Editorial

Artificial intelligence and academic publishing

Time was when plagiarism was the most common offence committed by the academic author. By feeding Google a selection of distinctive phrases from a submission, the journal editor could detect plagiarism fairly easily. Turnitin, which aways struggled to allow for quotation, could do no better. But now that Google relies increasingly on artificial intelligence, it supplies its understanding of the text rather than the source of a replication.

Prometheus, in common with many other academic journals, has no objection to the use of AI to improve the presentation of a paper, but baulks at AI creating the paper. While authors are quite ready to admit (as they are required to do) to using AI to improve presentation, they are reluctant to confess to AI playing a more fundamental role. So, distasteful though it certainly is, the editor must police submissions. Flowery language is said to be one indication of AI, but the inability of a submission to stick to the point is more telling. Can AI do a better job of detection than the editor? Asking an artificial intelligence tool whether a submission to a journal is the creation of an artificial intelligence tool seems just a little strange. Would an artificial intelligence tool betray its own? Is artificial intelligence intelligent enough to lie?

There are several free AI detectors available on the internet, though most demand payment for analysing anything more than a short passage. Of those able to handle the latest suspect submission to *Prometheus*, one gave a finding of 10% probability of AI, one of 92.7% and two of 100%. A couple of these sites also offer to highlight particularly suspicious phrases: neither was intelligent enough to notice one particularly pertinent phrase from the submission: 'This paragraph sets the stage for your paper'. The author had retained AI instructions on what should go where in the submission itself. Asked to explain, the author was unphased: 'I do not deny the use of AI, as an instrument to accelerate the work and improve the results'. And to accommodate indolence and idiocy, he might have added.

Prometheus takes the same approach to the apparent use of AI as it has long taken to the possibility of plagiarism in a submission: the author is asked to explain. If the author cannot provide a reasonable explanation, the paper is rejected and a report of the incident sent to the author's institution, usually direct to a university vice-chancellor (and to copyright holders in the case of suspected plagiarism). In 40 years of following this practice for plagiarism, many copyright holders have shown an interest in the use of their work, but only one publisher (Elgar) has taken the matter seriously, and only one vice-chancellor. In this case, the VC asked the chairman of the university's ethics committee to look into the matter. The chairman of the university's ethics committee was the author of the plagiarized paper submitted to *Prometheus*.

Focus on the technological capacity of AI has rather neglected the characteristics of the market for AI. The academic publishing market is in a mess, its rapacious practices justified by academic traditions created in and for another age. Academics publish in journals to obtain the metrics by which their performance is measured and they themselves valued. The most citable papers are the most publishable and these are often papers so banal that they can be cited almost anywhere in support of almost anything. Surprising effort goes into producing the intellectually barren and it is in this direction that the future of AI in academic publishing may lie. At the moment, the technology offers little more than a paper the customer is either too lazy or too incompetent to write for herself. Increasing the technology's potential in academic publishing tends to be seen in terms no more adventurous than producing a more convincing product, 'humanizing' the product to make it harder for AI to detect and then detecting the deceit anyway. This is parasitic business strategy: much as plagiarism detection would have nothing to detect were it actually to eliminate plagiarism, so current AI strategy in academic publishing seems to require keeping alive that which it lives on.

The technology can do better than this. There is little point in AI writing papers for a market that counts papers rather than reads them. Academic publication is universally gamed by all academic publishing's players, but the gaming could be so much more sophisticated. Think of the role already played by medical communications companies, arranging everything from research concept through to the writing of papers, the selection of nominal authors and publication in the most appropriate journals for effective product promotion – possibly all without the involvement of a single academic. This efficient approach to publication has much to offer other disciplines. But AI might do more here by targeting journals, analysing their recent content, the preferences of editors and editorial boards, publisher strategy and so on. Research might then be tailored to journal requirements as might references to whatever are most in fashion or will be trending. AI should surely be able to generate the list of authors and their affiliations most suited to each paper. A current concern is that referees' reports may be written by AI, but the technology will hardly be stretched until selection of referees takes account of their preferences and performance record, their favourite references, for instance. Now that the publisher actively solicits the custom of any author who can pay its author processing charges, AI would seem to have a role in finding paying customers and matching journal capacity to their requirements. AI might also allow universities and others interested in assessing academic performance to abandon the cumbersome journal impact factor and h-index for more precise analysis. If the UK's Premier League can assess the performance and therefore value of each footballer in such terms as goal assists and metres run, an academic's worth can surely be measured in terms of citations made and words per co-author. The possibilities are endless – and deeply depressing.

To the contents of the current issue of *Prometheus*, none of which is a product of AI. Jason Potts from RMIT in Melbourne asks what's in a name. In Economics, a great deal, it would seem. When it comes to the subject of innovation, the name of Joseph Schumpeter ranks above all others. 'Creative destruction' is the essence of the Schumpeterian. A name can be shorthand for what would take ages and pages to explain, or it can encapsulate a whole field. But the label can also become an obstacle to change. Potts argues that Schumpeterian Economics has come to have just this effect. He considers that an additional – not a replacement – label of 'von Hippel innovation' would describe a way of looking at innovation which would complement the Schumpeterian. For over half a century now, Eric von Hippel, most closely associated with MIT, has emphasized the role of the user in the creation of innovation whereas the Schumpeterian approach focused on innovation emanating from the R&D of the corporation. Von Hippel sees innovation as a product of collective endeavour inspired by users of technology, a democratic process resulting in novelty that is public rather than private property, a process that contributes ordinary information, information that has often been undervalued or overlooked, in the creation of innovation. The argument for recognizing 'von Hippel innovation' is strong.

Paolo Magaudda, from the University of Padua in Italy writes about bikes. His focus is on 'gravel bicycles', an excellent example of von Hippel innovation. The gravel bike is a steed adapted to the dirt roads of the American Midwest. Its development began in the middle years of the last century and has continued ever since. But the inspiration for racing with wide tyres and much else suited to miles of gravel roads came entirely from bike users. For decades, large bicycle firms have followed users' innovations and to this day their corporate R&D is inspired by users of gravel bikes. So, too, is the organization of the sport: for years users refused to accept the regulation characteristic of much other competitive cycling. A triumph of von Hippel innovation over Schumpeter innovation, if you like.

There are several book reviews in this issue. John Mathews from the wilds of the Blue Mountains of New South Wales, has something to say about Bjørn Lomborg's *False Alarm*. Lomberg's *Skeptical Environmentalist* did not meet with the universal approval of scientists in the field. At the hands of John Mathews, *False Alarm* fares little better. Yuan Zhao takes on Bas de Boer's work on *How Scientific Instruments Speak*, which is all about the technology of neuroscience. Many authors have had a finger in *Shaping for Mediocrity*, a stinging attack on the leaders of

change in the University of Leicester and of the removal from the Management School there of anything smacking of critical thinking. *Prometheus*, having a natural interest in matters critical, is proud to have worked with several of the book's authors, international leaders in the field of Critical Management Studies. The book's reviewer, Dennis Tourish, is appalled by their treatment: innovation in the Management School at Leicester has meant turning it into a bog-ordinary business school and seizing the opportunity to eliminate any criticism of authority. For Tourish, the need for such a book is an indictment of universities in the UK. The reviewer of Anne Horvath's *Magic and the Will to Science* is also sorry there is a need for such a publication, though for a very different reason. Mathew Blatchford struggles to find a kind word to say about the book.

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