

Breaking News

As our readers know, the *Notices* serves both as the journal of record of the American Mathematical Society and as a leading periodical of mathematical news, exposition, and comment. In the second role, we publish the articles that appear under our editorial classifications of “Feature Articles”, “Communications”, and “Opinion”. These pieces are put into production the first of month N for the issue dated month $N + 3$ (so, for example, the articles in this March issue went into production December 1). “Put into production” means typesetting of the final version of authors’ manuscripts, or rather the electronic version thereof, by *Notices* staff based at AMS headquarters in Providence. And although the final manuscripts are themselves computer files, and hence their transmission—from the author, to the editor, to the production staff—allows for adjustments up to almost the last minute, in fact most of the pieces have a long gestation. The typical history of a *Notices* article begins with a suggestion—from an editor, from the author, or from a third party—which then becomes an invitation to the author. Then there is an initial submission, usually one or more rounds of revisions based on content reviews, and then some final rounds of revisions based on style reviews. Although this process can sometimes be months, it can also take years. (Our main mathematical feature this month, an exposition of the history and current developments in nonholonomic dynamical systems, is an example of months.) In short, and although there are exceptions, the *Notices* can’t really rapidly deliver mathematical news.

Notices readers are of course aware of this limitation and turn to its pages for explanation, exposition, commentary, and, I hope, entertainment while using other sources for quick news updates. A couple of articles in this issue, however, also illustrate another function of the *Notices* that is almost antipodal to publishing the latest news. I refer to Ronald Fintushel’s tribute memorializing Deane Montgomery and Martin Kreiger’s translation of André Weil’s letter to Simone Weil. Fintushel’s memorial article was written over a decade ago and has been appearing on his webpage. Weil’s letter was written more than half a century ago and appears (in French) in Weil’s collected works. (The translation here is updated from the one Kreiger did in his 2003 book published by World Scientific.) There is, of course, no way to consider either document as breaking news.

That these two pieces are well worth reading will be obvious. But I would like to comment too about why they are also well worth publishing here in the *Notices* despite their appearance and availability elsewhere. “Availability” is not always equivalent to “accessibility”, but anyone who knew about the pieces could presumably seek out the relevant webpage on the Internet (Fintushel) or the book in

a library or bookstore (Kreiger). Much like a research article published in an obscure but refereed and archival journal, once something is in the literature, a resourceful reader who needs the information can track it down, use it, and, if need be, cite it. The *Notices*, a leading source for information about the mathematical world, will from time to time bring to its large readership gems like the Fintushel and Kreiger articles which we feel deserve the exposure and which will inform and entertain our readers.

This is not the first time the *Notices* has carried articles that have previously been available from other sources or in other languages. For example, last month’s *Notices*, like the February 2004 *Notices*, carried an interview with the Abel Prize winners that originally appeared in the *European Mathematical Society Newsletter*. We have carried translations of mathematical articles that previously appeared elsewhere recently as well. The *Notices* welcomes suggestions for pieces that may have appeared previously in outlets or in languages from which republication in the *Notices* would be rewarding to our readers.

Returning to my previous theme of timeliness, I note that while the *Notices* may not be a good medium for rapid news, it can be the subject thereof. To take a couple of recent examples, in December, National Public Radio’s *Weekend Edition* program interviewed Ed Saff about his work with Doug Hardin on discretizing manifolds. The interviewer, Scott Simon, closed by advising listeners that they could read more by consulting Saff and Hardin’s paper in the November issue of the *Notices of the American Mathematical Society*. And, a few weeks earlier, the daily email newsletter of the *Chronicle of Higher Education*, which notes a few articles of general scholarly interest to its recipients, recommended Martin Krieger’s article “Some of What Mathematicians Do”, also from the November *Notices*. Just as the *Notices* is pleased when it can bring a piece from a less common source to the attention of its audience, we are pleased when the general media can draw the attention of its audience to articles in the *Notices*.

—Andy Magid

Letters to the Editor

Post Papers Online to Benefit Mathematicians in Poor Countries

In the article “The Elephant in the Internet” (“*Notices* of the AMS”, November 2004), D. Biss discusses the fact that Internet postings have an overall negative effect on the quality of mathematical writing and thus damage the aesthetic side of mathematics. He says, “I, for one, am hesitant to post my papers online; it always feels a little like leaving my infant in a dumpster.”

While I fully join the author in emphasizing importance of beauty in mathematical writing, I do not feel that the quality of writing by serious mathematicians has deteriorated since they started to put papers on the arXiv. In any case, for me there is an issue here that is much more significant: in many countries, including, for example, Russia and China, many libraries have no money to buy even “cheap” journals. So for many mathematicians in these countries, the arXiv and other websites are the only way to gain access to literature. This is why I think that mathematicians should put their papers online and try to protect the aesthetic side of mathematics just by being demanding of themselves.

—Pavel Etingof
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Grothendieck’s Environmental Inspiration

In the second of the wonderful articles about A. Grothendieck, it is said that I was “one of the founders of the French Green Party” (vol. 51, no. 10, p. 1200). This is formally inaccurate.

What is true, and more important, is that my friend Grothendieck’s influence made me become an environmental activist. I worked mostly at “Les Amis de la Terre”, the French branch of “Friends of the Earth International”, an N.G.O.

[non-governmental organization]. I chaired it from 1982 to 1989. At that time it was not involved in electoral politics. My personal involvements in elections and ecology parties were few and far between.

—Pierre Samuel
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A World without Mathematics...

On page 1334 in the December 2004 issue of the *Notices*, a map representing the “world without mathematics” caught my attention. As it turns out, this is a map of Iceland published in 1590 by a Dutch mapmaker. It is stunningly detailed for that time, as anyone can see who compares it to modern maps of Iceland. The map was originally created by an Icelandic scholar, Gudbrandur Thorlaksson (1541–1627). Gudbrandur was an excellent mathematician and astronomer. He studied at the University of Copenhagen at the same time Tycho Brahe was there, and later he became the rector of the school at Skalholt in Iceland before becoming bishop at Holar. His many activities included measuring the correct geodetic latitude of Holar as 65 degrees and 44 minutes. He is known to have studied books by astronomers and mathematicians including Georg Peurbach, Erasmus Reinhold, Peter Apian, and Oronce Finé. My great-great-grandfather’s map makes for a nice display in the *Notices* but is maybe not the best representation of a “world without mathematics”. Rather, its accuracy is a wonderful example of how mathematics was used to create a map of one country.

—Agust Egilsson
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Citing “The Mathematical Education of Teachers”

In their December *Notices* “Opinion” piece, Peter Ewell and Bernard Madison list Judith Epstein, Michael

Keynes, and me as editors of the MET report. The MET report is the work of many. This is more accurately represented by listing an entity like CBMS as its author, so the suggested citation for the Mathematical Education of Teachers is:

Conference Board of the Mathematical Sciences (2001), *The Mathematical Education of Teachers*, Washington, DC, and Providence, RI: Mathematical Association of America and American Mathematical Society.

—Cathy Kessel
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More on Underrepresentation

The central argument in David Gale’s letter on underrepresentation (December 2004, page 1318) is highly questionable at best, and the letter as a whole is unfortunately regressive.

I applaud David Gale for realizing that “...it is desirable to provide conditions that might increase the doctoral percentages of...underrepresented groups.” However, I strongly disagree with his explanation of the roots of this underrepresentation.

In his letter he states, “The fact is, some groups in our society—whether cultural, ethnic, or even religious—have put more emphasis on mathematical achievement than others.” This statement is vague and difficult to argue. (What exactly does David Gale think he knows about, for instance, contemporary black culture that would support this?) More importantly, this is merely a symptom of the deeper causes of underrepresentation.

The verifiable fact is that women and minorities face significant obstructions to education in the United States. There is a terrific amount of literature on this subject; for an introduction see *Savage Inequalities* by Jonathan Kozol. A lack of access to education not only explains the discrepancies in participation but also explains why some groups may appear to be less interested in mathematics. How can one be interested in something that one has never been exposed to?

A similar argument based on culture and religion was used in the mid- to late nineteenth century against providing literacy training to former slaves. See, for example, *A People's History of the United States* by Howard Zinn for more details. In retrospect it is clear that the obstruction to interest in reading was due to lack of access to resources and not the culture and religion of slaves.

It does not take a professional mathematician to recognize the pattern of social inequities facing women and minorities in the United States. Women and minorities are significantly underrepresented in positions of power throughout society. It would be impossible to argue that for cultural or religious reasons women and minorities simply do not desire positions of power. Professional mathematicians and the universities they work for are part of, and not separate from, the greater society. Women and minorities have been historically excluded from higher education in general, including mathematics, and the lack of access to education they face today amounts to continued exclusion.

David Gale also makes the parenthetical remark "(Unfortunately, we can't be like the students in the schools of Lake Woebegone who are all above average)." Given the subject matter of his letter, this is an irresponsible comment, and I hope the implication that some ethnic groups are naturally more talented in mathematics than others was not intended.

It is unfortunate that the culture of mathematics is so behind the times. I look forward to the day when all people, including gays, lesbians, bisexuals, visible minorities, biracial individuals, transgender individuals, and women, will be welcomed into the mathematics community without the discouragement of members within the community who claim publicly that members of "those groups" are somehow less inclined or able to do mathematics.

—Dagan Karp
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Gale Responds to Karp

The letter to which Dagan Karp is responding criticized a very specific project that stipulated a target date at which time math Ph.D's earned by various ethnic groups should be roughly proportional to their respective populations. I won't repeat the argument here. My letter never took up the admittedly important subject of the causes and cures of the present unequal representation (aside from a brief sentence in support of increasing opportunities for minorities in the mathematical community), yet Mr. Karp attacks me for what he thinks are my views in these matters.

I would welcome debate on the population proportional issue at any time, but it makes no sense for Mr. Karp to take me to task for views he attributes to me which I have never expressed and which he therefore cannot know.

—David Gale
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About the Cover

From dimers to random surfaces

This month's cover accompanies the short article "WHAT IS... a Dimer?" in this issue, by Richard Kenyon and Andrei Okounkov. The article discusses the figure.

Kenyon adds, "The tiling of the octagonal region on the cover with 60° rhombi can be seen as the projection of a three-dimensional, piecewise linear surface. In the limit of small lattice spacing, the surface arising from a randomly chosen tiling has an almost-sure shape (with facets delimited by the yellow cardioid)."

Other similar images can be seen on Kenyon's gallery page <http://www.math.ubc.ca/~kenyon/gallery/gallery.html>.

—Bill Casselman,
 Graphics Editor
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