

# **RECOVERY FROM BRAIN DAMAGE**

**Reflections and Directions**

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# RECOVERY FROM BRAIN DAMAGE

Reflections and Directions

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## PREFACE

The present volume is based upon the invited review lectures delivered to the European Brain and Behaviour Society's Workshop on Recovery of Function Following Brain Damage held at Goldsmiths' College, University of London, in April 1991.

Coming exactly ten years after the Society's first meeting on this subject, held at Erasmus University, Rotterdam, a major objective of the Workshop was to review progress in the intervening years. This task was begun by Professor D. G. Stein in his opening presentation. Looking ahead to possible developments in recovery research in the next decade was the subject of Professor B. Kolb's closing lecture. The intervening presentations reviewed progress made in specific areas of recovery research.

In addition to reviewing progress over the last decade we sought to achieve an additional objective in the way that the invited review lectures were organised. This was to bring together those doing basic research, usually animal research, and those whose research interests are more clinically orientated. Thus some of the lectures were "paired", one concentrating on the results of animal studies and one on clinical research findings. For example, whilst Professor A. Björklund reviewed progress in animal studies of neural implantation, Professor E. R. Hitchcock reviewed neural implantation as a treatment for Parkinson's disease patients. Similarly, in considering recovery from extensive unilateral brain damage, Professor M. W. van Hof reviewed work on hemidecorticate animals whilst Dr. F. Vargha-Khadem discussed cognitive outcome after hemispherectomy in human patients. The discussion of environmental influences on recovery followed the same pattern with Professor B. E. Will and Dr. C. Kelche reviewing the role of environmental enrichment in recovery of function following brain lesions in animals and Professor L. Diller evaluating neuropsychological rehabilitation in brain damaged humans.

The emphasis placed on strengthening the links between human and animal work represented one aspect of a final and broader objective of the Workshop. This was to discuss the organisational aspects of research on recovery of function and, particularly, the value of more systematic and widespread collaboration between those doing this type of research. Given the scale, complexity and importance of recovery research it is imperative that scientists and clinicians pay much more attention to the organisation and management of research than has traditionally been the case. Imaginative organisation and management of our activities is surely the way to fulfil the potential of recovery research in improving the outcome for those whose lives have been blighted by brain damage. At present we do not feel that this potential is being fulfilled. One session of the Workshop, out of an otherwise entirely scientific programme, was reserved for launching this discussion and was addressed by Mr. P. Colyer, Coordinator of Scientific Networks for the European Science Foundation. Some aspects of this discussion are considered in the final chapter of this volume.

The list of contributors to the present volume is not exactly the same as the list of those invited to give review lectures at the Workshop. Because of other commitments neither Professor Björklund nor Dr. J. D. Turner were able to expand their talks to form chapters. However, we are most grateful to Dr. J. D. Sinden, Dr. K. M. Marsden and Dr. H. Hodges for stepping in to contribute a very comprehensive review of the animal work on neural implantation. Other invited speakers, Professor Stein, Dr. Vargha-Khadem and Professor van Hof, have chosen to write their chapters in collaboration with others and we should like to extend our thanks to these additional contributors as well.

By the time any volume of this nature appears on a bookshelf there are many "thank you's" to be said, of course. We are most grateful to all the invited review lecturers and other contributing authors, to Mrs. Sue Weston who typed the manuscript, and to Ms. Nicola Clark, Ms. Janie Curtis and Mr. Greg Safford from Plenum Press for their advice and forbearance. We should also like to thank all those who helped us in planning and running the Workshop itself. In particular we should like to mention the other members of the Organising Committee, Professor B. A. Bell (St. George's Hospital Medical School, London), Professor J. A. Gray (Institute of Psychiatry, London), Mr. C. J. Latham (Goldsmiths' College, London), Dr. J. D. Sinden (Institute of Psychiatry, London) and Professor M. W. Van Hof (Erasmus University, Rotterdam), but also a small army of undergraduates, postgraduate students and staff from Goldsmiths' College whose enthusiasm, hard work and humour ensured the success of the Workshop. Finally we should like to thank the following organizations for their financial support for the Workshop: Bayer (UK) Ltd., Children's Head Injury Trust, Commercial Union Plc., Fisons Pharmaceuticals, Norwich Union Insurance Group, the Parkinson's Disease Society, Pearl Assurance, PPP Medical Trust Ltd., Sanofi (UK) Ltd., Scottish Widows' Fund and Life Assurance Society, Schering Berlin, the Wellcome Foundation Ltd., and the Wellcome Trust.

F.D. Rose and D.A. Johnson

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