

Review of: "Facilitating Constructive Criticism of Established Scientific Paradigms"

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I agree completely with Hartmut Trauttmüller's idea of the need for a platform for criticism of established scientific paradigms and expressing innovative alternative perspectives. I would say the word 'constructive' in the title looks unnecessary and possibly misleading. Destroying prevalent paradigms is a necessity quite often, and that objective need not get diluted by this word. Simultaneous with the soundness of the idea, I must also say the devil is in the detail.

What the author says is not new. In some form or another, the concern is raised multiple times, starting from Kuhn. Peer reviewers were not mandatory in all fields of science at Kuhn's time, which have become so by now for whatever reasons. It has also been said that peer reviews have made the Kuhnian revolution even more difficult (Watve 2023). The article makes it amply clear that in the existing peer review system, any criticism of established paradigms and alternative ways of thinking finds it more or less impossible to see the light of day. Apart from the literature that is cited by Trauttmüller, there is much more in support of his central argument. Citing it appropriately would increase the gravity of the article, but that, I would say, is a minor issue.

An important point missing in the article is that the difficulty of getting disruptive work published also depends upon the author's position in the academic hierarchy. Huber et al. (2022) demonstrate with double-blind experiments how prior reputation influences the peer reviews. Disruptive work coming from the children of lesser gods is orders of magnitude more difficult to get published. A level ground is a primary need for science publishing because revolutionary ideas come more often from outside the mainstream. Only a kid can see the emperor naked, and the kid's perspective should be highly valued in science. Interestingly, this appears to be a very fundamental sociobiological trend since even in nonhuman primates, innovations are more likely to come from lower social ranks, but the ones coming from high-ranking individuals are more likely to be accepted by others in the group (Biro et al., 2003; Kendal et al., 2015). For better science, it is necessary to overcome this trend and strive to establish a level ground. The platform proposed by Trauttmüller needs to be upheld unanimously for this reason.

However, the important question is why such a platform has been predominantly absent or unsustainable. The answer to the question needs to be sought in the social psychology of researchers and the design of academia and of science publishing. A major change, although badly needed, is unlikely to be successful without understanding the behavioural aspects of the problem and a behaviourally sound design of the new publication system. Experiments on open/transparent peer reviews, the *Qeios*-like systems, for example, have not been at the central stage, and their impact so far has been marginal. The altered design of *eLife* editorial policy came with substantial internal resistance (Abbott

2023) and hasn't yet been a smooth journey towards the originally perceived purpose. Despite several published studies exposing multiple problems in science publishing, the mainstream publishing systems have not shown the slightest inclination for a change.

The reason is that such a change is unlikely to work in isolation. Science no longer occupies the centre of academic work. Career building has occupied the central stage now, and for this purpose, only the name and prestige of the journal, the number of papers, and bibliographic indices matter. Recruitments, promotions, and even funding happen without reading the scientific content; only impressive CVs matter (Simsek et al. 2024). Disruptive science does not give quick and flashy publications, and therefore nobody wants them. Changing the norms of academia, the mindsets, the evaluation systems, and the publication systems needs to be done simultaneously. One initiative in isolation is unlikely to have a major impact. Most likely, it would remain a low-ranking and largely neglected entity. Bright career-seeking minds are unlikely to feel like publishing there, and they are the mainstream today.

This is not to say that the proposed "Well-founded Extraordinary Science" should not be launched. It is a badly needed platform, but simultaneously, one should be ready to accept the reality. What can be done to bring science back to the central stage of academia is a broader question, and the success of the proposed platform is bound to be connected with the broader question in multiple ways. In fact, the design of academia itself needs a paradigm shift, and WFES may want to keep that itself as a major focus of publication and open debate.

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