

A New Concept: The Velo-Cardio-Facial Syndrome Journal

Launching August, 2013

An Opening Editorial

Academic journals have been around for approximately 350 years.¹ The need to publish interesting material for others to read from which they can learn has been a basic component of science, medicine, history, social science, and other academic pursuits since the 17th century, although it has evolved in many ways. The earliest journals appeared in Europe, the first in France followed by others in England, Germany, Italy, and other countries with well developed university systems. Probably the first biomedical journal was published in 1665 by Denis de Sallo in France.² The earliest journals were typically reports involving the proceedings of academic meetings. At the time, from the 17th to the 19th centuries, scientists, physicians, and other academics communicated with each other primarily at meetings where they would present papers or lectures designed to put forward new ideas. These meetings were typically small because there were few universities and a small number of faculty members at each. The early journals that reported the proceedings of these meetings were typically short pamphlets, perhaps between ten and 20 pages. They were descriptions or word-for-word reports of what transpired at the meeting. They would also report obituaries and events of importance to the scientific community.

As academia progressed in Europe, new colleges and universities were founded adding more faculty members. Attending a meeting in Italy by a German or Englishman would mean many days of travel and great expense. Therefore, journals and reports of the proceedings of meetings became more important for spreading information to larger numbers of people. These journals became an increasingly important method for spreading information to professionals and academics. Journals expanded the number of pages printed, but more importantly, larger numbers of academics sought to publish in these journals in order to get their ideas out and to advance their careers because the journals reached more people than meetings.

The Beginning of Peer Review

The first “peer reviewed” journal was probably a medical journal, *Medical Essays and Observations*, published in 1731 by the Royal Society of Edinburgh in Scotland.^{2,3} Peer review in medical journal publications became the standard in the late 19th century as instituted in the *British Medical Journal* in 1893.⁴ Peer review was meant to be just what the term implies; a review of an article or paper performed by the author’s peers, meaning equals or people of similar background and competence. The goal was not so much to judge an article in terms of its suitability for

publication as to assure the quality of its content. Peer review has morphed over the years into something different that will be described within the context of what our new publication will be doing and how it will benefit the readers.

Today, most scientific and medical journals are peer reviewed. The typical method for this process is that an article is submitted to an Editor-in-Chief who will select two or three reviewers. Some journals that are multidisciplinary in nature may have section editors who will cover an area of interest that matches their expertise. Other journals, typically ones that receive many submissions each year will have assistant or associate editors to handle the flow of papers. Once a paper is received by an editor, the paper is sent to two or three peer reviewers who will submit their review and comments to the Editor or Associate Editor who will decide if the paper is to be accepted for publication, rejected, or sent back to the author for revisions, either major or minor in nature. This process can take months to complete, adding substantial time between the completion of the paper and its publication. Journals also will often have research results reviewed by a statistician for accuracy.

Copyright

Journals almost always demand to maintain copyright over published articles leaving the authors with few, if any rights over the material. Holding the copyright means that the articles cannot be copied or reproduced without the permissions of the journal (the publishers). As a result, someone must either subscribe to the journal or pay a fee for the article if they want a copy of the article. Authors are not paid, but often have to pay journals to print certain types of figures, like color photos, and also have to pay substantial fees for printed copies of the papers (called reprints) to distribute to people who are seeking hard copies of the article.

Journals have undergone some changes over the past decade. Many, if not most, are still published on paper although most of these journals offer electronic versions. The electronic versions of papers often appear months before the printed version. Almost all of these journals charge large fees for subscriptions unless they are sponsored by professional societies. When journals are affiliated with professional societies, such as the American Journal of Human Genetics that is published by the American Society of Human Genetics, the subscription is part of a member's annual dues (usually two hundred dollars or more). For non-members, the journal charges for a copy of a single article, prices typically ranging from approximately \$20 (U.S.) to \$40 (U.S.). However, recently, a number of online journals have appeared that are open-access journals. They do not charge for access to their articles and they are easily available online. They do not print on paper. These online journals are peer reviewed, but the time it takes for an article to appear online is typically much shorter than bringing an article to the printed page.

Impact

Authors, especially those for whom publication is important for promotions and advancement of their careers, usually prefer for their articles to appear in journals that are read by a lot of people, especially those who are most likely to be influenced by their research. Therefore, journals are now rated with an impact score. Publishing in high impact journals is typically considered to be an advantage for authors who are seeking promotions from their employers, or who are seeking to enhance their academic reputation. This may also affect their ability to get grants, especially from government agencies such as the National Institutes of Health (NIH). The impact factor is calculated by the number of times articles are cited by other publications. The frequency of citation of a single article and by all of the articles in a particular journal is thought to be a measure of the importance and quality of the research. It should be noted that in large part, journals with high impact factors are typically more expensive and are difficult to access online without paying for a subscription or per article.

Is This A Good System?

Is the current system of publication in the sciences a good one? Is peer review a valid manner of determining what gets published? Is the impact factor all it is cracked up to be? Should publishers hold copyrights over the authors' work? Is it even reasonable for the reading audience to be exposed only to "good" articles (meaning articles that meet a reviewer's idea of worthiness)? Might there be value to the reader to identify people who are doing bad research?

Criticisms of the System

In order to critique the system, the first important step is to ask the following question: What is the purpose of publishing research, experience, interesting phenomena, and other scientific materials? In my opinion, various people will answer this question in different ways, perhaps depending on where they are employed, their academic backgrounds, and their overall philosophy of the importance of academia. I prefer to take a more simplistic approach to the question. My answer would be "to share something with other people." That something could be the outcome of a research project, treatment outcomes (good, bad or indifferent), interesting cases or phenomena, refuting accepted fact, supporting accepted fact, or something that is just plain interesting.

If the reader accepts my answer to the question, then here is my critique of academic publishing and its impact on science and scientists. I base my opinion of peer review, copyright protection, cost, and access to information on the following experience. I have been a reviewer of hundreds of articles for more than 30 medical and scientific journals, most of them high impact journals. I have been a section editor

for several journals. Most importantly, I have been Editor-in-Chief for two publications, one a fairly important interdisciplinary international semi-monthly journal printing about 90 articles per year out of hundreds of submissions. I have also written or co-authored over 200 scientific articles and chapters and seven textbooks during my 40-year career beginning in 1974. All of the articles I have submitted for peer review have been accepted for publication. I have been on a number of editorial boards, as well. Therefore, I have been an active publisher, active reviewer, and active Editor so that I have seen the publication process from all sides. I have my personal views on the process of editorial review and publication that will become obvious to the readers of this article, and I fully recognize that my personal views are not shared by everyone. I do know, however, that I have never met a single author of published peer reviewed papers who has failed to complain about the editorial process, most often related to the peer review process.

Peer review

At the heart of most scientific publications is the peer review process. With hundreds of years of precedence, peer review has become an ingrained component (reports will not be accepted) and credibility among the readership knowing that the work has been judged as important enough to print by a panel of experts. But is there evidence that this is the case or is it merely a presumption? The short answer is “no.” There have been very few studies that have assessed the impact of peer review, and essentially none that have assessed its validity and reliability.⁵ Most studies of the peer review system have been surveys of authors or reviewers who have been asked to self-assess the system or give their impressions of its fairness and accuracy.⁵ This is, in a way, like asking a conductor of a symphony orchestra if giving concerts is a good idea.

One must truly ask why an entire system continues to be applied to such a huge undertaking based on the absence of hard data that would support it. For example, does peer review assure quality by having “bad” papers rejected by reviewers? Not according to both American and British publications.^{6,7} Both concluded that peer review was untested and that its efficacy has not been proven. One report concluded that papers rejected from one journal are very likely to be accepted by another for any of a number of reasons, including inconsistencies in peer review.⁶ It is widely believed that almost anything can be published in the scientific literature,⁵ especially when a paper rejected from one journal is submitted to another. The fact that more than 1.3 million papers are published every year in the scientific literature does little to refute this notion. As noted by Charles G. Jennings, former Executive Editor for the prestigious Nature Research Journals:

Whether there is any such thing as a paper so bad that it cannot be published in any peer reviewed journal is debatable.

Nevertheless, scientists understand that peer review per se provides only a minimal assurance of quality, and that the public conception of peer review as a stamp of authentication is far from the truth.⁸

In a study published in the journal *Brain*, it was reported that in the clinical neuroscience literature, the probability that two independent reviewers would agree on the quality and importance of a paper submitted for publication was essentially the same as chance.⁹ Indeed, my own personal experience as the Editor of a journal was the same (actually, somewhat worse). In a paper I presented at the annual meeting of the professional society that published the journal, I reported that using the standard four point scale used by reviewers (given the choice of accept, accept with minor revision, resubmit after major revision, reject), reviewers chose the same rank on the scale less than 20% of the time, and were one step apart on the scale approximately half of the time. My conclusion was that there was no simple explanation for this phenomenon, but several explanations were offered:

1. Reviewer expertise is variable.
2. Reviewers have their own opinions about the subject matter and if the paper's results contradict that point of view, the reviewer might be more likely to reject it. In other words, reviewers have egos or positions to protect from contrary data.
3. There is politics in the review process. Researchers can be competitive, especially if grant funding and promotion with a larger salary might be on the line.
4. Personal grudges.
5. Institutional competition.
6. Reviewers simply did not take the time to read the paper as thoroughly as they should.

In fact, none of these categories are mutually exclusive and my own experience is that all of them are common.

Another very important issue with peer review is that it adds enormous amounts of time to the publication process. Most reviewers are busy people. They may take weeks and even months to review an article because it is not the most important thing they have to do. The more reviewers there are, the more likely there will be a delay. Then, once the Editor-in-Chief gets the reviews, the criticisms from the reviewers need to be coalesced and put into a response to the authors. Because I have been publishing in the scientific literature since 1974, I can say definitively that journals have been good at shortening the time for review and going to print. Part of that process has been posting articles on the internet weeks or months before the print version is produced. However, between the time an article is submitted for review and then reaches the reading public can be the better part of a year or more. This

means that meaningful science will always lag behind the completion of research that can have dramatic effects on implementing proper treatment or applying specific knowledge. In order to bring articles to press more rapidly, Editors send out many email reminders to reviewers.

Is there a way to avoid the role of politics, competition, and personal animus or dislike? I don't think so. In some cases, authors will be asked or they will request that certain people should not be involved in the review process. While this may be done to prevent an enemy from reading an article, it can be used as a tool by authors to direct articles to friends. Some journals have asked authors to suggest reviewers, a practice that would eliminate impartial review. Can any review be completely impartial? Perhaps....but not likely, especially when authors are well known. When authors are well known and prolific publishers, the sword cuts two ways. In some cases, these authors become targets of envy and competitive aggressiveness, and in other cases, their reputations will win the day even if the article is not of good quality.

Who Benefits from Traditional Journal Publication?

Historically, the publication and distribution of journals has been big business. For example, one of my favorite journals, The American Journal of Medical Genetics has an annual subscription fee of more than \$1000 for print copies (24 issues per year) plus online access. Online access is not offered without print copies. The institutional rate for the same journal is nearly \$20,000, but institutions are offered the option of online access alone for approximately \$17,000. As much as I enjoy this journal, I cannot afford it, and many institutional libraries do not subscribe because of the expense. Another important journal, Nature Genetics, costs \$225 for 12 issues per year. Although Nature Genetics by itself is affordable, it is one of more than 20 journals I would like to read. Many libraries do not carry all journals because of the expense. Therefore, accessing all articles of interest is difficult for many scientists.

It should also be obvious that medical and scientific journals are largely restricted to access by professionals. They may access the publications from their university libraries (although many clinicians in private practice do not have these privileges) or their professional societies, but there are many journals that will be beyond their reach. Should scientific publications also be available to the general public? In the United States, there is movement towards open access that is being backed by the National Institutes of Health (NIH). For years, anyone could access abstracts (short summaries) of all biomedical journals via PubMed. PubMed is a catalogue of all journal articles and is accessible by going to the web site www.ncbi.nlm.nih.gov. Articles can be searched using key words, titles, authors, and journals. More recently, however, the NIH has backed the open access to articles derived from research that has been funded by the NIH. These articles are listed in PubMed as PMC (PubMed

Central) articles and are accessible for free by anyone. The NIH has decided, correctly, that the public has funded these papers and should therefore be accessible by the public. Unfortunately, the number of PMC articles is still relatively small (although growing).

It is also the case that not all journals are indexed by PubMed. In order to be indexed by PubMed, quality must be demonstrated to the National Library of Medicine. For electronic journals, they must first be in existence for a full year with at least 40 articles of adequate quality published online to be considered for indexing. Sounds like peer review to me.

Another source of open access is a new crop of web-based journals. These online do rely on peer review for the most part, but they can be accessed by anyone. Many people regard these online journals as being the wave of the future. We shall see, but at present, the scientific community still prefers more traditional publishers that have to have higher impact factors.

Our New Idea

The Virtual Center for Velo-Cardio-Facial Syndrome has decided to try another approach, a new approach to disseminating information. We will begin to publish an online journal that will be open access, open submission, and basically non-peer reviewed article. However, all articles will be open to online comment, much like a blog. We will encourage the use of video, when appropriate, as well as other visual formats that improve the content of the articles. We will also be happy to publish opinion pieces as long as they are not inflammatory, such as avoiding personal attacks and negative comments about specific people or institutions. The Editorial Board will consist of the following people: Robert J. Shprintzen, Ph.D., Antonio Ysunza, M.D., Ph.D., Alan Shanske, M.D. Between the three of us, we have had extensive publication and review records spanning many decades. Although we will monitor the content of the Journal, our role is not one of peer review, but rather to monitor content to assure a level of interaction between authors and readers that will enhance the learning experience for both. Putting it another way, we want this to be a living, growing journal that will be open not only to the scientists, but also to the people who are directly affected by the research. Publication will be essentially immediate. There will be no long delays in getting papers posted to the journal, and responses posted to the Journal as commentary or criticism will appear immediately once they are received and read for appropriateness by our Editorial Board.

This new concept will, we believe, meet the following criteria for offering something new and exciting:

1. Timely posting of articles.
2. Open critiquing and commentary of all articles.
3. Feedback from the readership on how the research will affect them directly.

4. Open access so that no one is charged a penny for reading an article or downloading a copy of the article. All articles will be downloadable by anyone from our web site at www.vcfscenter.com as a pdf file. We will not copyright the articles, but unlike other journals, the intellectual and physical properties of the article will remain the property of the author. In fact, it is the author who will give us, The Virtual Center for Velo-Cardio-Facial Syndrome, Inc. the permission to post and publish their work.

If we get a reasonable number of submissions, then we may decide to expand the conversation surrounding the works we publish by holding webinars or even video conferences. In other words, we aim to bring knowledge to you, rather than to put roadblocks in your way that block you from the information.

Wish us luck.

Robert J. Shprintzen, Ph.D.
President and Chairman of the Board
The Virtual Center for Velo-Cardio-Facial Syndrome, Inc.
Editor-in-Chief, The Velo-Cardio-Facial Syndrome Journal
Email: robert.shprintzen@vcfscenter.com

To Post Comments for this Editorial or other articles, send them by email to our webmaster, Adam D. Shprintzen, Ph.D. at webmaster@vcfscenter.com, or in writing to:

The Virtual Center for Velo-Cardio-Facial Syndrome, Inc.
8138 Solomon Seal Lane
Manlius, NY 13104

REFERENCES

1. Brown H (1972). History and the learned journal. *Journal of the History of Ideas*, 33:365-378.
2. Benos DJ, Bashari E, Chaves JM, Gaggar A, Kapoor N, LaFrance M, Mans R, Mayhew D, McGowan S, Polter A, Qadri Y, Sarfare S, Schultz K, Splittgerber R, Stephenson J, Tower C, Walton RG, Zotov A (2007). The Ups and Downs of Peer Review. *Advances in Physiology Education*, 31: 145-152.
3. Burnham JC (1990). The evolution of editorial peer review. *JAMA*, 263:1323-1329.

4. Kronick DA (1990). Peer review in 18th century scientific journalism. *Journal of the American Medical Association*, 263:1321-1322.
5. Ware M (2008). *Peer Review: Benefits, Perceptions and Alternatives*. London: Publishing Research Consortium, pp. 4-20.
6. Jefferson T, Alderson P, Wager E, Davidoff F (2002). Effects of editorial peer review: a systematic review. *Journal of the American Medical Association*, 287:2784-2786.
7. Jefferson T, Rudin M, Brodney Folse S, Davidoff F (2007). Editorial peer review for improving the quality of reports of biomedical studies. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: MR000016. DOI: 10.1002/14651858.MR000016. pub3.
8. Jennings CG (2006). Quality and value: the true purpose of peer review. *Nature*, <http://www.nature.com/nature/peerreview/debate/nature05032.html>
9. Rothwell PM, Martyn CN (2000). Reproducibility of peer review in clinical neuroscience: is agreement between reviewers any greater than would be expected by chance alone? *Brain*, 123:1964-1969.