Further Mission Statement

One of the most disquieting trends in recent times concerning the advance of knowledge is the increasingly onerous application of research assessment *in advance of* any actual work being done. This is clearly inimical to creativity. For much of the period during which the scientist has been a member of a professional corps, the usual course was to study the rudiments at University and after having obtained the degree of doctor of science, to become a member of the staff of some research institute, often complemented by membership of a professional society and a learned society such as ours, in order to embark upon a career of independent research. Resources for any work that one wished to undertake were generally available within the institute; one merely needed to convince the director (who had ultimate control of the budget) that it was something worth trying. This is a system that prevailed in the leading institutes of the German Kaiser Wilhelm (subsequently Max Planck) Society, the USSR Academy of Sciences, the French Centre Nationale de la Recherche Scientifique (CNRS), the US National Institutes of Health (NIH), and so forth. In Britain a similar system prevailed in principle, except that university laboratories were where research was principally carried out and, despite the country's great wealth, it was the tradition to give scientists the minimum with which they could survive rather than as much as they could usefully spend (as was pointed out by P.M.S. Blackett more than 80 years ago).

In all these places, however, that system has essentially been abandoned and in its place all scientists are given the survival minimum (and sometimes not even that; i.e., they must cover their own salaries and pay rent for their office and laboratory space). Anything more must be obtained from sources external to their institute—national research agencies, the "Framework" programmes of the European Union, charities etc. These bodies require the scientist to submit a detailed research proposal, which is then scrutinized and a judgment made on its suitability for funding. "Lack of detail" is probably the most common criticism and reason for rejecting a proposal. Yet, for anything that might be called real research, the required detail is impossible to provide. As Bertrand Russell has remarked, "I do not pretend to start with precise questions. I do not think you can start with anything precise. You have to achieve such precision as you can, as you go along." This state of affairs has prompted some scientists to ruefully observe that they must write a proposal for doing what they have already done, and during the tenure of the grant, carry out the research for the next proposal. To build such dishonesty integrally into the system is hardly something to be looked upon with favour.

In Britain, which appears to be in the van in this regard, scientists have also been subjected to formal research assessment during the last 30 years. The procedure is now called the Research Excellence Framework (REF), within which scientific output (published papers, amount of research funding, number of research students etc.) is peer-scrutinized and used to determine how much

government funding will be given to institutes. In other words, there is now a quadruple process of peer review. First, there is the rigorous selection for an established academic post at the University (candidacy for which presupposes having successfully passed numerous examinations to obtain the requisite degrees). Only such established academics are allowed to submit proposals to the research councils, the main source of funding nowadays for all but work requiring only pencil, paper and thinking. These proposals are themselves rigorously peer reviewed. The work will hopefully result in papers submitted to journals—again, these are rigorously peer reviewed before being accepted for publication. Finally, under REF, the published papers are again peer-scrutinized.

As Donald Gillies has eloquently and recently pointed out, the defect of peer review is that by definition the majority of scientists working in any field subscribe to the current paradigm (in the Kuhnian sense)—the mainstream. Anything really new will always be outvoted, as the history of science has shown time and time again. To be sure, some peer review is necessary to weed out absurdity, but clearly we now have a surfeit. Perhaps we should keep the rigorous selection process for academic appointments and for published journal papers (especially since nowadays anyone is free to post outrageous ideas on their own website), but eliminate it for proposals (as was advocated several decades ago by O. G. Selfridge), and abolish research assessment systems altogether.

In any case, peer review can only have a sufficient degree of objectivity when applied to work that has already been done. In that case, there are definite facts that can be assessed and the procedures used to obtain them can be checked for reproducibility. By its very nature, a proposal is about the unknown future and both it and any assessment of its worth must necessarily be speculative.

As Julian Huxley has suggested,* ideas are just as, if not more, important for man's developments as facts. The emergence of important new ideas is an even more fragile process than the emergence of reliable new facts, and is even more likely to be killed off by a surfeit of research assessment.

It is, therefore, an important part of the Mission of the Collegium Basilea to oppose such surfeit and to promote and support, wherever possible, independent research, carried out fully in accordance with the scientific method, that departs from the mainstream.

* J. Huxley, *Education and the Humanist Revolution.* University of Southampton (1962).