

## How do we motivate our researchers?

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Presented with the question how researchers could be motivated to publish for open access, my first reaction is simply to wonder why we should at all bother. The advantages of open access arise more or less automatically from the historically unique properties of the web which can be clearly seen by young people, the academic leaders of to-morrow. So, it might be a bit presumptuous to believe that librarians or university presidents must do something special to motivate the researchers.

However, let us for the sake of the argument accept that for some short time still, it is not an expression of redundant vanity to try and open the eyes of our researchers to the new possibilities. How should we then go about it?

First of all, missionaries must be convinced that the new alternative represents a step forward with respect to the goals of science itself. Relying on non-scientific arguments in favour of digital publication could at best be of indirect value. For example, economic arguments would presumably count as relevant only insofar as the money saved would be at the disposal of the scientists themselves. Merely to point out that digital publication could save money for the university systems of the world, or for the local library, would probably have little impact on the individual researcher.

Like people in general, scientists are a heterogeneous lot with regard to psychological make-up and professional aspirations.

Some are driven by a strong curiosity and desire to know genuine truths about the world. Others, usually in the humanities and social sciences, seem equally keen on denying objective truth as a regulatory idea for research. Some are spurred on by a desire to become famous, while others have more relaxed goals in life. It seems possible that an internet-based system of archives and digital journals, with or without open access, will appeal differently to different personalities. For the purpose of our question, it seems acceptable to focus on an imagined group of academic trend-setters, recognizing that this is indeed a simplifying construction. What would motivate this model researcher to publish his or her reports for open access, or at least electronically?

A special aspect of scientific culture should be borne in mind, viz. the constant dialectic tension between strong conservatism and an equally strong revolutionary longing. Many logical and empirical pitfalls lie ahead of every new research project, a fact which makes it mandatory to safe-guard rigor and stringency in methodology. Whoever proposes something really new should therefore be suspected of having overlooked some source of error. Science recognizes that we are constantly making errors and only occasionally great discoveries. Hence, good scientists are people with strongly conservative tendencies.

At the same time, original ideas are highly praised, provided they are not too easily killed by criticism. There can be no greater achievement than finding out something completely new about the world, a result that is both unexpected according to established thinking and of wide-spread consequences. Hence, good scientists have revolutionary aspirations.

This constant balancing of conservatism against radicalism is a subtle challenge. The not so good researcher can fail in either direction. Some inhibited people are too afraid of making mistakes and always prefer to be on the safe side of the established methods and theories. Their results are of limited significance because of limited originality. Others are too uninhibited and care too little about the methodological norms. They may have visions but their contributions are slim because they are too speculative and unreliable. The successful researcher knows when and in what sense to be brave and chance-taking, and when to play it safe.

It is the right balance between the cultural heritage and the unexpected new insights and new ways of doing things, the optimum blend of conservatism and radicalism that constitutes quality in the academic world. High-quality research strives for genuinely new insights but does so from a venerated base of ideas, methods and norms of conduct. Publishing a research report is an integral part of the research process itself. Therefore, if electronic publication were to be seen by scientists as a token of relevant

modernity, in contrast to the methodologically outmoded publication in print, that perception would probably constitute a strong motive force in favour of e-journals and self-archiving.

That the mode of publication matters a great deal to researchers reflects a fundamental recognition of the fact that Truth is evasive and difficult to come by. To realists, who believe in objective truth, a refined form of international cooperation is necessary, a social system of constructive criticisms that requires established methods – not only for experiments but for the exchange of ideas as well. Metaphysical non-realists and constructivists may have other, but no less compelling, reasons for viewing research a collective social enterprise. If Truth is not objective but subject to negotiation, some agreement on the rules of negotiation, i.e. on the rules of publication, becomes mandatory.

As the mode of publication is an integral aspect of the quality concept, it is rather a delicate question how one could justify a change of publication habits. I think it is fair to say that the academic world strikingly resembles those of sport or entertainment in shamelessly appreciating fame and social success. This fact must be recognized as such, whatever we think of the dictum by Erich Fromm, the famous psychoanalyst who asserted that wanting to become famous is a sign of insanity. Ideally, research reports should confer recognition in proportion to their quality. Therefore, a general answer to the question raised could be as follows: 'To motivate researchers to publish in open access journals or archives, one should demonstrate to them that such a mode of publication affords a higher quality to the report than traditional publication, or at least signifies that the report is of unusually high quality.'

Science requires that researchers can communicate easily with each other. As the learned communities are expanding world-wide, and as the literature potentially relevant for anyone researcher is also increasing, the easier dissemination of information by the web than by paper and ink clearly speaks in favour of electronic publication. In the same vein, the relative ease by which information on the web can be retrieved must also be considered an objective advantage. Not so long ago a forefront scientist could more or less know by person all the people with whom to interact in the international discussion. This is no longer so, except for very narrow fields of inquiry.

Focusing more on the intrinsic properties of a scientific report, the fact that the web lends itself to hypertext technologies is interesting. A hundred years or so ago, the first automobiles were designed as horseless horse carriages. Similarly, it is natural first to think of the digital report as a printed paper without print. But the process of reshaping the traditional research report into a

modern Saab is already underway. Those interested in producing high quality science reports will have to take that into account. A few times I have had reasons to cite papers a hundred years or so of age and have been fascinated by their poverty of documentary and illustrative material. The young scientists of to-morrow will probably look with similar fascination on the format poverty of the printed papers of to-day.

When confronted with the technical options for publication on the web, many researchers seem to be afraid of wasting their good results on low-status archives. They fear that their reports will not be rated at the high scientific level that their intrinsic qualities justify. There are two realities behind this kind of concern. One has to do with the role of peer reviews in the scientific world. The other stems from a modern decline of the principles for quality assessment in connection with the distribution of grants or the hiring of academic staff.

The system of peer review is so well established that many scientists regard it a criterion of scientific quality and tend to publish in peer-reviewed journals only. However, the system has dual effects. It both weeds out low quality manuscripts and makes it difficult for highly original papers to get published. Peer review stimulates the production of main-stream, medium quality work.

Nonetheless, the usefulness of peer review is such that it is impossible to forecast great success for any web-based journal which does not incorporate peer review. Repositories, entirely open to authors and readers, could function as complementary elements in the global system of electronic publication. Access to open searchable archives, such as those established by the universities of to-morrow, would in fact mean a safe-guard against the risk that the peer-reviewed electronic journals, by mistake or ignorance, suppress any intrinsically valuable report just because it does not match the received modes of thought for the time being. A self-archived good report need not sink into oblivion as long as it can be referred to in other reports published in a peer-reviewed journal. Thus, self-archiving in what might perhaps be frowned upon as dull, indiscriminate repositories or dumps need not at all be a bad thing for the advanced researcher – as long as there are well edited e-journals as well.

However, researchers may worry that publishing in a not very prestigious context is little appreciated by grant committees and staff recruiting bodies. Such worry is not irrational but quite understandable, considering the way academic culture has developed. Traditionally, a scrutinizing expert was assumed to read the candidate's papers and books and evaluate their intrinsic quality. As scientific publishing has grown, it has become increasingly demanding to base one's judgment on thorough

reading. The temptation to rely on indirect markers, such as the locus of publication, becomes strong and sometimes irresistible to some people. It is not uncommon for modern experts to express themselves along such indirect lines, making reference to journal impact factors for example. Such conduct represents a deterioration of a most fundamental academic role, that of the scientific or scholarly expert.

Although I resent and deplore the use of citation and impact numbers in situations where comments on the scientific substance matter would be appropriate, I do not wish to ban the indirect quality criteria from all contexts. The literature is so vast that selective reading is necessary. Citation and impact numbers have a role to play as heuristic tools in a rational literature selection process. But that is something quite different from being an ingredient in the very concept of quality.

The freedom to express whatever opinion in a forum of one's own choice is an important aspect of academic life that safe-guards the integrity and moral independence of the university researcher. To infringe upon this basic freedom merely to promote the transition from publication in print to publication on the net cannot be justified. However, legislators and university boards would do well in deciding that all reports that have been published elsewhere should also be deposited for open access, as soon as the relevant copyrights permit. For some time ahead, the copyrights will vary between reports depending on where they were first published. This lack of uniformity is no good excuse for delaying the introduction of routines for as much open access as possible, without infringing on the rights of the authors to decide on the place of first publication.

In brief, librarians and other technical experts should cheerfully go on developing the tools for electronic publication and open access. This work should be supported and encouraged as an investment by the national and local leaders of the systems for higher education. The good objective has little or nothing to gain from imposing administrative rules on the researchers in order to bribe or punish them. Instead, they should be shown how the modern tools for publication are in fact advantageous to their own basic ambitions to be up-to-date, forward-looking, and keen on preparing as good and striking research reports as possible.

## **Svensk sammanfattning**

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