S-2-5

Towards the European Decade of Brain Research*

W.H. Gispen

Department of Medical Pharmacology, Rudolf Magnus Institute, Utrecht University, 3521 GD Utrecht, The Netherlands

Key words: Decade of Brain Research; Europe; Training

Introduction

On 25 July 1989 the United States of America officially declared the 1990s to be the 'Decade of the Brain'. This raised international awareness of the societal problems and scientific opportunities presented by the various diseases of the brain and central nervous system. This led indirectly to the forwarding, on 21 November 1991, of the motion for a resolution by Mr. Duarte Cendan on brain research to the European Parliament's Committee on Energy Research and Technology (CERT). At its meeting on 17 December 1991 CERT decided to draw up a report on brain research and appointed Mr. Madron Seligman as its Reporter. The Resolution 'calls on the Commission and the Council of Ministers to establish a specific programme on brain research within the 4th Framework programme of research and technological development to enhance understanding of the brain and to find technical applications of this understanding as well as to enable the prevention and treatment of neurological and mental illnesses...' The Resolution on Brain Research was adopted by the European Parliament on July 10, 1992.

Meanwhile the Commission had convened an ad hoc Task Force to develop a draft programme proposal. This document (European Decade of Brain Research, Draft Programme for the first 5 years) outlines in its first draft a programme of brain research that we hope, as requested by the European Parliament, will be included as a specific programme in the 4th Framework Programme of the EC. While the document was still being drafted, the initiative of a European Decade of Brain Research was formally launched in Brussels on 23 September 1992, at a joint meeting of the Belgian 'Académie Royale de Médecine' and of the 'International Academy for Biomedical and Drug Research' under the high patronage of H.M. the Queen of Belgium and under the auspices of the Commission of the European Community.

Subsidiarity of the programme: A community initiative is required

The application of the various methodologies will involve interaction of large teams of scientists and supporting staff, major equipment and new physical installations. The materials consumed are particularly expensive. Further, the field frequently requires co-operation between different specialist centres not available within one country. For example, a centre with resources in molecular biology, including DNA synthesis and sequencing, will need to co-operate with various clinical centres elsewhere for a fruitful application on a specific psychiatric or neurological disorder. Particular abnormalities are frequently more prevalent, or have been better collected, in different national and ethnic populations. All of these aspects mean that any one EC state is too small a unit for the broad approaches needed. Only Europe as an entity can compete in this field with the major efforts being mounted elsewhere. Another transnational requirement is for training in this multidisciplinary field. Training at the national level may be difficult to mount adequately especially in the smaller member states. Programmes which facilitate the movement of neuroscientists across the EC will be urgently needed, as well as career structures for them.

Programmes in neurosciences are conducted separately in each member state by their national research organisations (the Research Councils etc.). These are valuable in their own context, but by their nature they will be unable to expand in this field disproportionately to the other fields which their sponsors also have to support. The national programmes constitute a base from which to start a Community-wide programme of new research initiatives in neuroscience, of new training programmes and of shared research facilities and clinical resources.

Objectives and plan of action

The first 5-year plan of a European Decade of Brain Research programme will comprise a major investment in neuroscience research, resources, training and the intersectoral stimulation of relevant industrial research for developing new high technology in Europe. The implementation of the Action Plan for Research and Training will have important European Community added values:

*The text of this paper is taken from draft material produced by the CEC ad hoc Task Force European Decade of Brain Research.

- The programme will provide a framework to support within Europe the talents of its citizens to the furthering of European culture and health care.
- The programme will raise the profile of European research in this important area and encourage the retention of European neuroscientists within Europe.
- The programme will provide a way to bring together intellectual resources of previously divided European nations.
- The programme will meet the scientific and industrial challenge put forward in this field by the USA and Japan and will ensure long-lasting European commitment to unravel and treat diseases of the brain.

The research outputs will be achieved through the creation of a multidisciplinary collaborative European Brain Research Programme that is flexible, goal-directed and designed to be of the highest scientific quality. The programme will deal with all topics of neuroscience.

Plan of action – programme methodology. The programme will be implemented by a pan-European system of peer-reviewed grants which will meet the requirements of individual scientists, research groups or networks of European laboratories. By stressing flexibility, goal direction, quality and collaboration Community added values to the Brain Research Programme are ensured.

European brain research networks. These networks create the opportunity for an innovative and creative research collaboration between research laboratories from different European countries. The networks are focused on a given topic having Community added values; they will provide support and coordination for travel, establishing joint experiments and data gathering, annual network meetings, exchanges of staff and junior fellowships, exchange of reagents and materials and joint publications.

European collaborative shared-cost research projects. To promote innovative and creative European brain research, any university department, industry or research institution may apply for a shared-cost project within the targets of the programme. The projects will be subject to a pan-European anonymous peer review and review committees will be balanced both in terms of geography and in terms of basic and clinical expertise in neurosciences. Referees (involved in neuroscience research) will be proposed by scientific authorities in CEC countries. In an open competition only the best projects will be eligible for funding. CEC will finance up to 50% of the research expenses. Marginal costs can be reimbursed at 100%.

European centralised brain research facilities. European Centralised Facilities for Brain Research will provide expert services to any researcher participating in neuroscience research in Europe. Such services include among others the access to maintained banks of human and animal brain material, of DNA samples, of clones, of monoclonal antibodies and of cultured cell lines. They will also cover the production and maintenance of lines of transgenic animals. In addition, such facilities will provide the European Brain Research Programme with animal models of brain diseases and clinical research, standardising procedures and quality control and specialist short-training programmes. In addition, these Centralised Facilities will have some provision for the development costs of high-cost prototype equipment with state-of-the-art technology. Depending on the particular goal or a specific need, a European Centralised Facility for Brain Research may or may not be a physical facility. At all times it is a collaborative effort of at least three research laboratories from different European countries. CEC will provide up to 100% of support for the services rended by the Centralised Facilities.

Ethics. The general ethical norms and guidelines as outlined in the Helsinki Declaration will be strictly followed throughout the implementation of the Programme. Specific standards and ethical rules need to be worked out to cover a wide range of ethical issues raised by the social implications of brain research as well as by the diversity of the European socio-cultural context. To meet these needs, studies of the ethical aspects of brain research are intended to be an integral part of the development of the Programme.

Fellowships and training. A flexible and European-tailored educational programme will provide optimal opportunities for European basic and clinical neuroscientists to receive advanced training in brain research. The training will consist of:

- medium-term fellowships (up to 3 months) which will enable technique-oriented training to be gained at specialist laboratories or clinics;
- long-term fellowships (1 year, renewable up to 3 years) which will enable problem-oriented training to be obtained in a discipline of the neurosciences.
- a workshop programme which will provide opportunities to bring together trainees and leading scientists to discuss compelling issues in depth.

Such a training programme will bring together young Europeans from different countries in research collaboration and networks which has a definite and important European added value.