

Preface

The Twelfth International Conference on Comparative Physiology was held on July 1–5, 1995, at the historical conference site on Monte Verità above Ascona in the southern part of Switzerland. It was conceived and organized in collaboration with the Interunion Commission for Comparative Physiology, set up by the International Unions of Physiological Sciences (IUPS) and of Pure and Applied Biophysics (IUPAB), led by Professor Malcolm S. Gordon who had succeeded C. Richard Taylor as its chairman in 1993.

The topic of optimization in biological design and of symmorphosis is highly controversial and so it seemed fitting to attempt a “search for the truth” by assembling on Monte Verità – the Mountain of Truth – a group of biologists from many different disciplines, true to the tradition of these conferences which, on purpose, have always stressed the interdisciplinary intercourse over too specialized reductionistic exercises. The discussions were fascinating as they extended from molecular biology and biochemistry of enzyme systems through the study of bone and muscle to integrative systems of energy supply and, to a limited extent, to the nervous system. The points of view were those of physiology and morphology on the one hand, and those of evolutionary biology on the other hand. The authors have made a special effort to present the essays based on the presentations in a form that should be accessible by a broad readership of biologists interested in basic principles. We hope that they will challenge thoughts and perhaps even new research on the principles by which organisms are made.

The conference was made possible by generous financial contributions from Ciba AG, F. Hoffmann-LaRoche AG, and Sandoz Pharma AG, all in Basel, the Maurice E. Müller Foundation for Research and Continuing Education in Orthopedic Surgery in Berne, the Swiss

Academy of Medical Sciences, the Swiss Academy of Sciences, the Swiss National Science Foundation, and the Union of Swiss Societies for Experimental Biology. We are most grateful for this support.

We would also like to thank the staff of Monte Verità for their great efforts on behalf of the conference and the participants, Drs Ruth Vock and Hans-Rudolf Widmer for their collaboration in the organization, Ms Elsbeth Hanger for her skillful assistance in the editorial work, Dr Hans Howald for the preparation of the index, and Dr Robin Smith from Cambridge University Press in New York for an excellent and helpful collaboration in producing a handsome volume.

This preface has two additional sections, for very special reasons. The first is a memorial tribute to the long-term Chairman of the Interunion Commission for Comparative Physiology, and by that the leader of many of the Conferences on Comparative Physiology, C. Richard Taylor, who sadly died two months after this conference. With this tribute we express our deep gratitude for all he has done to foster comparative physiology.

The second is a special article related to the origins of the Conferences on Comparative Physiology that have been run, over the past quarter of a century, by a few people. The foremost and most persistent driving force was Liana Bolis, Professor of General and Comparative Physiology at the University of Milan in Italy, who started these conferences in 1970 and assumed the main responsibility for their organization ever since. For this reason C. Richard Taylor invited Professor Bolis to speak and write about "her life with animals" that had prompted her to learn about biology. With its compassion and emotional touch this little narrative complements beautifully the (perhaps overly) mechanistic essays on animal design that follow.

E. R. W.