

Debate Dear President of the German Physical Society

LETTER During the last two years you have tackled and tried to find a solution to a long discussed problem. Your initiative—I am speaking of your agreement with the UK's Institute of Physics (IOP) to create a European electronic publication, called the *New Journal of Physics (NJP)* to counterbalance *Physical Review*—might be somehow surprising to the uninitiated. This decision is a remarkable step, but it needs to be carefully scrutinized.

Many years ago, when the German Physical Society (DPG) began to get involved in electronic information and documentation, it created a group called Elektronische Fachinformation und Kommunikation (ELFIKOM) of which I was (and still am) Chairman. Discussions we have had in our various meetings have made us realize that many problems encountered by physicists are the same for mathematicians, computer scientists and chemists, and hence for their learned societies. As a result we decided in January 1995, with the approval of the DPG (Mr. Urban was in charge at that time), to create a new association, the IuK (Information und Kommunikation). Since then, it has worked on problems that transcend the barriers between the different fields of science. The group discusses the handling of electronic information, and has worked on, among other things, standards and search engines.

During meetings we discovered that mathematicians have found a solution to the problems they were facing with electronic publication. They have a server so fully automatic that it is possible to send an article which is, after the usual procedures involving referees, corrections and acceptance, available free-of-charge to Internet users. A single person maintains the server, with the help of the computational centre at Bielefeld in Germany.

Two aspects would be missing before this idea could be applied to physics. The first is that this was a national initiative. This is neither what physicists wish to do, or should do. As with your initiative, these things have to be European. That is why the link with the IOP is to be congratulated. But what is lacking is the inclusion of other European countries, the French in particular, and also the Italians. I regret enormously that your initiative began without this being a requirement. We should now put all our efforts into changing this first wrong step. The project can only be successful if it is international. The agreement

between Springer-Verlag and the French Physical Society to merge *Zeitschrift für Physik* and the *Journal de Physique* should be combined with your initiative.

The second big difference we have with the mathematicians is the sheer number of contributions made to journals, which is so large for us that any electronic publishing activity cannot be done gratuitously—the large number of papers would need several people, and the hardware would need money.

Of course, we have to try to avoid costs. That is why you have suggested that, for publication in the *NJP*, the author should pay a fee per article. In this way, the Internet-user can have access to the articles without any payment. However, this is not a solution if you realize that many institutes have no money available for this. The source of such money is usually the library, not the author. And as long as state libraries control the (financial) resources for publications, your idea will be counter productive for small institutes.

The real problem is that the (financial) means to produce publications has fallen drastically, and fallen so much that a sufficient supply of money is no longer available. The main goal of the IuK is to provide the tools and the means to make accessing information on the Net as easy and inexpensive as possible. The German Ministry of Education and Science has created a programme in which research projects in this field can be financed.

The Ministry's arrangement relies on publishers being involved. It is not conceivable that authors who write articles for publications handled by these publishers should then pay for them once they are in the libraries. The mathematicians' way of doing things is the right solution.

It seems anachronistic, but it appears that the only possible solution for all departments, large scientific facilities, Max-Planck-Institutes *etc.*, wishing to access electronic publications, is for them to pay a contribution according to their size, so taking payment for publications out of the grip of the libraries. This contribution should not exceed one thousand DM a year, as it should not be a profit-making activity. This would bring in between 60 to 100 thousand DM in Germany. The technical aspects could (for instance) be handled by our main scientific information centre in Karlsruhe, and if the government could pay for part of the scientific staff we would have a perfect solution. In addition, data security and filing would be handled in a very safe manner.

Whatever the solution may be, projects should only begin with a multi-national European cooperation. The aim would be

to create a publication free of charge both for the author *and* the reader. Money devoted to science is so tight that nobody should make a profit out of it.

Burkhard Fricke University of Kassel

(translation Christine Bastian)

REPLY The debate concerning participation in the *New Journal of Physics (NJP)* is well over a year old and, unlike Professor Fricke, I see little point in re-opening it. My comments are therefore quite brief. The *NJP*—a purely electronic journal—has been launched and is freely accessible on the Web. (Incidentally, it was not my initiative: the original idea came from the IOP.) From the very beginning both the DPG and the IOP hoped that other physical societies would participate. Quite early on, however, we realized that the conclusion of the formal agreements would be too complicated and time-consuming if more than two Societies were involved at the beginning. Now that things are up and running we have invited several other national physical societies to join in; and we are talking to our colleagues in the French Physical Society. Despite Professor Fricke's wish to include Springer-Verlag we have grave doubts about involving a commercial publisher in a project which is, and should remain, entirely in the hands of national physical societies.

Professor Fricke's second point concerns a model for the future of scientific publishing which he considers to offer the ideal solution. I think he is probably right. However, given the present constellation in physics, and in most other disciplines, the model is unrealistic. It neglects the fact that journal management is firmly in the hands of commercial organisations who apparently enjoy "profit margins of 40% and more" (*The Economist* 24 January 1998 p87) as well as of scientific societies and their corresponding publishing arms. None of them is likely to relinquish their role voluntarily.

Professor Fricke's last but one remark is misleading. There is no such thing as a free publication: somebody has to pay somewhere along the line. But I can only applaud his last sentiment: the money devoted to science is indeed so tight that nobody should make a profit out of it. At present, library budgets can no longer be financed due to the huge annual increases in the prices for (paper) journals. A departmental or university library in Germany, for instance, is forced on average to cancel two or three subscriptions to physics journals every year. Authors and readers now have the chance to do something about this situation by publishing in the *NJP*. EN
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