

Taxing the Intellectual Base: Should Authors Foot the Publishing Bill?

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ABSTRACT

An author spends, depending on the research conducted, hours, days, weeks, months or even years collecting data for resolving a hypothesis. The ultimate objective, except for those scientists who wish to patent their results or seek commercial gains by selling patented protocols, is to publish their results. By publishing their results, scientists ultimately hope to reach other scientists who can access their important data and then possibly use that protocol or reference that paper as part of the methodology or discussion in recognition of their efforts. The size of the publisher, abstracting and indexing, as well as traditional print or open access (OA) are all aspects that can influence the visibility of a paper. In most cases, even with top-tier publishers, authors are not charged to publish and publishers make profits from authors further down the line in the processing step such as reprints, subscriptions, or other chargeable paid services. In the platinum OA model, the publisher does not charge the author to publish while in the gold OA model the author must pay to publish the PDF file as OA. In this paper I challenge the basic principle that a scientist be charged to publish, independent of the benefits received based on one logical aspect: that scientist forms the intellectual foundation of the journal and publisher, and thus the publisher's profits and reputation. Since royalties are rarely paid to authors, in cases where no royalties exist, then I am of the opinion that authors must be allowed to publish for free, without exception.

“If you resist wealth, you will always be poor. If you resist success, you will always be a failure.
If you abuse either, it is difficult to ever go back.” Jaime A. Teixeira da Silva

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SHOULD THE AUTHOR PAY TO PUBLISH?

As a plant scientist, I know the strife of conducting experiments that take, in some cases, years to complete. In most of my research to date, which has primarily involved laboratory work, plant material takes time to develop and grow. In the case of orchids, for example a single cycle of growth can be as long as 3-4 months, and the successful completion of an experiment can often take 2-3 cycles to complete. Add together the need for repeating experiments, most often at least three times, the trouble-shooting involved with death of plant material, faulty equipment, human error (one's own and by others), data analysis and then finally manuscript writing and editing and submission, the modern scientist is under tremendous pressure to manage such a tough research schedule while having to juggle other responsibilities such as teaching, preparation of class notes or lab equipment, applications for research funding, and other departmental-related duties, it is easy to understand why scientists are generally under considerable duress to perform. Simply because Mother Nature cannot, sometimes, be forced. Even so, departmental, institutional and even ministerial rules often demand of scientists more than is realistically possible. For example, it is not unusual to see departmental rules demanding, as part of the academic contract to a university, the publication of a minimum number of papers and with a defined quality (for example, only ISI or IF journals are counted in that minimal number) a year. In order to meet these requirements and to live up to their own personal challenges, scientists invest a considerable amount of time and resources to meet these demands and challenges (Fig. 1). There is a perceived understanding across different fields of study that in some fields it is easier to generate data than in others. For example, an organic chemist can easily complete several

dozen reactions within one day; a microbiologist can grow shake cultures ready for analysis within 24-72 hours; a mathematician who is modeling can leave a super-computer to run and generate millions of algorithms automatically within hours or even days without even being physically present; or a molecular biologist can outsource cloning or sequencing services to a company, if the price is right, with complex results being externally generated within a relatively short amount of time. These are some arguments for scientists who do research in field where it is potentially easier to generate larger data-sets more quickly than let's say a meteorologist who is monitoring the melting of a glacier over a decade, or an environmentalist who is observing the effect of river flooding on riparian species over several flooding seasons (= years), or even a space-related project that aims to target a distant star thousands of light years away. Except for those who fraudulently concoct data sets, the vast majority of scientists invest considerable time and effort into gathering, analyzing and publishing their research findings.

Publishing would constitute, except for scientists seeking to patent their results and make profits thereof, the pinnacle of the research process. Consequently, most scientists are concerned about getting their research results published within the shortest possible period and in the best possible journal. In order to achieve this, scientists are often willing to pay publication fees. Contrarily, publishers, who recognize this need and “desperation” to publish by scientists, impose publishing fees, thus being predatory. The temptations of having the paper published in a “quick-review” journal can compound the problem, as can the desire to publish in a higher Impact Factor (IF) journal. Often, since universities are paying scientists a salary, and since universities are under constant scrutiny by their ministries of education and other universities to show their acti-

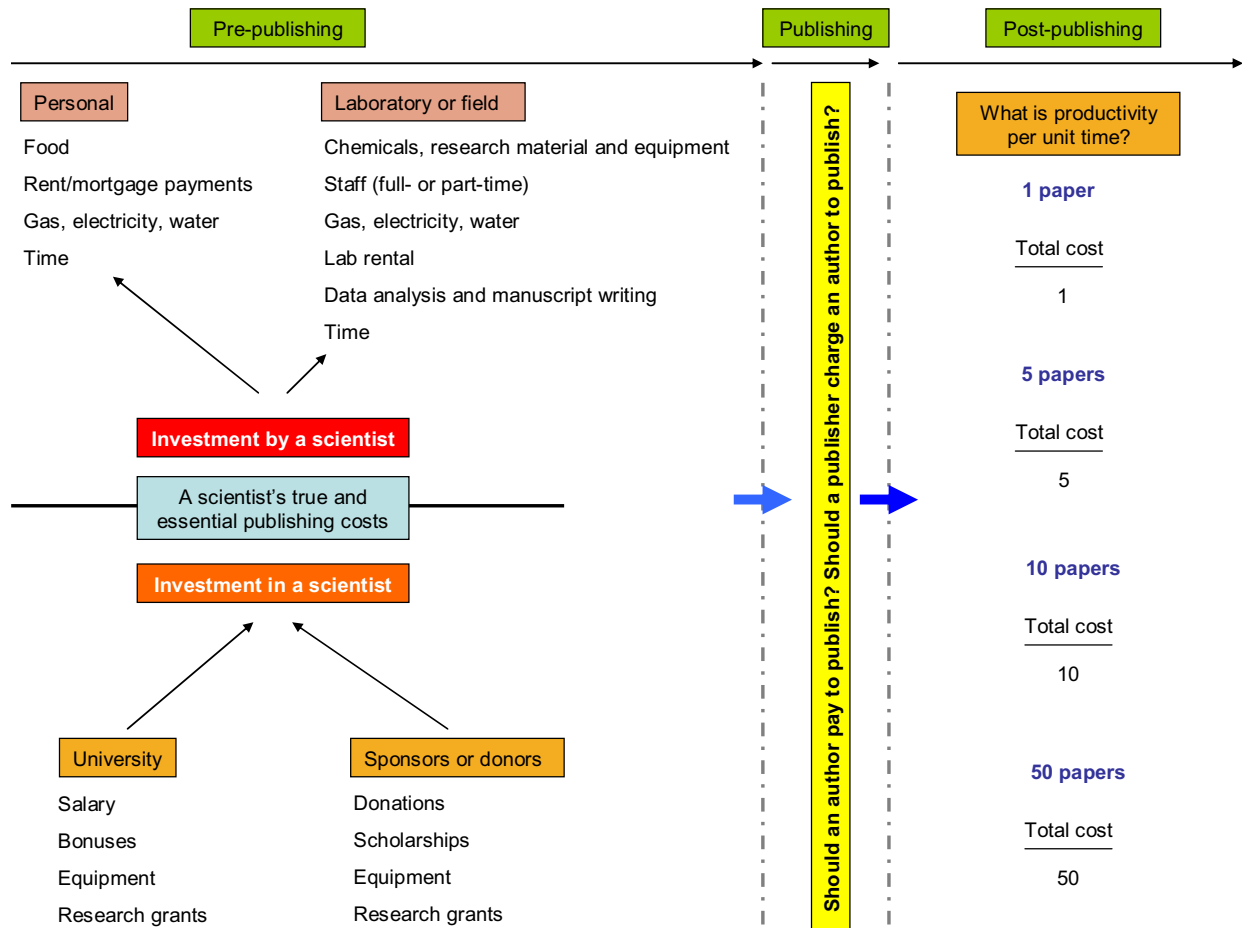


Fig. 1 Background costs that are made by a scientist in him/herself and also by university and sponsors in that scientist. These are the true costs of publishing that precede actual publishing costs, fortifying the notion that the actual investment made by and made in a scientist is in fact so large that all scientists should be exempt from paying any publishing fee. Under such considerable investments (monetary, structural and in terms of time), charging publishing fees would be equivalent to taxing the intellect. Consequently, although the business model from the perspective of a marketing analyst may be brilliant, from the perspective of a scientist, it would be predatory. How then to assess productivity? Considering a hypothetical case in which a scientist requires 100000 US\$ to complete one year's work (including all personal and laboratory costs and also university- and donor-sponsored salaries or funding). That scientist, if publish only one paper a year, the true cost of that manuscript is 100000 US\$. Using a similar logic, the same unit time (1 year) can be dividing into the number of papers published by that scientist. Therefore, the true hypothetical cost of publishing 5, 10 or 50 papers within 1 year using the same cost analysis would be 20000, 10000 or 2000 US\$, respectively per paper.

vity and productivity, these same universities place undue pressure on scientists to perform. Performance includes, among other factors, doing research and, as a product of that research, publishing papers. Regrettably, a gambling-style system has now been formally implemented in many universities and research institutes around the world that hinges around the IF. More precisely, a scientist who publishes in an IF journal will be rewarded for doing so, either monetarily through a higher salary or bonuses, through better research funding, or improved position. Thus, in the knowledge that publishing in an IF will bring rewards, a scientist will often be driven to pay a publishing fee knowing that the returns on that investment will be worth more than the investment itself, but totally ignoring the basal investment already made in personal and professional costs (Fig. 1). In other words, the investment, through this gambling-style publishing system, far outweighs the returns, except for those who are pulling in profits as a result of publishing in IF journals. The dependence of academic institutes upon a system (the IF) that has been implemented by a commercial company (Thomson Reuters), is clearly not free of conflicts of interest. Therefore, the academic community should return to the IF as a relatively unimportant, but interesting, measure of quality or success, and most definitely not remunerated based on it.

Considering that the real costs involved in generating a data set and in writing a paper, it would be, in my opinion, unfair and incorrect to request the scientist to then further be expected to pay any publishing fee. The second part of

the rationale is that a publisher, and subsequently the journal that it publishes, can only strive and achieve success if scientists decide to publish in its journals. The corollary is untrue. In contrast, a scientist does not necessarily need any specific publisher, or even a publisher at all, for example in the case of self-publishing. This makes the author-publisher relationship, from the perspective of the publisher, essential (obligatory), but from the perspective of the author, the relationship is optional and the author has multiple options to have their work published through various means and publishers. This imbalance in the relationship forces the publisher and author to act in very different ways (explored in another paper). However, the ability to publish quickly (often at the expense of quality), or the ability to offer a high IF service drive some (or many) publishers to implement a publishing fee since the demand for speed/IF exists. This would be an exploration of the weakness of scientists, and thus would be predatory.

If scientists and universities where they work would be able to generate a per-paper cost prior to the publishing process, they would quickly realize that the true costs for generating one paper are in fact phenomenal. Indeed, per unit time, if an author can generate multiple papers, then the per-paper cost of course become a fraction of the cost. This would roughly define productivity within a set unit time. The productivity of a scientist should never be explored for commercial gains, nor should the intellectual investment be taxed through publication fees.

On a final note, most publically-funded research insti-

tutes, such as public (government) universities rely on tax payers' money to provide funding for salaries, research funds, etc. In these cases, expecting the author to pay a publishing fee is an almost double-taxation system in which society is being taxed twice to achieve the same result: the first tax to support the research and the second tax to support spreading the results (publishing). This in itself would be an irresponsible act on the part of publishers simply because the public would not evidence or feel the benefits of that investment. It is for this reason that semi-private or private research institutes tend to patent more than public universities because the burden of turning an investment (private or public) into a profit is constantly large. Without trying to sound anti-capitalistic of this clear business model, the biggest issue with a patent (and thus the copyright culture), is that intellectual property is hidden behind a fire-wall only for a select few to access. Surely the public would somehow feel rewarded if the investment they made (in terms of research) were freely available to the wider public to view and appreciate, i.e. the classical open access model? This academic reward *versus* a financial reward for an investment made will likely be an everlasting argument in science publishing.

Interestingly, Wikipedia states the following: "A mainstream publisher traditionally assumes the risk of publication and production costs, selects the works to be published, edits the author's text, and provides for marketing and distribution, provides the ISBN and satisfies whatever legal deposit and copyright registration formalities are required. Such a publisher normally pays the author a fee, called an advance, for the right to publish the author's work; and further payments, called royalties, based on the sales of the work. This led to James D. Macdonald's famous dictum, "*Money should always flow toward the author*" (sometimes called Yog's Law)." If this is true, and the following three characterizations are true: 1) Traditional publishing = publisher pays author and owns the books/journal articles; 2) Vanity press = author pays publisher, publisher owns books/journal articles; 3) Self-publishing = author pays publisher (or more likely, printer), author owns books, then why is it that no main-stream publishers are paying authors royalties? Usually a publisher retains copyright in return for royalties, at least in book publishing. So, why is it that when scientists publish in journals that a different approach is used, i.e., full transfer of copyright allowing the publisher to make unlimited profits, but zero royalties to authors, no contracts and no guarantees of returns on intellectual property? The traditional form of covering costs is the subscription-based reader-pay model, which would exempt authors from covering the costs. If publishers have now transitioned to the authors-pay model (in most cases funds are paid by research grants or universities), then why does it appear as if the authors are covering the entire costs of publishing and not only a partial fraction of it? This is almost a double-taxation on the authors, or a double-profit by the publishers, depending on how you look at it. The publisher makes profits off authors who pay while also making profits from paid subscriptions to print versions, for example. Is this ethically correct?

The topic seems to continue to be highly debated, and often politicized. Interestingly, the UK Government believes that "Author-pays publishing is a phenomenon that

has already arrived: it is for the Government and others to decide how best to respond" (www.parliament.uk; 2004). The focus is always primarily on economics, and this goes against the natural grain of taxing intellectual rights. As Johh Ewing states "The change in who makes decisions will change the market; this is basic economics. In the subscription model, users and librarians make decisions; in the author-pay model, authors and publishers make them. To succeed in the subscription model, a journal must secure enough subscriptions by convincing users and librarians that it has intellectual value. To succeed in the author-pay model, a journal must convince enough authors to submit papers and then it must accept enough of them to make money". Indeed, this poses a danger since those who produce the journals, the vanity publishers, will now have the power to drive the market, and not the consumers, as would occur in a natural market (i.e., consumer-driven). Thus, vanity or OA publishers who have the biggest marketing skills, fancy web-sites or a wealth of aspects that most likely are not even related to academic quality, are most likely to succeed. I share in the concerns of Dr. Ewing, since a regulation-free OA vanity press market globally has now led to a haven for predatory publishers. The issue of predatory publishing will be dealt with separately.

In closing, the words of Dr. Ewing are most pertinent to the dangerous times that we are in that threaten the very essence of science: "We are therefore heading in the wrong direction. Scholarly journals are sick and they need attention. But instead of following a regimen of reasoned and disciplined remedies—instead of driving down prices by the steady, concerted actions of authors, editors, and librarians—we are bleeding the patient with open access models, trusting in miracles (that university administrators will shift funds from those with research funds to those without), and praying that publishers will repent their ways."

GLOSSARY

These terms have been based on Wikipedia definitions, *verbatim*.

Royalties: usage-based payments made by one party (the "licensee") to another (the "licensor") for the right to ongoing use of an asset, sometimes an intellectual property (IP).

Vanity press or **vanity publisher:** a publishing house in which authors pay to have their books published.

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