

## **Self-archive unto others as ye would have them self-archive unto you**

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Scholars and scientists do research to create new knowledge so that other scholars and scientists can use it to create still more new knowledge and to apply it to improving people's lives. They are paid to do research, but not to report their research: that they do for free, because it is not royalty-revenue from their research papers but their "research impact" that pays their salaries, funds their further research, earns them prestige and prizes, etc.

"Research impact" means how much of a contribution your research makes to further research: do other researchers read, use, cite, and apply your findings? The more they do, the higher your research impact. One way to measure this is by counting how many researchers use and cite your work in their own research papers.

Well, it should be obvious that since research papers are rather like advertisements – they bring rewards the more they are read and used – and since researchers give them away, then any barriers that deny access to potential users of this

give-away research are a bad thing – for research, researchers, and the society that funds the research and benefits from its findings.

## The objective of open-access is:

to maximize  
research impact



by maximizing  
research access



(by self-archiving)

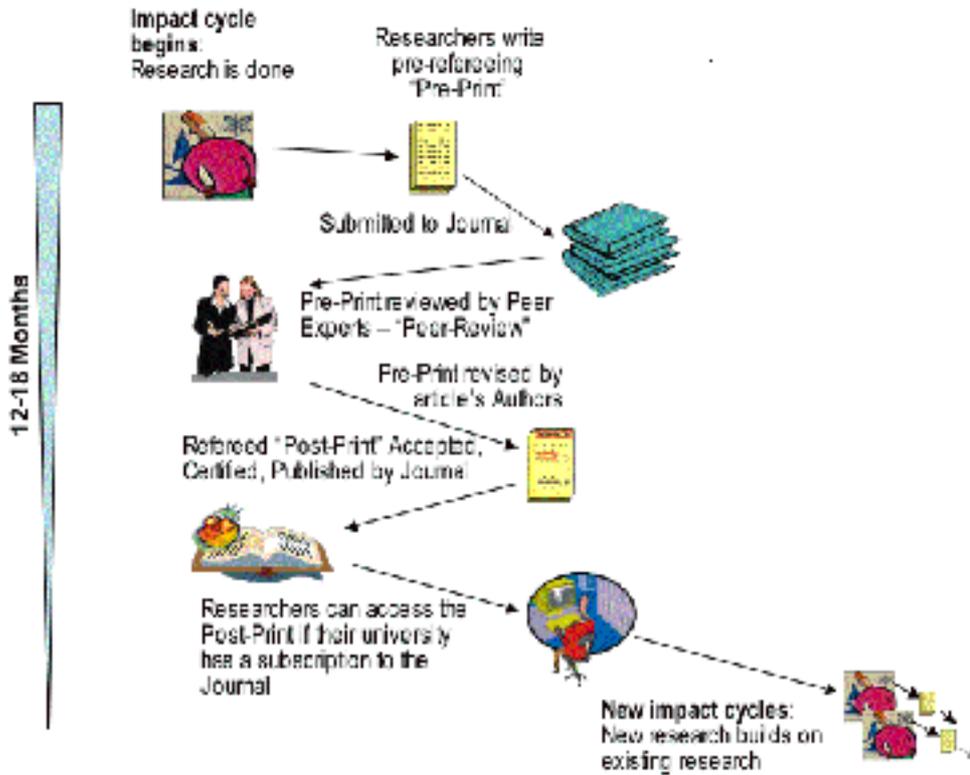
Yet barriers do deny access to research papers. Tolls (in the form of journal subscription/license fees) must be paid by researchers' universities for access to the journals in which the research is published; otherwise uptake is blocked. Yet the authors don't seek or get the revenue from those access-tolls: they would much prefer it if there were no tolls at all, so that all would-be readers could use their research, and thereby maximize its impact.

In the old days of on-paper publication, access-tolls were unavoidable, because of the real and sizeable costs of printing and distributing the paper. But today, in the on-line age, that can all be done for almost nothing, on the Web. Yet access-blocking tolls are still being charged. Why?

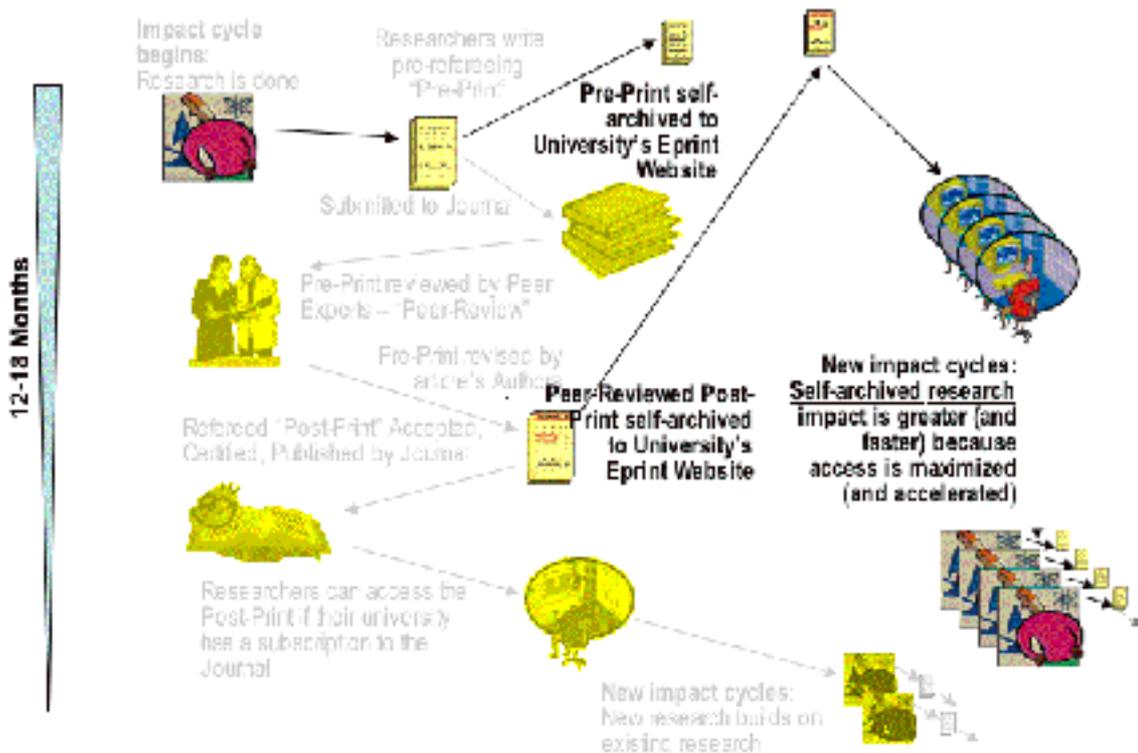
It's nobody's fault. Research journal publishers are still stuck in the old system. Every journal now has both an on-paper edition and an on-line edition, and those who can afford it are paying high tolls for access to one or the other or both. Besides, most other kinds of authors are not like researchers: they do want to be paid royalties out of the sales of their writing, so the toll barriers suit them just fine. The special case of

research papers is just a tiny and unrepresentative minority in the world of writing and its economics.

## Limited Access: Limited Research Impact



## Maximized Research Access and Impact Through Self-Archiving





So what are researchers – who want only research impact – to do? The toll-booths deny access to all those potential users worldwide whose universities can't afford to pay them – and journals are so expensive that most universities can't afford most journals (there are 20,000 research journals in all). Lost access means lost impact: lost research productivity, progress, applications, benefits.

Yet if the publishers cannot or will not make their research accessible for free on the Web, why can't the researchers do it for themselves? They all have web sites. And their research papers are all in electronic form. Why don't they just put them all up on the web for free?

That is what the “self-archiving initiative” is doing: self-archiving<sup>1</sup> is one of the two open-access strategies of the Budapest Open Access Initiative (BOAI)<sup>2</sup>, a growing international body of researchers across all fields, funded by the financier George Soros, and dedicated to making the entire research literature openly accessible to everyone online. To self-archive research is to deposit it in the researcher's own university “Eprint Archive”<sup>3</sup> (eprints are electronic versions of research articles). The other BOAI open-access strategy<sup>4</sup> is to create new open-access journals, in place of the toll-access ones. But 20,000 journals is a large number to replace one by one, so self-archiving will probably need to come first.

By self-archiving their papers in their own university's Eprint Archives, researchers not only make them openly accessible to all potential users worldwide (which is their only real goal in doing so), but they also create competition with the toll-access version sold by the journals in which the research appears. No one knows what effect that competition will have: the open-access version and the toll-access version might continue to co-exist indefinitely, with those whose universities can afford the toll-access version using that, but those who cannot using the open-access version. Or the open-access version may shrink the demand for the toll-access version, so the journals have to downsize, cut their costs, and become open-access journals.

How much can journals downsize? They can jettison the paper edition; they can even jettison the on-line edition, leaving the archiving and distribution entirely to the university Eprint Archives. But there is one essential function that they will always have to perform, and that is called “peer review”: peers are qualified experts who evaluate

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<sup>1</sup> <http://www.eprints.org/self-faq/>

<sup>2</sup> <http://www.soros.org/openaccess/>

<sup>3</sup> <http://www.eprints.org/>

<sup>4</sup> <http://www.earlham.edu/~peters/fos/boaifaq.htm#journals>

research before it is published, to check errors, recommend revisions and advise the editor whether it meets the quality standards for publication. The surprise is that the peers, like the authors, do what they do for free too! So the only real expense is administering the peer review. And that is what the journals have to keep on doing, because researchers cannot peer-review and certify their own work: quality-control always has to be out-sourced to a reputable, neutral third party (between the researcher and the peer-reviewers).

The good news is that, per article, the cost of administering peer review is much less than what is being paid in the combined tolls today by all the universities that can afford to subscribe to the journal in which that article appears: peer review alone costs less than a third of the tolls that are currently restricting research impact to those few would-be users whose universities can afford them.

Yet the solution is also clear: if and when the subscribing universities are no longer spending all that money they spent annually on tolls to access the research output of other universities, they will easily be able to pay publishers the peer-review costs for their own research output out of only a third of their annual windfall toll-savings. That way, the essential costs get paid and the research is all openly accessible. And all it needs to make it happen is reciprocal self-archiving by universities, according to the Golden Rule: “Self-archive unto others as ye would have them self-archive unto you.”

For even if universities keep on paying journals the exact same tolls they pay now for many years to come, self-archiving will have freed all the new knowledge that scholars and scientists create, so that all other scholars and scientists can already use it to create still more new knowledge and to apply it to improving people’s lives.

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