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A Half Century of Reviewing

D. H. LEHMER

In going over in my mind the more than 65 years that I have devoted to mathematics the activity that I have sustained the longest, besides research, is that of a reviewer for *Mathematical Reviews* (hereafter referred as *MR*). I plan to give some account of this activity because reviewing of research papers never gets the attention it deserves in the literature.

The circumstances surrounding my becoming a reviewer for *MR* were a little peculiar. The year was 1938 and I was in Cambridge, England. I had been writing reviews for *Zentralblatt für Matematik*. I began hearing of the expulsion of the Jewish reviewers of the Zentralblatt and of the resignation in protest of some of the reviewers in England and in the United States. I quickly resigned from the *Zentralblatt*. Then came the news that a review journal was being planned in the United States and I was asked to review for it.

My first review for *MR* appeared on Pages 38-39 of vol.1 (1940) as a discussion of the book *Elementary Number Theory* by Uspensky and Heaslet. I mailed a review of a paper on numerical functions to *MR* yesterday. This makes 48 years of reviewing. I think that must be something of a record.

Over all these years I have seen little change in the actual job of reviewing, in spite of the substantial increase in the number of books and papers reviewed each year and the great increase in the complexity of the classification of the subject matter. This is no doubt due in part to the excellent administrative staff. New volunteers are added to the reviewing staff as needed. I can only imagine the problems that beset the crowd in Ann Arbor. For that I am thankful.

At one time I volunteered to be on a small panel of reviewers who would accept papers written in an obscure language. It surprised me how easy it

was to read a paper or book without knowing the alphabet or the grammar of the language. This is because the author adopted the universally accepted mathematical notation established by Euler. I can recall reviewing a book written in Turkish, I think, whose title consisted of two words. My wife accuses me of not learning which word means "number" and which means "theory." Nevertheless, the book was well written.

The obscure language panel was abandoned once the reviewing staff became more international. We used to see quite a lot of reviews written in French and German and less frequently in Italian. Now there is an "only in English" policy for reviews. While English is becoming the preferred language of science these days, this policy is detracting from the international character of *MR*.

Another peculiarity of the reviewer's work is the tendency of *MR* to assign a paper by author A to reviewer R, who recently reviewed a previous paper by A. This is natural. However, this is sometimes hard on the reviewer who thus becomes an unwilling expert on a tiny subject of mathematics.

Other problems with writing a review arise when the author is not conforming to the "terse and unmotivated nomenclature and notation" of the professional mathematician. This is especially true if the subject is Number Theory, where so many of the contributions are from amateurs. These authors feel compelled to write about the details of their personal discoveries and methods, when a little reading would have disclosed that their discoveries were merely rediscoveries. It is always depressing to write a review of such a work. One can dismiss the author's work with "a partial rediscovery of a theorem of Gauss." But on the other hand there is an amateur with ideas to encourage.

Very occasionally the author is so upset by an unfriendly reviewer that he writes a letter to *MR* demanding the firing of the reviewer as an incompetent ass. He imagines that the reviewer is being paid for his work. It is now that the executive editor comes to the rescue of the reviewer and assures the author that the reviewer is working for the mathematical community and not for the author.

The current number of the *Notices* has a column on *MR* in which it tells of the problems of administrating the publication and the application of high technology that we may expect in the future. As fascinating as this information is, it gives no substitute for preparing an honest review of each paper or book. A recently suggested substitute has been a review of the paper by the author himself. This self-review would be submitted by the author to *MR* at the time the paper is accepted for publication, thus saving months of time. A few reviews of this kind have appeared in *MR* already. Any large scale adoption of this policy would result in the downgrading of the quality of *MR*. Even replacing an honest review by an author's abstract of the paper cheapens the publication somewhat.