

EDITORIAL

Competition or ...

Recently I was fortunate to be involved, as a member of the faculty, in a seminar which was the first for a European Nutrition Leadership Programme. Some thirty young nutritional scientists drawn from across Europe participated in training in communication and had a series of lectures and talks about developments in the nutritional sciences.

During the course of this very intensive week, great play was made of the multidisciplinary nature of the nutritional sciences and how the contributions from the various disciplines needed to be integrated if progress was to be made in the resolution of some central nutritional questions.

One aspect of the seminar that struck me as the programme of the seminar developed was the way in which the participants, with a few exceptions of course, developed a common purpose and that in doing this they achieved more collectively than we as organizers of the seminar could reasonably have expected.

The seminar made a strong case for developing more collaborative interdisciplinary groups to address the growth points of nutritional science, rather along the lines of the Concerted Actions set up under the FLAIR programme of the European Community which have proved so productive scientifically.

In nutrition, and I suspect in many other disciplines, we need to develop a more creative approach. Many of those who have explored the nature of creative activity argue that it develops best in a non-judgmental environment which encourages the free-ranging contribution of ideas, which are initially developed uncritically and then examined to expand them and develop the corollaries that flow from the hypotheses that emerge. The wisdom of the approach was clearly evident during the various activities set for the young scientists in time-stressed but non-hierarchical and non-competitive situations.

Listening to the lectures given during the seminar I was struck by how the most exciting advances drew their origins and strengths from a network of disciplines. Each disciplinary node was connected to several other networks, most of which were concerned with developing the discipline itself but which included several other nutritional networks.

Thus one had a series of networks each linked strongly to the basic disciplines but contributing to a nutritional network which was achieving progress because of the scientific strength of the network as a whole.

This idealized picture (or possibly a dream) of a creative multidisciplinary activity was abruptly shattered by some conversations which I have recently had with three authors. One of the authors felt very strongly that the reviewer had reacted negatively to a point in the discussion because it threw doubts on some previous findings and that the new findings would be damaging to the scientific funding of the reviewer.

The second author was reluctant for a paper to be reviewed by someone from a 'competing' group although they were collaborating in other ways, and the third had been advised not to discuss a protocol with other workers in their field because of possible competition.

The first discussion raises some important conceptual problems because if we follow a 'Popperian' view of the evolution of scientific ideas then refutation of previously-held

hypotheses is the way in which science develops. If refutation was really a threat to the continuation of research then I am fearful for the evolution of science. We should be encouraging the critical evaluation of currently-held views, not working to maintain them, and it must be a principle of ethical peer review that the temptation to discount soundly-based results that go contrary to our cherished beliefs should be resisted.

The discussions with the other authors were I think even more worrying because scientific interchange has been the cornerstone of the evolution of science and the free discussion of scientific ideas and concepts has often provided the stimulus for the development of creative new ideas. Furthermore, getting a second opinion during the design of experimental protocols usually improves them and, if the opinion is sought from someone outside the group involved, very often such criticism can identify potentially flawed designs. As I have remarked before, many papers are rejected because of flawed designs which proper consultation could probably have identified in advance.

Competition has always been a factor in the progress of science as in other walks of life; what I think we must ensure is that competition for funding does not destroy the fabric of scientific interchange which is so essential for the creative processes that nutritional science needs for its future success. As far as scientific journals are concerned we must do everything to ensure that our reviewing procedures are entirely ethical.

In the nutritional sciences as a whole we should, I think, give greater recognition of the contributions made by the generators of hypotheses and ensure that they are given proper recognition for their contributions.

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