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Open access

ARE BREAN

are.brean@tidsskriftet.no
Are Brean, Editor-in-Chief of the Journal of the Norwegian Medical Association. He is a specialist in neurology and PhD.

The objective of Plan S is to provide immediate open access to all publicly funded research. Traditional publishing houses and many researchers feel threatened. These changes will come, however.

Photo: Einar Nilsen

In the summer of 1664, Henry Oldenburg (1619–77) had a brilliant idea – a new way to make money (1). He proposed to the Royal Society of Medicine that they start a publication that he would finance, and in return he would earn income from the sale of subscriptions. *The Philosophical Transactions of the Royal Society* became the world's first academic journal. However, the profits were meagre; even at peak sales it could barely cover the rent (1).

For nearly 300 years, the journals tended to be published by various academic societies. Robert Maxwell (1923–91) brought a change to this. His idea was not all that different from that of Oldenburg, only more commercially successful. Researchers provided him with content nearly free of charge, for him to sell by way of expensive subscriptions (2). He understood the academic game: each article is unique and new. If they are distributed among many journals, the libraries have to pay for more journal subscriptions. The recipe worked: in 1959, his publishing house Pergamon Press owned 40 journals. Six years later the number had risen to 150 (2), and in 1991, Elsevier bought the entire business for USD 770 million (3). This has since become one of the world's most profitable business areas. In 2010, Elsevier had a profit margin of 36 % – higher than that of Google, Facebook and Amazon (2).

It is hardly surprising that the movement for open access to research rapidly gained a following in the early 2000s. The idea was that if research articles were made available free of charge, the lucrative business model of the publishing houses would collapse. It was not quite that simple, however. Even in the digital age, quality assurance, editing and publishing cost money. In the old model, the subscribers paid. In the new one, the researchers pay. Even though perhaps no more than 30 % of the open access journals are based on author payment, very few of these belong to the most prestigious group of journals, simply because it is costly to refine a manuscript into a high-quality article. Accordingly, the amount paid by the researchers is strongly correlated with the quality of the journal (4).

Predatory journals, which permit you to publish 'research' without any real quality control in return for a hefty author's charge, is another adverse effect of open access (5). So is the transient nature of the journals: so far, only one-half of them have been able to survive over time (6). In addition, hardly any of the open-access journals provide all the other material that traditional journals contain: analyses, academic news, editorials, summaries, reviews – items that journal readers tend to appreciate almost as much as the original research articles.

It is thus perhaps no wonder that researchers have been slow to embrace open access (except when reading articles for their own benefit, of course). In 2015, only 12 % of all research articles were published with so-called 'gold open access' (7). Even when the sources of funding explicitly require publication with full open access, no more than two-thirds of the research is actually published in this form (8).

There is no doubt that the way in which science is published and disseminated is rapidly changing. The same digital technology that formed the basis for the upheaval in the music, film, TV and media business is now revolutionising the academic publishing industry. There is reason to believe that overall, these

changes will be for the better (9). This applies not least in a global perspective, where open access must also be seen in light of the even broader debate on 'open research' (9).

Now that 14 European research councils have joined the Wellcome Trust and the Gates Foundation in supporting Plan S, a joint initiative aiming to establish immediate, open access to all publicly funded research, it is exceptionally unhelpful to stubbornly insist that the world of publishing must remain unchanged. We obviously need to discuss the nature and pace of this change. Many of the solutions are not yet clear. This notwithstanding, the impetus for change has for a long time come from technological advances and from all those who consume research. Since those who fund research now have teamed up with them, only a few researchers are left behind in a bygone era – in the company of the capitalist forces behind one of the world's most lucrative businesses: traditional scientific publishing.

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