huntington, H. Bateman and R. C. Archibald. Certain of the irregulars, home or abroad, are noteworthy; for example, at least twice Lord Kelvin put in an appearance, once

on properties of determinants (as recalled by their historian T. Muir, himself quite a regular contributor) and once on determining latitude. Others include G. Mittag-Leffler and J. Hadamard.

The result of all this work is an extraordinary mass of mathematical exercise and information created by a world-wide community of minor and major mathematicians, who sustained a quiz corner for over half a century and produced in MQ around 20,000 pages on nearly 19,000 problems [1]. While there may be no “great results” there, some theorems appeared for the first time, and a lot of interesting results and study were recorded. For example, within my own interests I found the first publication of Bertrand Russell, and several good items on algebraic logic.

More to the point, however, is that nobody knows what these volumes contain (or what questions were left untackled). For only with Miss Marks were name and subject indexes introduced (and even then not in every volume), so that finding any one contributor’s pieces or problems in a topic area is extremely tiresome. The edition of the works of Hermite and Hardy include their contributions, but I suspect not all of them to MQ, while Sylvester’s numerous pieces are only catalogued in his edition. A bibliographer of great stamina is called for; and meanwhile a historian will find many interesting surprises as he browses among its forgotten pages.

NOTE

1. A journal similar to MQ was started in France in 1894 by C. A. Laisant and E. Lemoine, under the title *L'intermédiaire des mathématiques*. As far as I know, it has not been studied.

REFERENCES

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