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Book Review

Recovery from Brain Damage: Reflections and Directions, edited by F.D. Rose and D.A. Johnson, Plenum Press, New York and London, 1992.

Recovery from Brain Damage: Reflections and Directions, edited by F.D. Rose and D.A. Johnson, is a collection of eleven invited papers from participants at the European Brain and Behaviour Society's "Workshop on Recovery of Function Following Brain Damage". This conference was held at the University of London in 1991. One of the major objectives of its organizers was to assess how recovery research has changed in the ten years since the EBBS gave its first recovery workshop at Erasmus University. Although some of the same scientists who presented papers in Rotterdam in 1981 were invited to speak at Goldsmiths' College, the 1991 conference also included several new participants.

As all of the participants pointed out, there have been some major changes in recovery of function research. Perhaps the most noticeable has been the growing trend toward molecularization. In this regard, it was surprising to find that the neurochemists, pharmacologists, and histologists were not represented in this volume, although some of their achievements were discussed by the behaviorally-oriented participants, several of whom had been experimenting with new drugs.

The fact that recovery research is now attractive to a much wider range of scientists should be construed as very good news indeed. Some participants, however, expressed the concern that fewer scientists were including behavioral measures in their studies when the ultimate goal of this sort of work is, in fact, to understand and improve performance after brain damage. The diminution of interest in behavioral work was especially decried by Brian Kolb, whose paper focused on trends and future directions. Kolb mentioned that he had met some scientists who really believed that all they had to know about recovery could be acquired with just a microscope. Although this philosophy is worrisome, the fact of the matter is that endless governmental regulations, cut-backs in grants for behavioral research, escalating costs for housing animals, and threats of disruption from animal rights activists pose bigger problems for behavioral scientists right now than extremist philosophies.

On a more optimistic note, the chapters in *Recovery from Brain Damage* are characterized by the upbeat feel-

ing that we are finally on the way toward minimizing or reversing some of the deleterious changes which follow brain injuries or diseases. Not surprisingly, two of the eleven invited papers dealt with transplantation studies. One covered animal models, and the other summarized the human literature with emphasis on the U.K. trials. The dominant belief expressed by the authors of these papers was that transplantation surgery has much to offer, although many questions still remain unanswered, such as whether the grafts work by releasing trophic factors, replacing missing transmitters, permitting circuit reconstruction, or a little of each of the above.

To a fair extent, some of the problems that have plagued people interested in recovery of function in the past emerged again at this meeting. This time, however, there seemed to be better recognition of the issues and specific calls for solutions. One particularly thorny problem has been inconsistent terminology, beginning with the use of the word "recovery". The language problem was discussed in a thoughtful way by Donald Stein and Marylou Glasier in their introductory "overview" paper, and a clarion call for a task force to establish standards was sounded by Rose and Johnson in the closing chapter.

Another long-standing problem that drew attention from the invited participants at the meeting was the tendency of exuberant scientists to single out one correlate of behavioral recovery and to promote it as the causal factor underlying the observed change for the better. In 1981, the theme seemed to be reactive synaptogenesis. This time, however, there was a richer appreciation of the fact that many different events with fairly similar time courses can follow brain injuries, making it difficult to point to just a single change as the one responsible for the outcome. Along the same lines, there seemed to be better recognition of the fact that injury-induced growth need not always be beneficial.

The eleven papers in *Recovery from Brain Damage* cover considerable ground. The beginning chapter sets the tone by getting right to the important issues in recovery research today, some of which are reiterated and expanded in the ending chapter, which rightfully looks toward the future. Within these borders, the discussions range from hemispherectomy as an ideal model for animal researchers to use, to the roles that diet and the environment may play in enhancing recovery from brain damage. Although this reviewer would have liked to see

more invited papers on new drugs and on the roles that endogenous trophic factors may play in restitution, the goals delineated by the conference organizers were met by the contributors who did an admirable job when it came to thinking about the broad implications of their work. In short, this volume represents a welcome addition to the growing number of books dealing with recovery from brain damage – its best feature being the ability of the contributors to use their own data and

the research of others to address important themes and critical issues.

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