

## KILLING THE PRINT JOURNALS

I recently had the privilege of participating in a formal debate that was held as the closing session of the Society for Scholarly Publishing (SSP) Annual Meeting. The topic of the debate was: “Be it resolved . . . that it is time to kill print.” This represented a timely and provocative topic among this crowd of publishers (both nonprofit and for profit), publishing vendors, and librarians. Each side had two debaters (a librarian paired with a publisher), and the teams chose which side of the resolution to argue more or less by lot. My debating partner and I ended up on the side arguing in favor of the resolution—that is, that all of us who publish journals should stop printing them and only deliver the content online.

This is an issue the AMS must face at some point, so it seems appropriate to use this column to relate the substance of this session. Even though the debate format was intended to provide an enjoyable and somewhat lighthearted closing event for the SSP meeting, everyone in the audience that afternoon has been seriously grappling with the “if, when, and how” of discontinuing print journals in favor of online delivery.

It should be noted that we began the debate by acknowledging that most users would still read journal content from printed pages even if publishers stopped printing issues tomorrow, but they would be produced locally from their own workstation printer. Thus, “killing print” at the publisher really just means shifting the print process from the publisher to the user for most readers. Even in this sense, however, efficiencies are gained by allowing users to print only those articles they are really going to read, by avoiding the delay and cost of printing and mailing the entire issue that includes all those articles they will not read, and by allowing the output itself to be in a form best suited to the user, such as with larger fonts for the visually impaired.

Additional arguments in favor of killing print, as presented by my team in the debate, can be summarized as follows:

- Many scholars, especially younger ones, are already using the online journal content exclusively, and would not even notice if print issues were no longer delivered; the remainder of the community could easily convert to locally printing the content delivered to their desktop online rather than depending on receiving a hard copy in the mail or on accessing the print copy at their library.
- While it has become clear that publishing online is not really less expensive than doing so in print, it is clearly much more expensive for publishers to provide a journal both in print and online compared to providing it only online.
- A number of scientific publishers (including the AMS) have already declared the electronic database to be the journal of record, and some are already allowing the inclusion by authors of content that cannot translate to the printed page (datasets, computer code, animations, etc.) so that readers must access the electronic version to receive the full content.

As convincing as these arguments may seem (and I hope we made them so), the arguments against killing print at this time are also compelling. The opposition team in the debate presented them as follows:

- Publishers need to serve their readers, and there is ample evidence (both qualitative and quantitative, through research on this topic) that a large percentage of readers still prefer to receive a print issue that can be browsed at their leisure.
- There are many journals (mostly outside of the sciences) that are still only available in print and have not felt the pressure to convert to online dissemination.
- There are a number of journals in which the online version is not an adequate representation for the content because the currently available bandwidth and screen resolution does not allow for sufficiently high resolution of images.

- Many areas of the developing world still do not have an adequate infrastructure to allow reliable and effective access to online journals.
- An effective archive solution for the scholarly content that ensures its stable preservation and accessibility for future generations has not yet emerged from the many efforts to create this critical element.

There are, of course, counterarguments and counter-counterarguments to all of these issues—which is why this was a very lively and enjoyable debate!

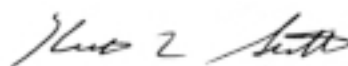
The archive issue mentioned above was not expanded upon during the debate because the SSP audience is very well aware of its many facets, but it is perhaps the most significant of the arguments against killing print at this time. Newcomers to the archive issue often think its essence is the need for a stable physical media on which to store content and keep it usable. They point to how content stored on nine-track tapes was lost because it was not refreshed, and how it has already become nearly impossible to recover data stored on 5.25-inch floppy disks written just a few years ago. From the standpoint of scholarly journals, however, physical media is not the issue. Unlike vast data repositories, the journal database is small enough that it can always be “live” on servers—mirrored on additional servers and routinely backed-up to physical media to be safe from catastrophic failure of equipment or media. The issue, rather, is whether the organizations operating those servers will be around in 20 (or 100) years and—even if they are—whether they will have invested the necessary resources to make sure that the content has been maintained so that it can be rendered correctly with whatever browser and display technology is in use at that time.

An enormous amount of effort is under way in the scholarly publishing community to develop standards (such as those based on Extensible Mark-up Language—XML) that will provide the necessary foundation for such long-term archiving of scholarly content, and great progress has been made on the tech-

nical side. The community remains nervous, however, about the organizational and business sides of the issue. How do you ensure that the journals of a particular publisher survive in the future if that publisher goes out of business? And even if you make arrangements for the electronic files to be loaded on one or more independent organizations' servers, how do you pay for the continual maintenance and migration of the content to ensure that it is always accessible?

These questions do not yet have very good answers within the broader scholarly publishing community, and lead to a level of nervousness about the prospect of doing away with the print journals at this time. The lack of a universally agreed-to archive solution is actually not the basis for declaring that we cannot stop printing issues, however, and this should not close the debate and discussion on this topic. A solution (or perhaps a spectrum of them) will emerge from the many archive proposals currently being discussed and researched. And in the meantime, there is little danger that the scholarly content currently in publishers' databases will be lost for future generations before such solutions can be found. So, we can and should begin talking about the prospect of AMS journals being no longer produced in print format, and what that would mean to our community. The AMS Publications Commission and its subcommittee on electronic publishing, the Information Systems Committee, are already looking at this issue in some depth (as well as others; see, for example, the piece by Randall and Emanuel elsewhere in this issue) and will seek to engage the broader AMS community in the coming months.

And, in case you are curious, a show-of-hands vote at the end of the debate led the moderator to declare a tie.



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