

## Society for Biomaterials Journals: Past, Present and Future

Harold Alexander

Orthogen LLC

For many years, The Society for Biomaterials had one journal, The Journal of Biomedical Materials Research. This traditional professional journal was published from manuscripts that were typically typed on a typewriter and copied using carbon paper. It was not until the early 1960s that copy machines became readily available allowing the production of a virtually unlimited number of duplicate copies. In the late 1970s computer word processing was introduced into most modern offices. This innovative, “disruptive” technology forever changed the “printed” word from residing on paper to existing in electronic files. The late 1980s ushered in another “disruptive” technology, the internet. It then became possible to transmit “the printed word” instantly around the world. This also empowered individuals to access libraries, publications and a vast array of “published” data inexpensively and with ease after only investing in a relatively inexpensive computer and an internet link. By the late 1990s pundits were predicting the “demise of paper,” the entire world was linked by the internet, and much communication was converted from “snail mail” to E-mail.

The world of professional journal publication has unfortunately been pulled kicking and screaming into this new paradigm. In 1986, I was named the editor of a new journal for the Society for Biomaterials, the Journal of Applied Biomaterials. I immediately suggested to our publisher, John Wiley & Sons, that we accept manuscripts in electronic form on “floppy” disks. They incredulously informed me that they were not set up to do this and we would have to submit “typed” manuscripts that then would be typeset for publication. For many of the ensuing years as the internet changed our world, this was our procedure. It was only in 1996 that electronic form was acceptable, but only on a physical disk. Electronic PDF proofing was introduced in 2000. In 2003 we finally transitioned to full electronic transmission and in 2004 we finalized a web-based system for submission and review through Manuscript Central.

This delayed transition is, however, only an indicator of how this field has been lagging. To this day, the demise of paper has not occurred. Indeed, we only initiated true electronic publication (as a precursor to paper publication) in 2001. It was only in 2006, under economic pressure, that the Society for Biomaterial allowed a purely electronic version subscription to its journals.

In the meantime, a tragedy of riches has occurred. Web-based submission has increased the annual submission rate from 190 in 2002 to the present level of 666 new manuscripts, not accounting for sometimes multiple revisions. Even the introduction of an associate editor to

share the load has not adequately alleviated the crushing load of submissions from all over the world. The Society for Biomaterials now plans to spread this manuscript administration burden over multiple assistant editors with thematic responsibility. It remains to be seen how this system will work for our specialized field of endeavor.

There is an analogy to this professional publishing revolution that is helpful for us to transcend our boxed-in psychology. In the early years of the 20<sup>th</sup> century road transportation transitioned from the horse and carriage to the modern automobile. The early vehicles looked a lot like carriages without horses. It took a number of decades to transition to the modern automobile. It then took a number of decades more to develop the infrastructure to fully take advantage of the speed and comfort of traveling in this vehicle.

By analogy, I would propose that the printed journal has finally morphed into electronic documents residing on the publisher’s server. However, for economic and cultural reasons we have not fully exploited its advantages. We still associate these works with a volume and issue number from the paper printed version. Traditionalists argue that this must be done for “citation” purposes. However, the printed version has serious disadvantages making it grossly inferior. It appears months, if not years, after the electronic version. It sometimes has black and white figures to diminish printing costs. It is not searchable electronically for key words or phrases. It lacks the amazingly valuable hyperlinks to referenced works.

My proposal for the future is as follows:

1. Eliminate paper publications and volume and issue numbers.
2. Works should be uploaded to the server as they pass review.
3. They should be sequentially numbered on an annual basis.
4. Subscribers should be E-mailed a list of uploaded works weekly along with abstracts.
5. All this should be done maintaining a strict internationalized peer-review and editorial system truly reflecting the endorsements of the US, Japanese, Australasian and Korean Societies for Biomaterials.