

Editorial Comment

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It is a pleasure and an honor to become the *Memory & Cognition* Editor-Elect beginning with this issue. The timing of this Editorial departs from tradition in that it appears now, as I begin to accept submissions rather than a year from now when I transit from Editor-Elect to Editor. I have chosen to do this because I would like to direct my remarks as soon as possible to authors whose submissions will come to me.

I intend to implement somewhat more in the way of new direction and policy than has occurred during previous editorship changes. I will organize my remarks into three categories: general nature and scope of publishable articles, general submission/review/publication procedures, and data-analysis guidelines. I will articulate these issues in some detail, as I would like potential authors to experience as little mystery as possible with respect to the publication process.

NATURE AND SCOPE OF PUBLISHABLE ARTICLES

Memory & Cognition will continue to focus on research within the general fields of pattern recognition, sensory memory, attention, short-term memory, long-term memory, implicit memory, visual memory, learning, metacognition, mental models, text comprehension, speech perception, word identification, thinking, reasoning, concepts and categories, and forgetting. Other areas of human performance and behavior will be suitable as long as they have some clear bearing on general issues involving memory and/or other areas of cognition.

Memory & Cognition has traditionally published articles describing a series of integrated experiments which, in concert, imply some new empirical and/or theoretical insight. I expect that this kind of enterprise will continue to constitute the modal *Memory & Cognition* publication. I believe, however, that high-quality briefer manuscripts are underrated. Periodically a short, to-the-point, single-experiment manuscript is sufficiently striking and important to merit publication in an archival journal. A manuscript, for example, that an author is considering sending to *Science* would be entirely welcome as a *Memory & Cognition* submission.

There are several other dimensions along which I hope to broaden the scope of what is published in *Memory & Cognition*. First, in addition to the typical experimental manuscripts, I would be pleased to con-

sider manuscripts that are purely theoretical or purely statistical/methodological - again as long as the manuscript's relevance to the general areas of memory and cognition can be demonstrated. Second, I believe that occasional commentaries are useful and informative (not to mention entertaining). In my experience, such commentaries often derive either directly or indirectly from reviews. I anticipate sometimes asking the author of a particularly astute review if he or she would be willing to transform the review into a commentary. In addition, unsolicited commentaries will be reviewed via the normal procedures.

NORMAL SUBMISSION, REVIEW, AND PUBLICATION PROCEDURES

Authors should submit five copies of an article (either one-and-a-half or double-spaced) directly to me (preferably in 12-point type or larger).

The Action Editor System

I am lucky enough to have convinced five very capable individuals (Doug Hintzman, Mike Masson, Tom Nelson, Brian Ross, and Kathy Spoehr) to serve as associate editors. I intend to send approximately 60% of the manuscripts that I receive to one or another of the associate editors, handling the other 40% myself. Whoever handles a particular manuscript becomes that manuscript's *action editor*. An action editor will be *completely* in charge of any manuscript that he or she handles. Thus the action editor will select reviewers, make the accept/reject decision, handle author correspondence and directly receive any resubmissions. I will not expect to hear from an action editor about a given manuscript until the manuscript's ultimate fate has been determined.

An author who believes that a particular action editor (or I) would be most appropriate to handle his or her manuscript, should convey this information to me in the cover letter that accompanies the submitted manuscript. I will be happy to consider such requests, with the caveat that the choice of action editor must be partly constrained by all editors' current workloads.

Previously-Rejected Manuscripts

We all recognize that the practice of "serial submission" - that is, submitting a manuscript to one journal after it has been inexplicably rejected by another journal - is not unknown in our field. Given the occasional capriciousness of the review/evaluation system this practice strikes me as reasonable. However it seems inefficient in such cases that the already-carried-out review and editorial work should be wasted, and that the review process start from Square One. Accordingly, when a previously-rejected manuscript is submitted to *Memory & Cognition*, I would consider it appropriate,

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should the author wish, to receive notification of the rejection, along with copies of the previous reviews, the previous editor's action letter, and a detailed explanation of what has been done in response to everyone's complaints. This procedure would hasten the review process, possibly to the point that an action editor would feel comfortable making an immediate acceptance (or rejection) decision rather than sending the submitted manuscript out for further review.

Surface Structure Issues

Two goals of any editor are (1) to insure that the range of information carried by a published article - from the most detailed minutia to the broadest wisdom - is conveyed as clearly and efficiently as possible to the journal's readership and (2) to maintain as short a publication lag as possible. These two goals are related in that achievement of both is fostered by authors' paying obsessive attention to their article's expository clarity, *both* prior to submitting it and during the post-review revision process. Why? Well first, a reviewer's speediness in getting around to a review is often directly related to the to-be-reviewed manuscript's readability. Later on down the line, time slippage during production often results from such mundane misdeeds on the part of the author as mangling a figure or failing to match the references with the reference list. And ultimately, a reader's inclination to finish reading a potentially pertinent article often depends on a decision, made after the first page or two, about whether forging ahead will entail mostly the pleasure of savoring finely crafted prose or mostly the pain of untangling hopelessly mutilated syntax.

So. Bearing that in mind, I'd like to provide (possibly sounding all too much like an eleventh-grade rhetoric teacher) some suggestions about exposition. What follows are my most-requested changes culled from twenty-five years of reviewing and editorial experience. It's easier to list them here once than to dribble them out *ad hoc* in hundreds of author letters over the next four years.

1. Figures are good. Figures will be encouraged in all sections of a manuscript, i.e., for elucidation of methodology, results, and theory. Below, I will have more to say about the particular role of figural depiction of results.

2. Headings should maintain a hierarchical structure. Headings and subheadings are exceedingly useful for illuminating a manuscript's overall organization. However, a ubiquitous problem occurs when a heading structure violates hierarchical rules, thereby perplexing rather than enlightening the reader. Avoiding this pitfall, which is not difficult to begin with, is becoming even easier with the outlining capabilities of many word processors.

3. Reference sections must correspond to what is referenced. While seeming to be a profoundly boring and pedestrian issue, mismatched references and reference sections constitute (1) an unending headache for editors and production people and (2) a common source of production delays. It is the author's responsibility to insure that all referenced articles appear correctly in the

reference section and that all references in the reference section appear somewhere in the manuscript.

4. Footnotes and appendices can play useful roles. I strongly encourage the use of footnotes and appendices as repositories of that bothersome information that simply *must* appear somewhere, but somehow doesn't fit gracefully into the manuscript's logical flow. For example, long lists of references, or small, noncritical procedural nuances are likely footnote candidates¹; likewise, proofs, derivations, and tables of tangentially-related data might profitably be consigned to appendices.

5. Polishing is critical. Finally, it is sad but true that an astonishing number of authors appear to deliberately use the review and editorial processes as their primary means of tidying up what is essentially a rough first draft. This is unfair to reviewers and editors, and we reserve the right to return such submissions, unreviewed, with a request that the authors ask spouses, grandmothers, friends, colleagues - anybody but us - to provide initial critiques of initial drafts. I must also point out that - based on the proposition that our fundamental goal is to generate *Memory & Cognition* articles that will be read and understood - clarity of writing will constitute one of the criteria for publication suitability.

Potential Reviewer-Author Interactions

I will continue the usual practice of asking reviewers whether they wish to emerge from the shadows of anonymity and reveal themselves (1) to other reviewers and (2) to the author. In the case of accepted-pending-revision manuscripts, I will further ask nonanonymous reviewers whether they would be willing to engage in direct discourse with the author, as the author strives to produce an acceptable revision. Assuming such interaction to be mutually agreeable, I believe that it would be more efficient (particularly with respect to minor expository matters) than the usual practice of having a third person - the editor - act as go-between. (Needless to say, however, the editor will remain the final arbiter of any disagreements.)

Electronic Communication

I will routinely request email addresses and/or fax numbers from both authors and reviewers, and will encourage the practice of engaging in all phases of communication (even through the production process) via one of these two modes.

Raw Data

It is a truism that anyone's data should be available to anyone else to work with. Until recently, storage and transmission of raw data² have been something of a hassle. However, these chores have become, and will continue to become, substantially less

¹I am engaged in an effort to convince the Psychonomics Production Office to drop their practice of relegating footnotes to the end of the article.

²The term "raw data" can, of course, mean many things. I refer here to, at the very least, the individual subject scores upon which sample statistics such as means and standard deviations are based.

problematical as electronic storage and communication technology continue to advance.

Accordingly, I will encourage authors to create a file, or files, of raw data text (ASCII) format. Ideally the file should include, one way or another, detailed information about the data's organization and format. Such a file could then be sent to anyone wanting the raw data via either a floppy disk or electronic mail. Information about the degree of raw data availability, along with the means by which it can be accessed could be included as part of the author notes. I note in passing that a similar strategy would permit an author the opportunity to make public whatever data or other information from the research project that the editor had ordered dropped from the published version of the article.

DATA ANALYSIS: A PICTURE IS WORTH A THOUSAND P-VALUES

I intend to try to decrease the overwhelming reliance on hypothesis testing as the major means of transiting from data to conclusions. Elsewhere, I and others have detailed arguments for a substantially decreased emphasis on hypothesis testing³. In lieu of hypothesis testing, I will emphasize the increased use of figures depicting sample means⁴ along with standard error bars. Briefly the argument for this shift in emphasis is that a visual representation of sample means plus error bars directly addresses the questions that are almost always of fundamental interest: "Where are (or what is the pattern of) the condition population means?" and "How much faith can we put in the estimated pattern of population means; i.e., how much experimental power is there?". These questions essentially subsume the question addressed by the hypothesis test, which is: "Is it not true that some set of population means are all identically equal to one another?"

In particular, I offer the following guidelines.

1. By default, data should be conveyed as a figure depicting sample means *with associated standard errors*⁵. and/or, where appropriate, standard deviations.
2. More often than not, inspection of such a figure will immediately obviate the necessity of any hypothesis-testing procedures. In such situations, presentation of the usual hypothesis-testing information (F values, p values, etc.) will be discouraged.

I would like to emphasize that these guidelines are just that; guidelines, not edicts. My overall goal is the

same as that of scientific journal editors from time immemorial: to transfer information, as easily as possible, from the investigator's laboratory to the reader's head. Accordingly, I will happily consider whatever technique by which an author believes this goal can best be accomplished within a given set of circumstances. I believe however that, over the years, an overreliance on the impoverished binary conclusions yielded by the hypothesis-testing procedure has subtly seduced our discipline into insidious conceptual cul-de-sacs that have impeded our vision and stymied our potential. I believe that there are often better ways of trying to convey what the data from an experiment are trying to tell us, and I would like to try to explore and exploit them a bit more vigorously than is presently the case.

I anticipate that these views and guidelines about hypothesis testing will probably be the most eye-catching facet of this editorial. I look forward to hearing from colleagues about them as well as about any other matters of editorial policy. I also, of course, look forward to receiving your manuscripts.

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³See, for example, Bakan, 1966; Carver, 1978; Cohen, 1990; Gigerenzer, Swijtink, Porter, Daston, Beatty, & Kruger, 1989; Loftus, 1991; 1992; Loftus & Loftus, 1988; Lykken, 1968; Meehl, 1990; Nunnally, 1960; Rozeboom, 1960; Tyler, 1931.

⁴For illustrative purposes, I assume, as is typically the case, that sample means are the primary data of interest. All arguments could be equally well applied to any sample statistic.

⁵See Loftus and Loftus (1988), pp. 411-413 and pp. 426-429 for a discussion of appropriate error bars in repeated-measures designs.