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Why Write and Publish a Paper?

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Why Write and Publish a Paper?

Writing a paper and getting it published in a peer-reviewed journal is hard work, even after the hard work that led to the publishable results. So why do people do it? What motivates authors to go through the writing process, and then the peer-review process, in order to publish their work? There are two kinds of motivations, altruism and self-interest, and most authors have some combination of the two.

1 Altruism

Peer-reviewed science publications are the predominant method today for disseminating and archiving scientific advances (books, conference presentations, and university teaching being some other common ways). Science grows and advances through a communal collection of knowledge that is constantly being challenged, revised, and added to.^{1,2} Most scientists (and I include engineering in the broadest sense of science) have a strong desire to contribute to the advancement of their field, this often being their primary reason for becoming a scientist. To publish is usually the most straightforward way to make such a contribution, and it is thus highly motivating (and satisfying) to most scientists.

2 Self-Interest

Publishing can also bring tangible benefits to an author, thus providing a self-interested motivation for writing and publishing a paper. Publishing may be required for career advancement and is frequently accompanied by direct or indirect monetary rewards. The familiar “publish or perish” paradigm in academia adds a stick to the carrot of career advancement. But even without these obvious professional motivations almost all human beings crave recognition for their efforts. I know that I am highly motivated by the reward of peer recognition; I am gratified to see my worked used and referenced, and take pride in publishing in journals that I respect and admire.

3 Balancing Altruism and Self-Interest

Let me be clear that I do not view self-interested motivations as being inherently bad, or even fundamentally worse than

altruistic motivations. Any properly regulated and well-functioning “marketplace” (to borrow economic parlance) aligns self-interested and selfless motivations as much as possible. I suspect that every author has some combination of these two classes of motivation always at work. The problem comes when altruism and self-interest become out of balance. In particular, if self-interest becomes so strong as to become selfish and swamp the altruistic goal of scientific advancement, the entire scientific enterprise can suffer.

In the academic world, as in the economic world, systems that promote greater disparity in “wealth” contribute to unbalanced selfishness. A winner-take-all tournament, where only the scientists with the top-rated papers published in the top-rated journals have a chance of getting jobs, tenure, grants, and students, will skew motivations towards self-interest. In the business world, rewarding and recognizing only monetary gain for one’s employer can have the same effect. (Some universities are actively applying both pressures to their professors.) The result can be a continuum of sins: lack of motivation for replication experiments,³ bias against the null result,⁴ increased prevalence of faddish and safe science over creative exploration, unnecessary feuds over priority, preference for competition over collaboration,⁵ lack of transparency and full disclosure, conflicts of interest, double publication,⁶ plagiarism,⁷ and outright fraud.

With the exception of outright fraud (at least, to my knowledge), JM³ has seen all of these sins in manuscripts submitted for publication. I have no idea if any of these imbalances are trending up or down today. I do know that the best way to combat imbalanced self-interest is to find ways to constantly remind yourself of why you became a scientist or engineer in the first place: to make a positive difference in the world. (Am I being to bold or naïve to make this assumption about each of you? I don’t think so.) If you keep your altruistic motivations always close and never compromised, the personal benefits can come along (with an “and” rather than an “or”).

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