

Perspective

Increasing Editorial Diversity: Strategies for Structural Change

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Abstract: Editorial boards should be representative of the people doing science but they are often plagued with inequality. This article presents some starting points towards increasing editorial diversity, hoping to spark new initiatives to recruit people of under-represented groups to editorial boards. I argue there should be a greater focus on what journals and publishers should do instead of focusing on stories and celebrations of extraordinary individuals overcoming barriers. Transparent reporting, diversity targets, strategic invitations, mentoring programs, self-assigned workloads are all strategies which might lead to structural change. New, creative ways to recruit editors are needed so that women and all under-represented groups are given more opportunities to shape the direction of science.

Keywords: gender; inequality; natural science; targets; diversity reporting; conservation biology; fire science

An editor is one of the critical roles of a scientist. Editors engage in the newest science, become involved in a broad community of authors and reviewers and make important decisions which shape the direction of science. Editorial boards should be representative of the people doing science and the people affected by its outcomes. However, editorial boards in natural science are often plagued with structural inequality, particularly in regards to gender [1].

While editorial inequality has long been acknowledged, there has been less focus on the practical solutions to increase diversity. Here, I present some starting points towards this goal, hoping to spark initiatives to recruit people of under-represented groups to editorial boards. I focus mainly on women within a binary view of gender, but I acknowledge this is a narrow view of diversity and I hope these arguments might also help to increase the representation of other under-represented groups, including a broader view of gender.

The reason I focus on women is twofold. First, women represent an enormous part of the scientific work-force and, if science is to be representative of all genders, they need to be fully involved in editorial boards. Second, the need to support women in science is emphasised daily in news and media outlets as well as in scientific publications but this trend is moving at a faster rate than serious and sustained attempts to change the structure of editorial boards. For example, two special features have been recently published celebrating women in natural science. The first was a paper in *Fire*, which comprised a list of 59 women fire scientists with an H-index over 15 (*Recognizing Women Leaders in Fire Science*) [2]. The second was a special issue of *Pacific Conservation Biology*, comprising 17 papers by influential women scientists, accompanied by an editorial about some of conservation science's female greats (*Women in Conservation Biology*) [3]. Both of these journals have fewer than 20% women on their editorial boards (as of September 2018). Thus, there is a stark discrepancy between the message being sent about our respect for women scientists and the structure of our scientific hierarchy. Both *Fire* and *Pacific Conservation Biology* have stated their commitment to improving diversity in their editorial

boards. In my discussions with these journals it was clear that, despite good intentions, traditional ways of recruiting editors did not seem to be working. Thus, practical guidance on increasing editorial diversity is clearly needed to address this challenge.

Firstly, I want to explain why the gap between the public recognition of women in science and the imbalance of the system could be damaging to the equality cause (points 1 and 2). I'm not criticising the recognition of great women scientists (we need this at times), but rather the disproportionate level of recognition we see in the public sphere, relative to the reality of the imbalance. Then, I want to highlight ideas for improving editorial diversity, drawing on some examples from the British Ecological Society who have strong programs for making real diversity changes (points 3, 4 and 5).

(1) Structural change: Sending public messages about recognising women when deep inequality exists conveys the idea that it's possible for women to rise to senior or decision-making positions if they work hard enough and do plenty of inspirational science. It shifts the discussion from what journals and publishers should do, to the behaviours of individual women. Stories of success in an unequal system help women to keep struggling against a system that was not designed to accommodate them, but they do little to change the system. These 'celebrating women' articles are meant to 'motivate young women starting their careers in science' [3]. However, they could do the opposite if women start to ask 'how can I be more like these extraordinary women?'. Young scientists should have the freedom to be themselves, whatever their background. These messages do not help early-career scientists of any gender who come from disadvantaged backgrounds because they might not have had the opportunities to overcome those struggles. Changing the organisational structure of a system gives women, and men with limited opportunity, the freedom to be themselves while also doing better work [4]. Dr Melissa Yoong, University of Nottingham, an expert in gender language in the media, emphasises that 'we should require governments and companies to address and eliminate biases in the system' rather than focusing on the personal work required by individual women to stay in the system [5]. The same should be said for publishers and journal editorial boards. Before we celebrate, higher priority should be given to programs for increasing editorial diversity.

(2) Conserve energy for science: Talking about diversity when major structural imbalances exist diverts human energy away from science. Women are disadvantaged by this burden more than men, which means they have less time to spend on making progress in science, contributing to the barriers they already face with career progression [6]. Twenty-seven women and one man were involved in the *Pacific Conservation Biology* special issue. If each of these scientists spent 30 h on their article, this would equal approximately six months full time work in human energy. A six-month, full time position could have been used to make profound and lasting contributions to increasing the prominence of women on the editorial board. Or, spread across all authors, it could have been spent making progress in the fields of genomics, taxonomy, ecology, decision science and conservation in which the authors specialise.

(3) Set targets and report: There is evidence that setting targets can increase gender diversity and that increasing diversity 'trickles down', promoting further structural change [7]. The British Ecological Society (BES) does not set specific targets but aims to balance diversity in scientific focus, gender, geography, ethnicity, socio-economic status and age (among other aspects of diversity), meaning that invitations are targeted accordingly. The BES has an Equality and Diversity Working Group that strives to embed diversity into all aspects of the society's work. The results of the BES diversity program are publicly available in their annual diversity report [8]. In 2017, 41% of BES associate editors (AEs) and senior editors were women across their five journals and the proportions continue to increase over time. Setting targets and engaging in transparent diversity reporting are positive steps towards change.

(4) Structured recruitment and training: The BES hold open calls for applications to the editorial board which are competitively assessed (for men and women). Some of these calls are specifically aimed at early-career researchers and are embedded within their mentoring program, where new AEs are paired with a senior editor for their first set of assignments. Some women might be more

inclined to respond to competitive calls because they relish opportunities to competitively highlight the alignment of their skills with the position. Others might be attracted to a journal with structured programs for mentoring. Training in the process of peer-review could begin during post-graduate degree programs within institutions, to contribute to a diverse and highly-qualified pool of future editors. Flexibility around time constraints for editorial applications (e.g., within 5 years of PhD) should *not* be restricted to career breaks for having children. Unconscious bias constrains opportunities for women [9] so that a female's CV might not develop as quickly as her male peers from the same cohort. Marie Skłodowska-Curie Actions is a funding scheme from the European Commission that has a minimum, rather than maximum time-since-graduation on eligibility and over 40% of grants are awarded to female scientists. Awards are granted for reaching scientific excellence, not the speed at which it is reached.

(5) Adapt to difficulty and be flexible: Women can be overburdened with work because of family, personal or community obligations [10] or because they are invited to new projects at a higher rate than men given the inherently unequal system. However, sending invitations and getting knock-backs should not prevent journals from having diverse editorial boards. Applications for editorial positions with the BES are strongly male-biased, but they have managed to increase diversity within this constraint. Senior editors could compile a database of potential editors from under-represented groups, acknowledging that extra work will be required to achieve parity. If women are declining at twice the rate of men, then twice as many invitations need to be sent. To tackle the issue of overwork, new AEs could be allowed to nominate their workload, restricting it to x manuscripts per year. Women might respond to email invitations differently to men. Mezt and colleagues [11] found that women were appointed to business and management editorial boards more commonly when the senior editor was female, early-career or had high academic performance. To increase recruitment, invitations could be made through senior professors who know potential candidates. Women might be more inclined to apply for a new role from a known mentor than from an unknown senior editor asking them to take on another job. It is not necessary to prove potential gender differences in behaviour. What's more important is that we try new methods to engage under-represented groups. When diversity is embedded within the culture of an organisation it can become self-sustaining [7].

Making real diversity changes takes time, persistence and hard work which might go unacknowledged. This must be accepted as part of the change process. Transparent reporting, diversity targets, appropriate invitations, healthy competition, self-assigned workloads are starting points. We have a chance to develop new, creative ways to recruit editors so that women and all under-represented groups are given more opportunities to shape the direction of science.

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