

Spreading the Spirit of EMBO

Maria Leptin

Published in:

Science 08 Jan 2010: Vol. 327, Issue 5962, pp. 126;

DOI: 10.1126/science.1185865

This month I succeed Hermann Bujard as director of the European Molecular Biology Organization (EMBO). EMBO was founded in 1964 with the goal of promoting cross-border cooperation in molecular biology research in Europe. From the start, it aimed to act as a counterweight to the hierarchical academic structures in the European research and funding culture. Although the organization is funded directly by 27 participating countries, EMBO is guided in its decisions by its members. These are some 1300 distinguished scientists in Europe and abroad, who select the people and programs to be supported based exclusively on merit.

Society looks to science to help to find solutions for the problems we face – ill-health, climate change, energy and food shortages – and society provides the money required for scientific research. But the allocation of funds often comes with demands that are not easy to reconcile with creative research. I believe that the vibrant culture of discovery that is essential for the future of Europe will require that scientists, rather than politicians, direct the continent's future financial investments in basic science. The type of top-down control that is prevalent, for example, in the European Framework Programmes, and may be relevant to allocating funds for applied research, is both unnecessary and counterproductive for basic research. Only scientists themselves can effectively control the quality of scientific research, or expose fraudulent findings or errors. And who but scientists can judge the scope of a scientific discovery or recognize genuine novelty in research?

In particular, grants funded by the European Commission (EC) often force the formation of trans-national networks, restricting the freedom to concentrate on new topics that are not already being worked on by many research groups. Indeed, science thrives on interactions between researchers, but programme or group grants that insist on collaborations can do as much harm as good, depriving researchers of the freedom they need to pursue the kind of highly individual ideas that form the basis for great scientific leaps forward. Some EC grants are awarded as “contracts” with “deliverables.” If a scientist has a contract to find out something that is well-defined in advance, how can he or she make a true discovery?

To gain and maintain public trust, scientists need to be rigorously accountable to the public for money that is spent on their research. Not only do scientists need to publish their findings in scientific journals, they must also be prepared to explain them in widely understandable terms, as well as listen to the concerns of the public. At the same time, accountability should not be imposed in a way that strangles scientific creativity or belies common sense.

If Europe is to place most of its decisions concerning science funding, policies, and organization in the hands of scientists, as it should, scientists must work with politicians to reassure them scientists can direct resources effectively. We have seen the impact that the voices of scientists can have in the creation of the European

Research Council (ERC), the new European funding body that awards large research grants based exclusively on excellence and originality of the proposed projects, judged only by scientific peer review. The ERC was set up with essential input from EMBO, and one of EMBO's important roles will be to support that institution, both through its members serving as reviewers and panel members, and by fighting to secure its continuation. EMBO has occasionally advised national agencies on their local research institutions, always stressing the importance of free and open structures. I look forward to working with my colleagues throughout Europe to advance both EMBO and European science in the same spirit. The large issues before us include changes required in the culture and organization of scientific publishing, as well as strengthening connections with scientific institutions and scientists beyond the borders of Europe.

Maria Leptin is Director of the European Molecular Biology Organization and is Professor of Genetics, Cologne University, Germany. Her research is focused on cell and developmental biology and the genetics of pathogen resistance.