



## Discussion

## If at first an idea is not absurd, then there is no hope for it: A response to the comments on our discussion paper on ‘Borrowed plumes’

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We are very grateful to the editor of this virtual Special Section, Ben Martin, to open up the discussion on our proposal of partly random selection of publications (Osterloh and Frey, 2020). At first glance, our proposal might look crazy. Consider, however, the quote attributed to Albert Einstein: “if at first an idea is not absurd, then there is no hope for it”.

Our reply takes up three considerations discussed by the commentators Oswald (2019), Wooding (2019) and Yaqub (2019): (1) additional aspects to our paper; (2) the discussion about how bad the Journal Impact Factor (JIF) is if applied to evaluate single articles; and (3) how to overcome JIF.

(1) We are most grateful for the *additional aspects* brought up by the three responses to our paper “How to avoid borrowed plumes in academia”. In particular, we are delighted about Andrew Oswald’s mathematical addendum, which shows in a formal way that using pre-selected random choice among papers can be rational under reasonable conditions. The crucial point is that randomization is a way of avoiding the need to reject all the submissions that are hard to evaluate. Editors often cannot decide between unusual papers that might turn out to be breakthroughs or might turn out to be worthless. According to Oswald (2019), random selection of pre-selected papers is rational if editors have no foresight about the extent to which path-breaking papers are more valuable than poor papers, and if scientific influence is characterized by convexity. Furthermore, we agree with Yaqub (2019) and Wooding (2019) that there is a variety of reasons why the Journal Impact Factor has become so popular in addition to the reason we are discussing, namely that two thirds to three quarters of authors of a specific journal are borrowing plumes from the Impact Factor of this journal. Other reasons for the popularity of the JIF might be the “new breed of university managers” (Yaqub, 2019) and the ease of use of JIF or the need for heuristics in the age of information overflow (Wooding, 2019). In our view, together these points cause a detrimental lock-in-effect that has to be stopped with a bold

stroke.

- (2) “*JIF is bad*” is stated by both Ohid Yaqub and Steven Wooding, but to a different degree. Yaqub (2019) calls JIF an “absurdity” that has been “implicated in important pathologies”. Wooding (2019) suggests that the JIF may have already passed its peak. He wishes to have more empirical evidence as to how bad it is compared to other heuristics. We do not know whether the peak of JIF is over and whether there might exist indicators that are even more harmful than JIF. But is that really important if one considers how many biases JIF has produced against novelty (see e.g. recently Wang et al., 2017) and how urgent is the call to rethink its use (see e.g. Wouters et al., 2019)?
- (3) *How to overcome the problems* with the JIF as a measure of the value of a single paper? Yaqub (2019) suggests that an “inclusive governing organization” involving all stakeholders should be used to improve the situation. However, he does not explain how such an organization should be formed, nor how it should function. In our view, experiences with such organizations might lead to even more orthodox and uninteresting papers being chosen for publication. The views of the members of such a unit tend to converge to the average even more than those of reviewers. Papers appearing to be path-breaking are therefore likely to be excluded more often.

Wooding wants to rely on heuristics as an unavoidable fact of life. Yaqub agrees. But what about bad or even disastrous heuristics that reflect biases, for example, with the selection of grants that include biases against female researchers (e.g. Wenneras and Wold, 1999)? A heuristic that is as harmful as the JIF when used to evaluate single articles has to be abolished immediately. One should not wait until better heuristics are available. Instead, one has to implement institutional reforms that prevent bad heuristics from working.<sup>1</sup> Our proposals aim to achieve such reforms.

Wooding (2019) considers our suggestion of partly random decisions to be “unconvincing and impractical”. Yet, history as well as empirical evidence show that random decisions have been extensively

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<sup>1</sup> An example is the bias against female musicians, which was eliminated by an institutional reform, namely that contestants for a position in an symphony orchestra had to play out of sight behind a screen (see Goldin and Rouse, 2000).

used to good effect (see e.g. Buchstein, 2020; Rost and Doehne, 2020; Frey, 2020; Berger et al., n.d.). Moreover, random choices are currently being introduced by scientific organizations (such as the German Volkswagen Foundation and the Health Research Council of New Zealand), indicating that random choice can be applied in practice. In addition to Andrew Oswald, many notable authors are convinced that random choice is not only practical but also rational (see e.g. Aristotle ; Hayek, 1979; Mueller et al., 1972; Elster, 2008).

Yaqub (2019) suggests undertaking more research on citation theory and peer review theory. That is always good advice. We agree with him that randomization may lead to unintended consequences. But we absolutely disagree that we should learn to live with JIFs in the present form (until we have more widely appreciated theories on peer review and citation, and more governing bodies to wield influence over rankings). The longer we live with such an indicator, the more cemented are the self-fulfilling prophecies. Therefore, we suggest to initiate our proposal – as well as others – in an experimental way, and to evaluate it after some years.

### Declaration of Competing Interest

None.

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