Proceedings of the Fourth International Conference on Environmental Enrichment Edited by V J Hare, K E Worley and K Myers (2001). Conference held 29 August to 3 September 1999 at Edinburgh Zoo, UK. Published by The Shape of Enrichment Inc, 1650 Minden Drive, San Diego, CA 92111-7124, USA. 370 pp. Paperback.

This book comprises the abstracts from the fourth meeting of this international conference, where 48 papers and a number of posters were presented. The abstracts vary in length, with some at half a page and others approaching full papers. The collection represents a huge amount of practical and theoretical work and is extremely interesting.

The papers are variable not only in length but also in depth. In the opening talk, the author asks "what is a world without enrichment?". Reading through this abstract I was struck by the fact that the assumption had been made that a definition of enrichment was not necessary. In fact, the author goes so far as to state that environmental enrichment as a concept has been widely accepted. While this may be true for the delegates at this conference, I can quite confidently say that, even in 2002, this concept is not known about or understood outside the more developed (in terms of animal welfare) countries. Luckily, later in the proceedings, environmental enrichment is more thoroughly discussed in an interesting discussion paper by Hare and Sevenich entitled, "Is it training or enrichment?". Here the authors agree that there is some confusion over the definition, objectives, scope and principles of environmental enrichment. They conclude that training differs from enrichment because enrichment programs should offer captive animals the opportunity to make choices, allowing them to control their environment. This theme is further developed by Meehan in her paper on prediction and control.

The content of the more practical papers ranges from innovative scientific studies to case studies of one animal in a particular zoo. Although both types of study are obviously important and interesting, at times there appears to be a lack of appreciation by the author of the difference between the case study and the more thorough scientific approach. For example, there are excellent papers on approaches for enriching mink and laboratory primate housing by Mason *et al* and Waitt *et al*, respectively. However, the paper that is presented between these two is more practical and seems to be advocating a more 'scatter-gun' approach to enrichment (eg feeding laboratory pigs some rodent chow, offering plastic soda bottles to laboratory rabbits, etc). This difference is due in part to the lack of a clear definition of what enrichments is, and what it isn't. It is also due to the diverse backgrounds of the people who are involved in this whole area. It was obvious to me that the best studies were carried out by the keepers/carers of the animals in collaboration with trained scientists. It is my impression that the role of the zoo animal research officer is extremely important if the field of environmental enrichment is to progress further.

I conclude by encouraging you to read these proceedings, especially if you wish to develop new ideas and learn some new approaches. Although now slightly out of date, these proceedings are a valuable source of information about the techniques and devices developed to tackle specific problems related to the keeping of captive wild animals. The book has valuable welfare implications, because the work it contains could be of benefit to the many animals that live in captivity. For keepers of animals that are often maintained in inadequate environments in parts of the world that have yet to be introduced to the concept of enriching animals' lives, this book will be particularly useful.

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