lists the subjects which were most often discussed during Gregory's editorship.

The relevance of these statistics will be discussed shortly. On the other hand, Sir Richard drastically reduced the number of individuals who contributed leading articles. His desire to advance a single perspective on the role of science in society obligated him to select only from those contributors who shared his vision. Although such authors remained anonymous to the public, their names were handwritten into the master volumes kept at *Nature*'s offices. Table 2 presents a short list of the most prolific writers.

Table 2. LEADER WRITERS

1920–1929		1930–1939	
A. G. Church	32	Rainald Brightman	177
R. A. Gregory	23	E. N. Fallaize	61
E. N. Fallaize	21	Brysson Cunningham	17
T. Lloyd Humberstone	15	R. A. Gregory	14
Total	91	Total	269

These figures raise a number of interesting points. To begin with the most obvious; Gregory was a very infrequent contributor to his own journal. This is hardly surprising when it is recalled that the editor of *Nature*, aged 70 in 1934, was simultaneously the editor of both the *Journal of Education* and Macmillan's Science Department; a tireless worker for the British Association and the British Science Guild; and a regular participant on many educational and economic forums. The increasing pace of his activities thus accentuated his dependence upon a few trusted colleagues. In the twenties the four most important writers produced only 17 per cent of the leading articles; the same number of authors contributed just under 50 per cent of the leaders in the following decade. None of these men, save Gregory, was a member of *Nature*'s regular staff, and only one possessed any substantial experience in a research laboratory.

That man was Rainald Brightman (1893–1968) (ref. 8), who wrote a third of the leaders which appeared in *Nature* during the 1930s. How Gregory and he established their unique collaboration is not entirely clear. In March of 1930 Brightman, about to begin a twenty-year stint as Chief Librarian for ICI's Dyestuffs Group, volunteered an article to the editor of *Nature*. Gregory liked the essay and had it published as an unsigned leader on May 31 of the same year[9]. He also asked Brightman for a second article. Quite shortly thereafter the Manchester-based librarian was turning out more book reviews and leaders than any previous writer in the history of the magazine. He wrote fifteen leading articles in 1931, twenty-seven in 1939.

Gregory had at last found the equivalent of a full-time leader writer. It is probable that Brightman gained his favour on two very different grounds. In the first place Brightman's sober, unrhetorical style was similar to Gregory's own and a great improvement on the prose of most other contributors. For example, the conclusion to a leading article of 1932 by T. Lloyd Humberstone[10] on chemical warfare ran

> Let us continue our journey, holding the dim taper put into our hands, singing songs of comfort as we go along. May it light us to a world where there shall be no more war between nations—and between people living in the same street. Spell-binders, slogan-manufacturers, schoolmen, babbling sophists merely inspissate the gloom.

In the face of such phrasing Arnold Bennett's complaint of *Nature* that "the writing of it is considerably inferior to the matter of it"[11] is easily understood. Stylistic questions aside, though, it was the similarity of their social outlooks which most attracted Gregory and Brightman to each other. Both were, of course, committed to the stimulation of industrial production through research and reorganization. While Gregory leaned toward the side of Labour and Brightman was a Conservative, neither man was happy with the views prevalent in their respective political parties. Their heroes were such progressive Tories as Harold Macmillan[12] and Ormsby-Gore[13]. Above all, they believed in the possibilities of a "scientific" society in which public decisions could be rendered in an objective manner. (Bertrand Russell[14] cites a Brightman leader[15] as exemplifying the "practical idealism" of some scientists.) Such an identity of interests thus makes it plausible to describe *Nature*'s leader policy in the thirties as the joint product of two men, Gregory and Brightman. The former more often than not simply assigned topics to the latter; there was no need to dictate to Brightman what "line" should be taken in his articles. An example of how the partnership worked can be seen in a letter from Gregory to Brightman dated June 6, 1934. Speaking of the forthcoming Aberdeen meeting of the BAAS, he wrote: "I shall be glad to receive from you an article on science and citizenship referring to the action of the Council in endeavouring to get Sections to include in their programmes papers on the relation between the advance of science and social progress. . . . When the definite programme of the meeting

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Reprinted from Nature, February 13, 1932

Artificial Production of Fast Protons

A HIGH potential laboratory has been developed at the Cavendish Laboratory for the study of the properties of high speed positive ions. The potential from a high voltage transformer is rectified and multiplied four times by a special arrangement of rectifiers and condensers, giving a working steady potential of 800 kilovolts. Currents of the order of a milliampere may be obtained at a potential constant to 1-2 per cent.

Protons from a discharge in hydrogen are directed down the axis of two glass cylinders 14 in. in diameter and 36 in. long, and accelerated by the steady potentials of the rectifier. They are then passed into an experimental chamber at atmospheric pressure through a mica window having a stopping power of about 1 mm. air equivalent. Luminescence of the air can easily be observed.

The ranges of the protons in air and hydrogen have been measured using a fluorescent screen as a detector. The range in air at S.T.P. of a proton having a velocity of 10^9 cm. sec. is found to be 8·2 mm., whilst the corresponding range for hydrogen is 3·2 cm. The observed ranges support the general conclusions of Blackett on the relative ranges of protons and α-particles, although the absolute values of the ranges are lower for both gases. The ranges and stopping power will be measured more accurately by an ionisation method.

The maximum energy of the protons produced up to the present has been 710 kilovolts with a velocity of $1{\cdot}16 \times 10^9$ cm. sec. and a corresponding range in air of 13·5 mm. at S.T.P. We do not anticipate any difficulty in working up to 800 kilovolts with our present apparatus.

J. D. COCKCROFT.
E. T. S. WALTON.

Cavendish Laboratory,
Cambridge, Feb. 2.