Jumping Ship: *Topology* Board Resigns

Allyn Jackson

"Why should one spend one's life maintaining a top-class journal—for Elsevier?" This rhetorical question, posed by Martin Bridson of Imperial College London, expresses one strong current of feeling within the mathematical community. Bridson was one of nine editors of the journal *Topology*, published by Elsevier, who resigned en masse in the summer of 2006, effective at the end of the year. The following January those editors, together with three new ones, reconstituted themselves as the editorial board of a new publication, *Journal of Topology*, which is owned by the nonprofit London Mathematical Society (LMS) and which will be typeset, printed, and distributed by Oxford University Press. Despite the resignation, Elsevier has made clear its intention to keep *Topology* going with a new editorial board.

First Mass Resignation in Math

Boards of journals in other fields have jumped ship in recent years, but this appears to be the first time such a resignation has happened in mathematics. And it happened with one of the field's top journals: *Topology*, founded by J. H. C. Whitehead in the late 1950s, has an illustrious history and carried some of the best work in that branch of mathematics in the twentieth century. Whitehead, who was a professor at the University of Oxford, personally knew the controversial publishing magnate Robert Maxwell, an Oxford resident. Because of this friendship, *Topology* started its life as a journal at Maxwell's company, Pergamon Press, which, according to Bridson, seems to have been generally viewed as a "benevolent" supporter of the journal. Over the years *Topology* has retained its close association with Oxford, and many of its editors have been on the faculty there. After buying out Pergamon, Elsevier took over *Topology* in 1994.

Not long afterward, the *Topology* board became concerned about the journal's cost. In 2004 the board negotiated a deal with Elsevier that cut the institutional subscription price in half. But this deal had no practical effect because of the rise of "bundling", a system whereby publishers package together large numbers of journals—even a couple of thousand, in Elsevier's case—and sell them to institutions for a single price. Around this time, the perception deepened within some segments of the mathematical community that Elsevier overcharges for its journals and exploits the work of mathematicians. While the *Topology* editors identified price as their main concern, some mathematicians may have turned against Elsevier for other reasons (see for example `http://cage.ugent.be/~npg/elsevier/`).

The *Topology* editors found that an increasing number of mathematicians refused to submit papers to the journal or referee for it. "We've been concerned for years about the price and tried to bring it down on different occasions, in different ways," explained Nigel Hitchin of the University of Oxford, one of the editors who resigned. "Finally we decided we had to do something. We did not want to preside over a decline in the quality of the journal." The editors of *Topology* received a surge of supportive emails right after they announced their intent to resign, and a further batch of encouraging messages followed the launch of the new *Journal of Topology*.

Prices and Alternatives

Robion Kirby of the University of California, Berkeley, has a soft spot for *Topology*, having published his 1965 Ph.D. thesis there. "I'm sorry to see [*Topology*] die," he said. "But it had to happen." In fact Elsevier is not ready to let the journal die. In a letter that appeared in the December 2006 issue of the *European Mathematical Society Newsletter*, Elsevier's journals publisher Robert Ross wrote: "We are committed to the long term future of [*Topology*] and its archive and to build upon its impressive heritage." Some believe that, after the resignation of the previous board and the supportive response from the mathematical community, Elsevier would have trouble recruiting new editors. Bridson finds it "unthinkable that any reputable mathematician would join a replacement board."

The current of opposition to Elsevier that one finds among mathematicians has been stoked over the years by activists like Kirby, who, after watching academic libraries strain under the pressure of rising journal prices, has taken up low-cost

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publishing as a personal cause. Kirby helped to launch *Geometry and Topology*, which began in 1996 as a free electronic journal and now charges a subscription fee that is quite low compared to other mathematics journals (the 2007 price is US$360 for paper and US$240 for electronic-only access). One motivation for establishing *G&T* was to give *Topology* some serious, low-cost competition and to provide a high-quality alternative for geometers and topologists who were concerned about journal prices. *G&T*, together with its spin-off journal *Algebraic and Geometric Topology*, published 5,000 pages in 2006, an output that according to Kirby constitutes "a big chunk of topology, some of the best of topology." Kirby's activism has gone yet further. In 2004 he banded together with several colleagues—including Joan Birman of Columbia University, Colin Rourke of Warwick University, and Ronald Stern of the University of California, Irvine—to start a nonprofit publishing enterprise, Mathematical Sciences Publishers, with Paulo Ney de Souza as production manager. MSP now puts out six journals (five in mathematics and one in engineering).

What does *Topology* cost? The 2006 institutional subscription price was US$1,665. One might compare that to the US$570 that the LMS will charge for *Journal of Topology* when it starts up in 2008. However, yearly subscription prices do not provide adequate comparisons. One reason is that journals differ in the number of pages they produce in a year and in the amount of material that appears on a page. Journal price comparison surveys try to take these differences into account. One well-known survey was prepared by Ulf Rehmann at the Universität Bielefeld (see `http://www.math.uni-bielefeld.de/~rehmann/BIB/AMS/Publisher.html`) using 2003 data gathered by the AMS about journal subscription prices and numbers of pages (`http:www.ams.org/membership/journal-survey.html`). Rehmann's survey identifies 55 journals (out of a total of 274) that cost US$1.00 per page or more and gives a price of US$0.99 per page for *Topology* (more recent AMS figures show *Topology*'s price rose to US$1.18 per page by 2005). The survey singles out *Annals of Mathematics* as a low-cost, high-quality journal, at US$0.12 per page. One might get a ballpark estimate of what the per-page cost of the *Journal of Topology* will be by noting that the four LMS journals in the survey range from US$0.40 to US$0.51 per page. The four AMS research journals included in the survey range from US$0.19 to US$0.29 per page.

Price comparisons based on yearly subscription cost have become less meaningful in recent years, because bundling and consortium deals have blurred the prices of individual journals. In his letter to the *EMS Newsletter*, Ross referred to bundling and consortium arrangements when he asserted that *Topology* "has never been more available" and that over 4,000 institutions around the world have either print or online access to the journal. "Our average price increase is amongst the lowest in the industry," he wrote. "We have worked with libraries to develop flexible purchasing options that offer significant discounts."

Bundling and consortium deals have not silenced Elsevier's critics, however, who maintain that such arrangements often take decisions about subscriptions out of the hands of librarians and users of journals and put them into the hands of administrators higher up in the academic chain of command. For mathematics, this is "a deeply insidious trend", Bridson said. "The intellectual integrity of journal publishing is all too likely to get lost in this scale of operation." He believes that mathematics journals should be owned by the mathematical community, and his preferred model is ownership by learned societies. In this model, commercial publishers could be used by the journal owners to produce and distribute journals, and the owners could shop around to various publishers to get the best deal.

Effects of the Resignation

"The resignation of the *Topology* editorial board highlights the real problem of scholarly publishing today, which is exorbitant journal prices, and highlighting that is certainly positive," remarked AMS executive director John H. Ewing. "Whether or not creating a new, less expensive journal is also positive isn't so clear. If the older, established journal continues to exist, libraries are now faced with the problem of subscribing to yet another journal, with no resources to do so. In the short run, that makes things worse for libraries." In fact, not only was *Journal of Topology* created to compete with *Topology*, so was *Geometry and Topology*. Thus today there are *three* journals where there was only one before. Even if libraries wanted to subscribe to only the two less-expensive journals, they might not be able to opt out of *Topology* if it is offered in a bundle.

The resignation of the *Topology* board could have a big impact if it were to set off a wave of resignations of boards of other commercially published journals. Indeed, rumors have circulated about other restive editorial boards. Nevertheless, it is unclear if a wave of resignations is in the offing. Hitchin noted that, although he is an editor for *Mathematische Annalen* (which is published by Springer and weighs in at US$1.09 per page in Rehmann's survey), he does not feel the same kind of pressure over that journal as he did as an editor of *Topology*. One reason is that *Mathematische Annalen* is a general journal that serves a wide segment of the mathematical community, whereas *Topology* serves a more focused, close-knit group,

Letter from Elsevier Journals Publisher

The following letter to the editor by Elsevier journals publisher Robert Ross appeared in the December 2006 issue of the European Mathematical Society Newsletter.

This August 2006, Elsevier received the resignation of the Editors of *Topology*. We regret this decision by the Editors as we have appreciated the opportunity to work with them to publish one of the math community's most historically significant journals. We are committed to the long term future of the journal and its archive and to build upon its impressive heritage.

Though we have attempted to address their concerns, it has become clear to us that the Editors are no longer interested in working with a commercial publisher. We have made a series of proposals to the Editors of *Topology* and we will build on these going forward.

At a time when publishers have been seeking to offer better value and to meet the needs of universities in consortia collectively purchasing digital access to diverse holdings, many scientists have continued to be focused on price per page as an indicator of value.

Whereas some in the mathematics community might feel *Topology* has become unaffordable, it has never been more available. Over 4,000 institutions throughout the world have either print or on-line access to this journal. During 2006, 27,000 downloads have been recorded on this journal alone. Because the majority of our subscribers purchase this journal in a larger set of journals, most are paying a fraction of the institutional subscription price. At the same time, the personal subscription price has been held at US$99.

Elsevier has taken steps to moderate price increases. Our average price increase is amongst the lowest in the industry. We have worked with libraries to develop flexible purchasing options that offer significant discounts. We have also made major investments in electronic distribution, archiving and administration. The cost per article downloaded has declined to an average of approximately US$2 per article.

Elsevier has invested US$160 million in digitizing and maintaining the digital archive of our entire journal program. This investment facilitates and assures electronic access and distribution of the research record, allowing instant access throughout the world or wherever and whenever the Internet is available.

A report by CSFB, quoting a case study at the University of California, confirmed that Elsevier provided much better value than a simple comparison of list prices would suggest.[1] More broadly, library statistics from organizations such as the UK's LISU[2] have begun to show increased access to journal literature and falling unit prices.

We want to assure authors—including those with papers currently under review with *Topology*—that the journal will continue. Indeed, subscribers to the 2007 volume will receive the 2008 volume at no further cost. This offer will apply whether they subscribe through a paper subscription or one of the electronic options or packages our customers more commonly choose.

We look forward to engaging the mathematics community to identify how we can work most effectively to serve and meet their needs. Pricing is an issue under continuous discussion here, as it is at all publishers. We again regret the decision of the *Topology* Editors but do appreciate their concerns. Elsevier is working hard to inform and work more closely with all of our journal editors and we want to publicly thank those who continue to provide a very necessary service to authors, the community, and to our publishing program.

[1] *Credit Suisse First Boston (CSFB), Equity Research, STM publishing sector review, 29 September 2004.*

[2] *LISU annual library statistics 2004:* `http://www.lboro.ac.uk/departments/ls/lisu/pages/publications/als04.html`.

where public campaigns against expensive journals have had a strong influence.

In 2005 a group of mathematicians met at the Banff International Research Station for a conference about the impact that increasing journal prices is having on the field. They crafted a statement they called the "Banff Protocol" that reads: "We agree neither to submit to, referee for, nor participate in the operation of any journal that charges an excessively high per page subscription fee, as compared to the average of the 25 highest impact journals in pure mathematics." In 2004 the average price per page of those journals was US$0.59. The list of people who have signed on to the Banff Protocol may be found on the Web page `http://members.cox.net/banffprotocol/`.

At the time of this writing, there were just under forty signatories. This relatively low number might simply be due to few mathematicians having heard about the Banff Protocol. But there might be another explanation. While most mathematicians would agree in principle that journal prices ought to come down, the reality of the struggle for jobs, tenure, grants, and advancement in the field means that the primary concern of most mathematicians is to get their papers published in the best journals they can. Journal price, if it enters the picture at all, is secondary. Until the balance tips the other way and large numbers of mathematicians start abandoning expensive journals, the status quo of journal cost is here to stay.