

Musings about the *Biophysical Journal*

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PROLOGUE: THE PLANT ROOM

- The candle light flickers; the plants wave in the late spring breeze casting fuzzy shadows on the ceiling. I sip my akvavit and sit in silence, as I recall having been Editor of the *Biophysical Journal*. It seems so long ago; was it real or only a dream?
- A new issue of the *Biophysical Journal* lies open on my desk in my office. Its format has been improved in an impressive fashion. This issue contains a few color illustrations. I had struggled to find ways to include colored figures where they were appropriate. More importantly, the articles report on significant, fascinating new research. I want so much to believe that I was really part of this, that I contributed even in a small way to its present successes. Yet it seems so long ago; was it real or merely my reverie?
- The candle light seems to take on a rosy glow as I recall the many persons with whom I worked as Editor. There were so many who were willing to dedicate their time and their energy to supporting the *Biophysical Journal*. It is wonderful to realize that some have continued in these endeavors. Yet it seems so long ago; was it real or just a fantasy?
- To the aspects that worked well and that are continuing, I can now contribute little else. And to the many fashions in which the *Biophysical Journal* has improved further, what added advice can I offer? Only let me say, congratulations on a job which is being done well.
- Now the candle light takes on a darker hue. Perhaps it is fading, even as the sun set in the sky several hours ago. I recall several things that were tried and which left so much to be desired. These are all very real and very discouraging. Please let me share a few with you in the hopes that these problems can be resolved in a better fashion in the future.

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THE LOGUE: REGRETS

New foci and old ones

A common theme in numerous discussions of the Publications Committee of the *Biophysical Journal* was how new or additional areas could be included or emphasized. Changes in area occur despite the efforts of the Editor, the Editorial Board, and the Publications Committee. Why or how this happens is far from clear. For example, at one time the *Biophysical Journal* was one of the primary publications for persons dealing with radiation damage to nucleic acids and the repair of such damage. By the time I became Editor, virtually no manuscripts were submitted on these topics, even though active research was being reported to other journals.

Similar thoughts have been expressed in the past and still continue to be—that the general flavor of the papers presented at the annual meeting is very different from that of the manuscripts submitted to the *Biophysical Journal*. A common misconception is that the two should be the same. There is no reason for this to be the case.

New areas arise in the course of scientific advances. Should the *Biophysical Journal* strive as some have suggested to capture the audience in such areas as structure and characteristics of channels in membranes, artificial neural networks, or supercomputer modeling of protein structure? I suspect that all three of these could have been possible, but only by destroying the *Biophysical Journal*, discarding most of its current readership as well as the authors who continue to submit manuscripts in ever growing numbers.

Several eminent biophysicists have felt that by including appropriate persons on the Editorial Board the nature of the manuscripts submitted would change to take advantage of the Board members' expertise. It is an appealing idea. It was tried on several occasions and never showed any conclusive sign of working. Areas in which I watched this hypothesis fail included radiation damage and repair, and crystallographic structure.

It does seem important to have Editorial Board members with expertise in areas in which manuscripts are

submitted. However, the converse of attempting to alter the areas of submission by inclusion or exclusion of particular Editorial Board members did not seem to work. Years later, thinking of my own behavior in submitting manuscripts, I suspect that most attempts to orchestrate the direction of a journal which is supposed to serve a professional society are doomed before they are started.

Several Editorial Board members and I tried writing letters to authors of papers presented at professional meetings that we felt were outstanding and suitable for the *Biophysical Journal*. The immediate result of hundreds of letters was almost zero submissions. However, this procedure did turn out to be beneficial in that many of the authors contacted did submit papers at a later date.

A frequent complaint of all authors that I know is that the review process of the journal they selected is so slow that they regretted selecting that journal. It really doesn't seem to matter how long the journal takes. It is always slow.

As Editor, I tried, as have all before me and since, to speed the processing of manuscripts as much as possible. A major delay for the *Biophysical Journal* was due to interactions with Editorial Board members. A similar problem involved the feelings of several Board members serving when I entered the Editorship, that they were sent the wrong manuscripts.

Electronic mail had the advantage over telephone of being asynchronous, that is, the recipient did not have to be there when the telephone rang. It also allowed the use of electronic bulletin boards that could post abstracts of submitted manuscripts. Thus, it seemed the ideal way to communicate with the Board members.

We did try to use electronic mail and electronic bulletin boards in several fashions. All worked under ideal circumstances. However, they required the Board members to read the mail at least twice a week. They also required a dedicated person to enter the information into the electronic medium and to transmit it. We demonstrated, as have others, that mail needs to come to the work system without the need of special intervention on the part of the scientist receiving it.

Bob Knox and I used electronic mail very successfully. Electronic mail also proved very effective once a significant fraction of the Editorial Board had addresses on national networks. However, the problems and the personnel time involved in sending out messages had the net result of processing manuscripts at the same speed as without electronic mail and at a greater expense.

At the time that my term as Editor ended, it was not convenient for me to use FAX for interactions with Editorial Board members. The use of FAX has grown rapidly since then. Now, FAX machines are even available within our department. I suspect that they might accomplish most of what I had hoped would be offered by

electronic mail, involving less personnel time, but at a higher cost in dollars.

Compuscripts

The central idea of compuscript was that the authors of an accepted manuscript would submit it in an electronically readable form as well as on a piece of paper. Since all manuscripts are processed by the printer from computer files, it seemed that compuscripts offered the advantages of fewer errors introduced by the typesetters, fewer corrections needed for galleys, and a reduced total expense. These ideas were widely accepted before I became Editor and are still valid today under some circumstances.

The earliest uses of compuscripts assumed that the manuscripts would be submitted on magnetic tape in a standardized file format. Unfortunately, the standardized format never came into existence, and magnetic tape is rapidly waning in importance as a medium for data exchange. With the widespread use of personal microcomputers and national and international electronic networks, it seemed that most of the manuscripts should be submissible in that form.

During my tenure as Editor, there was a period of time when a significant fraction of the accepted manuscripts were submitted as compuscripts. A crude cost accounting showed that even with the then current technical limitations, this was an effective cost saving method provided one did not take into account my time which was paid for by the University of Minnesota. In fact one could justify these on a cost saving basis if one included the time on the telephone of the assistants to the Editor and of the systems manager in our group at the University of Minnesota. A related method, which was attempted in the hopes of saving money, was to have certain accepted manuscripts keyed into a computer and formatted in a fashion that made them useful. This did introduce a cost savings if one did the cost accounting in a favorable fashion, for example, not including the cost of some of the personnel involved and the equipment used.

Several technical problems made it particularly difficult—problems that were exacerbated by personnel interactions. By and large, it is my feeling that the authors of the *Biophysical Journal* will be best served by such production matters being relegated to the publisher. The current cost accounting seems to me to be a major step in the right direction.

More recently I understand, the Rockefeller University Press has adapted one standardized format in which they can receive manuscripts. I think this represents a realistic decision which will make compuscripts more practical. Its effects will be limited, however, by the number of authors who can generate their manuscripts in this format. While there are numerous discussions about all using a common

format, the diversity of word processors and text processors is continuing to grow. It might be that better optical character readers and the widespread use of FAX could achieve the goals that we had for compuscripts. That remains, however, a hope for the future and not a current reality.

Desktop printing

One of the first discussions I had about printing, before I had even become the official Editor, concerned the possible use of the desktop printing language called T_EX. Adrian Parsegian and I conducted a survey of possible computer languages to use for compuscripts, and found that T_EX was known to only three or four of us. Neither Adrian nor I felt it was at all suitable because of the problems of displaying the output on a terminal. The language did have the advantage of ease of handling mathematical expressions and being adopted by the American Mathematical Society as their official language for compuscripts.

By the time I had completed my term as Editor, it was apparent that the real savings would be realized only if the *Biophysical Journal* could be set up for printing using a desktop printing scheme. The reduction in cost of laser printers and the increase in their resolution had made this a realizable goal. Other developments suggest that this is a possibility for the future. One involves the existence of L^AT_EX, a less user-hostile form of T_EX. Both Plain T_EX

and L^AT_EX produce a device-independent output which can be displayed on terminal and workstation screens using X-windows (or DEC windows). They can also produce a Postscript output, which can be combined with other Postscript outputs from graphics programs to allow the direct incorporation of figures within the text.

Crystal balls are often cloudy. I suspect that if all involved had more insight into the future, the *Biophysical Journal* might be produced by desktop printing today! However, that is not the case.

EPILOGUE: RETIREMENT

- The candle has burned out. A smell of incense lingers in the air. My glass is empty. Old age wraps its icy fingers around my spirit. I recall being the Editor of the *Biophysical Journal*. It seems so long ago; was it only an illusion?
- In the darkness, I wonder and dream. I dream of retirement and wonder about what life will hold in store. Will I continue to read the *Biophysical Journal* and marvel at the progress reported in its pages? Or will it fade into a will o' the wisp? Time will tell, they say, but it will not tell me!
- Now my musings seem to change direction. They focus on the days and years that are to be. Is the past a candle lighting the way to the future? Or is the dream of days and nights to come only an illusion?