Lockyer’s columns of controversy in Nature

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- FEATURE
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Publisher Alexander Macmillan chose Norman Lockyer as *Nature*’s founding Editor in 1869. It was an inspired choice, but Lockyer’s powerful personality courted controversy in the fledgling magazine. Ruth Barton investigates.

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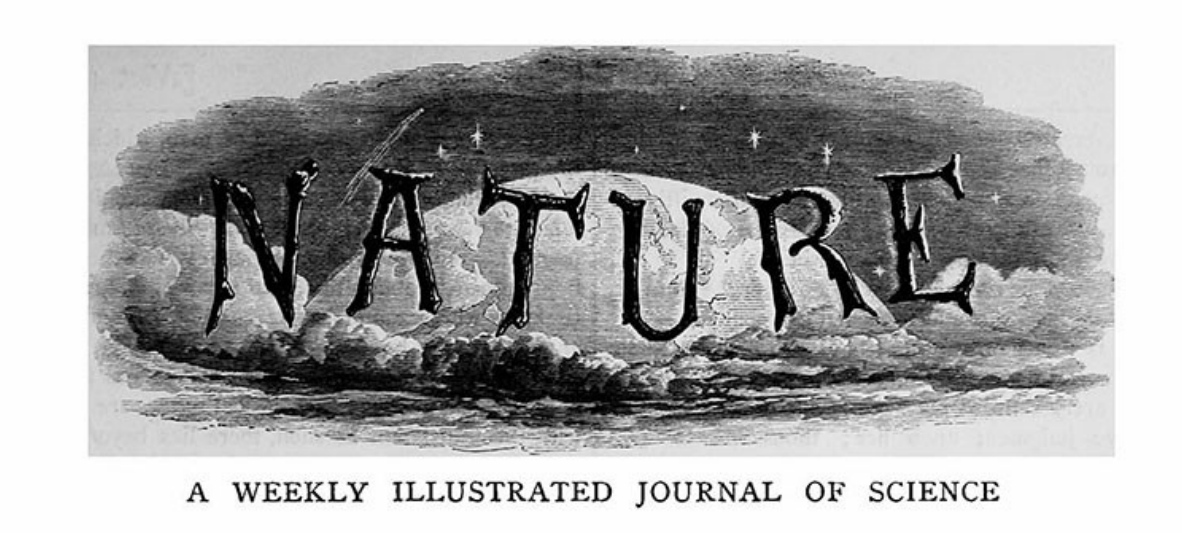


A WEEKLY ILLUSTRATED JOURNAL OF SCIENCE

"To the solid ground
Of Nature trusts the mind which builds for aye."—WORDSWORTH

THURSDAY, NOVEMBER 4, 1869

NATURE: APHORISMS BY GOETHE

NATURE! We are surrounded and embraced by her: powerless to separate ourselves from her, and powerless to penetrate beyond her.

Without asking, or warning, she snatches us up into her circling dance, and whirls us on until we are tired, and drop from her arms.

She is ever shaping new forms: what is, has never yet been; what has been, comes not again. Everything is new, and yet nought but the old.

We live in her midst and know her not. She is incessantly speaking to us, but betrays not her secret. We constantly act upon her, and yet have no power over her.

The one thing she seems to aim at is Individuality; yet she cares nothing for individuals. She is always building up and destroying; but her workshop is inaccessible.

Her life is in her children; but where is the mother? She is the only artist; working-up the most uniform material into utter opposites; arriving, without a trace of effort, at perfection, at the most exact precision, though always veiled under a certain softness.

Each of her works has an essence of its own; all-comprehending idea, which no searching can find out.

Mankind dwell in her and she in them. With all men she plays a game for love, and rejoices the more they win. With many, her moves are so hidden, that the game is over before they know it.

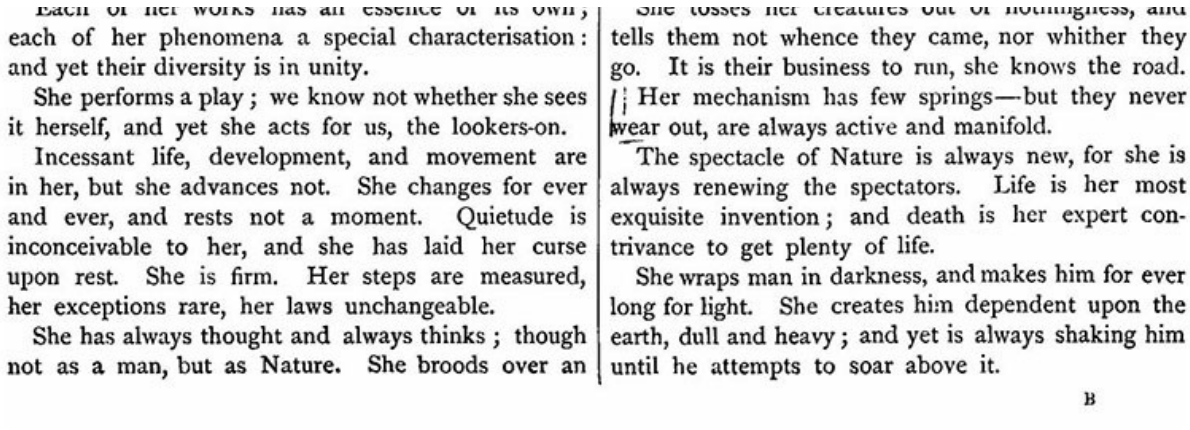
That which is most unnatural is still Nature; the stupidest philistinism has a touch of her genius. Whoso cannot see her everywhere, sees her nowhere rightly.

She loves herself, and her innumerable eyes and affections are fixed upon herself. She has divided herself that she may be her own delight. She causes an endless succession of new capacities for enjoyment to spring up, that her insatiable sympathy may be assuaged.

She rejoices in illusion. Whoso destroys it in himself and others, him she punishes with the sternest tyranny. Whoso follows her in faith, him she takes as a child to her bosom.

Her children are numberless. To none is she altogether miserly; but she has her favourites, on whom she squanders much, and for whom she makes great sacrifices. Over greatness she spreads her shield.

She tosses her creatures out of nothingness and



each of her phenomena a special characterisation: and yet their diversity is in unity.

She performs a play; we know not whether she sees it herself, and yet she acts for us, the lookers-on.

Incessant life, development, and movement are in her, but she advances not. She changes for ever and ever, and rests not a moment. Quietude is inconceivable to her, and she has laid her curse upon rest. She is firm. Her steps are measured, her exceptions rare, her laws unchangeable.

She has always thought and always thinks; though not as a man, but as Nature. She broods over an

tells them not whence they came, nor whither they go. It is their business to run, she knows the road. Her mechanism has few springs—but they never wear out, are always active and manifold.

The spectacle of Nature is always new, for she is always renewing the spectators. Life is her most exquisite invention; and death is her expert contrivance to get plenty of life.

She wraps man in darkness, and makes him for ever long for light. She creates him dependent upon the earth, dull and heavy; and yet is always shaking him until he attempts to soar above it.

B

A facsimile of the first edition of *Nature*, 4 November 1869.

Nature was founded in 1869 and was part of a mid-Victorian boom in periodical publishing stimulated by the abolition of newspaper taxation. Many of the thousands of new magazines and newspapers launched as a result included some scientific content, such as book reviews, but only about a dozen new journals devoted themselves to science for a general audience in the decade before *Nature* arrived on the scene; half of these survived to compete with *Nature*[1,2]. *Nature* shared most of the aims of its competitors and borrowed much of their format, but the chief difference was that *Nature* encouraged vigorous controversy within its pages.

Science was increasingly being seen as important in daily life — railways, safe water supplies, new dyestuffs, beliefs about human origins, and the astounding sub-marine telegraph cable connecting the United Kingdom with North America, were all linked with science. Editors of the new science magazines were agreed that scientific men deserved greater respect, social distinction and financial support, calling for scientific education to be expanded and interest in science to be encouraged wherever it was found[1]. *Nature* represented the interests of élite scientists to a greater extent than most of its competitors, but this did not prevent it from supporting lowlier enthusiasts and societies.

The publisher Alexander Macmillan took the lead in planning the new journal. He was instrumental in choosing the title ‘Nature’ and bore the venture’s financial risk. He chose Norman Lockyer as its founding editor (Lockyer had previously been science editor of *The Reader: A Review of Literature, Science and Art* from 1863 to 1867)[3–5]. As a Christian socialist, Macmillan believed strongly that education contributed to social reform.

Norman Lockyer had a forceful personality and clashed with other scientists.

Then, as now, *Nature* attached great importance to its leading articles. Some writers signed their pieces; others spoke anonymously but with the authority of the journal and the community it was representing. Government, universities, scientific societies and

public were advised, criticized or congratulated. Urging the government to greater support for science was a constant theme, strengthened on occasion by an aristocrat's views (for example, Lord Derby on the Endowment of Research, 23 December 1875). The journal declared that wealthy Cambridge and Oxford colleges should consider the public good and use their endowments to support science (26 June 1873), and advised the Royal Agricultural Society to give scientific lectures in association with agricultural shows (16 July 1874). Such political and social comment was new to science journalism in the 1860s[1].

Nature also contained book reviews and reports of meetings of scientific societies, which were standard in popular science journals. Those covered by *Nature* — from monographs in German to introductory texts, from the Royal Society of London and Biblical Archaeology Society (5 June 1870) to the Woolhope Naturalists' Field Club (24 March 1870) — indicate the breadth of the audience sought by Lockyer. Some articles, such as one on the geology of diamond fields (3 November 1870) and an experimental report on racial differences in intelligence (6 August 1874), probably interested the entire readership. Others, such as nine long articles on the polarization of light (starting 18 December 1873), may have been fillers when other material was short. Lockyer was a solar physicist and he indulged himself in his journal by enthusiastically publishing a wealth of articles on eclipses and sunspots.

In *Nature*'s news section (entitled 'Notes'), the significant, the local and the trivial mingled: French copper workers seemed to be protected against cholera (3 March 1870); a large petroleum deposit had been found in the Caucasus (30 December 1870); the Newcastle College of Physical Science would admit 'ladies' to all its classes (2 November 1871); a living gorilla had been displayed in Liverpool (29 June 1876). The 'Notes' and the 'Letters to the Editor' opened wide the field of contributors. The 'Letters' in particular were often selected to provoke controversy.

Lockyer encouraged controversy[3–5]. He published a leader by Alexander Williamson criticizing the way the Royal Society was run, then invited further discussion of the matter (3 November 1870). When the mathematician J. J. Sylvester criticized T. H. Huxley's attack on the importance of mathematics in education, Lockyer asked Sylvester to write up his address for *Nature* (30 December 1869); numerous correspondents continued the debate. Lockyer did not allow the powerful network around Darwin to dominate debate. He gave space to Richard Owen and his British Museum associates to criticize J. D. Hooker's schemes for reorganizing botany to the benefit of his own institution, Kew Gardens (3 October and 7 November 1872)[3].

The most bitter exchange was between the physicists P. G. Tait, a regular controversialist from Edinburgh, and John Tyndall of London, whom Tait accused of scientific error in his *Lectures on Light*. Tyndall had won distinction as a popularizer but, according to Tait, at the cost of "martyring" his scientific authority. Tyndall retaliated, accusing Tait of lacking "manhood" (11 and 18 September 1873). The following year, Tait accused the renowned evolutionary philosopher Herbert Spencer of being confused about Newtonian mechanics

(26 March 1874). The ensuing debate ran in *Nature* for five months, with contributors from three continents. Although such controversies probably boosted the journal's circulation, Lockyer was rewarded with abuse from all sides[3,4].

Nature survived into the next century, but not because it was more successful than its competitors. Despite its entertaining debates and mix of popular and specialist material, *Nature* ran at a loss for decades[4]. It survived only because Macmillan was willing to carry the loss; he even turned down an offer from publishers Cassell & Co. in 1889. On the credit side, the government sometimes listened to *Nature*'s advice[5] — for example, on the funding of meteorology in the late 1870s. The actual readership was much higher than its circulation implied because it was available in many libraries and gentlemen's clubs and hence was widely read by the élites whom it sought to influence.

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