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t can be glibly asserted that technology makes accomplishing various activities easier. But it is not

always obvious for whom it makes it easier to accomplish what. For example, the Internet has had a profound impact on academic publishing, and the transition from printed paper to digital format has ostensibly made it “easier” for academics to put their work in the public domain and, if they can actually get attention in a social-media sound-bite distracted world, reach a wider audience than ever before. However, if this transition coincides — by luck or judgement — with other societal changes, then it can also make it easier for some enterprises to deploy business models that enable them to accomplish their objectives. In an ideal world, this would create a “win-win-win” scenario: a win for the academics, a win for the enterprises, and a win for society.

Thinking first of some ongoing societal changes, it is widely recognized that information and communication technology, the knowledge economy, the digital economy, etc., are profoundly important economic drivers, and that a well-educated population, as well as being a benefit in and of itself, is a prerequisite for nation states to compete in a supranational market for electronic goods and services. For such reasons, then, a country such as the United Kingdom (U.K.) sets itself a target for 50%

# Publish or Impoverish

## *Academic Publishing and the Platform Economy*

of its 18-year olds to go to University to study for a higher degree.

Leaving aside the thorny issue of who is actually “paying” to achieve this target, which involves a considerable expansion of the sector,<sup>1</sup> one consequence of more students<sup>2</sup> is that more academics are required to teach undergraduates<sup>3</sup> and to “train” postgraduates. That could be seen as a beneficial outcome: after all, this is a sign surely of a well-educated population. On the other hand, it also means more academics seeking funding for their research, more academics and their students seeking publication of their research — and more proto-academics pursuing careers. Therefore the expansion has had (arguably) some less beneficial outcomes: for example, a subtle change in the nature of a Ph.D. that makes it more adversarial between supervisor and student

(rather than a co-production of supervisor and student against a research question), and a diminution of the difficult transition from absorber of knowledge to creator of new knowledge,<sup>4</sup> the cornerstone of any Ph.D. judgement. Most unfortunately, the academics themselves have been victims of their own success, and have produced new academics in greater numbers than are needed to service this increase in demand, and to supply their own replacement. This has created an excessive pool of well-qualified and cheap labor, employable on short-term temporary or even “zero hours” contracts.

Another consequence of this expansion has been the corresponding enlargement (and indeed self-empowerment) of management and administration. In particular, there is an increased use of metrics for measuring academic contribution, and being used in appointment and promotion panels.<sup>5</sup> Such metrics include the

<sup>1</sup>Hint: the answer includes the students and the academics themselves; but not some of the primary beneficiaries of a well-educated workforce for whom tax avoidance on a, literally, industrial scale is routine.

<sup>2</sup>Together with legislation that practically obliges academic institutions to compete with each other to attract students, another consequence is an inexorable rise in the proportion of university budgets being spent on marketing and administration in relation to the actual teaching budget.

<sup>3</sup>At least until the technology of the massive open online course (MOOC) renders all but one of the teachers redundant.

<sup>4</sup>The pressure on completion rates shifts the burden of risk from student to supervisor, and provides less experience of “training for failure” — not every experiment will prove its null hypothesis, but that’s not what one might believe if one only read Ph.D. theses.

<sup>5</sup>This has been referred to as the “McKinseyisation of academia” — i.e., everything can be measured, and if it can be measured then it can be managed. See also [9].

*h*-index (a correlation of productivity and impact via paper and citation count), despite this index being primarily correlated with network centrality (i.e., popularity) (10) rather than a reliable measure of academic quality<sup>6</sup>; and journal impact factor, although similarly it has been argued that the figure alone is no guarantee of academic merit (2). Both metrics are, of course, open to manipulation, and impact factor can even induce a state of scientific delusion: if some researchers are asked by peer reviewers for “one more experiment” before their paper can appear in one of the “top” journals, then they know what the outcome of that experiment *must* be<sup>7</sup> (4).

The expansion and its metrication creates a near perfect storm when it coincides with the “publish-or-perish” mentality and the imposition of national evaluation exercises, such as the U.K.’s Research Evaluation Framework (REF). For example, REF2014 was used to evaluate about 130 U.K. universities employing approximately 200 000 academics, each of whom had to submit four publications they had produced in a six-year period. For the sake of argument, assume that these are all journal publications, supposing that non-journal publications are balanced out by four being the *minimum* number.

The gathering storm metastasises into the perfect one when one throws in the grand larceny masquerading as a public good otherwise known as Open Access. Multiply the number of academics by the number of their papers and the average fee charged for open access, and the Fermi equa-

tion/back-of-an-envelope calculation reveals a huge number — and this is in the U.K. alone. And this money is paid to publish the work of people that have already been paid to produce it...

It is at this point that the technological and business models underpinning the transition from print to electronic format in academic publishing find themselves perfectly positioned to exploit it. While many publishers do work very effectively with their journals, some publishing houses have used their historically-acquired position as guarantors of scientific quality and neutrality together with the new technology to create a *platform economy* (8), (12). Moreover, the raw material is provided for free; the labor to convert the raw material into finished product is provided for free (i.e., editors, peer reviewers, etc.); distribution, advertising and promotion are provided for free; and even the growth of the market is provided for free — which is precisely where this editorial started, with the expansion of higher education.

In a platform economy, this exploitation is precisely what can be expected when both the ownership of the means of production *and* the means of coordination are privately owned. The only “winner” in the fallout from where technological advancement underpinning the transition in academic publishing clashes with societal changes is the enterprise.

This is not to suggest that centralization is the preferred alternative: the system of editorial and peer-review, for all its limitations,<sup>8</sup> has been crucial to the academic community, both in access control and quality control, as well as in self-governance and self-correction. The vast sums of money spent on open access should instead

be invested in non-profit NGOs like the IEEE to foster the development of completely decentralized knowledge commons (5), (6) — using the same technology to create an open, democratic *platform community*, not a platform economy that enables some enterprises to accomplish their objective of maximizing profit by what some might argue is a form of legalized profiteering.

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<sup>6</sup>Like Asimov’s Psychohistory (1), *h*-index works passably well as an indicator, provided the subjects don’t know they are being assessed by it. Otherwise, it has a sort of quantum effect, whereby taking a measurement of a system affects that system. It is well known that people don’t just comply with rules, they react to incentives implied by the rules (3).

<sup>7</sup>Hence the equation: *career\_pressure + confirmation\_bias = 1/scientific\_method*. For more on the issue of confirmation bias, see (11).

<sup>8</sup>It has impersonations too: the unscrupulous use of the scientific method (founded on doubt) against itself, by muddying the public understanding of a series of health and environmental issues, is charted in (7).