Journal Editing as I See It

Hugh J Miser

From time to time there arise in professional circles discussions of how scientific and technical journals are managed and especially how the editors choose their contents. Members of INFORMS had such a discussion recently, and the editor-in-chief of this journal offered a thoughtful response [Rothkopf 1994].

Unfortunately for a scientific community dedicated to seeking models of operating systems involving human behavior, OR/MS has offered no discriminating and objective studies of the editorial process to enlighten those with concerns about it. However, I once published a partial exception: At the end of my term as editor of Operations Research, I presented an analysis of some quantitative aspects of the editorial operations, with particular attention to the delays between submission and final publication [Miser 1974b]. (A recent unpublished analysis showed that the distribution of delays has not changed significantly since that time.)

In view of the lack of systematic inquiry into an operation of such clear importance to scientists, it is hardly surprising that a lack of discriminating information forces them to view the editorial process as a black box. Thus, if they suspect its internal workings have unhappy properties, there are few, if any, factual inhibitions to believing that their suspicions are correct (see, for example, Armstrong [1996]). On the other hand, there exists in any scientific community a cadre of persons who have either served as head editors or carried out important duties as part of a journal's editorial team. While their testimony cannot constitute a scientific study—or even anything like a complete description—it can eventually add up to a clearer picture than the one the average working scientist now sees.

Therefore, this paper offers a view of the editorial process as I see it, based principally on my experience with Operations Research but also informed by various other editorial activities over the last 50 years and by the ideas that this experience has led me to develop about how the process should be conducted.

This view, including the principles of good behavior that it suggests, is entirely personal. Thus, other editors of scientific and technical journals—and particularly the editor-in-chief of this journal—may not share it entirely.

The Foundational Outlooks for an Editor

Clearly, editors at any level of a journal's masthead should have a broad conception of the science their journal treats. This general principle should include these outlooks:

—a strong and broadly based foundational concept of science and how this concept applies to the journal's field;

—an overview of the subject's history and present state, including a critical view of its strengths and weaknesses, as well as important gaps that need to be filled;

—a creative and imaginative view of the future prospects and opportunities for the field, including how it can grow by multiplying and strengthening its methods and extending them to new arenas of inquiry. This is especially important if the journal is to have a venturesome role in developing its subject. Without such a concept and the leadership it implies, the journal will retreat into stagnation.

As my term as editor of Operations Research was drawing to a close, I thought that some honest confession in these regards would be appropriate, so I published a short note describing my views of them [Miser 1974a]. For some time I have felt that those ideas of two decades ago must be fairly dated by now, but a rereading tells me that they have held up better than I had surmised they would. In recent years, I have deepened and refined my foundational concept of science (see, for example, Miser [1993]), but the simpler one of that earlier time is still relevant and useful. And the needs I identified then are as appropriate and important now as they were then.

The Editorial Process

The editorial process begins when an author submits a paper to the head editor, or, in the case of Operations Research, to the area editor for the field in which the paper's work was done. This editor may send it directly to two or more referees or to an associate editor who will do so. When the referees' reports come back to the editor who requested them, he or she reads them carefully along with the paper itself to make a judgment of their relevance and validity. An associate editor then passes the file up to the area editor with a recommended decision: If negative, the area editor can, if in agreement, reject the paper; if positive, it goes to the head editor for a final decision about publication and allocation to an issue.

A process so widely distributed cannot be expected to be entirely uniform. Therefore, one of the head editor's chief obligations is to oversee its workings to be sure that the journal's central ideals and principles are observed throughout the editorial staff.

Since it has been widely observed—and probably with some justification—that the refereeing and editorial decision processes of scientific and technical journals tend to be conservative, one suspects that novel and revolutionary new ideas and inquiries have a harder time working their way through these processes than the more usual contributions closely aligned to previously published material. Thus, one of the key challenges to the head editor is to see that venturesome papers are encouraged and treated appropriately (for further discussion of this point, see Miser [1998]).

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Referees' Responsibilities

The goal of the editorial review process is not just to decide what should be published and what should be turned down. More important, it is not only to improve the quality of what is published but also to contribute to improving the quality of the work in the field as a whole. Since the detailed consideration of papers submitted for publication begins with the referees, it is important to consider their responsibilities in this light.

The referees' responsibilities begin with verifying the correctness of the paper's findings and using this result to support a judgment as to whether or not the findings are a sufficient contribution to the field to warrant publication. In either case, the editors who consider the referees' reports need arguments and evidence supporting the referees' views. It is especially important for a negative view to be buttressed with hard evidence from the paper, so that the appropriate editor can give the author(s) probative reasons for rejection.

But the referees' responsibilities go beyond such a simple yes-or-no view of a paper. Since one of the important goals of the editorial review process is to improve the quality of work in the field, the referees' reports should contribute constructively to this end. Papers can usually be improved in various ways; referees should suggest such improvements. Authors whose papers are rejected deserve an objective view of their papers' failings or inadequacies, so that they can avoid them in future work and submissions. Referees can play important roles in making such efforts at improvement, not only through their reports, but also by annotating manuscripts appropriately.

Referees and editors can make especially important contributions to a paper containing a seminal idea or a challenging result that is buried in a poor presentation or perhaps not yet developed adequately. Constructive suggestions and proposed revisions can often prompt the author(s) to improve the work sufficiently to warrant publication—thus bringing new ideas to the fore that might otherwise be lost.

Although it must be admitted that all of science—and, of course, OR/MS—is an intensely human enterprise, referees should approach their responsibilities as objectively as humanly possible with the end of improving the field clearly in view. Improving the entire structure begins with improving each element that may enter into it. In this spirit, personal prejudices and ad hominem attacks are unprofessional and must be strictly avoided.

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Some Ideas on How the Editorial Process Should Work

The editors should not run a marshaling yard in which they merely switch papers about, with the referees' reports acting as the waybills designating their destinations. Since the reports come from a wide variety of people with widely varying outlooks, the editors must examine them carefully, together with the papers they are commenting on, to be sure they are constructive, relevant to the journal's aims, and free of any sort of inappropriate extraneous prejudices or influences. Referees are not gods—and indeed they may be as prone to errors of fact and judgment as authors. Therefore, the file consisting of the original paper and the reports deserves careful editorial consideration before the editors formulate a recommendation and reach a decision.

A common situation dictating this careful approach is the one in which the referees disagree. Here the basic issue is usually what the basis for the disagreement is. I once received a note on practice in which one of the interesting aspects of novelty was that an actual arrival distribution had been observed not to be random. Despite this evidence, however, one referee (no doubt the resident of an ivory tower somewhere) recommended rejecting the note because, he said, "it is well known that arrivals are random." His report did not go to the author.

On another occasion, I received a paper that developed a venturesome approach to evaluating the state of a person's health. Since it crossed several boundaries, I sent it to three referees with varied backgrounds and interests. The returns were two for and one against publication. The negative review based its recommendation on the fact that applying the new concept to a certain treatment program would fly in the face of then current standard practice. Since the purpose of the paper was to open up thinking about such practices, I came down in favor of publication. This decision was amply supported several years later at a medical meeting in far-away Austria, where I heard the paper's new concept referred to positively no less than six times in a single meeting session. The paper's goal of opening up discussion had clearly been met.

The lesson of these examples is that referees' reports are not always to be taken at face value. Indeed, when I thought that they were mistaken or irrelevant—or otherwise objectionable—they either did not go to the authors or I excised the objectionable parts.

In any case, referees' reports vary widely. A negative report should cite specifics, so that, if he or she agrees, the editor can transmit a reasoned basis for refusing to publish. Indeed, my view is that any refusal to publish must be supported by clear reasons related to the paper's content. This requirement has two benefits: it enables authors (1) to see what was considered inadequate in their work so that they can improve it and (2) to write rebuttals to the editor if they find the reports to be inaccurate or otherwise inappropriate. In my view, this latter opportunity is especially important, although in my experience authors

have seldom availed themselves of it. For authors to write carefully considered and forceful rebuttals to inadequate or mistaken reviews can be an important corrective for what must be viewed as a very human—and fallible—process.

Two possible transgressions of the usual refereeing protocol must be carefully guarded against: any sort of ad hominem attack, even if veiled, and any hint of prejudice, personal, institutional, or substantive. I know of no way for editors to guard against these transgressions other than to read the reports of referees and subeditors carefully; double-blind reviewing has the appearance of a foolproof guard, but I suspect that it will fail to deter a skillful reviewer bent on mischief. One might think that such aberrant reviews are rare—and I dare say that this is the case—but, if allowed to reach authors, they can easily become celebrated and cause widespread damage. I speak from observed experience here and urge ironclad discipline in this regard: even if the offender is a highly regarded leader of the profession, it will be easier to deal with him or her directly than to control the damage caused by timid acquiescence.

The rule against personal attacks is the counterpart of one of Robert's rules for orderly assembly: it permits the writer's subject and its analysis to be criticized strongly but forbids attacks on the writer's person. The issue of prejudice is more subtle, but a prudent and sensitive editor can be counted on to eliminate it from consideration by appropriate means.

Finally, editors should view their task as seeing that worthy material gets before the professional community, not just reaching yes-or-no decisions on manuscripts. It is not as rare as one might expect that the germ of a great idea or a seminal analysis arrives at the editorial desk in extraordinarily poor form—a diamond in the rough. It is easy to turn down such a paper because of its unpublishable form, but this is to duck one of the most important opportunities of editorship: to work with the author toward a revision that puts the new idea or analysis into a well-developed and attractive form—in sum, to polish the diamond. It usually takes a great deal of time, but in my experience, it is one of the joys of being an editor. Indeed, I look back with pleasure on the notable papers in the literature for which I played such a role. As a footnote, I can add that, without exception, the authors involved appreciated my cooperative efforts.

Although the head editor ultimately bears responsibility for all these matters, the other editors share it—and can make the head editor's life a great deal easier by how energetically, imaginatively, and rigorously they discharge their duties.

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Steering a Journal into Venturesome New Areas

Any journal editor soon recognizes one of the immutable realities of the job: editors can publish only what people write and submit. Further, as already noted, the supporting process is essentially conservative, so that it acts, no doubt in subtle rather than overt ways, to deliver mostly conservative candidate papers for publication. How can head editors overcome these handicaps in the quest for material venturing into new areas?

First, they can make the supporting editorial staffs aware of the desire to promulgate novelties and thus make them less likely to suppress unfamiliar possibilities. Second, editors can solicit articles from known pioneers. And third, when such material comes to hand, it can be given prominence, for example, by giving it the lead position in an issue. Taken together, these three procedures are not likely to do as much as the head editor desires, but they will help.

Lest the reader think that this discussion is entirely theoretical and unrealistic, I will cite a recent example that came to my attention in a roundabout way. A paper was submitted to one of our leading journals that analyzed a problem situation clearly within the domain of interest to OR/MS practitioners. However, the authors had used a technical approach not hitherto employed in OR/MS work. The referees urged that the paper be denied publication on the ground that the tool used was not part of OR/MS, and the subeditor concurred and passed the reviews on to the author. It appears that these reviewers held the view that OR/MS is the sum of its methods, rather than an effort to understand phenomena within the arena of people-machine-nature systems, using means that are appropriate, even when they may be new to OR/MS. Their basic understanding of science—and what OR/MS should be about—was badly skewed, and they had missed the point that novel new methods should be—and are—welcome in OR/MS.

As the editor of Operations Research—and more recently as its area editor for the OR Forum—I have to confess another approach to the problem of avoiding troublesome reviews of a venturesome paper when there was no community of peers working in the subject it treated. In the absence of suitable reviewers, I have acted as both referee and area editor. This path of least resistance must be used infrequently and only in suitably novel cases, but experience has taught me that the papers prompted by their novelty to be so handled have usually become widely read and discussed—and have often prompted further work on their subjects, thus being influential in our professional community.

What to Publish

Authors submitting manuscripts to journals may feel—as I am sure many do without realizing it—that, if and when their papers are favorably reviewed, they have taken out liens on space in the journal. In this era of

budget stringency and page limitations, this cannot be deemed to be the case. The head editor must always be conscious of the obligations to two constituencies: the readers and the authors. There is no easy formula for balancing these obligations when they conflict, as they sometimes do. An experienced editor will have learned that the circumstance will alter the case and that the course adopted must reflect the realities.

The essential role of the head editor is to choose what to publish, when to publish it, and how to arrange the journal's contents.

—One of the key issues is balance. In the early '70s Operations Research could easily have devoted virtually all of its space to papers on linear programming and queuing theory and this at a time when operations research was branching out in many new directions. By various devices—such as delaying publication of some papers or raising the standards of acceptance in some subfields—I was able to avoid the undesirable fate of Operations Research becoming a one- or two-subject journal. The editor must judge balance in the light of his or her overview of what is going on in the field covered by the journal and of what leadership role it should play in developing this field.

—The editor will want to highlight papers of wide interest, such as those on hot topics or offering challenging critiques of the profession that the journal serves. These essays will get priority in the publication queue; papers of narrower interest will have to give way. Conscientious editors want to keep publication delays down as much as possible, but they should not run queues with strict first-in, first-out disciplines.

—Arranging the contents is a way of suggesting emphasis and importance, since most readers are more likely to read material at the beginning of an issue than papers appearing later on. These devices suggest some consequences that may not be entirely agreeable to authors but which will arise in any well-edited journal: Some favorably reviewed papers may be rejected for publication on the ground that space for their subjects has to be limited; and times from acceptance to publication may be significantly nonuniform.

Responsibilities of the Authors

So far I have considered mostly the responsibilities, duties, and opportunities of the editors and their assisting referees. However, authors have important obligations that can help make the editorial process go smoothly and efficiently:

—The first and most important is to submit only articles that have enough substance to be of potential interest to a segment of the journal's readership or that challenge a significant portion of the profession in some important way. Authors with novel messages should not be deterred from submitting their work by noting that the journal has not earlier published similar papers. Editors are eager to expand the scope and interest of their subject and hence will welcome venturesome papers.

It is especially important that the title and abstract invoice precisely the goods the paper delivers.

—The second obligation for authors is to delay submitting a manuscript until it is mature. Steps to maturity include (1) letting early drafts sit in a drawer for a while so that the manuscript can be approached anew with a somewhat fresh mind more than once, and (2) getting some respected colleagues to read it and offer constructive comment (this is particularly important for inexperienced authors). A manuscript subjected to such steps and redrafted more than once is more likely to be mature than one that is not so treated.

The title and abstract are crucial: They will be read first by the editors, the referees, and the journal's readers. After the paper is published, they will appear in International Abstracts in Operations Research. Therefore, it is especially important that they invoice precisely the goods the paper delivers. There is no law that a title has to be short; if a longer one offers a precise invoice, then it is to be preferred. For example, such a general and unspecific title as "On operations research" is to be shunned.

Similarly, the abstract should state precisely and clearly the problem considered, the form of analysis, and the findings. The common practice of using the passive voice throughout an abstract should be avoided: it makes dull prose and creates the appearance that the work was done by a disembodied spirit. Above all, authors should realize that it is the titles and abstracts that attract readers—or repel them.

It is also desirable for the introductory section to offer a rationale for what the paper does and a forecast of its contents.

Throughout the writing process, it is well to keep at hand—and consult frequently—a handbook for writers. My favorite is Mary-Claire van Leunen's A Handbook for Scholars: Revised Edition [1992]. She succeeds in dealing with a dull subject with eminent good sense and with such puckish wit as to make the book good reading simply on its own account. Any author who follows van Leunen's editorial advice will have no trouble with copy editors on matters of style.

Authors should consult the journal's instructions to authors and follow their specifications with meticulous care. I am continually amazed at how universally authors fail to do this. In particular, in spite of stern instructions to the contrary, authors persist in the belief that the requirement for double spacing does not extend to the reference list—where, indeed, the copy editor will likely have the most work to do, since it is unlikely to be in the proper format. Authors can capture an immediate small measure of editors' affection if they do, in fact, consult the instructions to authors and follow them carefully.

As the editor of Operations Research I handled over 2,000 papers, and in other capacities I have handled a great many more. Although there may have been a few others,

the only one I can recall as having been submitted to Operations Research in absolutely perfect form was one written by Philip M. Morse. I confess a prejudice in this regard: How carefully authors prepare their manuscripts correlates with my judgment of their class. Phil Morse, whom we recognize as a substantive leader, was also in the highest class in manuscript preparation. A worthy example.

Conclusion

Scientific communities ask their leaders to take on the time-consuming and often onerous tasks of editorship, expecting that their broad and distinguished experience will inform the editorial processes and the material that they select for publication. The clear corollary is that the persons so selected should, in fact, use their best judgments throughout, thus helping to steer their fields in useful and venturesome directions. Among other things, this means deciding when to stick with the standard editorial processes and when to deviate from them, when to exercise unusual initiatives, and how to shape the contents of the journals they edit. To do less would be to fail to exercise their full knowledge, abilities, and perspectives.

It follows that authors submitting papers should recognize that they are entering a partnership process that the professional community expects to have managed in this way. They should respect it and expect to occupy appropriate places in its outcomes.

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