Most authors experience that “sinking feeling” when reviewers’ comments and recommendations lead to rejection of a manuscript or the need for multiple revisions. It is important to bear in mind that this happens to most, if not all, scientists. Many times the reviewer or editor is correct, and with suitable revision, a better paper is ultimately published. Sometimes it is not. The author can then publish the work elsewhere and have the pleasure of telling colleagues of the mistake a journal made in not publishing a seminal piece of work. Few of us tell of the rejected papers in which the reviewer correctly identified a “fatal flaw”!

For a journal editor, there is another “sinking feeling” moment: when a paper is published with major problems and later withdrawn by the authors. The journal Nature recently noted that “we do already seek to ensure that major claims are backed by rigorous data and argument” (http://www.nature.com/nature/journal/v444/n7122/full/444971b.html). The benefits (or otherwise) of peer review have been subject to much debate. There is a strong belief by scientists that peer review works, but this is not necessarily supported by the evidence (http://www.the-scientist.com/article/display/23061/) However, it is contended that without peer review, confidence in the science would be greatly eroded.

*Poultry Science* has a rigorous system of reviewing papers submitted. I will describe the peer-review system that is employed by this journal. First, authors indicate which section of the journal is most appropriate for their paper. When papers are received electronically, the section editor (of the section selected by the authors) assigns the manuscript to at least two reviewers. One of the reviewers is usually an associate editor of the journal. There should not be a conflict of interest (personal or scientific) between the reviewer and the author. The selected reviewers receive an e-mail letting them know that they have a manuscript to review. It is hoped that the paper is reviewed in a timely and professional manner. The journal relies on the sound judgment of reviewers. This takes the time of the reviewer and is greatly underappreciated. If the reviewer is late submitting the review, e-mail reminders are sent. When two reviews are available on a paper, the section editor automatically receives an e-mail stating that the reviews are complete. Usually the section editor makes the decision whether to recommend that the paper be accepted, revised (requiring either a major or minor revision), or rejected. The section editor drafts the letter to the authors. The editor-in-chief receives an e-mail that the reviews and the section editor’s recommendation are complete. The editor-in-chief then makes the final decision on the paper. There may be discussions back and forth with the section editor if the editor-in-chief is not in full agreement with the recommendation or statements to the authors in the response letter. The section editor (or occasionally the editor-in-chief) may decide that there needs to be a third review before a final decision is reached. This is often the case if there are marked differences between evaluations from two reviewers.

Reviews of papers are said to be done blindly without knowledge of the identity of the author(s) or their institution(s). This is true but only up to a point. Clues to where the work was done can come from the acknowledgments, the location of the institutional animal care and use committee (IACUC), the tendency for self-citation by authors, and the sources for chemicals and other supplies. Even with the blind review of submitted manuscripts, there can be problems. Any review has a significant subjectivity about it. The reviewer may have biases (wanting to help a friend or delay and confound a competitor) or become irritated by the style and substance of the manuscript or be affected by extraneous factors. Virtually all reviewers strive to overcome these and provide as objective a review as possible. Reviewers are looking for problems in a manuscript. The reviewer that states “accept as is” does not provide insight to the acceptability of the work. In the case of the very few reviewers that do not show professionalism, they tend not to get asked to review again. Unfortunately, this means that good reviewers are frequently overworked as reviewers.

It is essential that a journal editor has complete editorial freedom. It would negate the principle of peer review for pressure to be applied as to whether a paper should be accepted or rejected. Such pressure could be envisioned as coming from the society’s governing board or senior administrators. This has not happened with *Poultry Science* during my tenure and would not be acceptable.

There is another form of peer review that occurs after a paper is published. Experienced researchers and many students read the paper and use it is their own research. Citing a valuable paper is a visible accolade. Peer review extends to the following questions: Can the results be
duplicated? Can the method(s) be established and shown to work in a different laboratory?

In conclusion, peer review is a tremendous service to the reader and to the authors by improving the paper through a revision, or series of revisions, or by rejecting work when there are concerns about quality. Sometimes there are mistakes in the peer-review process such that an outstanding piece of work is rejected. It may be ahead of its time or the reviewers are tied to the existing paradigm or it may be expressed less clearly than it might or it may be wrong. Irrespective of whether it is the quality of the paper submitted or the outstanding work from the reviewers, associate editors, and section editors (I am thoroughly convinced that it is both), it is a joy to see the continuing growth in size and quality of *Poultry Science*. 