

Public Library of Science

Science magazine recently published a letter (see *Science* Mar 23 2001: 2318) from many of us supporting free distribution and use of the record of scientific research and ideas and the creation of open archives of scientific literature. In their response to our letter (see *Science* Mar 23 2001: 2319) the editors of *Science* rejected our call.

We are disappointed in this decision, and even more so in the reasons presented by *Science* for rejecting our proposal. Their response contains numerous faulty arguments and misrepresentations of our intentions, to which we feel compelled to respond.

First, and foremost, by choosing to title their piece "Is a Government Archive the Best Option", the editors have deliberately mischaracterized our position as proposing that all scientific literature be stored exclusively in a single NIH controlled "Government Archive", so that they could raise the specter of "state-run, centrally managed economy in biomedicine" and wring their hands over the perils of monopolies.

This argument is both disingenuous and ironic. In the current system, each publisher is a monopoly supplier of every research article it has published. This is a monopoly in every meaningful sense - no other publisher or group can compete with *Science* to provide the published reports that happened to have been published in *Science's* pages, by offering lower prices or better utility. One journals archives cannot replace another's, so the multiplicity of journals does not undermine this monopoly control over access. *Science* argues that HighWire press should be the sole provider of online access to contents of *Science* and the growing stable of HighWire journals. We wonder why the editors believe that this private monopoly is preferable to a government monopoly? We condemn ANY monopoly over access to any part of the scientific record. Our proposal for free distribution and use of the scientific literature is aimed precisely at avoiding such monopolistic control of the record of scientific progress. Neither *Science*, nor HighWire Press, nor PMC should be the sole provider. The best way to avoid monopolistic control of the literature is to abandon the idea that the scientific literature should be owned and controlled by any single entity, be they private or public. A system in which no single entity, whether a publisher, a publishing cartel, a scientific society or a government, has sole control over a part of the scientific record, will provide the surest guarantee against censorship or abuse of power. That is exactly what we advocate.

A second centerpiece to the editors' argument is that it may cost *Science* some of its income. *Science* should consider the experience of PNAS and Molecular Biology of the Cell - journals that are less reliant on evanescent news and gossip for their sales, and which would therefore be expected to face greater risk from early free access. Both journals have been providing their contents for free within 2 months of publication, and after a year, neither has lost subscribers. The *Science* editors argue that online traffic to the *Science* website from readers searching for archival articles is an economically important source of income. We find this difficult to believe. But even if it is, we doubt that this traffic is important enough to *Science's* balance sheet to warrant their opposition to our proposal, the goals of which the editors "applaud".

Central as it is to *Sciences* rejection of our proposal, this financial risk argument must be examined more critically. While we respect the integrity of the *Science* editors who are making this argument, as scientists, we cannot be expected to accept it as valid without rigorous peer review - let us examine the data for ourselves. Most members of scientific societies and subscribers to their journals have no detailed knowledge of the finances and financial practices of the journals and societies. Indeed, there are few checks and balances to ensure that these groups are acting responsibly on behalf of their members. Since *Science* has now raised this as an issue, we ask *Science* to make public its full financial records, including all its sources of income, its operating expenditures, and those of the AAAS activities that benefit from its profits. Indeed, we urge our scientific colleagues to demand that their societies and journals disclose their full financial records so that we can give fair consideration to the financial arguments that *Science* and other journals offer might against our proposal. We value to important role that scientific societies play, and we do not wish to see them go bankrupt. We believe, however, that open and informed dialog regarding financial issues will lead to methods for the financial support of scientific societies that allow them to better serve the scientific community and public by making the research published in their journals freely available.

Science further argues that posting their content on a site (PMC) that primarily serves biomedical scientists is a transfer payment from other disciplines to biomedical science. An obvious solution, and one we would applaud, would be for *Science* to play a leading role in expanding the Public Library of *Science* proposal to the sciences in general. And the argument is disingenuous - we suspect that most of the users of *Science's* own web site are biomedical scientists already, and that most of *Science's* income comes from advertisements directed at biomedical scientists and subscriptions from biomedical scientists.

The argument about "misuse of content" is simply absurd. What sort of misuse can we imagine? Plagiarism? The only protection we have against plagiarism now is the integrity of the scientific community. The current system of restricted access to the primary research literature does nothing to protect authors or readers from misuse of content. Instead, the existence of full-text archives of the scientific literature would make plagiarism and other misuses of published material far easier to detect and thus less likely to occur.

We appreciate the sentiment in the first paragraph the *Science* editors' response to our proposal: "We admire the goal, and suspect that evolutionary forces may be moving us toward it". But we are disappointed in its passivity. If the editors of *Science* believe in the goal, then *Science* should be in the forefront, leading the way, rather than responding to, or worse, resisting the external forces that are leading them toward it.