

Reading, Writing, and the Acoustical Society of America

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The idea that all authors, or their sponsors, or their institutions, pay for all the costs of publication and of ensuring perpetual access seems extremely unreasonable.

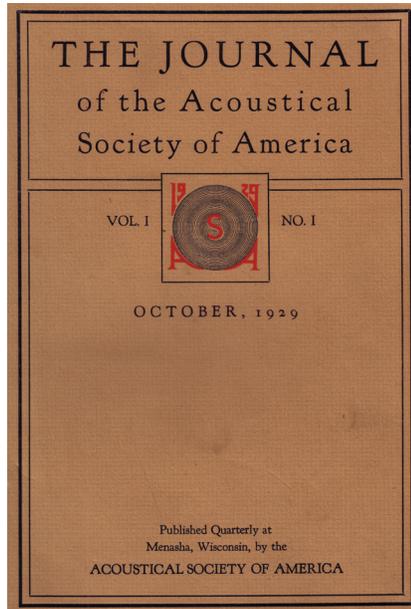


Figure 1. Cover of the first issue of the Journal of the Acoustical Society of America.

Introduction

I just finished a 15-year stint as the Editor-in-Chief of the Acoustical Society of America (ASA). Partly because of the job and partly because of its role within the Society's affairs, I have become acutely aware of some of the problems the scientific and technological communities are currently facing. The present era presents great opportunities (but also new problems) because of the great proliferation of scientific research (with a consequent decrease in average quality) throughout the world and because of the greater possibilities for inexpensive mass distribution (such as via the Internet) of the results of scientific research. The main problem, however, continues to be that of connecting the people who actually do the research and who want to write about acoustics with those who potentially have an interest in the research

and/or those who might make use of that research. A secondary problem is that of inducing people who have something worth discussing to produce high-quality written manuscripts and submit them for publication. A third problem is that of inducing intelligent people to seriously read, appraise, and possibly criticize the published work in acoustics. The ASA has members who fall into one or more of the above-mentioned categories, and it also regards itself as being a conduit between all persons, those living in the past, those currently alive, and those as yet unborn, who have an interest in the general topic of acoustics, with the definition of the term "acoustics" taken very broadly. The mission of the ASA, unchanged since its original formulation in 1929, is to "to increase and diffuse the knowledge of acoustics and to promote its practical applications." One of the various means by which the Society sought to fulfill its mission was by the publication of a journal. The first issue (**Figure 1**) of its journal, the *Journal of the Acoustical Society of America* (JASA), appeared in the same year that the Society was formed. The present article focuses on the achievement of the Society's mission by means of publishing.

One premise advanced here is that many of the problems that readers and writers are encountering would be greatly reduced if they were more keenly aware of the services provided by professional societies. The world is certainly not ideal,

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and professional societies are stressed by trying to simultaneously pursue different and competing aspects of their missions and by still continuing to assess dues that are regarded as reasonable by their memberships. There are many great journals (most of recent vintage) that are not associated with professional societies, and there are many other organizations whose actual motives are more altruistic than those of the competing professional societies. Nevertheless, in a more ideal world, readers might find what they most need to read is what is published by professional societies; writers might find a better venue for publication among the journals published by professional societies; professional societies might better achieve their missions if they placed higher emphasis on making their publication accessible; and libraries might find their budgets more manageable if they give priority to journals associated with professional societies. Direct governmental subsidization of all publications of research, while existing to a major extent at some time during past history, seems infeasible during the present time (at least within the present writer's part of the world), and there is the perpetual concern that the quality of the published research would be impaired if the researchers and readers are not allowed to have a strong voice in the judgment process.

Desires of Writers

It is a reasonable guess that the vast majority of people who write articles and books on scientific and technological topics have the following desires: (1) that the submission process be as streamlined and user friendly as possible and not consume much time; (2) that any editorial flack, including that from any reviewers, during the publication process be intelligent and sympathetic; (3) that the chance of eventual acceptance by whatever journal to which the paper is submitted be very high; (4) that the amount of time spent in conforming to editorial rules and formatting requirements be minuscule; (5) that the time spent on making requested revisions be minimal; (6) that the time between submission and publication be as short as possible; (7) that any copyediting during the publication production process be erudite, competent, and thorough; (8) that the finished publication be of high quality and visually attractive; (9) that the work be brought to the attention of as many relevant people as possible; (10) that there be no additional expense to the author associated with the publication and/or that the situation be such that the cost is picked up by the author's institution. (The importance of this desire varies from author to author. Some authors voluntarily agree to pay or have their institu-

tions pay stated page charges, which are about one-third of the actual cost of publication. However, it is my impression that a substantial majority of *JASA* authors are unwilling and/or unable to pay charges such as would be associated with an open-access option.) (11) That the existence of the work be easily discovered by anyone who is interested in the general topic of the work; (12) that the substance of the work be available to anyone wishing to scrutinize the work or to read it in detail; (13) that the work be judged worthy of reading (or implicitly recommended) by people and/or organizations that the writer respects. A somewhat smaller number of writers have the desire (14) that the work continue to be available to all who are potentially interested in reading it throughout the indefinite future: now, tomorrow, and forever.

There are, of course, professional writers and textbook writers who undertake the writing primarily with some profit in mind. But, my impression is that, for most people, financial remuneration (beyond what authors receive in salary or fees) is a minor consideration. There are also some writers who are looking for only a narrow and controlled readership, such as would be the case if the work reports on studies and/or research that is paid for by organizations who explicitly discourage wider dissemination. I believe that works of this sort are a small minority of all that are presently being written.

There is also yet another desire that affects a large number of writers, not necessarily the majority, but possibly a substantial minority, this desire being (15) that the work be published in a venue associated with certain numerical measures (metrics) that connote high quality. The premise is that, because of the venue in which the work is published, the wider world (which might have no special interest in the substance of the work) will make an a priori judgment that the work is significant and of high quality. Such a judgment will have little to do with the actual quality of the individual work.

In the real world, the desires listed above are usually imperfectly realized, and the writer must make some choices and compromises, possibly spending sizable amounts of money in the process. There are also some possible additional desires, of a far less altruistic nature, that affect a small minority of writers. Some writers may be ethically challenged, and there are an increasing number of potential writers who are unfamiliar with the ethical norms that have been followed by the majority of writers in the past. This has led to several major scandals that have been reported in the popular press, and there has been an increasing suspicion among readers and the general public regarding the truth of what is being published in the scientific literature and the general level of honesty among those who are engaged in scientific research. Such matters, however, are not discussed in this article.

Desires of Readers

There is a huge variety among readers of scientific and technological works. Some are looking for general knowledge, some for intellectual stimulation, and some for entertainment. There are others who are looking for specific knowledge, who are seeking to appraise the current state of understanding of a given topic, or who are seeking to obtain an informed perspective on what is the current state of the art and/or on just how the broader community achieved this perspective. Many readers are also researchers and prospective authors who need a very detailed knowledge of a large quantity of literature that pertains to their area of research. Among the possible desires of this broad readership are: (1) a means for acquiring, without an excessive expenditure of time, an acquaintance with the gist of everything that has been written on the topic of their interest; (2) potential access to any prior written work that any given reader believes to be worth reading; (3) some initial assistance for making a judgment as to the priority and relevance (also the veracity) among those works that have come to the potential reader's attention; and (4) an economically feasible means for accessing the works that the reader has decided to scrutinize and/or read in detail.

The last of these has become a major topic of national and international concern in recent years. The degree of access that a given reader has depends, generally, on the organizations (e.g., libraries) with which the reader is affiliated. The literature has burgeoned enormously, and the potential cost for any given institution having access to all those journals and books that would be of potential interest to any of its affiliated patrons has become prohibitive. For example, a reader,

during a cursory search using Google Scholar, may become aware of the existence of a potentially useful article in a journal with low circulation and to which his or her university does not subscribe. Or it may be that the subscription does not extend to the year in which the article was published. The publisher maintains a Web site from which the article can be downloaded for a substantial fee. The reader generally will have to pay that fee out of his or her own pocket. The article is short, the authors are unknown to the reader, and the abstracted information is very cryptic. Should or should not the reader pay for the article?

Possibly, the potential reader could ask the reader's institution to secure a copy of the article by interlibrary loan. Asking for such typically involves filling out a very long form, and the fulfillment of the request typically requires a lot of library staff time. Then, again, the reader may have come across a sizable number of potentially desirable articles, each of which requires a large fee to download. To what extent should he or she pester the librarians to fulfill a large number of such requests? Then, when the articles do arrive, they are often in the form of a poor and somewhat illegible photocopy. Was the interlibrary loan process worth the effort?

A related question is whether the original author was aware, at the time the manuscript was submitted, that potential future readers would have such difficulties in accessing the published work. Just what can such an author do, after the fact, to get his or her work to the people who want to read or use it?

A catastrophic problem that readers might encounter in the future is that some desired references may become totally unavailable, the modern equivalent of the apocryphal burning of the Library of Alexandria (for which there is no current historically accurate account). What could happen is that when a paper is published online by a short-term publisher, the Web site becomes closed down and all the postings disappear.

Societal Journals as a Partial Solution

There is a possibility that some of the problems alluded to above could be minimized and some of the desires met if authors chose to submit their scholarly works to journals associated with professional societies. There is no guarantee of this, of course, and there may be some notable exceptions, but, for acoustics at least, *JASA* would seem to be a relatively safe bet. What I believe to be the most applicable reasons are listed in what follows.

Venerableness

JASA has been in existence for 86 years. Although there are some journals that are older, it can probably be counted as among the top 10% of the world's oldest journals. It is definitely the world's oldest journal specifically devoted to acoustics.

Name Recognition and Branding

There is no doubt that, if a random person were asked to name a journal that publishes papers related to acoustics, the most frequent response by far would be *JASA*.

Wide Availability

Although it is not true that all of the world's scientific libraries subscribe to *JASA*, there are many such subscribing libraries scattered throughout the world, with over half of them being outside the United States. Because of the way subscriptions are currently bundled, with several organizations jointly having access because of a single subscription, the exact number is hard to pin down. Apart from some researchers and readers who live or work in developing (or emerging) countries, there are few such people who are not affiliated with an institution that has access to *JASA*. The situation is, of course, not as good as it could and should be, and the nature of the times is such that the situation continues to deteriorate. However, I believe it continues to be far better for *JASA* than for those of competing journals that are not associated with professional societies.

Guaranteed Access and a Greater Chance of Being Noticed by a Substantial Number of Professionals in the Field

All members of the ASA have online access to *JASA* as part of their membership benefits. Many receive the print version, delivered to either their home or work address. A listing of the Table of Contents (TOC) of each new issue is sent regularly via e-mail to all the members of the Society.

Backing of a Long-Established Professional Society

The ASA has over 7,000 members, with nearly half of the membership outside the United States, and the membership has held steady for several decades. As long as people hear and speak and as long as sound continues to propagate through various forms of matter, there will be a scientific interest in acoustics and there will be a professional society that will trace its roots back to the ASA. The membership is committed to the continued existence of the *Journal* and

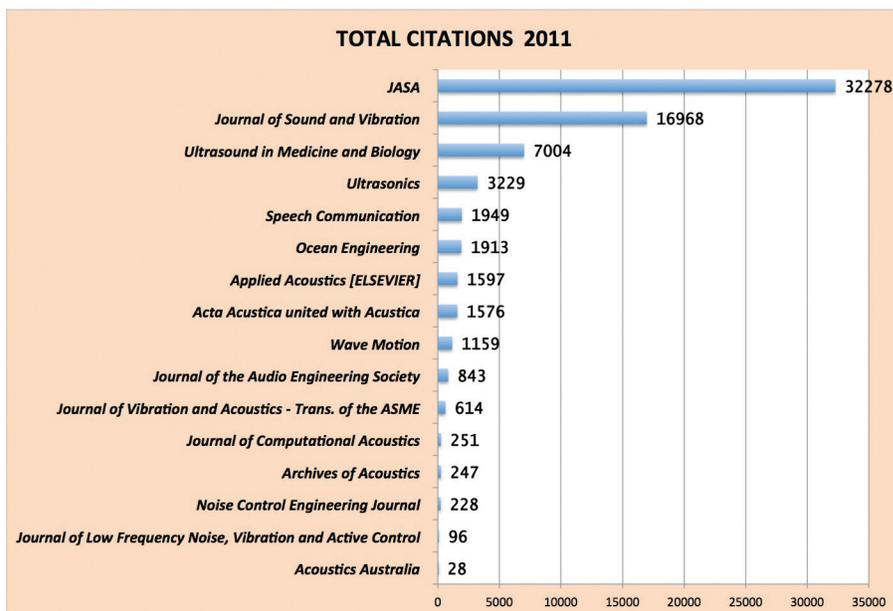


Figure 2. Comparison chart listing some of the leading journals in acoustics. Chart is based on data compiled by Thomson-Reuters and was prepared by Mary Guillemette, Acoustical Society of America (ASA) Publications Manager.

to the maintenance of its excellence, and there seems little doubt that that commitment will continue throughout the indefinite future.

A Critical Mass of Associate Editors with High Expertise Who Collectively Cover Almost All of the Subfields of Acoustics

This exists because the associate editors (AEs) for the most part serve voluntarily, and they give such voluntary service in major part because they are committed to the ASA mission. Having such a critical mass is very difficult, for example, for a journal associated with a commercial organization, and it is also difficult for journals that have a much broader range of coverage. If one submits a paper to *JASA*, one stands an excellent chance of having the paper handled by an AE who understands the paper and who is competent to render a fair judgment, possibly assisted (not directed) by external reviewers, on the merits of the paper regarding its publication.

Publication in a Journal That Is Extensively Read and Cited

Partly because of its long history of publication and partly because of its continued publishing of quality works, *JASA* is by far the most widely cited of all the world's journals dealing with acoustics (see **Figure 2**). The total number of worldwide citations per year continues to climb (**Figure 3**) and is presently on the order of 40,000 citations per year. What this implies is that a paper published in *JASA* is likely to be noticed and read, not just for the first two years after publication but for many years to come. This success is possibly because all of the past Society's publications, going back to

1929, are posted on the Internet and can be downloaded without extra charge.

Extensive Content That Is Open Access

Although the current economic situation precludes the offering of all the Society's past and present publications as open access (free for viewing by all), a large fraction of its content is open access. It includes this magazine, *Acoustics Today*, and the online journal *Proceedings of Meetings on Acoustics (POMA)*. The portion of JASA labeled as *JASA-Express Letters (JASA-EL)* is totally open access, and this is partially supported by relatively modest fees paid by the authors and/or their organizations. In addition, the JASA editorial policy is now that all review papers and editorials should be open access. One reason for this is that the Society wants to ensure that persons not ordinarily having full access to JASA, but who are seeking some initial acquaintance with a subfield of acoustics, should at least have free access to the leading review papers in the field. Also, authors who are required by their organizations to make sure that their publications are unassailably open access can have their papers in JASA designated as open access with the payment of a fee.

The Open-Access Debate and Professional Societies

The frustrations described above in regard to potential readers seeking access to published works on science and technology have contributed in part to protracted debates throughout the world and to various proposals by individuals, organizations, commercial firms, and governments. Many universities, for example, are now posting all their faculty publications on institutional sites, with open access to anyone. A problem arises because some of these articles are copyrighted by organizations that prefer that access only be via subscriptions to the journals in which the articles are published. When I was Editor-in-Chief of the ASA and in the absence of any directives from the ASA Executive Council, I interpreted the terms of the ASA Copyright Agreement Form as allowing authors of JASA articles to freely post their works on institutional sites (as well as on personal Web sites). In addition, no problems were sensed if any author chose to post an article, with appropriate attribution, on any governmental site (such as that of the National Institutes of

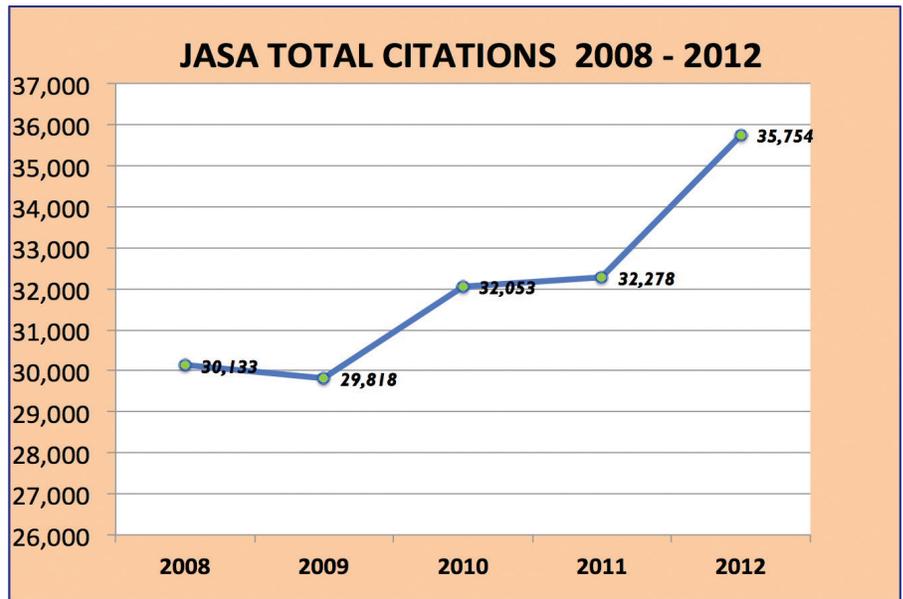


Figure 3. Time history from 2008 to 2012 of the total number of citations to the Journal of the Acoustical Society of America (JASA) each calendar year. Chart is based on data compiled by Thomson-Reuters and was prepared by Mary Guillemette, ASA Publications Manager.

Health) that allows open access by the public. (This policy has been continued by the present EIC.)

However, not every organization that publishes journals has such policies, and it is also true that larger organizations may not have the degree of involvement in the overall scientific publication enterprise to make distinctions between journals and their diverse policies. Possibly as a consequence, some organizations make it an ironclad rule that all individuals over which they have full or partial financial control should publish only in journals that are totally open access (without necessarily guaranteeing the funds). Although such journals do exist, they exist only because the authors themselves (or their sponsors) pay for the publication. It cannot be done for free; someone has to pay. If not the subscribers, then it must be the authors. These organizational open-access policies, along with the desires of some authors to have their works published with negligible flack, have created commercial opportunities for start-up organizations with no connection to professional societies. There are large variations in the fees charged and also large variations in the qualities of the Web sites and of the visual and literacy aspects of the posted articles. The situation now is that any person can get anything published, providing some fee is paid, but there is also a possibility that some or many of the desires listed above may not be fulfilled with the publication.

The author pays, subscriber does not pay option, creates a problem for a professional organization such as the ASA.

Much of the research reported in *JASA* is not supported by any organization or perhaps only tacitly supported in a sense that the employing organization is all right with such research being done by its employees, providing it does not interfere with the performance of duties that are given higher priority. The membership of the ASA is fully in accord with the premise that all good research in acoustics should be published. However, the costs of fully subsidizing the publication process and of maintaining perpetually accessible Web sites is out of bounds with what one is nominally willing to pay in professional society dues.

Partial Solution Involving Professional Organizations and Libraries

The idea that all authors, their sponsors, or their institutions pay for all the costs of publication and of ensuring perpetual access seems extremely unreasonable. The stance that the ASA has is that it must continue to charge libraries and institutions for subscriptions, and it is necessary that some part of the content of *JASA* should not be free access. If all of the content were open access, then the revenues from subscriptions would cease. The scope of *JASA* and the mission of the Society preclude the collection of sufficient income solely from the authors, at least to the extent that the general overall quality of *JASA* should continue without considerable deterioration in quality.

What follows below are a list of suggestions, paraphrased partly from letters written by the current author (some in collaboration with other members of the Society) that were sent to government agencies and to international scientific organizations.

- (1) Professional societies, separately and/or collectively, should advise libraries on the relative quality, value, reasonableness of pricing structure, and importance of various scientific journals to which the libraries might subscribe.
- (2) Governments and foundations should partially subsidize libraries that provide access to scientific journals. To a major extent, this is already being done, but subsidizing libraries is a feasible thing for governments to do to ensure that the cost to its citizens to access scientific research is reasonable. Foundations should realize that the goal of having an informed public in regard to scientific research results is worthwhile.

- (3) All publicly subsidized libraries should extend their patronage beyond those people directly associated with their institutions, possibly for a reasonable fee, so that nonaffiliated persons interested in scientific research can have access to scientific journals.
- (4) Professional societies should develop standards for peer review, and an impartial accrediting body should be established to critique scientific journals as to whether they meet those standards.
- (5) Professional societies should draw extensively on their membership, so that the peer-review process associated with acceptance for publication in their journals can be carried out with reasonable cost.
- (6) A tier of standards, possibly broken down by subjects, should be developed for libraries, so that potential paying patrons will have some basis for assessing whether the library's holdings meet their needs for accessing scientific journals.
- (7) Prospective authors should be advised which journals are accredited in regard to peer review and which have been selected for subscription by libraries.

In conclusion, I pessimistically state that there is no reason to expect these suggestions to ever be carried out, but it generally does no harm to make suggestions and perhaps this article will stimulate some discussion. Nevertheless, I am confident that no matter what happens in the external world, the commitment of the ASA membership will continue to ensure that ASA and its publication activity will survive.

Biosketch



Allan Pierce received a PhD from MIT in 1962 and joined the ASA the same year. Among many activities associated with acoustics and its various subfields carried out over the past 53 years, he served as editor in chief of the Society from 1999 through 2014. He is presently “sort of” retired and lives on Cape Cod. (Note from the *Acoustics Today* editor: a much longer discussion of Allan's extraordinary career and contributions as scholar, mentor, and EIC can be found in the spring 2015 issue of this magazine.)