

# The Art of Publishing Methods

*"It is wrong to think of science as a mechanical record of facts, and it is wrong to think of the arts as remote and private fancies. What makes each human, what makes them universal, is the stamp of the creative mind."\**



Martin P. Sandler, MD

**F**or centuries, the conflict between art and science was an ongoing battle that took place in the minds of those who saw a dichotomy everywhere they looked. Surely, an exquisite painting, created by an esthetic soul, had nothing to do with the cold machinations of science. Conversely, an intricately conceived theory in physics or biology, once it had been meticulously proven, was the polar opposite of anything created by artistic subjectivity. These days, however, we tend to give our minds more leeway and can equally appreciate the work of both Stephen Hawking and Salvador Dali (though we may not fully comprehend either). We now tend to view science and art as coexisting in subtle ways that both enrich and amaze us simultaneously.

Having made editorial decisions for this *Journal* for 5 years now, I can assure you that publishing a medical

periodical is, indeed, an intriguing mixture of science and art. There are certainly elements of both in every stage of the editorial process. This is particularly true in regard to the initial, paramount step: preparation of the manuscript for submission. Although based on hard data, any clinical or basic science investigation must pass through stages of conception, organization, and composition that often require skills beyond that of pure science. In order to reach its intended audience, a manuscript must artfully present the authors' scientific evidence in a prescribed manner. It is this familiar "packaging" of the group's specific findings that allows the information to be assimilated as universally as possible.

Of course, this writing process is actually the final phase of any scientific endeavor intended for publication. Once the investigators have developed the premise of their study, every effort should be made to discover whether their particular approach to this topic has been reported previously. Authors must bear in mind that the individuals chosen to review their manuscript will be well-versed in this specific area and usually quite willing to conduct a literature search to become familiar with any pertinent recent advances. As an editor, it is extremely satisfying to read reviewers' comments and discover just how broad-based and up-to-date their knowledge is regarding the topic at hand. Having one of the top researchers in a specific area judge the degree of novelty in an author's topic can be a great incentive to conducting a more exhaustive review of related publications on that individual's next research project!

When developing a potential study, it is extremely important to keep in

mind that a groundbreaking hypothesis is only as good as the methods used to gather the data. While it is often pointed out to authors during the peer-review process that their specific findings do not fully support the manuscript's conclusions, the truth is that the wording of excessively grandiose conclusions can be toned down fairly easily during the revision process so that they appropriately represent the work's true findings. However, it is rarely ever possible to repair major flaws in the actual methodologies used in the study. Indeed, it is no accident that the category of scientific merit comes first on *The Journal of Nuclear Medicine* reviewer evaluation form. Simply put, the Materials and Methods section can make or break almost any manuscript. If the scientific groundwork has not been meticulously planned, then no degree of artistry in the writing or organization of the manuscript can ever begin to make up for those grievous flaws.

If faulty methodology plays a key role in the rejection of a good percentage of manuscripts, it may surprise many authors to hear that lapses in presentation generally do not. This is based on the premise that general organization, writing style, and grammar are essentially fixable. If the premise is novel, the methods are sound, and the conclusions are appropriate, then faulty elements such as excessive text length, redundant tables, or awkward wording will not doom a manuscript. Often, at least one of the paper's reviewers will offer specific suggestions for improving many of these minor flaws and possibly recommend the assistance of someone with a background in scientific editing. Even though such errors in presentation are not fatal, a high degree of professionalism in ev-

\*Bronowski J. *Science and Human Values*. New York, NY: Harper and Row; 1965:27.

ery aspect of the manuscript is expected when offering one's work to any scientific publication. Certainly one of the main reasons to adhere to the intended journal's publishing guidelines is to give the reviewers the maximum chance to concentrate as much as possible on the scientific components of each manuscript. Lapses in phrasing, terminology, spelling, etc., can occasionally be overlooked, but frequent errors place an undue burden on those individuals who volunteer their time to critique papers.

Although weaknesses in presentation can be remedied during the revision process, very little can be done to improve a manuscript's probable contribution to the scientific literature. Even a unique topic does not ensure that publication of that paper will benefit a journal's readership. Some novel but fairly obscure clinical findings may not be seen as advancing physician awareness sufficiently to warrant publication; and the same may be true for basic science investigations that have no foreseeable clinical applications.

However, there are instances when an editor must take a leap of faith with

a manuscript that one or both reviewers believe to be too far beyond that journal's usual publishing confines. Such instances bring into play a certain level of artistry necessary to lead a scientific journal through the monthly publication process. Including articles that some colleagues may consider marginal in regard to subject matter (but not quality) is an occasional call that an editor must make in order to keep a journal on the cutting edge of its field. In addition, the editor owes it to both authors and readers to keep submission turnaround time to a reasonable average so that scientific results are published as quickly as possible. However, although our average time from submission to publication in *The Journal of Nuclear Medicine* is well within the medical publishing average (8–9 mo), this could be lowered rather significantly if more authors would complete their manuscript revisions within the allotted time. This is yet another reminder that the scientific publishing process is dependent on several key players, from the authors and reviewers to the editor and, ulti-

mately, those who subscribe to the journal.

It is to all of these individuals with whom I have had either direct or indirect interactions as Editor-in-Chief that I would like to express my deepest gratitude. Yes, I am extremely pleased that our most recent impact factor has set an all-time high for the *Journal*. That is simply a barometer of how many of our submissions each year meet or exceed the high standards of manuscript preparation outlined above. However, I take much greater satisfaction from countless opportunities to share the scientific findings of my colleagues with others in the nuclear medicine community. It has been a remarkable experience, and I truly hope that my successor, Dr. Heinrich Schelbert, enjoys both the science and the art of it as much as I have. He will begin working with new submissions on July 1 of this year, and I would like to officially wish him good fortune with this splendid endeavor.

**Martin P. Sandler, MD**

*Editor-in-Chief*

*The Journal of Nuclear Medicine*

