



EDITORIAL

The launch of a new journal is always an exciting moment. A vision is given concrete form, and contributors, those who have participated in the production process, and the readers all eagerly await the fulfilment of their expectations.

This journal was founded with two specific aims: to provide a vehicle for the worldwide dissemination of the results of scientific work carried out in Georgia, and to provide a forum for the publication of research which is concerned with the physics and chemistry of biological processes.

Let us first consider the former. Anyone who has followed contemporary developments in Georgia will know the parlous state into which science has fallen since the disappearance of the Soviet Union. In the Soviet era, Georgia held third place with respect to science funding, after the Russian Federation and Ukraine, which meant the first place per capita, and there were indeed many active research institutes working under the aegis of the Academy of Sciences of Georgia, as well as within the Tbilisi State University. The University also had a distinguished teaching record, and shared with the ancient Universities of England a rigorous selection procedure for admission.

The history of science in Georgia during the past hundred years has to be set in the context of preceding events. Georgia has a long and proud history as an independent intellectual centre—for example its alphabet dates back to the third century B.C.—yet was essentially compelled to join the Russian camp at the beginning of the nineteenth century, and except for a few years of independence immediately after the first world war, shared the fate of the Russians until the close of the Soviet era. Yet distance from the intellectual powerhouses of Moscow meant that Georgia could develop a vigorous scientific life of its own, seasoned by the fact that within the Soviet realm Georgia was quite possibly the most agreeable place in which to live, and some of the Academy research institutes were true leaders in their fields, surpassing their Moscow or Leningrad cousins.

Ten years ago, the virtual disappearance overnight of the pyramid of economic support, which is an essential prerequisite of scientific research at the

highest level, placed science in an extremely difficult position. The infrastructure remained, but the usual running costs of a laboratory became practically unaffordable, hence experimental work became largely restricted to those research groups lucky or foresightful enough to have accumulated a store of laboratory consumables, or which were beneficiaries of foreign grants. Both experimentalists and theoreticians were affected by the reversion of science to an earlier era, in which its workers were mostly restricted to those who enjoyed a private income. In most institutes today, it seems that ten to twenty percent of the former complement remains, but this drastic pruning has meant that essentially only the true devotees remain, and a wonderful collegiality now again holds sway. This collegiality is—alas!—frequently absent in countries which continue to enjoy scientific funding which is more generous, but at the same time more constrained, in the sense of being closely tied to scientific contracts, or advance agreements to fulfil certain predefined goals. In other words, the old conflict of *Brot* versus *Freiheit* is being replayed, and by voting for the latter a solid foundation for renewed growth is being laid.

The Journal of Biological Physics and Chemistry should be viewed as an element in the as yet slow but sure scientific revival in Georgia. It is an element which, because of the highly nonlinear nature of the system, will hopefully have a disproportionately large effect in stimulating further development.

As for the second aim, it can be disposed of more simply. Long ago Mario Ageno [1] pointed out that biological physics is an interdisciplinary field of research, in which biology, chemistry and physics each bring an essential contribution. Nevertheless, the study of living organisms (or systems capable of furnishing information thereon) has traditionally been reserved for biology. Must one, then, conclude that in some sense physics and chemistry are “conquering” these fields? or assert that biology has suffered the same fate as chemistry, which lost its ancient dignity as an independent science after its conceptual and theoretical foundations were found to be part of physics? Ageno firmly dismisses these images of progress in science in terms of invasion and conquest. Attempting to classify the huge accumulation of new knowledge during the past few decades as part of

one or another of the fundamental scientific disciplines has become a truly arbitrary exercise; the main interest in these disciplines has become historical. The important feature of this new knowledge is that it constitutes a common, irremovable foundation shared by all scientists, in the same sense that a few centuries ago, all those who knew how to read and write were called *letterati*, regardless of what they did with their knowledge.

Agno also points out that the word “biophysics” has gone downhill over the years, and nowadays usually means (if anything) work in which certain apparatus and techniques are used to investigate biological objects. It should be scarcely necessary to point out that such usage is insufficient to define the field in which one works. In any case, that kind of investigation is well-served by several journals, whereas work carried out in the spirit of Agno’s concept of the study of living systems tends to be scattered among journals such as the *Physical Review* (which is not widely read among biologists), and there would appear to be a definite need for a journal promoting the catholic vision of biology evidently held by Agno, and positively discouraging fragmentation of the field into artificially separate disciplines. Hence papers will be considered for publication in JBPC without any preconceived limitations on admissible home disciplines.

So much for the formal founding vision of JBPC. Launching a new journal is also exciting because it provides an opportunity of discarding bad old traditions, and inventing some completely new ones. One area in which reform is needed is that of style. Well-meaning attempts during the past few decades to impose more uniformity on scientific writing ended up going too far, and the deadpan style currently favoured by many journals often makes reading a chore rather than a pleasure, regardless of content, and moreover tends to make articles impenetrable to specialists from even only slightly different fields, let alone the interested reader from other areas of scholarship. If one departs so far from the literary ideal, a greater service to readers would be rendered by presenting the material in the most concise form possible—as annotated figures and tables, for example. Therefore, JBPC will make a definite attempt to encourage higher standards of writing, such as were certainly the norm during some of the more trium-

phant periods of science in the past. At the same time, the possibility of carrying brevity to its ultimate limits shall be explored—ultrashort contributions pared to the barest of bones, which may encompass not only annotated figures and tables, but even verse [2].

Regarding the arrangement of the journal, research articles will form the core, together with occasional reviews, which should avoid mere cataloguing of facts and opinion, but should contain some fundamentally new conceptual insight. In other words, alongside papers reporting remarkable new facts, there will also be contributions leading to some significant new conceptual insight, which so advances understanding it clears the way for the subsequent establishment of new facts. Furthermore, some space (“Forum”) will be devoted to discussion of controversial issues. Conference reports will concentrate on an objective critique of the proceedings, avoiding a spirit of bland approbation.

Finally, a few words on electronic publication. The bottom line is of course that even now only ink on paper has guaranteed archival permanence. Initially contents and abstracts of JBPC will be placed online; an electronic edition supplementary to the printed version may be introduced in the future, and the possibility of participation in some of the more elaborate forms of electronic publishing now being proposed (e.g. hypertext annotations) will be kept under review.

REFERENCES

1. M. Agno, Linee di ricerca in fisica biologica. *Accad. Naz. Lincei* **102** (1967) 3–50, esp. pp. 4 ff.
2. H. Maskill, Oxide formation: reaction details studied, reported in brief. *Nature (Lond.)* **409** (2001) 977.