

Editorial

Prometheus has never had any truck with the citation counts and journal impact factors which are supposed to reveal which are the very best journals and, by implication, the very best papers with the very best authors. Nor has *Prometheus* any time for h-indices and the myriad of other statistical convolution purporting to identify academic excellence. They have no reputable purpose and are damaging to scholarly endeavour, particularly as they can all be gamed. Competitive higher education expects academics to game the indicators of academic performance, and the greater the gaming, the more yet further gaming is required to remain competitive. Do any academics write without an eye to performance measures?

Albert Einstein did; Einstein was no gamer. The Web of Science database lists the 147 papers he published between 1901 and 1955, the year of his death. For his 147 papers, Einstein received 1,564 citations during his lifetime. That's an average of about ten citations per paper, not at all impressive by modern standards. Such a performance would not have brought Einstein tenure and promotion these days. But then Einstein would not have been appointable to any academic job at all these days; his doctoral thesis was just twenty-six pages long. He could easily have padded that out. And his objection to the peer review of his papers was hardly likely to endear him to journal editors. Most disappointing of all, though, is that only twenty-seven of his paltry 1,564 lifetime citations are self citations! Einstein was not really trying.

Robert Merton's Matthew Effect – 'for unto every one that hath shall be given' – refers to how academic publishing favours the famous. The famous need not even be alive. Einstein is famously cited for his declaration that 'Not everything that can be counted counts and not everything that counts can be counted.' True enough, but Einstein said no such thing; William Cameron did in *Informal Sociology*, published in 1963. Since his death, Einstein's publishing performance has improved considerably, easily compensating for his failure to game when he was alive. As of 2019, Einstein had amassed a total of 28,404 citations to what he may – or may not – have written, giving him a very respectable h-index of 56 and increasing his employability no end.

These thoughts are inspired by the release of the first data on the impact *Prometheus* is having under its new publisher. Much has happened since Pluto Journals became our publisher at the start of 2020. *Prometheus* has become an open access journal, its contents freely available to everyone. It should come as no surprise that citation of a journal's papers rises when its papers are freely available; as a hybrid subscription journal, *Prometheus* papers that were open access (in other words, available freely to non-subscribers) were always in greatest demand.

But what metrics should the open access world use? The traditional subscription model of academic publishing has increasingly accommodated gaming, reducing the purpose of academic publishing to little more than scoring. To be sure, basic problems remain for open access to solve. For example, the article processing charge imposed by some open access publishers transfers payment from subscribers to authors and helps make plain that authors rather than readers are now the customers of the academic publishing industry. This reality is even more evident in the industry's predatory publishing sector, where an academic paper no longer has to be readable to be countable.

More adventurous forms of open access (such as that being developed by Pluto Journals) hope to attract support from the many funding organizations whose missions include the broadest possible dissemination and communication of the latest scientific knowledge. One problem here is that old research and old citations boost journal impact factors much more than new. Not unreasonably, these organizations require evidence of public value from their funding of open access journals. While a plethora of usage data is available, it is not immediately clear which of this is useful.

JSTOR, the distributor of Pluto Journals, has just issued its first usage figures for *Prometheus*. These reveal that most of our users are in higher education or in a category almost as large and

labelled ‘unknown’. Our users would seem to be in either the US or the UK. Their usage in the first six months of 2021 is 973% greater than it was in the whole of 2020, which is as gratifying as it is baffling. New usage measures will probably be adopted from 2022, when our current arrangement with JSTOR ends. Altmetrics, counting the mention of academic papers in social media (in tweets, blogs, Facebook pages, YouTube, news media, whatever), offers the ultimate in mass usage measurement. It picks up public recognition of a paper’s existence, but has nothing to say about its quality or even whether it has been read. And numbers of likes and followers would seem to be particularly susceptible to gaming. Altmetrics will probably work wonders for Einstein’s publication performance in a world which finds the face familiar, but stops well short of understanding why $E = mc^2$.

This issue starts with Peter Senker’s *magnum opus*; he insists it will be his last. Senker provides a Polanyian analysis of the environmental damage resulting from economic activities. Such activities cause environmental damage which could make much survival difficult for human beings, for other animals, and for plants and insects. Senker, from the science policy research unit at the University of Sussex, is no optimist; our natural environment really is in grave danger. Nor does he see much hope of salvation in orthodox economics. Indeed, faith in markets has done much to cause the problems we now desperately seek to solve. Neoliberal solutions are unlikely to be effective, and policies restricted to climate change alone are particularly unlikely to be adequate. Policies which take a holistic approach, considering all the important impacts of human economic activity on the environment, have much better prospects. Research and analysis are urgently required in the design and implementation of policies sufficiently effective to reduce the damage to the environment caused by human economic activities.

The authors of the next paper are statisticians and economists, hopefully of a different stripe from the sort lambasted by Senker. Luke Hendrickson, David Taylor, Lyndon Ang, Kay Cao, Thai Nguyen and Franklin Soriano hail from the government sector in Canberra and look – in huge detail – at the impact of persistent innovation on Australian firm growth. Their work reveals that short-term persistent innovators (particularly young SMEs) significantly outgrow their less persistent and non-innovator counterparts in terms of sales, value added, employment and profit growth. Persistent innovators are more likely to be high- growth firms and to introduce multiple types of particularly novel innovation. The authors recommend broad-based innovation policies to support successive waves of the high- growth firms that will help to sustain economic and employment growth in Australia. Numerous figures and tables containing the paper’s supporting evidence are to be found on the *Prometheus* website (<http://www.prometheusjournal.co.uk/>).

From persistent innovation to frugal innovation, the subject of our third paper. These are innovations that are far from the latest whizz-bang gadgetry required by boys wanting more toys. These are innovations that excel in providing value for money, acceptable quality, scalability and marketability. They would seem to be especially appropriate for developing economies. The paper’s authors, Avinash Shivdas, Saswata Barpanda, Soumya Sivakumar and Ram Bishu, variously from Amrita Vishwa Vidyapeetham in Kerala, Marymount University in Virginia and the University of Nebraska, are less concerned about the impact of frugal innovation than with defining what it is. They conclude that frugal innovation is very far from second- class innovation, innovation on the cheap. Frugal innovation is efficient innovation with nothing wasted on bells and whistles. It presents managers with considerable challenges: encouraging innovation is hard enough, but at the same time discouraging fancy innovation may be harder still.

As ever, we conclude with our book review section, seven reviews of some of the latest and most intriguing works on innovation.

Stuart Macdonald
General editor