



## A WORD FROM...

Sergei Gelfand, Publisher of the AMS<sup>1</sup>



Photo by Erin Buck.

One can say that publishing is one of the central activities of the American Mathematical Society. Looking at the five bullets in the AMS Mission Statement (<https://www.ams.org/ams>), you will see that publishing plays an important, sometimes crucial, role in each of them. My role as the publisher of the AMS is to supervise the mathematical content of everything the Society publishes, including more than 1,300 journal articles and about 90 books a year.

Of course, many groups and departments of the AMS contribute to transforming the content we receive from the authors (in the form of TEX or PDF files) into the printed or electronic book or journal issue. Without editing, printing, and marketing our books and journals it would be impossible to achieve anything. With the rapid advance of electronic publishing the role of the AMS Information Technology department becomes particularly important. Some of the activities of these departments are described in other “A Word from ...” columns; see, e.g., <https://www.ams.org/journals/notices/202001/rnoti-p2>

.pdf. Here I will speak mainly about how the AMS chooses and manages the content of its publications.

On the journal side, a lot of work is done by editorial boards. Journal editors evaluate submitted articles, organize the peer-review process, and work with referees and authors to maintain the high standards of our journals. The role of the publisher, together with the AMS Publications Division, is to work with editorial boards to set up and maintain journal policies and procedures, in particular related to appropriate coverage of important areas of mathematics and to backlog issues. We also provide advice and assistance in occasional complicated cases.

Much more complex work is required by the AMS Book Program. Going back in history we see that mathematical books seem to have existed forever. Archeologists have found examples in China (tenth century BC), Mesopotamia (sixteenth century BC), and Egypt (eighteenth century BC). Probably the best-known ancient mathematical book is Euclid’s *Elements*, written circa 300 BC. *Elements* has all the main features of a mathematical book: depth, breadth, and, very importantly, longevity.

I should say that longevity is a characteristic feature of books in mathematics which distinguishes them from books in many other areas of human activity. For example, at the time when Gerolamo Cardano and other Italian mathematicians had discovered and published formulas for solving cubic and quartic equations (Cardano’s *Ar Magna* was published in 1545), their contemporaries in chemistry—or, rather, alchemy—were coming up with secret manuscripts about the search for the *Philosopher’s Stone* that would transform *plumbum* into *aurum*.

The AMS started publishing in the late nineteenth century. The first issue of the *Bulletin of the American Mathematical Society* was published in 1891, and the first journal devoted exclusively to research, *Transactions of the American Mathematical Society*, was launched in 1900. AMS book publishing started in 1905, with the publication of the first volume of Colloquium Publications, called just *The Boston Colloquium*. Another notable early book is Felix Klein’s *Lectures in Mathematics*, originally published in 1884 and reissued by the AMS in 1911.

Over the next 50+ years AMS publications expanded, and by the 1950s the AMS had two book series, Colloquium Publications (started in 1905) and Mathematical Surveys and Monographs (started in 1943), and two more journals, *Mathematics of Computations* (started in 1943) and *Proceedings of the American Mathematical Society* (started in 1950).

The next significant expansion of the AMS publication program occurred in the late 1980s and early 1990s. The new *Journal of the American Mathematical Society* was launched in 1988 and almost immediately became one of the world’s top-level research journals in mathematics. On the book side, around that same time the AMS expanded

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<sup>1</sup>*The opinions expressed here are not necessarily those of the Notices or the AMS.*

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its program to include books intended for graduate and advanced undergraduate readers. The Graduate Studies in Mathematics series, launched in 1993, and the Student Mathematical Library series, launched in 1999, are two of the most notable ones to be mentioned here. Also, the AMS launched the University Lecture Series (in 1989), intended for young researchers, and the Mathematical World Series (in 1991), modelled on a series of Russian books published in the Soviet Union and intended for high school and undergraduate students with a strong interest in mathematics.

At the same time, the AMS began working with other mathematical organizations to start co-publication book series. Usually, this work involves organizations that produce excellent mathematical content in the form of books and lecture notes but have little experience in publishing. Among the most successful co-publication series are Courant Lecture Notes, published with the Courant Institute, and Mathematical Circles Library, a series of books for organizers and participants of math circles, published with MSRI.

About fifteen years ago the AMS started looking at the possibility of publishing textbooks for undergraduate education. Before that the AMS's thoughts about undergraduate textbook publishing were that we could not compete with big commercial publishers and their huge marketing machines involving armies of sales people and that any attempt to enter this segment was destined to fail. This changed when colleges and departments became more and more concerned with the price, and often the quality, of books from major publishers. Simultaneously, some of these publishers decided to stop publishing textbooks for the upper-level undergraduate market, forcing authors to look elsewhere for an appropriate home for their books.

The AMS's direct involvement with publishing undergraduate texts started in 2008 when Paul Sally, the former editor of the Cengage Learning book series, told us that Cengage wanted to close this series and was looking for a publisher to buy the rights to, and all the stock of, books in the series. The negotiations resulted in the launch of the AMS Pure and Applied Undergraduate Texts series (aka the Sally series); the first ten volumes in this series, released in 2009, are books purchased from Cengage.

The next important step toward the expansion of the undergraduate component of AMS publishing happened when the AMS took over the book program of the Mathematical Association of America (see <https://www.ams.org/journals/notices/201901/rnoti-p57.pdf>). The MAA had been publishing books for the undergraduate classroom for decades and had in its portfolio many excellent texts. Blending AMS and MAA book lists and publishing traditions into a rich comprehensive book program has been a major challenge which, I hope, we are successfully resolving.

Currently the AMS is offering at least one and in many cases several textbooks for almost all standard courses in the undergraduate math curriculum, and our goal is to make the AMS Bookstore the place where instructors look for a text they can use in any course they teach.

There are many more aspects of the AMS Book Program than what I have mentioned here. The AMS has several highly visible proceedings series, some of them going back to 1980. It publishes books on entertaining mathematics and books for children. We have several so-called "how-to" books advising mathematicians on various aspects of their professional activity. Our Translations of Mathematical Monographs series was an important resource for informing Western mathematicians about research in the Soviet Union, China, and Japan. Last but not least, the AMS has published several books devoted to issues of diversity and inclusion in mathematics (see, e.g., *Living Proof*, freely available at <http://www.ams.org/about-us/LivingProof.pdf>), and we are committed to publishing more of these.

To conclude, I want to emphasize the importance of active communication between the AMS and the entire community of mathematicians. As I said above, our publishing activities are rooted in the mission of the Society. We exist to serve the needs of the community—to produce books and articles that you will want to read, to study from, to teach from, and to recommend to a colleague or a student (i.e., books and articles that will contribute to all aspects of your work as a mathematician). So, please write mathematics, read mathematics, and, most importantly, talk with us, ask questions, make suggestions, and tell us what we do well and what needs to be improved. I am convinced that together we can advance the quality and the reach of AMS publishing.