

## Preface

The evolution of communication systems in a variety of organisms is a topic that has both fascinated and frustrated theorists and empirical scientists. There is growing optimism, however, that real progress is being made and that further progress can be made, even toward the lofty goal of providing a lasting characterization of the evolution of communication in the hominid line.

Our interest in providing groundwork for the enterprise of comparative communication systems was focused from the outset on bringing together a truly interdisciplinary group of scientists. One hope was that such a gathering might make it possible to solve a key problem: Different scholars and different subfields of scholarship utilize different terminology to address questions about communicative evolution that have much in common. The differences in terminology were, we presumed, a major source of the difficulties and frustrations that may have kept the field from achieving more rapid progress. And so we gathered scientists from Europe and America, from a wide variety of disciplines. We set the goal of addressing these terminological differences. The outcome yielded no improvement that we could discern.

Fortunately, there were additional goals. Perhaps we should not have been surprised at the intransigence of terminological differences. The issues that underlie the difficulty with terminological standardization represent real differences in how researchers in various disciplines have conceptualized or organized information about communication and its functions in a variety of species. The terminological differences actually reflect the wealth and diversity of ideas that are being explored both theoretically and empirically.

The workshop that we held at the Konrad Lorenz Institute for Evolution and Cognition Research in Altenberg (near Vienna), Austria, resulted in an extremely lively exchange of these ideas, filled with probing questions and much laughter. Paradoxically, even though the terminological differences appear largely to remain in place, the sense of progress within the context of the gathering and its aftermath was truly exciting. Considerable rapprochement of ideas was achieved, as we hope will be evident to the readers of this work.

The workshop that inspired development of this volume, and that provided its title, was part of a series that implements a major function of the Konrad Lorenz Institute: to foster and stimulate interdisciplinary development of theory and integration of empirical work in theoretical biology. Participants in these workshops, always small in size, are selected carefully for their potential contribution to interaction both at the workshop itself and in many communications both before and after the event.

In this case, participants submitted papers ahead of time, presented and discussed them extensively in a three-day workshop, revised them shortly afterward, then engaged in a peer review process, coordinated by the editors, with all authors involved in reviewing and receiving reviews. A final round of revisions of the articles occurred after many communications among the authors and the editors, both formally and informally.

The activity of developing this workshop, as well as organizing and editing the volume, has been a delight from start to finish. The Konrad Lorenz Institute is founded upon an inspired idea: to bring together the sciences of biology at the highest level for interchanges that may lay the groundwork for significant growth of understanding. The Institute is housed in the mansion where Konrad Lorenz lived and where he was seated at his desk the day he received the call informing him that he was to share the 1973 Nobel Prize for physiology or medicine with Niko Tinbergen and Karl von Frisch for the development of the field of ethology. Indeed, Lorenz and his colleagues contributed fundamentally to development of many of the ideas that were richly entertained and elaborated in the context of our workshop. Participants in the workshop did not fail to notice that Lorenz's books lined the shelves in the room where the primary meetings occurred, the room that was his library. The green landscape visible through the many windows of the facility provided a serene setting for reflections and illuminations. It was a rare opportunity, and we offer our heartfelt thanks to the administration of the Konrad Lorenz Institute for supporting it.