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Information for contributors to the Journal of the Acoustical Society of America (JASA)

Editorial Staff^{a)}

*Journal of the Acoustical Society of America, Acoustical Society of America, 1305 Walt Whitman Road,
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The procedures for submitting manuscripts to the *Journal of the Acoustical Society of America* are described. The text manuscript, the individual figures, a reviewer PDF, and a cover letter are each uploaded as separate files to the *Journal's* Manuscript Submission and Peer Review System. The required format for the text manuscript is intended so that it will be easily interpreted and copy-edited during the production editing process. Various detailed policies and rules that will produce the desired format are described, and a general guide to the preferred style for the writing of papers for the *Journal* is given. Criteria used by the editors in deciding whether or not a given paper should be published are summarized.

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I. INTRODUCTION

The present document is intended to serve jointly as (i) a set of directions that authors should follow when submitting articles to the *Journal of the Acoustical Society of America* and as (ii) a style manual that describes those stylistic features that are desired for the submitted manuscript. Authors may refer to recent issues of the *Journal* for examples of how specific style issues are handled.

II. ONLINE HANDLING OF MANUSCRIPTS

All new manuscripts intended for possible publication in the *Journal of the Acoustical Society of America* should be submitted online. The steps involved in the processing of manuscripts that lead from the initial submission through the peer review process to the transmittal of an accepted manuscript to the production editing office are handled by a computerized system referred to here as the Editorial Manager (EM) system. The Acoustical Society of America contracts with Aries Systems, Inc. for the use of this system. There is one implementation that is used for most of the material that is submitted to the *Journal of the Acoustical Society of America* (JASA) and a separate implementation for the special section *JASA Express Letters* (JASA-EL) of the *Journal*.

A. Registration

Everyone involved in the handling of manuscripts in the *Journal's* editorial process must first register with the *Journal's* implementation of the EM system, and the undertaking of separate actions, such as the submission of a manuscript, requires that one first log-in to the system at www.editorialmanager.com/JASA or www.editorialmanager.com/JASA-EL.

If you have never logged into the system, you will need to get a user name and password. Many ASA members are already in the database, so if you are a member, you in principle may already have a user name and password.

Once you have your "user name" and "password" you go to the log-in page, and give this information when you log-in.

B. Overview of the editorial process

- (1) An author denoted as the corresponding author submits a manuscript for publication in the *Journal*.
- (2) A quick quality control check is done on the manuscript. If there are too many ($n > 15$) errors in the submitted manuscript, it will be returned to the corresponding author to fix them and resubmit.
- (3) One of the *Journal's* Associate Editors is recruited to handle the peer-review process for the manuscript.
- (4) The Associate Editor recruits reviewers for the manuscript via the online system.
- (5) The reviewers critique the manuscript, and submit their comments online via the EM system.
- (6) The Associate Editor makes a decision regarding the manuscript, and then composes online an appropriate decision letter, which may include segments of the reviews, and which may include attachments.

- (7) The *Journal's* staff transmits a letter composed by the Associate Editor to the corresponding author. This letter describes the decision and further actions that can be taken.

If revisions to the manuscript are invited, the author may resubmit a revised manuscript, and the process cycle is repeated. To submit a revision authors should use the link provided in the decision message.

C. Preparation for online submission

Before one begins the process of submitting a manuscript online, one should first read the document *Ethical Principles of the Acoustical Society of America for Research Involving Human and Non-Human Animals in Research and Publishing and Presentations* which is reached from the site <http://asa.scitation.org/jas/authors/manuscript>. During the submission, you will be asked if your research conformed to the stated ethical principles and if your submission of the manuscript is in accord with the ethical principles that the Acoustical Society has set for its journals. If you cannot confirm that your manuscript and the research reported are in accord with these principles, then you should not submit your manuscript.

Another document that you should first read is the document *Transfer of Copyright Agreement*, which is downloadable from the same site. When you submit your manuscript online you will be asked to certify that you and your co-authors agree to the terms set forth in that document. What is in that document has been carefully worded with extensive legal advice and after extensive discussion within the various relevant administrative committees of the Acoustical Society of America. It is regarded as a very liberal document in terms of the rights that are allowed to the authors. One should also note the clause: The author(s) agree that, insofar as they are permitted to transfer copyright, all copies of the article or abstract shall include a copyright notice in the ASA's name. (The word "permitted" means permitted by law at the time of the submission.) The terms of the copyright agreement are non-negotiable. The Acoustical Society does not have the resources or legal assistance to negotiate for exceptions for individual papers, so please do not ask for such special considerations. Please read the document carefully and decide whether you can provide an electronic signature (clicking on an appropriate check box) to this agreement. If you do not believe that you can in good conscience give such an electronic signature, then you should not submit your manuscript.

However, note that if authors choose to pay for the gold open access option for an article, this article would be published under a Creative Commons Attribution 4.0 International license [<https://creativecommons.org/licenses/by/4.0/>](https://creativecommons.org/licenses/by/4.0/), which means that authors retain full copyright to his/her article. The CC BY 4.0 license is the most liberal of the Creative Commons Licenses, allowing for the greatest possibility and ease for an author's work to be re-used, shared, or adapted for any purpose (even commercially).

Given that one has met the ethical criteria and agreed to the terms of the copyright transfer agreement, and that one has decided to submit a manuscript, one should first gather together the various items of information that will be requested during the process, and also gather together various files that one will have to upload.

Information that will be entered into the EM submission form and files to be uploaded include:

- (1) Data for each of the authors:
 - (a) First name, middle initial, and last name
 - (b) E-mail address
 - (c) Postal address (required for corresponding author, otherwise optional)
- (2) Title and running title of the paper. The running title is used as part of the table of contents on the journal cover. (The title is preferably limited to 17 words and the running title is limited to six words and up to 50 characters and spaces; neither may include non-obvious acronyms or any words explicitly touting novelty.)
- (3) Abstract of the paper. (This must be in the form of a single paragraph and is limited to 200 words for regular articles and to 100 words for Letters to the Editor. Authors would ordinarily do an electronic pasting from a text file of their manuscript.)
- (4) Four keywords that characterize the subject matter of the paper. Keywords should not exceed 80 characters.
- (5) A short prioritized list of Associate Editors suggested for the handling of the manuscript. (EM currently limits to one, but that will be expanded.)
- (6) Contact information (name, e-mail address, and institution) of suggested reviewers (if any), and/or names of reviewers to exclude.
- (7) Cover letter file. This should supply additional information that should be brought to the attention of the editor(s) and/or reviewer(s).
- (8) Properly prepared manuscript/article file in LaTeX or Word format. Authors who wish to use LaTeX should use the JASA LaTeX package, which is available here: <http://acousticalociety.org/preparing-latex-manuscripts/>. (The requirements for a properly prepared manuscript are given further below.) It must be a single stand-alone file. If the author wishes to submit a LaTeX file, the references should be included in the file, not in a separate BibTeX file. Authors should take care to ensure that the submitted manuscript/article file is of reasonable length.
- (9) Properly prepared figure files in PDF, TIFF, PS, JPEG, or EPS (see also Section V. H); one file for each cited figure number. (The captions should be omitted, and these should appear as a list in the manuscript itself.) The figures should not have the figure numbers included on the figures in the files. Authors may upload figures in a zip file. For figures without subparts (as well as for figures having subparts built in to a single file), the uploaded file should be named "Figure#.xxx" or "Fig#.xxx" where "#" is the number and "xxx" is the type of graphic file (examples: Figure1.tif, Figure2.eps, Fig3a.pdf, Fig3b.pdf, etc.). For compound figures uploaded as separate files, the individual files should be named like the following example: Figure1a.eps, Figure1b.jpg, Figure1c.ps. In order to maintain online color as a free service to authors, the *Journal* cannot accept multiple versions of the same file. Authors may not submit two versions of the same illustration (e.g., one for color and one for black & white). When preparing illustrations

that will appear in color in the online *Journal* and in black & white in the printed *Journal*, authors must ensure that: (i) colors chosen will reproduce well when printed in black & white and (ii) descriptions of figures in text and captions will be sufficiently clear for both print and online versions. For example, captions should contain the statement "(Color online)." If one desires color in both versions, these considerations are irrelevant, although the authors must guarantee that mandatory additional publication charges will be paid.

- (10) Helpful/supporting material (if any) that might help the reviewers in making their reviews. If the reading of the paper requires prior reading of another paper that has been accepted for publication, but has not yet appeared in print, then a PDF file for that manuscript should be included as a helpful/supporting material. Also, if the work draws heavily on previously published material which, while available to the general public, would be time-consuming or possibly expensive for the reviewers to obtain, then PDF files of such relevant material should be included.
- (11) Supplementary material for publication (if any) to be published with the manuscript.

In regard to the decision as to what formats one should use for the manuscript and the figures, a principal consideration may be that the likelihood of the published manuscript being more nearly to one's satisfaction is considerably increased if AIP Publishing, during the production process, can make full or partial use of the files you submit. There are conversion programs, for example, that will convert LaTeX and MS Word files to the typesetting system that AIP Publishing uses. If your manuscript is not in either of these formats, then it will be completely retyped. If the figures are submitted in PDF, EPS, PS, JPEG, or TIFF format, then they will probably be used directly, at least in part.

D. Steps in online submission

After logging in, one is brought to the EM author main page, and can select the option of submitting a new manuscript. The resulting process leads the corresponding author through a sequence of screens.

The submit screen will display a series of fairly self-explanatory tabs. Clicking on these tabs displays the tasks that must be completed for each step in the submission.

After submission, all of the individual files, text and tables, plus figures, that make up the full paper will be merged into a single PDF file. One reason for having such a file is that it will generally require less computer memory space. Another is that files in this format are easily read with any computer system. However, the originally submitted set of files, given the acceptance for publication, will be what is submitted to the Production Editing office for final processing.

E. Quality check by editorial office

Upon receiving system notification of a submission, staff members in the Editorial Office check that the overall submission is complete and that the files are properly prepared

and suitable for making them available to the Associate Editors and the reviewers. If all is in order, the Manuscript Coordinator initiates the process, using the keywords and suggested Associate Editor list supplied by the author, to recruit an Associate Editor who is willing to handle the manuscript. At this time the author also receives a “confirmation of receipt” e-mail message. If the staff members deem that there are numerous or serious submission defects that should be addressed, then the author receives a “quality check” e-mail message. If there are only a small number of defects, the e-mail message may give an explicit description of what is needed. In some cases, when the defects are very numerous, and it is apparent that the author(s) are not aware that the *Journal* has a set of format requirements, the e-mail message may simply ask the authors to read the instructions (i.e., the present document) and to make a reasonable attempt to follow them.

III. PUBLICATION CHARGES

A. Mandatory charges

Papers of longer length or with color figures desired for the print version of the *Journal* will not be published unless it is first agreed that certain charges will be paid. If it is evident that there is a strong chance that a paper’s published length will exceed 12 pages, the paper will not be processed unless the authors guarantee that the charges will be paid. If the paper’s published length exceeds 12 pages or more, there is a mandatory charge of \$80 per page for the entire article. (The mandatory charge for a 13 page article, for example, would be \$1040, although there would be no mandatory charge if the length were 12 pages.)

Manuscripts should not exceed 10,500 words [approximately twelve (12) printed journal pages]. Abstract, title, author list, references, and acknowledgments are all excluded from the 10,500-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy. Circumvention of the length limitation is contrary to the purpose of this journal.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the article class of TeX. If the version of the manuscript obtained using the “reprint” option fits on twelve (12) pages with a font size of 12 points, the length should be acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables, and equations as follows:

Figures: An average single-column figure will displace 220 words. For a more accurate estimation, use the following: $150/\text{aspect ratio} + 20$ words for single-column figures and $300/0.5 \times \text{aspect ratio} + 40$ words for double-column figures. Aspect ratio = width/height.

Tables: 6.5 words per line, plus 13 words for single-column tables. 13 words per line, plus 26 words for double-column tables.

Equations: 16 words per row for single-column equations. 32 words per row for double-column equations.

If the total number of words (text + figures + tables + equations) is 10,500 or less, the length is acceptable.

Color figures can be included in the online version of the *Journal* with no extra charge, providing that these appear suitably as black and white figures in the print version.

The charges for inclusion of color figures in the print version of the *Journal* are \$325 per figure file.

If an author’s institution or research sponsor is unwilling to pay such charges, the author should make sure that all of the figures in the paper are suitable for black and white printing, and that the estimated length is manifestly such that it will not lead to a printed paper that exceeds 12 pages.

JASA now offers a “gold” open access option, the price of which is \$2200 USD. If an open access paper runs beyond 12 pages, overpage fees are only due on the pages beyond 12.

B. Optional charges

To encourage a large circulation of the *Journal* and to allow the inclusion of a large number of selected research articles within its volumes, the *Journal* seeks partial subsidization from the authors and their institutions. Ordinarily, it is the institutions and/or the sponsors of the research that undertake the subsidization. Individual authors must ask their institutions or whatever agencies sponsor their research to pay a page charge of \$80 per printed page to help defray the publication costs of the *Journal*. (This is roughly 1/3 of the actual cost per page for the publication of the *Journal*.) The institutions and the sponsoring agencies have the option of declining, although a large fraction of those asked do pay them. The review and selection of manuscripts for publication proceeds without any consideration on the part of the Associate Editors as to whether such page charges will be honored. The publication decision results after consideration of the factors associated with peer review; the acceptance of the page charges is irrelevant.

C. Waived charges

To encourage submission of review papers, tutorial papers, forum papers, and special external (to our specialties) papers, all of which are invited, we now waive the publication fee for these article types. However, a fee for (optional) color in the print version will be requested for such articles.

D. Payment of publication charges—RightsLink

When your page proofs are ready for your review, you will receive an e-mail from AIP Publishing Production Services. It will include a link to an online RightsLink site where you can pay your voluntary or mandatory page charges, color figure charges, or to order reprints of your article. If you are unable to remit payment online, you will find instructions for requesting a printed invoice so that you may pay by check or wire transfer.

IV. FORMAT REQUIREMENTS FOR MANUSCRIPTS

A. Overview

For a manuscript to pass the initial quality control, it is essential that it adhere to a general set of formatting requirements. Such vary from journal to journal, so one should not assume that a manuscript appropriate for another journal's requirements would be satisfactory for the *Journal of the Acoustical Society of America*. The reasons for the *Journal's* requirements are partly to ensure a uniform style for publications in the *Journal* and partly to ensure that the copy-editing process will be maximally effective in producing a quality publication. While some submitted papers will need very few or no corrections, there is a sufficiently large number of accepted papers of high technical merit that need such editing to make it desirable that all submissions are in a format that amply allows for this.

The following is a list of some of the more important requirements. (More detailed requirements are given in the sections that follow.)

- (1) The manuscript must be paginated, starting with the first page.
- (2) The entire manuscript must be doubled-spaced. This includes the author addresses, the abstract, the references, and the list of figure captions. It should contain no highlighting.
- (3) The title and author list is on the first page. The abstract is ordinarily on a separate page (the second page) unless there is sufficient room on the title page for it, within the constraints of ample margins, 12 pt type, double-spacing, and ample white space. The introduction begins on a separate page following the page that contains the abstract.
- (4) The title must be in lower case, with the only capitalized words being the first word and proper nouns.
- (5) No acronyms should be in the title or the running title unless they are so common that they can be found in standard dictionaries.
- (6) No unsupported claims for novelty or significance should appear in the title or abstract, such as the use of the words *new*, *original*, *novel*, *important*, and *significant*.
- (7) The abstract should be one paragraph and should be limited to 200 words (100 words for Letters to the Editor).
- (8) Major section headings should be numbered by capital roman numerals, starting with the Introduction. Text of such headings should be in capital letters.
- (9) Reference citations should include the full article titles and page ranges of all cited papers.
- (10) There should be no personal pronouns in the abstract.
- (11) No more than one-half of the references should be to the authors themselves.
- (12) The total number of figures should not ordinarily be more than 20 (see Section V. H).

B. PDF for reviewers

A PDF file with line numbers and inline figures and captions needs to be provided by the author(s) for each manuscript, for the ease of the reviewers.

C. Keyboarding instructions

Each submitted paper, even though submitted online, should correspond to a hard copy manuscript. The electronic version has to be prepared so that whatever is printed-out will correspond to the following specifications:

- (1) The print-out must be single sided.
- (2) The print-out must be configured for standard US letter paper (8.5" by 11").
- (3) The text on any given page should be confined to an area not to exceed 6.5" by 9". (One inch equals 2.54 cm.) All of the margins when printed on standard US letter paper should be at least 1".
- (4) The type font must be 12 pt, and the line spacing must correspond to double spacing (approximately 1/3" or 0.762 cm per line of print). The fonts used for the text must be of a commonly used easily readable variety such as Times, Helvetica, New York, Courier, Palatino, and Computer Modern.
- (5) The authors are requested to use computers with adequate word-processing software in preparing their manuscripts. Ideally, the software must be sufficiently complete that all special symbols used in the manuscript are printed. (The list of symbols available to AIP Publishing for the publication of manuscripts includes virtually all symbols that one can find in modern scientific literature. Authors should refrain from inventing their own symbols.) It is preferred that vectors be designated by boldface symbols within a published paper rather than by arrows over the symbols.
- (6) Manuscript pages must be numbered consecutively, with the title page being page 1.

D. Order of pages

The manuscript pages must appear in the following order:

- (1) Title page. (This includes the title, the list of authors, their affiliations, an abbreviated title for use as a running title in the published version, and any appropriate footlines to title or authors.)
- (2) Abstract page, which may possibly be merged with the title page if there is sufficient room. Please note that the *Journal* requires the abstract to be typed double spaced, just as for all of the remainder of the manuscript.
- (3) Text of the article. This must start on a new page.
- (4) Acknowledgments.
- (5) Appendixes (if any).
- (6) Textual footnotes. (Allowed only if the paper cites references by author name and year of publication.)
- (7) References. (If the paper cites references by labeling them with numbers according to the order in which they appear, this section will also include textual footnotes.)
- (8) Tables, each on a separate page and each with a caption that is placed above the table.
- (9) Collected figure captions.

Figures should not be included in the "Article" file.

E. Title page of manuscript

The title page should include on separate lines, with appropriate intervening spacing: The article title, the name(s) of author(s), one complete affiliation for each author, and the date on which the manuscript is uploaded to the JASA manuscript submission system.

With a distinctive space intervening, the authors must give, on a separate line, a suggested running title of six words or less that contains a maximum of 50 characters. The running title appears on the front cover of the *Journal* as part of an abbreviated table of contents, and it is important that it give a nontrivial indication of the article's content, although some vagueness is to be expected.

Titles should briefly convey the general subject matter of the paper and should not serve as abstracts. The upper limit is set at 17 words. They must be written using only words and terminology that can be found in standard unabridged US English dictionaries or in standard scientific/technical dictionaries, and they must contain no acronyms other than those that can be found in such dictionaries. Ideally, titles should be such that they contain appropriate keywords. This will enable a reader doing a computer-assisted search to determine whether the paper has any relevance to a given research topic. Begin the first word of the title with a capital letter; thereafter capitalize only proper nouns. The *Journal* discourages the use of subjective words such as "original," "new," "novel," "important," and "significant" in the title. In general, words whose sole purpose is to tout the importance of a work are regarded as unnecessary; words that clarify the nature of the accomplishment are preferred.

In the list of authors, to simplify later indexing, adopt one form of each name to use on the title pages of all submissions to the *Journal*. It is preferred that the first name be spelled out, especially if the last name is a commonly encountered last name. If an author normally uses the middle name instead of the first name, then an appropriate construction would be one such as J. John Doe. Names must be written with last name (family name) given last. Omit titles such as Professor, Doctor, Colonel, Ph.D., and so on.

Each author may include only one current affiliation in the manuscript. Put the author's name above the institutional affiliation. When there is more than one author with the same institutional affiliation, put all such names above the stating of that affiliation. (See recent issues of the *Journal* for examples.)

In the stating of affiliations, give sufficient (but as briefly as possible) information so that the corresponding author may be contacted by mail and/or e-mail by interested readers. Do not give websites, telephone numbers, or FAX numbers. Names of states and countries should be written out in full. If a post office box should be indicated, append this to the zip code (as in 02537-0339). Use no abbreviations other than DC (for District of Columbia). If the address is in the United States, include "USA."

The preferred order of listing of authors is in accord with the extent of their contributions to the research and to the actual preparation of the manuscript. (Thus, the last listed author is presumed to be the person who has done the least.)

The stated affiliation of any given author should be that of the institution that employed the author at the time the work was done. In the event an author was employed simultaneously by several institutions, the stated affiliation should be that through which the financial support for the research was channeled. If the current (at the time of publication) affiliation is different, then that should be stated in a footnote. If an author is deceased then that should be stated in a footnote. (Footlines are discussed further below.)

There is no upper limit to the number of authors of any given paper. If the number becomes so large that the appearance of the paper when in print could look excessively awkward, the authors will be given the option of not explicitly printing the author affiliations in the heading of the paper. Instead, these can be handled by use of footlines as described below. The *Journal* does not want organizations or institutions to be listed as authors. If there are a very large number of authors, those who made lesser contributions can be designated by a group name, such a name ending with the word "group." A listing of the members of the group possibly including their addresses should be given in a footnote.

Footlines to the title and to the authors' names are consecutively ordered and flagged by lowercase alphabetical letters, as in Fletcher^{a)}, Hunt^{b)}, and Lindsay^{c)}. If there is any history of the work's being presented or published in part earlier, then a footnote flag should appear at the end of the title, and the first footnote should be of the form exemplified below:¹

^{a)}Portions of this work were presented in "A modal distribution study of violin vibrato," Proceedings of International Computer Music Conference, Thessaloniki, Greece, September 1997, and "Modal distribution analysis of vibrato in musical signals," Proceedings of SPIE International Symposium on Optical Science and Technology, San Diego, CA, July 1998.

Authors have the option of giving a footnote stating the e-mail address of one author only (usually the corresponding author), with an appropriate footnote flag after that name and with each footnote having the form:

^{b)}Electronic mail: name@servername.com

F. Abstract page

Abstracts are often published separately from actual articles, and thus are more accessible than the articles themselves to many readers. Authors consequently must write abstracts so that readers without immediate access to the entire article can decide whether the article is worth obtaining. The abstract is customarily written last; the choice of what should be said depends critically on what is said in the body of the paper itself.

The abstract should not be a summary of the paper. Instead, it should give an accurate statement of the subject of the paper, and it should be written so that it is intelligible to a broad category of readers. Explicit results need not be stated, but the nature of the results obtained should be stated. Bear in

mind that the abstract of a journal article, unlike the abstract of a talk for a meeting, is backed-up by a written article that is readily (if not immediately) accessible to the reader.

Limit abstracts to 200 words (100 words for Letters to the Editor). Do not use footnotes. If the authors decide that it is imperative to cite a prior publication in the abstract, then the reference should be embedded within the text and enclosed within square brackets. These should be in one of the two standard JASA formats discussed further below, but titles of articles need not be given. The abstract should contain no acknowledgments. In some circumstances, abstracts of longer than 200 words will be allowed. If an author believes that a longer abstract is essential for the paper, they should send an e-mail message to jasa@aip.org with the subject line "Longer abstract requested." The text of the desired abstract should be included in the memo, along with a statement of why the author believes the longer abstract is essential. The abstract will be reviewed by the editors, and possibly a revised wording may be suggested.

Personal pronouns and explicit claims as to novelty should be assiduously avoided. Do not repeat the title in the abstract, and write the abstract with the recognition that the reader has already read the title. Avoid use of acronyms and unfamiliar abbreviations. If the initial writing leads to the multiple use of a single lengthy phrase, avoid using an author-created acronym to achieve a reduction in length of the abstract. Instead, use impersonal pronouns such as *it* and *these* and shorter terms to allude to that phrase. The shortness of the abstract reduces the possibility that the reader will misinterpret the allusion.

G. Section headings

The text of a manuscript, except for very short Letters to the Editor, is customarily broken up into sections. Four types of section headings are available: principal heading, first subheading, second subheading, and third subheading. The principal headings are typed boldface in all capital letters and appear on separate lines from the text. These are labeled by uppercase roman numerals (I, II, III, IV, etc.), with the introductory section being principal section I. First subheadings are also typed on separate lines; these are labeled by capital letters: A, B, C, etc. The typing of first subheadings is boldface, with only the first word and proper nouns being capitalized. Second subheadings are ordered by numbers (1, 2, 3, etc.) and are also typed on separate lines. The typing of second subheadings is italic boldface, also with only the first word and proper nouns capitalized. Third subheadings appear in the text at the beginning of paragraphs. These are labeled by lowercase letters (a, b, c, etc.) and these are typed in italics (not boldfaced). Examples of these types of headings can be found in recent issues of the *Journal*. (In earlier issues, the introduction section was not numbered; it is now required to be numbered as the first principal section.)

Headings to appendixes have the same form as principal headings, but are labeled by uppercase letters, with an optional brief title following the identification of the section as an appendix, as exemplified below:

APPENDIX C: CALCULATION OF IMPEDANCES

If there is only one appendix, the letter designation should be omitted.

V. STYLE REQUIREMENTS

A. Citations and footnotes

Regarding the format of citations made within the text, authors have two options: (1) textual footnote style and (2) alphabetical bibliographic list style.

In the *textual footnote style*, references and footnotes are cited in the text by superscripted numerals, as in "the basic equation was first derived by Rayleigh⁴⁴ and was subsequently modified by Plesset.⁴⁵" References and footnotes to text material are intercalated and numbered consecutively in order of first appearance. If a given reference must be cited at different places in the text, and the citation is identical in all details, then one must use the original number in the second citation.

In the *alphabetical bibliographic list style*, footnotes as such are handled as described above and are intended only to explain or amplify remarks made in the text. Citations to specific papers are flagged by parentheses that enclose either the year of publication or the author's name followed by the year of publication, as in the phrases "some good theories exist (Rayleigh, 1904)" and "a theory was advanced by Rayleigh (1904)." In most of the papers where this style is elected there are no footnotes, and only a bibliographic list ordered alphabetically by the last name of the first author appears at the end of the paper. In a few cases,² there is a list of footnotes followed by an alphabetized reference list. Within a footnote, one has the option of referring to any given reference in the same manner as is done in the text proper.

Both styles are in common use in other journals, although the *Journal of the Acoustical Society of America* is one of the few that allows authors a choice. Typically, the textual footnote style is preferred for articles with a smaller number of references, while the alphabetical bibliographic list style is preferred for articles with a large number of references. The diversity of the articles published in the *Journal* makes it infeasible to require just one style unilaterally.

B. General requirements for references

Regardless of what reference style the manuscript uses, the format of the references must include the titles of articles. For articles written in a language other than English, and for which the Latin alphabet is used, give the actual title first in the form in which it appeared in the original reference, followed by the English translation enclosed within parentheses. For titles in other languages, give only the English translation, followed by a statement enclosed in parentheses identifying the language of publication. Do not give Latin-alphabet transliterations of the original title. For titles in English and for English translations of titles, use the same format as specified above for the typing of the title on the title page. Begin the first word of the title with a capital letter; thereafter capitalize only

those words that are specified by standard dictionaries to be capitalized in ordinary prose.

One must include only references that can be obtained by the reader. One should also not cite any paper that has only been submitted to a journal; if it has been accepted, then the citation should include an estimated publication date. If one cites a reference, then the listing must contain enough information that the reader can obtain the paper. If theses, reports, or proceedings are cited, then the listing must contain specific addresses to which one can write to buy or borrow the reference. In general, write the paper in such a manner that its understanding does not depend on the reader having access to references that are not easily obtained.

Authors should avoid giving references to material that is posted on the internet, unless the material is truly archival, as is the case for most online journals. If referring to non-archival material posted on the internet is necessary to give proper credit for priority, the authors should give the date at which they last viewed the material online. If authors desire to make reference to materials posted by persons other than by the authors, and if the posting is transitory, the authors should first seek to find alternate references of a more archival form that they might cite instead. In all cases, the reading of any material posted at a transitory site must not be a prerequisite to the understanding of the material in the paper itself, and when such material is cited, the authors must take care to point out that the material will not necessarily be obtainable by future readers.

In the event that a reference may be found in several places, as in the print version and the online version of a journal, refer first to the version that is most apt to be archived.

In citing articles, give both the first and last pages that include it. Including the last page will give the reader some indication of the magnitude of the article. The copying en toto of a lengthy article, for example, may be too costly for the reader's current purposes, especially if the chief objective is merely to obtain a better indication of the actual subject matter of the paper than is provided by the title.

The use of the expression "*et al.*" in listing authors' names is encouraged in the body of the paper, but must not be used in the actual listing of references, as reference lists in papers are the primary sources of large data bases that persons use, among other purposes, to search by author. This rule applies regardless of the number of authors of the cited paper.

References to unpublished material in the standard format of other references must be avoided. Instead, append a graceful footnote or embed within the text a statement that you are making use of some material that you have acquired from another person—whatever material you actually use of this nature must be peripheral to the development of the principal train of thought of the paper. A critical reader will not accept its validity without at least seeing something in print. If the material is, for example, an unpublished derivation, and if the derivation is important to the substance of the present paper, then repeat the derivation in the manuscript with the original author's permission, possibly including that person as a co-author.

Journal titles must ordinarily be abbreviated, and each abbreviation must be in a "standard" form. For determination of

what abbreviations to use, one can skim the reference lists that appear at the ends of recent articles in the *Journal*. The general style for making such abbreviations (e.g., *Journal* is always abbreviated by "J.," *Applied* is always abbreviated by "Appl.," *International* is always abbreviated by "Int.," etc.) must in any event emerge from a study of such lists, so the authors should be able to make a good guess as to the standard form. Should the guess be in error, this will often be corrected in the copy-editing process. Egregious errors are often made when the author lifts a citation from another source without actually looking up the original source. An author might be tempted, for example, to abbreviate a journal title as "Pogg. Ann.," taking this from some citation in a 19th century work. The journal cited is *Annalen der Physik*, sometimes published with the title *Annalen der Physik und Chemie*, with the standard abbreviation being "Ann. Phys. (Leipzig)." The fact that J. C. Poggendorff was at one time the editor of this journal gives very little help in the present era in distinguishing it among the astronomical number of journals that have been published. For Poggendorff's contemporaries, however, "Pogg. Ann." had a distinct meaning.

Include in references the names of publishers of book and standards and their locations. References to books and proceedings must include chapter numbers and/or page ranges.

C. Examples of reference formats

The number of possible nuances in the references that one may desire to cite is very large, and the present document cannot address all of them; a study of the reference lists at the ends of articles in recent issues in the *Journal* will resolve most questions. The following two lists, one for each of the styles mentioned above, give some representative examples for the more commonly encountered types of references. If the authors do not find a definitive applicable format in the examples below or in those they see in scanning past issues, then it is suggested that they make their best effort to create an applicable format that is consistent with the examples that they have seen, following the general principles that the information must be sufficiently complete that: (1) any present or future reader can decide whether the work is worth looking at in more detail; (2) such a reader, without great effort, can look at, borrow, photocopy, or buy a copy of the material; and (3) a citation search, based on the title, an author name, a journal name, or a publication category, will result in the present paper being matched with the cited reference.

1. Textual footnote style

¹Y. Kawai, "Prediction of noise propagation from a depressed road by using boundary integral equations," *J. Acoust. Soc. Jpn.* **56**, 143–147 (2000) (in Japanese).

²L. S. Eisenberg, R. V. Shannon, A. S. Martinez, J. Wygonski, and A. Boothroyd, "Speech recognition with reduced spectral cues as a function of age," *J. Acoust. Soc. Am.* **107**, 2704–2710 (2000).

³J. B. Pierrehumbert, "The phonology and phonetics of English intonation," Ph.D. dissertation, Mass. Inst. Tech., Cambridge, MA, 1980; as cited by D. R. Ladd, I. Mennen, and A. Schepman, *J. Acoust. Soc. Am.* **107**, 2685–2696 (2000).

⁴F. A. McKiel, Jr., "Method and apparatus or sibilant classification in a speech recognition system," U.S. Patent No. 5,897,614 (27 April 1999). A brief review by D. L. Rice appears in: *J. Acoust. Soc. Am.* **107**, 2323 (2000).

- ⁵A. N. Norris, "Finite-amplitude waves in solids," in *Nonlinear Acoustics*, edited by M. F. Hamilton and D. T. Blackstock (Academic Press, San Diego, 1998), Chap. 9, pp. 263–277.
- ⁶V. V. Muzychenko and S. A. Rybak, "Amplitude of resonance sound scattering by a finite cylindrical shell in a fluid," *Akust. Zh.* **32**, 129–131 (1986) [*Sov. Phys. Acoust.* **32**, 79–80 (1986)].
- ⁷M. Stremel and T. Carolus, "Experimental determination of the fluctuating pressure on a rotating fan blade," on the CD-ROM: *Berlin, March 14–19, Collected Papers, 137th Meeting of the Acoustical Society of America and the 2nd Convention of the European Acoustics Association* (ISBN 3-9804458-5-1, available from Deutsche Gesellschaft fuer Akustik, Fachbereich Physik, Universitaet Oldenburg, 26111 Oldenburg, Germany), paper IPNSB_7.
- ⁸ANSI S12.60-2002 (R2009) American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (American National Standards Institute, New York, 2002).

2. Alphabetical bibliographic list style

- American National Standards Institute (2002). ANSI S12.60 (R2009) American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools (American National Standards Institute, New York).
- Ando, Y. (1982). "Calculation of subjective preference in concert halls," *J. Acoust. Soc. Am.* **71**(Suppl. 1), S4–S5.
- Bacon, S. P. (2000). "Hot topics in psychological and physiological acoustics: Compression," *J. Acoust. Soc. Am.* **107**, 2864(A).
- Flatté, S. M., Dashen, R., Munk, W. H., Watson, K. M., and Zachariasen, F. (1979). *Sound Transmission through a Fluctuating Ocean* (Cambridge University Press, London), pp. 31–47.
- Hamilton, W. R. (1837). "Third supplement to an essay on the theory of systems of waves," *Trans. R. Irish Soc.* **17**(Pt. 1), 1–144; reprinted in: *The Mathematical Papers of Sir William Rowan Hamilton, Vol. II: Dynamics*, edited by A. W. Conway and A. J. McConnell (Cambridge University Press, London), pp. 162–211.
- Helmholtz, H. (1859). "Theorie der Luftschwingungen in Röhren mit offenen Enden" ("Theory of air oscillations in tubes with open ends"), *J. Reine Angew. Math.* **57**, 1–72.
- Kim, H.-S., Hong, J.-S., Sohn, D.-G., and Oh, J.-E. (1999). "Development of an active muffler system for reducing exhaust noise and flow restriction in a heavy vehicle," *Noise Control Eng. J.* **47**, 57–63.
- Simpson, H. J., and Houston, B. H. (2000). "Synthetic array measurements for waves propagating into a water-saturated sandy bottom for a smoothed and roughened surface," *J. Acoust. Soc. Am.* **107**, 2329–2337.
- van Bergeijk, W. A., Pierce, J. R., and David, E. E., Jr. (1960). *Waves and the Ear* (Doubleday, Garden City, NY), Chap. 5, pp. 104–143.

Other examples may be found in the reference lists of papers recently published in the *Journal*.

D. Figure captions

The illustrations in the *Journal* have *figure captions* rather than *figure titles*. Clarity, rather than brevity, is desired, so captions can extend over several lines. Ideally, a caption must be worded so that a casual reader, on skimming an article, can obtain some indication as to what an illustration is depicting, without actually reading the text of the article. If an illustration is taken from another source, then the caption must acknowledge and cite that source. Various examples of captions can be found in the articles that appear in recent issues of the *Journal*.

If the figure will appear in black and white in the printed edition and in color online, the statement "(Color online)" should be added to the figure caption. For color figures that will appear in black and white in the printed edition of the *Journal*, the reference to colors in the figure may not be included in the caption, e.g., red circles, blue lines.

E. Acknowledgments

The section giving acknowledgments must not be numbered and must appear following the concluding section. It is preferred that acknowledgments be limited to those who helped with the research and with its formulation and to agencies and institutions that provided financial support. Administrators, administrative assistants, associate editors, and persons who assisted in the nontechnical aspects of the manuscript preparation may also be acknowledged. In many cases, sponsoring agencies require that articles give an acknowledgment and specify the format in which the acknowledgment must be stated—doing so is fully acceptable. Generally, the *Journal* expects that the page charges will be honored for any paper that carries an acknowledgment to a sponsoring organization.

F. Mathematical equations

Authors are expected to use computers with appropriate software to typeset mathematical equations.

Equations need to be editable so if you are using Microsoft Word, we suggest creating them using the built-in Microsoft Equation Editor. In addition, please note the following:

- For Windows Word users: Please be sure to embed all fonts
- For Macintosh Word users: As font embedding is not possible in Mac Word, please be sure to only use native fonts available from the basic installation

Note: If you will be inserting equations into Word from the MathType program, please be sure to check for compatibility: www.dessci.com/en/products/mathtype/faqs.htm#compatibility.

Authors are also urged to take the nature of the actual layout of the journal pages into account when writing mathematical equations. A line in a column of text is typically 60 characters, but mathematical equations are often longer. To ensure that their papers look attractive when printed, authors must seek to write sequences of equations, each of which fits into a single column, some of which define symbols appearing in another equation, even if such results in a greater number of equations. If an equation whose length will exceed that of a single column is unavoidable, then the authors must write the equation so that it is neatly breakable into distinct segments, each of which fits into a single column. The casting of equations in a manner that requires the typesetting to revert to a single column per page (rather than two columns per page) format must be assiduously avoided. To make sure that this possibility will not occur, authors familiar with desk-top publishing software and techniques may find it convenient to temporarily recast manuscripts into a form where the column width corresponds to 60 text characters, so as to see whether none of the line breaks within equations will be awkward.

Equations are numbered consecutively in the text in the order in which they appear, the number designation is in parentheses and on the right side of the page. The numbering of the equations is independent of the section in which they appear for the main body of the text. However, for each appendix, a fresh numbering begins, so that the equations in

Appendix B are labeled (B1), (B2), etc. If there is only one appendix, it is treated as if it were Appendix A in the numbering of equations.

G. Phonetic symbols

The phonetic symbols included in a JASA manuscript should be taken from the International Phonetic Alphabet (IPA), which is maintained by the International Phonetic Association, whose home page is <https://www.internationalphoneticassociation.org>. The display of the most recent version of the alphabet can be found at <https://www.internationalphoneticassociation.org/content/full-ipa-chart>.

The total set of phonetic symbols that can be used by AIP Publishing during the typesetting process is the set included among the Unicode characters. This includes most of the symbols and diacritics of the IPA chart, plus a few compiled combinations, additional tonal representations, and separated diacritics. A list of all such symbols is given in the file *phonsymbol.pdf* which can be downloaded by going to the JASA website <http://asa.scitation.org/jas/authors/manuscript> and then clicking on the item *List of Phonetic Symbols*. This file gives, for each symbol (displayed in 3 different Unicode fonts, DoulosSIL, GentiumPlus, and CharisSILCompact): its Unicode hex ID number, the Unicode character set it is part of, its Unicode character name, and its IPA definition (taken from the IPA chart). Most of these symbols and their Unicode numbers are also available from Professor John Wells of University College London at <http://www.phon.ucl.ac.uk/home/wells/ipa-unicode.htm#alfa>, without the Unicode character names and character set names.

The method of including such symbols in a manuscript is to use, in conjunction with a word processor, a Unicode-compliant font that includes all symbols required. Fonts that are not Unicode-compliant should not be used. Most computers come with Unicode fonts that give partial coverage of the IPA. Some sources where one can obtain Unicode fonts for Windows, MacOS, and Linux with full IPA coverage are <http://www.phon.ucl.ac.uk/home/wells/ipa-unicode.htm> and http://scripts.sil.org/cms/scripts/page.php?item_id=SILFontList. Further information about which fonts contain a desired symbol set can be found at <http://www.alanwood.net/unicode/fontsbyrange.html#u0250> and adjacent pages at that site. While authors may use any Unicode-compliant font in their manuscript, AIP Publishing reserves the right to replace the author's font with a Unicode font of its choice (currently one of the SIL fonts Doulos, Gentium, or Charis, but subject to change in the future).

For LaTeX manuscripts, please visit <http://acousticalsociety.org/preparing-latex-manuscripts/> for more on using phonetic symbols.

H. Figures

Each figure should be manifestly legible when reduced to one column of the printed journal page. Figures requiring the full width of a journal page are discouraged, but exceptions can be made if the reasons for such are sufficiently evident. The inclusion of figures in the manuscript should be such that the manuscript, when published, should ordinarily have no

more than 30% of the space devoted to figures, and such that the total number of figures should ordinarily not be more than 20. In terms of the restriction of the total space for figures, each figure part will be considered as occupying a quarter page.

The figures are numbered in the order in which they are first referred to in the text. There must be one such referral for every figure in the text. Each figure must have a caption, and the captions are gathered together into a single list that appears at the end of the manuscript.

A chief criticism of many contemporary papers is that they contain far too many computer-generated graphical illustrations that present numerical results. An author develops a certain general computational method (realized by software) and then uses it to exhaustively discuss a large number of special cases. This practice must be avoided. Unless there is an overwhelmingly important single point that the sequence of figures demonstrates as a whole, an applicable rule of thumb is that the maximum number of figures of a given type must be four.

The clarity of most papers is greatly improved if the authors include one or more explanatory sketches. If, for example, the mathematical development presumes a certain geometrical arrangement, then a sketch of this arrangement must be included in the manuscript. If the experiment is carried out with a certain setup of instrumentation and apparatuses, then a sketch is also appropriate.

Color figures can be included in the online version of the *Journal* with no extra charge provided that these appear suitably as black and white figures in the print edition.

I. Tables

Tables are numbered by capital roman numerals (TABLE III, TABLE IV, etc.) and are collected at the end of the manuscript, following the references and preceding the figure captions, one table per page. There should be a descriptive caption (not a title) above each table in the manuscript.

Footnotes to individual items in a table are designated by raised lowercase letters (0.123^a, Martin^b, etc.) The footnotes as such are given below the table and should be as brief as practicable. If the footnotes are to references already cited in the text, then they should have forms such as—^aReference 10—or—^bFirestone (1935)—depending on the citation style adopted in the text. If the reference is not cited in the text, then the footnote has the same form as a textual footnote when the alphabetical bibliographic list style is used. One would cast the footnote as in the second example above and then include a reference to a 1935 work by Firestone in the paper's overall bibliographic list. In general, it is recommended that no footnote refer to references that are not already cited in the text.

VI. THE COVER LETTER

The contents of the cover letter are usually perfunctory. There are, however, some circumstances where material in a cover letter file might be advisable or needed:

(1) If persons who would ordinarily have been included as authors have given permission or requested that their names

not be included, then that must be so stated. (This requirement is imposed because some awkward situations have arisen in the past in which persons have complained that colleagues or former colleagues have deliberately omitted their names as authors from papers to which they have contributed. The *Journal* also has the policy that a paper may still be published, even if one of the persons who has contributed to the work refuses to allow his or her name to be included among the list of authors, providing there is no question of plagiarism.) Unless a cover letter listing such exceptions is submitted, the submittal process implies that the corresponding author is attesting that the author list is complete.

(2) If there has been any prior presentation or any overlap in concept with any other manuscripts that have been either published or submitted for publication, this must be stated in a cover letter. If the manuscript has been previously submitted elsewhere for publication, and subsequently withdrawn, this must also be disclosed. If none of these apply for the submitted manuscript, then the submission process is construed to imply that the corresponding author is attesting to such a fact.

(3) (Optional.) Reasons why the authors have selected to submit their paper to JASA rather than some other journal. These would ordinarily be supplied if the authors are concerned that there may be some questions as to the paper meeting the “truly acoustics” criterion or of its being within the scope of the *Journal*. If none of the references cited in the submitted paper are to articles previously published in the *Journal*, it is highly advisable that some strong reasons be given for why the authors believe the paper falls within the scope of the *Journal*.

(4) If the online submission includes the listing of one or more persons who the authors prefer not be used as reviewers, an explanation in a cover letter would be desirable.

(5) If the authors wish to make statements which they feel are appropriate to be read by editors, but are inappropriate to be included in the actual manuscript, then such should be included in a cover letter.

Cover letters are treated by the EM system as being distinct from *rebuttal letters*.

Rebuttal letters should be submitted with revised manuscripts, and the contents are usually such that the authors give, when appropriate, rebuttals to suggestions and criticisms of the reviewers, and give detailed discussion of how and why the revised manuscript differs from what was originally submitted.

VII. EXPLANATIONS AND CATEGORIES

A. Suggestions for Associate Editors

In the suggestion of an Associate Editor who should handle a specific manuscript, authors should consult the Editorial Board listing of Associate Editors on the JASA website: <http://asa.scitation.org/jas/info/editors>.

Authors are not constrained to select Associate Editors specifically identified with their choice of principal ASA Technical Committee and should note that the *Journal* has special Associate Editors for Mathematical Acoustics, Computational Acoustics, and Education in Acoustics. Review, forum, and tutorial articles are ordinarily invited; submission

of unsolicited review articles, forum articles, or tutorial articles (other than those which can be construed as papers on education in acoustics) without prior discussion with the Editor-in-Chief is discouraged. Authors should suggest the Associate Editor for Education in Acoustics for tutorial papers that contain material which might be used in standard courses on acoustics or material that supplements standard textbooks.

B. Types of manuscripts

Categories of papers that are published in the *Journal* include the following:

1. Regular research articles

These are papers which report original research. There is neither a lower limit nor an upper limit on their length, although authors must pay page charges if the length results in more than 12 printed pages. The prime requirement is that such papers must contain a complete account of the reported research. These articles are classified in JASA's Table of Contents by their (most appropriate) Technical Committee or by Education in Acoustics.

2. Letters to the Editor

These are shorter research contributions that can be any of the following: (i) an announcement of a research result, preliminary to the full of the research; (ii) a scientific or technical discussion of a topic that is timely; (iii) brief alternate derivations or alternate experimental evidence concerning acoustical phenomena; (iv) provocative articles that may stimulate further research. Brevity is an essential feature of a letter, and the *Journal* suggests 3 printed journal pages as an upper limit, although it will allow up to 4 printed pages in exceptional cases.

The *Journal's* current format has been chosen so as to give letters greater prominence. Their brevity in conjunction with the possible timeliness of their contents gives impetus to a quicker processing and to a shorter time lag between submission and appearance in printed form in the *Journal*. (The quickest route to publication that the Acoustical Society currently offers is submission to the special section *JASA Express Letters* (JASA-EL) of the *Journal*. For information regarding JASA-EL, visit the site <http://asa.scitation.org/journal/jel>.)

Because the desire for brevity is regarded as important, the author is not compelled to make a detailed attempt to place the work within the context of current research; the citations are relatively few and the review of related research is limited. The author should have some reason for desiring a more rapid publication than for a normal article, and the editors and the reviewers should concur with this. The work should have a modicum of completeness, to the extent that the letter “tells a story” that is at least plausible to the reader, and it should have some nontrivial support for what is being related. Not all the loose strings need be tied together. Often there is an implicit promise that the publication of the letter will be followed up by a regular research article that fills in the gaps and that does all the things that a regular research article should do.

3. Errata

These must be corrections to what actually was printed. Authors must explicitly identify the passages or equations in the paper and then state what should replace them. Long essays on why a mistake was made are not desired. A typical line in an errata article would be of the form: *Equation (23) on page 6341 is incorrect. The correct version is ...*. For detailed examples, the authors should look at previously published errata articles in the *Journal*.

4. Comments on published papers

Occasionally, one or more readers, after reading a published paper, will decide to submit a paper giving comments about that paper. The *Journal* welcomes submissions of this type, although they are reviewed to make sure that the comments are reasonable and that they are free of personal slurs. The format of the title of a comments paper is rigidly prescribed, and examples can be found in previous issues of the *Journal*. The authors of the papers under criticism are frequently consulted as reviewers, but their unsubstantiated opinion as to whether the letter is publishable is usually not given much weight.

5. Forum letters

Forum letters are analogous to the “letters to the editor” that one finds in the editorial section of major newspapers. They may express opinions or advocate actions. They may also relate anecdotes or historical facts that may be of general interest to the readers of the *Journal*. They need not have a title and should not have an abstract; they also should be brief, and they should not be of a highly technical nature. These are also submitted using the EM system, but are not handled as research articles. The applicable Associate Editor is presently the Editor-in-Chief. For examples of acceptable letters and the format that is desired, prospective authors of such letters should consult examples that have appeared in recent issues of the *Journal*.

6. Tutorial and review papers

Review and tutorial papers are occasionally accepted for publication, but are difficult to handle within the peer-review process. All are handled directly by the Editor-in-Chief, but usually with extensive discussion with the relevant Associate Editors. Usually such are invited, based on recommendations from the Associate Editors and the Technical Committees of the Society, and the tentative acceptance is based on a submitted outline and on the editors’ acquaintance with the prospective author’s past work. The format of such papers is similar to those of regular research articles, although there should be a table of contents following the abstract for longer research articles. Submission is handled by the online system, but the cover letter should discuss the history of prior discussions with the editors. Because of the large expenditure of time required to write an authoritative review article, authors are advised not to begin writing until they have some assurance that there is a good likelihood of the submission eventually being accepted.

7. Book reviews

All book reviews must be first invited by the Associate Editor responsible for book reviews. The format for such reviews is prescribed by the Associate Editor, and the EM submittal process is used primarily to facilitate the incorporation of the reviews into the *Journal*.

8. Special Issues

A Special Issue must be proposed to the Editor-in-Chief by a person who is willing and able to work as a Guest Editor or coordinator, along with a regular Associate Editor. Such issues are encouraged (though not strictly required) to have an open call for papers, which will be posted on ASA’s Scitation web page. Time limits for submission, review, and revision are usually enforced. If the total Special Issue is less than 100 *Journal* pages long, it will be printed as a part of the current *Journal* volume, rather than separately. Special Issues are a definite attraction for readers, and good ideas for Special Issues are always welcome.

9. Guest Invited Articles

In order to solicit papers of interest to acousticians, but outside the normal range of topics found in *JASA*, we have initiated the category of Guest Invited Article. These must be approved by the Editor-in-Chief, but suggestions are welcome from all ASA members.

10. Addenda

In rare cases, a small addendum may be submitted to augment a paper on a key or critical point. These are not encouraged, but can be submitted if a good case for their need is made to the Editor-in-Chief.

11. Retractions

Again, in the rare case an article has a fatal flaw, an author can contact the Editor-in-Chief about a possible retraction of the article’s content. (The original article will still be part of the permanent record.)

12. Other submission categories

There are several article categories that appear on the FM submission list that are reserved for journal personnel use, and are not for general submissions. They are: Calendar, Thank You to Reviewers, Technical Committee Reports, Acoustical News, Acoustical Standards News, Reviews of Acoustical Patents, and Editorial.

VIII. FACTORS RELEVANT TO PUBLICATION DECISIONS

A. Peer review system

The *Journal* uses a peer review system in the determination of which submitted manuscripts should be published. The Associate Editors make the actual decisions; each editor has specialized understanding and prior distinguished accomplishments in the subfield of acoustics that encompasses

the contributed manuscript. They seek advice from reviewers who are knowledgeable in the general subject of the paper, and the reviewers give opinions on various aspects of the work; primary questions are whether the work is original and whether it is correct. The Associate Editor and the reviewers who examine the manuscript are the authors' peers: persons with comparable standing in the same research field as the authors themselves. (Individuals interested in reviewing for JASA or for JASA-EL can convey that interest via an e-mail message to the Editor-in-Chief at <jasa@aip.org>.)

B. Selection criteria

Many submitted manuscripts are not selected for publication. Selection is based on the following factors: adherence to the stylistic requirements of the *Journal*, clarity of exposition, originality of the contribution, demonstrated understanding of previously published literature pertaining to the subject matter, appropriate discussion of the relationships of the reported research to other current research or applications, appropriateness of the subject matter to the *Journal*, correctness of the content of the article, completeness of the reporting of results, the reproducibility of the results, and the significance of the contribution. The *Journal* reserves the right to refuse publication of any submitted article without giving extensively documented reasons, although the editors usually give suggestions that can help the authors in the writing and submission of future papers. The Associate Editor also has the option, but not an obligation, of giving authors an opportunity to submit a revised manuscript addressing specific criticisms raised in the peer review process. The selection process occasionally results in mistakes, but the time limitations of the editors and the reviewers preclude extraordinary steps being taken to ensure that no mistakes are ever made. If an author feels that the decision may have been affected by an *a priori* adverse bias (such as a conflict of interest on the part of one of the reviewers), the system allows authors to express the reasons in writing and ask for an appeal review.

C. Scope of the *Journal*

Before one decides to submit a paper to the *Journal of the Acoustical Society*, it is prudent to give some thought as to whether the paper falls within the scope of the *Journal*. While this can in principle be construed very broadly, it is often the case that another journal would be a more appropriate choice. As a practical matter, the *Journal* would find it difficult to give an adequate peer review to a submitted manuscript that does not fall within the broader areas of expertise of any of its Associate Editors. In the *Journal's* peer-review process, extensive efforts are made to match a submitted manuscript with an Associate Editor knowledgeable in the field, and the Editors have the option of declining to take on the task. It is a tacit understanding that no Associate Editor should accept a paper unless he or she understands the gist of the paper and is able to make a knowledgeable assessment of the relevance of the advice of the selected reviewers. If no one wishes to handle a manuscript, the matter is referred to the Editor-in-Chief and a possible resulting decision is that the manuscript is outside the de facto scope of the *Journal*.

The *Journal* ordinarily selects for publication only articles that have a clear identification with acoustics. It would, for example, not ordinarily publish articles that report results and techniques that are not specifically applicable to acoustics, even though they could be of interest to some persons whose work is concerned with acoustics. An editorial³ published in the October 1999 issue gives examples that are *not* clearly identifiable with acoustics.

IX. POLICIES REGARDING PRIOR PUBLICATION

The *Journal* adheres assiduously to all applicable copyright laws, and authors must not submit articles whose publication will result in a violation of such laws. Furthermore, the *Journal* follows the tradition of providing an orderly archive of scientific research in which authors take care that results and ideas are fully attributed to their originators. Conscious plagiarism is a serious breach of ethics, if not illegal. (Submission of an article that is plagiarized, in part or in full, may have serious repercussions on the future careers of the authors.) Occasionally, authors rediscover older results and submit papers reporting these results as though they were new. The desire to safeguard the *Journal* from publishing any such paper requires that submitted articles have a sufficient discussion of prior related literature to demonstrate the authors' familiarity with the literature and to establish the credibility of the assertion that the authors have carried out a thorough literature search.

In many cases, the authors themselves may have either previously circulated, published, or presented work that has substantial similarities with what is contained within the contributed manuscript. In general, JASA will not publish work that has been previously published. (An exception is when the previous publication is a letter to the editor, and when pertinent details were omitted because of the brief nature of the earlier reporting.) Presentations at conferences are not construed as prior publication; neither is the circulation of preprints or the posting of preprints on any web site, providing the site does not have the semblance of an archival online journal. Publication as such implies that the work is currently, and for the indefinite future, available, either for purchase or on loan, to a broad segment of the research community. Often the *Journal* will consider publishing manuscripts with tangible similarities to other work previously published by the authors—providing the following conditions are met: (1) the titles are different; (2) the submitted manuscript contains no extensive passages of text or figures that are the same as in the previous publication; (3) the present manuscript is a substantial update of the previous publication; (4) the previous publication has substantially less availability than would a publication in JASA; (5) the current manuscript gives ample referencing to the prior publication and explains how the current manuscript differs from the prior publication. Decisions regarding such cases are made by the Associate Editors, often in consultation with the Editor-in-Chief. (Inquiries prior to submission as to whether a given manuscript with some prior history of publication may be regarded as suitable for JASA should be addressed to the Editor-in-Chief at <jasa@aip.org>.)

The *Journal* will not consider any manuscript for publication that is presently under consideration by another journal or which is substantially similar to another one under consideration. If it should learn that such is the case, the paper will be rejected and the editors of the other journal will be notified.

Authors of an article previously published as a letter to the editor, either as a regular letter or as a letter in the JASAE (*JASA Express Letters*) section of the *Journal*, where the original account was either abbreviated or preliminary are encouraged to submit a more comprehensive and up-dated account of their research to the *Journal*. The same holds for POMA (Proceedings of Meetings on Acoustics) articles.

A. Speculative papers

In some cases, a paper may be largely speculative; a new theory may be offered for an as yet imperfectly understood phenomenon, without complete confirmation by experiment. Although such papers may be controversial, they often become the most important papers in the long-term development of a scientific field. They also play an important role in the stimulation of good research. Such papers are intrinsically publishable in JASA, although explicit guidelines for their selection are difficult to formulate. Of major importance are (i) that the logical development be as complete as practicable, (ii) that the principal ideas be plausible and consistent with what is currently known, (iii) that there be no known counter-examples, and (iv) that the authors give some hints as to how the ideas might be checked by future experiments or numerical computations. In addition, the authors should cite whatever prior literature exists that might indicate that others have made similar speculations.

B. Multiple submissions

The current online submittal process requires that each paper be submitted independently. Each received manuscript will be separately reviewed and judged regarding its merits for publication independently of the others. There is no formal mechanism for an author to request that two submissions, closely spaced in their times of submission, be regarded as a single submission.

In particular, the submission of two manuscripts, one labeled "Part I" and the other labeled "Part II" is not allowed. Submission of a single manuscript with the label "Part I" is also not allowed. An author may submit a separate manuscript labeled "Part II," if the text identifies which previously accepted paper is to be regarded as "Part I." Doing so may be a convenient method for alerting potential readers to the fact that the paper is a sequel to a previous paper by the author. The author should not submit a paper so labeled, however, unless the paper to be designated as "Part I" has already been accepted, either for JASA or another journal.

The Associate Editors are instructed not to process any manuscript that cannot be read without the help of as yet unpublished papers that are still under review. Consequently, authors are requested to hold back the submission of "sequels" to previously submitted papers until the disposition of those papers is determined. Alternately, authors should write the

"sequels" so that the reading and comprehension of those manuscripts does not require prior reading and access of papers whose publication is still uncertain.

X. SUGGESTIONS REGARDING CONTENT

A. Introductory section

Every paper begins with introductory paragraphs. Except for short Letters to the Editor, these paragraphs appear within a separate principal section, usually with the heading "Introduction."

Although some discussion of the background of the work may be advisable, a statement of the precise subject of the work must appear within the first two paragraphs. The reader need not fully understand the subject the first time it is stated; subsequent sentences and paragraphs should clarify the statement and should supply further necessary background. The extent of the clarification must be such that a nonspecialist will be able to obtain a reasonable idea of what the paper is about. The Introduction should also explain to the nonspecialist just how the present work fits into the context of other current work done by persons other than the authors themselves. Beyond meeting these obligations, the writing should be as concise as practicable.

The Introduction must give the authors' best arguments as to why the work is original and significant. This is customarily done via a knowledgeable discussion of current and prior literature. The authors should envision typical readers or typical reviewers, and this should be a set of people that is not inordinately small, and the authors must write so as to convince them. In some cases, both originality and significance will be immediately evident to all such persons, and the arguments can be brief. In other cases, the authors may have a daunting task. It must not be assumed that readers and reviewers will give the authors the benefit of the doubt.

B. Main body of text

The writing in the main body of the paper must follow a consistent logical order. It should contain only material that pertains to the main premise of the paper, and that premise should have been stated in the Introduction. While tutorial discussions may in some places be appropriate, such should be kept to a minimum and should be only to the extent necessary to keep the envisioned readers from becoming lost.

The writing throughout the text, including the Introduction, must be in the present tense. It may be tempting to refer to subsequent sections and passages in the manuscript in the future tense, but the authors must assiduously avoid doing so, using instead phrases such as "is discussed further below."

Whenever pertinent results, primary or secondary, are reached in the progress of the paper, the writing should point out that these are pertinent results in such a manner that it would get the attention of a reader who is rapidly scanning the paper.

The requirement of a consistent logical order implies that the logical steps appear in consecutive order. Readers must not be referred to subsequent passages or to appendixes to fill in key elements of the logical development. The fact

that any one such key element is lengthy or awkward is insufficient reason to relegate it to an appendix. Authors can, however, flag such passages giving the casual reader the option of skipping over them on first reading. The writing nevertheless must be directed toward the critical reader—a person who accepts no aspect of the paper on faith. (If the paper has some elements that are primarily speculative, then that should be explicitly stated, and the development should be directed toward establishing the plausibility of the speculation for the critical reader.)

To achieve clarity and readability, the authors must explicitly state the purposes of lengthy descriptions or of lengthy derivations at the beginning of the relevant passages. There should be no mysteries throughout the manuscript as to the direction in which the presentation is going.

Authors must take care that no reader becomes needlessly lost because of the use of lesser-known terminology. All terms not in standard dictionaries must be defined when they are first used. Acronyms should be avoided, but, when they are necessary, they must be explicitly defined when first used. The terminology must be consistent; different words should not be used to represent the same concept.

Efforts must be taken to avoid insulting the reader with the use of gratuitous terms or phrases such as *obvious*, *well-known*, *evident*, or *trivial*. If the adjectives are applicable, then they are unnecessary. If not, then the authors risk incurring the ill-will of the readers.

If it becomes necessary to bring in externally obtained results, then the reader must be apprised, preferably by an explicit citation to accessible literature, of the source of such results. There must be no vague allusions, such as “It has been found that...” or “It can be shown that...” If the allusion is to a mathematical derivation that the authors have themselves carried out, but which they feel is not worth describing in detail, then they should briefly outline how the derivation can be carried out, with the implication that a competent reader can fill in the necessary steps without difficulty.

For an archival journal such as JASA, reproducibility of reported results is of prime importance. Consequently, authors must give a sufficiently detailed account, so that all results, other than anecdotal, can be checked by a competent reader with comparable research facilities. If the results are numerical, then the authors must give estimates of the probable errors and state how they arrived at such estimates. (Anecdotal results are typically results of field experiments or unique case studies; such are often worth publishing as they can stimulate further work and can be used in conjunction with other results to piece together a coherent understanding of broader classes of phenomena.)

C. Concluding section

The last principal section of the article is customarily labeled “Conclusions” or “Concluding Remarks.” This should not repeat the abstract, and it should not restate the subject of the paper. The wording should be directed toward a person who has some, if not thorough, familiarity with the main body of the text and who knows what the paper is all about. The authors should review the principal results of

the paper and should point out just where these emerged in the body of the text. There should be a frank discussion of the limitations, if any, of the results, and there should be a broad discussion of possible implications of these results.

Often the concluding section gracefully ends with speculations on what research might be done in the future to build upon the results of the present paper. Here the authors must write in a collegial tone. There should be no remarks stating what the authors themselves intend to do next. They must be careful not to imply that the future work in the subject matter of the paper is the exclusive domain of the authors, and there should be no allusions to work in progress or to work whose publication is uncertain. It is conceivable that readers stimulated to do work along the lines suggested by the paper will contact the authors directly to avoid a duplication of effort, but that will be their choice. The spirit expressed in the paper itself should be that anyone should be free to follow-up on the suggestions made in the concluding section. A successful paper is one that does incite such interest on the part of the readers and one which is extensively cited in future papers written by persons other than the authors themselves.

D. Appendixes

The *Journal* prefers that articles not include appendixes unless there are strong reasons for their being included. Details of mathematical developments or of experimental procedures that are critical to the understanding of the substance of a paper must not be relegated to an appendix. (Authors must bear in mind that readers can easily skim over difficult passages in their first reading of a paper.) Lengthy proofs of theorems may possibly be placed in appendixes providing their stating as such in the main body of the text is manifestly plausible. Short appendixes are generally unnecessary and impede the comprehension of the paper. Appendixes may be used for lengthy tabulations of data, of explicit formulas for special cases, and of numerical results. Editors and reviewers, however, may question whether their inclusion is necessary.

E. Selection of references

References are typically cited extensively in the Introduction, and the selection of such references can play an important role in the potential usefulness of the paper to future readers and in the opinions that readers and reviewers form of the paper. No hard and fast rules can be set down as to how authors can best select references and as to how they should discuss them, but some suggestions can be found in an editorial⁴ published in the May 2000 issue. If a paper falls within the scope of the *Journal*, one would ordinarily expect to find several references to papers previously published in JASA.

Demonstration of the relevance of the work is often accomplished via citations, with accompanying discussion, to recent articles in JASA and analogous journals. The implied claims to originality can be strengthened via citations, with accompanying discussion, to prior work related to the subject of the paper, sufficient to establish credibility that the authors are familiar with the literature and are not

duplicating previous published work. Unsupported assertions that the authors are familiar with all applicable literature and that they have carried out an exhaustive literature survey are generally unconvincing to the critical reader.

Authors must not make large block citations of many references (e.g., four or more). There must be a stated reason for the citation of each reference, although the same reason can sometimes apply simultaneously to a small number of references. The total number of references should be kept as small a number as is consistent with the principal purposes of the paper (45 references is a suggested upper limit for a regular research article). Although nonspecialist readers may find a given paper to be informative in regard to the general state of a given field, the authors must not consciously write a research paper so that it will fulfill a dual function of being a review paper or of being a tutorial paper.

Less literate readers often form and propagate erroneous opinions concerning priority of ideas and discoveries based on the reading of recent papers, so authors must make a conscious attempt to cite original sources. Secondary sources can also be cited, if they are identified as such and especially if they are more accessible or if they provide more readable accounts. In such cases, reasons must be given as to why the secondary sources are being cited. References to individual textbooks for results that can be found in a large number of analogous textbooks should not be given, unless the cited textbook gives a uniquely clear or detailed discussion of the result. Authors should assume that any reader has access to some such textbook, and the authors should tacitly treat the result as well-known and not requiring a reference citation.

Authors must not cite any reference that the authors have not explicitly seen, unless the paper has a statement to that effect, accompanied by a statement of how the authors became aware of the reference. Such citations should be limited to crediting priority, and there must be no implied recommendations that readers should read literature which the authors themselves have not read.

F. Multimedia

A benefit of publishing in an electronic online journal is the ability to integrate multimedia files into both the published and archived articles. The online presentation of the paper allows for links to both audio and video clips directly from within the text of the article. The multimedia files submitted for *JASA* will be reviewed as part of the peer review process and accepted for publication in much the same way as are two-dimensional figures for traditional print journals. The multimedia submission guidelines presented here are subject to change because of improvements and increasing availability of the relevant technology.

The implementation of *JASA* on the Editorial Manager system is such that multimedia files are submitted in the same manner as are figure files, i.e., they are uploaded individually during the manuscript submission process. The sequence in which they are uploaded should be the same as that in which they are referred to in the text. The uploaded files should be named MM#.xxx, where “#” is the number and “xxx” is the file format extension (examples: MM1.mp3, MM2.wav, etc.).

The text should refer to these files using the designations Mm. 1, Mm. 2, etc.; this is similar to the convention of referring to figures as Fig. 1, Fig. 2, etc.

To ensure broad viewing/playing ability across hardware platforms and browsers, submissions in a variety of file formats are acceptable.

Acceptable video formats are: (i) QuickTime movies (mov); (ii) Mpeg movies (mpg); (iii) Mpeg-4 (mp4); (iv) Animated Gifs (gif); (v) Audio Video Interleave (avi).

Acceptable audio formats are: (i) AIFF (aif); (ii) Wav (wav); (iii) MP3 (mp3) at 128 kB or greater.

In the above lists, the letters in parentheses are the standard suffixes for files in the corresponding format. For example, fancymovie.mov would be a file containing a QuickTime movie.

It is important that authors make their multimedia files no larger or numerous than necessary to convey scientific information that is central to the manuscript's purpose. Authors should consider that files larger than several MB are problematic for readers using dial-up connections. Files larger than 10 MB require permission from the Editor. When video compression is used, the codec software module must be widely available. Files may not be compressed into archives, such as .zip and .tar formats. Since readers may find it tedious to download numerous files that contribute little new information, authors must select their materials carefully. Submissions with more than 6 multimedia files must receive permission from the Editor.

In the typesetting of an accepted manuscript, links will be placed within the online publication for each of the multimedia files. During the peer-review process, the reviewers and editors will access such files by going to the online site reserved for the submitted manuscript and its accompanying files, and then selecting whatever multimedia file is desired.

To help the publisher in determining just where links to each multimedia file are to be placed, authors should give a multimedia caption following the first paragraph in which the file is mentioned. The multimedia caption should resemble the following example:

Mm. 2. Fancy video file. This is a file of type “mov” (1.2 Mb).

Here “Fancy video file” is the caption for the multimedia object, which contains a level of description similar to a figure or table caption. The primary purpose of including the file type and its size is to allow readers to determine whether they wish to download it.

Authors may also wish to have a figure included for each of the video files that accompany the manuscript. One way of doing this is to take a single frame and convert it to a figure file, and then treat this in the same way as one would treat any other figure. However, the caption for such a figure should refer to the Mm number of the corresponding video file and should give a brief description of what can be found in that file.

G. Supplementary material for publication

If authors have supplementary material for publication that would be of interest to the readers of the article, then this can be published with the article.

Appropriate items include multimedia, color figures, data tables, and text (e.g., appendixes) that are too lengthy or of too limited interest for inclusion in the printed journal.

Supplementary material should be cited in-text and a footnote* formatted as follows added: “See supplementary material at [URL will be inserted by AIP] for [give brief description of material].”

*Note: how the footnote is added depends on reference style (see Section V. Style Requirements, part A. Citations and footnotes).

There are two types of supplementary files:

- (1) Supplementary Multimedia. These files should be named according to the following file naming convention: SuppPubmm#.xxx, where “#” is a number and “xxx” is the file format extension (examples: SuppPubmm1.mp3, SuppPubmm2.gif, etc).
- (2) Other Supplementary Material. These files should be named according to the following file naming convention: SuppPub#.xxx, where “#” is a number and “xxx” is the file format extension (examples: SuppPub1.docx, SuppPub2.jpg, SuppPub3.zip). Any file type is accepted for supplementary material (including zip folders), but please note that submitting files in propriety application formats can limit accessibility.

XI. SUGGESTIONS REGARDING STYLE

A. Quality of writing and word usage

The *Journal* publishes articles in the English language only. There are very few differences of substance between British English style (as codified in the *Oxford English Dictionary*⁵) and US English style, but authors frequently must make choices in this respect, such as between alternate spelling of words that end in either *-or* or *-our*, or in either *-ized* or *-ised*, or in either *-er* or *-re*.

Articles published in JASA are expected to adhere to high standards of scholarly writing. A formal writing style free of slang is required. Good conversational skills do not necessarily translate to good formal writing skills. Authors are expected to make whatever use is necessary of standard authoritative references in regard to English grammar and writing style in preparing their manuscripts. Many good references exist—among those frequently used by professional writers are Webster’s Third New International Dictionary, Unabridged,⁶ Merriam-Webster’s Collegiate Dictionary, 11th Edition,⁷ Strunk and White’s *Elements of Style*,⁸ and the Chicago Manual of Style.⁹ (The Third New International is AIP Publishing’s standard dictionary.) All authors are urged to do their best to produce a high quality readable manuscript, consistent with the best traditions of scholarly and erudite writing. Occasional typographical errors and lapses of grammar can be taken care of in the copy-editing phase of the production process. Receipt of a paper whose grammatical and style errors are so excessive that they cannot be easily fixed by copy-editing will generally result in the authors being notified that the submission is not acceptable. Receipt of such a notification should not be construed as a rejection of the manuscript—the

authors should take steps, possibly with external help, to revise the manuscript so that it overcomes these deficiencies. (Authors needing help or advice on scientific writing in the English language are encouraged to contact colleagues, both within and outside their own institutions, to critique the writing in their manuscripts. Unfortunately, the staff of the *Journal* does not have the time to do this on a routine basis.)

There are some minor discrepancies in the stylistic rules that are prescribed in various references—these generally arise because of the differences in priorities that are set in different publication categories. Newspapers, for example, put high emphasis on the efficient use of limited space for conveying the news and for catching the interest of their readers. For scholarly journals, on the other hand, the overwhelming priority is clarity. In the references cited above, this is the basis for most of the stated rules. In following this tradition, the *Journal*, for example, requires a rigorous adherence to the serial comma rule (Strunk’s rule number 2): In a series of three or more terms with a single conjunction, use a comma after each term except the last. Thus a JASA manuscript would refer to the “theory of Rayleigh, Helmholtz, and Kirchhoff” rather than to the “theory of Rayleigh, Helmholtz and Kirchhoff.”

The priority of clarity requires that authors only use words that are likely to be understood by a large majority of potential readers. Usable words are those whose definitions may be found either in a standard unabridged English dictionary (such as the Webster’s Third New International mentioned above), in a standard scientific dictionary such as the Academic Press Dictionary of Science and Technology,¹⁰ or in a dictionary specifically devoted to acoustics such as the Dictionary of Acoustics¹¹ by C. L. Morfey. In some cases, words and phrases that are not in any dictionary may be *in vogue* among some workers in a given field, especially among the authors and their colleagues. Authors must give careful consideration to whether use of such terms in their manuscript is necessary; and if the authors decide to use them, precise definitions must be stated within the manuscript. Unilateral coinage of new terms by the authors is discouraged. In some cases, words with different meanings and with different spellings are pronounced exactly the same, and authors must be careful to choose the right spelling. Common errors are to interchange “principal” and “principle” and to interchange “role” and “roll.”

B. Grammatical pitfalls

There are only a relatively small number of categories of errors that authors frequently make in the preparation of manuscripts. Authors should be aware of these common pitfalls and double-check that their manuscripts contain no errors in these categories. Some errors will be evident when the manuscript is read aloud; others, depending on the background of the writers, may not be. Common categories are (1) dangling participles, (2) lack of agreement in number (plural versus singular) of verbs with their subjects, (3) omission of necessary articles (such as “a,” “an,” and “the”) that precede nouns, (4) the use of incorrect case forms (subjective, objective, possessive) for pronouns (e.g., who versus whom), and (5) use of the incorrect form (present, past, past participle,

and future) in regard to tense for a verb. Individual authors may have their own peculiar pitfalls, and an independent casual reading of the manuscript by another person will generally pinpoint such pitfalls. Given the recognition that such exist, a diligent author should be able to go through the manuscript and find all instances where errors of the identified types occur.

C. Active voice and personal pronouns

Many authorities on good writing emphasize that authors should use the active rather than the passive voice. Doing so in scholarly writing, especially when mathematical expressions are present, is often infeasible, but the advice has merit. In mathematical derivations, for example, some authors use the tutorial “we” to avoid using the passive voice, so that one writes: “We substitute the expression on the right side of Eq. (5) into Eq. (2) and obtain ...,” rather than: “The right side of Eq. (5) is substituted into Eq. (2), with the result being” A preferable construction is to avoid the use of the tutorial “we” and to use transitive verbs such as “yields,” “generates,” “produces,” and “leads to.” Thus one would write the example above as: “Substitution of Eq. (5) into Eq. (2) yields” Good writers frequently go over an early draft of a manuscript, examine each sentence and phrase written using the passive voice, and consider whether they can improve the sentence by rewriting it.

In general, personal pronouns, including the “tutorial we,” are preferably avoided in scholarly writing, so that the tone is impersonal and dispassionate. In a few cases, it is appropriate that an opinion be given or that a unique personal experience be related, and personal pronouns are unavoidable. What should be assiduously avoided are any egotistical statements using personal pronouns. If a personal opinion needs to be expressed, a preferred construction is to refer to the author in the third person, such as: “the present writer believes that”

D. Acronyms

Acronyms have the inconvenient feature that, should the reader be unfamiliar with them, the reader is clueless as to their meaning. Articles in scholarly journals should ideally be intelligible to many generations of future readers, and formerly common acronyms such as RCA (Radio Corporation of America, merged into the General Electric Corporation) and REA (Rural Electrification Authority) may have no meaning to such readers. Consequently, authors are requested to use acronyms sparingly and generally only when not using them would result in exceedingly awkward prose. Acronyms, such as SONAR and LASER (currently written in lowercase, sonar and laser, as ordinary words), that have become standard terms in the English language and that can be readily found in abridged dictionaries, are exceptions. If the authors use acronyms not in this category, then the meaning of the individual letters should be spelled out at the time such an acronym is first introduced.

E. Computer programs

In some cases the archival reporting of research suggests that authors give the names of specific computer programs used in the research. If the computation or data processing could just as well have been carried out with the aid of any one of a variety of such programs, then the name should be omitted. If the program has unique features that are used in the current research, then the stating of the program name must be accompanied by a brief explanation of the principal premises and functions on which the relevant features are based. One overriding consideration is that the *Journal* wishes to avoid implied endorsements of any commercial product.

F. Code words

Large research projects and large experiments that involve several research groups are frequently referred to by code words. Research articles in the *Journal* must be intelligible to a much broader group of readers, both present and future, than those individuals involved in the projects with which such a code word is associated. If possible, such code words should either not be used or else referred to in only a parenthetical sense. If attempting to do this leads to exceptionally awkward writing, then the authors must take special care to explicitly explain the nature of the project early in the paper. They must avoid any impression that the paper is specifically directed toward members of some in-group.

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- ⁶*Webster’s Third New International Dictionary of the English Language, Unabridged*, Philip Babcock Gove, Editor-in-Chief (Merriam-Webster Inc., Springfield, MA, 1993, principal copyright 1961). This is the eighth in a series of dictionaries that has its beginning in Noah Webster’s *American Dictionary of the English Language* (1828).
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- ⁸W. Strunk, Jr. and E. B. White, *The Elements of Style*, 4th ed., with forward by Roger Angell (Allyn and Bacon, 1999).
- ⁹*The Chicago Manual of Style: The Essential Guide for Writers, Editors, and Publishers*, 14th ed., with preface by John Grossman (University of Chicago Press, 1993).
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