



Guest editorial

Calling all journal editors: Bury the metrics pages!



1. Introduction

Visitors to the homepage of *Political Geography* (PGQ) are told that it is “an interdisciplinary journal for all students of political studies with an interest in the geographical and spatial aspects of politics.” As they scroll down, they are very quickly presented with a panel of key metrics. They are informed, amongst other things, that PGQ has a Journal Impact Factor (JIF) of 3.495, a CiteScore of 2.82, and a Source Normalized Impact per Paper of 1.671. This data is presented without critical comment as though it is an objective, apolitical, natural and uncontested feature of scholarly publishing. It is none of these things.

We consider this proliferation of metrics as both a symptom and a reproducer of neoliberalism in higher education, and that these metrics distort scholarship. We contend that the neoliberal university has shifted from audit (Strathern, 2000), via ‘quantified control’ (Burrows, 2012), to what we call the ‘Data University’ (Morrish & The Analogue University, 2017) where data coding itself acts as a new exchange value that is productive of new subjectivities and seductive freedoms.

In this guest editorial, focussing in particular on problems associated with the JIF, we argue that all journals should push back against this by removing such metrics panels from their front pages and burying them somewhere in their websites, and that we should take a lead by doing that now.

2. The rise of journal metrics

The rise of journal metrics is charted succinctly in Diana Hicks’ and Paul Wouters important *Leiden Manifesto* published in *Nature* in 2015. Before 2000, the Science Citation Index on CD-ROM was used by experts for specialist analyses. In 2002, Thomson Reuters launched an integrated web platform, making the Web of Science database widely available. It grew to include an index for the social sciences under the Social Sciences Citation Index (SSCI) where *Political Geography* is indexed. Two major competing citation indices followed in 2004, Google Scholar and Scopus, the latter released by Elsevier, the publishers of this journal. Web-based platforms like InCites (using the Web of Science) and SciVal (using Scopus) were developed to enable easy institutional comparisons, whilst software like Publish or Perish was produced to analyse individual citation profiles using Google Scholar. In 2005 Jorge Hirsch proposed the *h*-index, popularizing citation counting for individual researchers (Hicks & Wouters, 2015, p. 248).

For journals, however, the key metric of concern is the Journal Impact Factor (JIF). As the inventor of the JIF, Eugene Garfield (2006), chairman Emeritus of Thomson Scientific, explains it is calculated by dividing all citations to articles published in it in the previous two years (the numerator) by the number of articles deemed to be ‘citable’ published in the journal during that same period (the denominator).

Garfield first proposed the ‘impact factor’ in 1955. The key aim, in an age of proliferating publications that made exhaustive tracking reference to one’s work all but impossible, was to harness new computational technologies to create an ‘association-of-ideas index’ (Garfield, 1955, p. 108). This would allow the scholar to easily be made ‘aware of criticisms of earlier papers’ thus ‘increasing communication possibilities between scientists.’ In essence, it would be ‘just a starting point in literature research’ (Garfield, 1955, p. 111). It would also have a quantitative value, helping ‘the historian to measure the influence of the article – that is, its “impact factor.”’ In time, this simplistic quantitative conflation of ‘impact’ with number of times cited came to define the JIF, and the original crucial qualitative purpose of ‘transmission of ideas’ (Garfield, 1955, p. 110) disappeared from Garfield’s justification of the JIF (Garfield, 2006). Further, the impact factor of individual articles became the JIF of whole journals.

Citation analysis has spawned its own field, variously termed ‘scientometrics’ or ‘journalology’, with its own journals, and its own society – the International Society of Scientometrics and Infometrics. Within this field, the technical shortcomings of JIFs are well rehearsed. A 2006 editorial in *PLoS Medicine* outlines some of these. JIFs depend on correctly identifying articles and, crucially, on which article types Thomson Reuters define as ‘citable’ for the denominator – the lower the denominator, the higher the JIF. The numerator is not always sensitive to misspellings and different versions, and Thomson Reuters staff make the decision about what is citable in the denominator by hand in a way that some analysis has claimed is secretive, error-laden, subjective and not scientifically replicable (Rossner, van Epps, & Hill, 2007). The Thomson Corporation is a for-profit organisation that does not reveal how it decides which article types are included. The editors of *PLoS Medicine*, in trying to work out how their JIF was calculated, concluded that “science is currently rated by a process that is itself unscientific, subjective, and secretive” (The *PLoS Medicine* Editors, 2006). An editorial of the *Journal of Cell Biology* echoes this, arguing that the JIF is “an ill-defined and manifestly unscientific number” (Rossner et al., 2007, p. 1092). Yet, when following a hyperlink from the homepage metrics panel, visitors to *Political Geography*’s site are told that journal impact is determined “using several different metrics, all of which are statistically sound.” This is contentious and misleading.

3. Problems with the misuse of JIFs

If the above metrics were simply collected and stored, they would be unproblematic in themselves. The problem comes when they are used not as *indicators*, but for *decision making*. Donald Campbell famously articulated this in 1979 by arguing that “The more any quantitative social indicator is used for social decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and

corrupt the social processes it is intended to monitor” (Campbell, 1979, p. 85). Campbell’s conclusion has been repeatedly endorsed by subsequent studies (Lowe, 2016; Lowe & Wilson, 2015). The problem with JIFs is that they become mis-read as proxies of quality and intellectual importance, and then (mis)used for a whole range of decisions. These may be individual decisions about which journals to read or publish in at the expense of others, or more problematically used to inform the employment (hiring, promotion, salary, contractual change) policies of universities and the funding policies and priorities of grant-giving bodies.

This use of JIF has a series of harmful consequences for both science in general and individual scholars in particular.

First, JIFs are used as lazy proxies for quality. In themselves, they say nothing about the quality or intellectual contribution of a specific author or article, and say nothing about how important the article is in transforming understanding, influencing policy or changing practice. However, Elsevier’s *Political Geography* webpages state: “Authors choose a particular journal to submit to for a variety of reasons; one of the most important is the quality or impact of the journal.” We read this as claiming that ‘impact’ (read: impact factor) is synonymous with ‘quality.’ This is either deliberately misleading or inadvertently confusing.

Second, JIFs invite egregious and misleading comparisons between fields. Larger fields with more academics working in them tend to produce higher impact factors because they produce more citations. Journals that publish reviews tend to rank higher than those that publish research. JIFs were developed in STEM fields based around journal publications, and thus exclude citations in books, systematically producing lower JIFs for humanities and social science subjects where books are highly prized as intellectual contributions. JIFs tend to be higher in fields where multiple authors produce multiple papers together (for example, in a laboratory) than in the humanities where the nature of research means that single authorship is more the norm.

For example, Table 1 shows the 2017 rankings, JIF and citation numbers of five human geography journals: the top two highest ranking human geography journals, *Dialogues in Human Geography (DIHG)* and *Progress in Human Geography (PIHG)*, and the leading journals in the subdisciplines of economic, political and historical geography. Do they demonstrate that DIHG and PIHG are intellectually more important journals than *Economic Geography (EG)*? No –DIHG focuses on publishing critical commentaries and PIHG reviews, which are cited more and boost JIFs more than the original research-based articles in *EG* do. Does it mean that *PGQ* is four times better than the *Journal of Historical Geography (JHG)* and that the field of political geography is thereby four times more important than that of historical geography? That would be preposterous: the column showing citation numbers reveals that the field is simply larger. *PGQ* has more cites but a lower JIF than *EG*: which is ‘better’? Widening it out, the top-ranked history journal is *American History Review*, whose 2483 cites produce a JIF of 1.730. Comparing this with *DIHG*, it would obviously be ridiculous to claim that geography is 5.9 times better a discipline than history. Similarly, the highest-ranked general medical journal is *The New England Journal*

Table 1

Select human geography journals, JIFs, the citation counts creating the JIFs, and JIF-based rankings (out of 84 Geography journals listed). Source: 2017 Journal Citation Reports, Thomson Reuters. <http://jcr.incites.thomsonreuters.com/JCRJournalHomeAction.action?pg=JRNHOME&categoryName=GEOGRAPHY&categories=KU>. Accessed on 09/07/2018.

RANKING	NAME	2018 JIF	2016-17 CITES
1	Dialogues in Human Geography (DIHG)	10.214	518
2	Progress in Human Geography (PIHG)	6.885	6354
3	Economic Geography (EG)	6.438	2840
9	Political Geography (PGQ)	3.495	3320
68	Journal of Historical Geography (JHG)	0.833	672

of Medicine, whose eye-watering 332,830 citations produce a whopping JIF of 79.258. It would be absurd to claim that an article written in here is 22.67 times more important than one in *PGQ*. Yet university administrators sometimes pressure staff to publish in ‘top-ranking’ journals, thus disadvantaging academics working in smaller but nonetheless intellectually important fields (Schutte & Švec, 2007).

Thirdly, JIFs are ethnocentric. The database which Thomson Reuters uses is not a *census* of global scholarship, but a *sample*. This sample favours US journals in the first place, and English language ones in the second (Scully & Lodge, 2005, p. 392). This bias is particularly problematic in the humanities and social sciences, where research is often more regionally and nationally engaged (Hicks & Wouters, 2015). JIFs have distorted notions of science by equating research excellence with high JIFs, and in many countries this has led to pressure on scholars – and even financial bonuses – for publishing in English-language journals: thus “pluralism and societal relevance tends to be suppressed to create papers of interest to the gatekeepers of high impact, English-language journals” (Hicks & Wouters, 2015, 430).

Fourthly, the JIF equation can be ‘gamed’ by journal editors which leads to distortion and corruption of science. Editors can increase the *numerator* by encouraging authors to cite articles published in the journal, or to publish reviews that have larger numbers of citations. Thus to demonstrate how ‘absurd’ the JIF is, the editors of *Folia Phoniatrica et Logopaedica* published a review article in 2007 that cited every article in the journal over the previous two years: this doubled the JIF (Schutte & Švec, 2007). Alternatively, they can decrease the *denominator* by decreasing the number of research articles published, by forcing authors to make their submissions less substantial by pruning down references so they are no longer classed as research articles, or by negotiating with Thomson Reuters to remove certain types of article from the denominator.

Finally, JIFs – or more precisely the misrecognition of JIFs as proxies of quality – have multiple negative consequences on academia when they become used as performance management tools. This is often driven by university managers obsessed with their position in global rankings. Outcomes-Based Performance-Management (OBPM) demotivates an intrinsically-motivated workforce (Pink, 2009) and mitigates against creativity (Kallio & Kallio, 2014), creating risk-averse research cultures (Stern, 2016). In an autobiographical account, Gill shows how the neoliberalisation of the university invokes emotional and affective reactions including exhaustion, anxiety, unhappiness, overload, insomnia, shame, guilt, hurt, worthlessness, and uselessness (Gill, 2010). Petrina and Ross suggest that neoliberal OBPM processes may differentially affect historically more marginalised groups within the academy, such as female, part-time, and lesbian and gay academics (Petrina & Ross, 2014; see also; Collier, 2014), and may have a particularly pernicious effect on early career researchers (Acker and Webber, 2017). Theologian Roberts argues that dehumanisation occurs in the university as a result of the reduction of people to ‘human resource’, as a form of ‘biomass’ to be processed (Roberts, 2013). Of course, we can’t blame Thomson Reuters directly for all this: but they are culpable for expending vast resources on generating JIFs, whose circulation as currency in the neoliberal data university is deeply implicated in such abuses. Likewise, when our journal – or any other – foregrounds these metrics on its website it reinforces the system that thrives on them.

4. Conclusion: resisting the tyranny of JIFs

In the data university, metrics hold real power, being constitutive of values, identities and livelihoods (Wilsdon, 2015). Journal Impact Factors in particular are widely misunderstood and their misuse is leading to considerable harm in the academy. Significant resistance to this is emerging. In their *Nature* ‘Leiden Manifesto’ Hicks and Wouters propose ten principles for more robust evaluation of research, combining quantitative and qualitative measures (Hicks & Wouters, 2015).

Theirs was a more general critique of “the abuse of research metrics” based on “inaccurate data and arbitrary indicators” (Hicks & Wouters, 2015, 429). More substantively focussed on JIFs is a set of recommendations referred to as the San Francisco Declaration on Research Assessment, or DORA (<http://sfdora.org>), formulated by a group of journal editors at the 2012 Annual Meeting of the American Society for Cell Biology. Claiming that the JIF was “originally created as a tool to help librarians identify journals to purchase, not as a measure of the scientific quality of research in an article,” they briefly elucidate its shortcomings as a tool for research assessment. These include highly skewed citation distributions within journals, that JIFs can be gamed, and that the data used to calculate JIFs are neither transparent nor publicly available. A series of recommendations are made; of relevance to this editorial, journal publishers are specifically asked to “greatly reduce emphasis on the journal impact factor as a promotional tool.”

We thus call on the publishers and editors of *Political Geography* to remove the metrics panel from our front page. If this data must be indicated (although we'd prefer it wasn't), then we suggest that it be placed on a new page inconspicuously linked from the front page, and that the editors write a brief explanation of why we have taken this step, succinctly elucidating the problems with JIFs and other metrics and pointing the reader to both The Leiden Manifesto and DORA. At the same time, we urge the editors of the journal to sign DORA both in their capacity as editors and, if they choose, as individual academics. We also call on all readers to sign it, and to encourage the managers of their institutions and the other journals they edit and write for to do likewise.

Finally, some may retort that journals-metrics and their glitzy display panels are an inescapable aspect of modern academic publishing. We don't accept this: neoliberalism is a political choice not an inevitability. But we are not suggesting here that we should delete the metrics panel from the website: rather, we are simply asking that we remove it from prominence and add an explanation as to our disquiet over the negative effects of journal metrics on scholarship. As an international journal of political geography, that is surely a lead we should be taking.

The Analogue University

The Analogue University is a Newcastle University geographers' writing collective. It includes Nick Megoran, a member of the *Political Geography* editorial board. Contact theanalogueuniversity@gmail.com.

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