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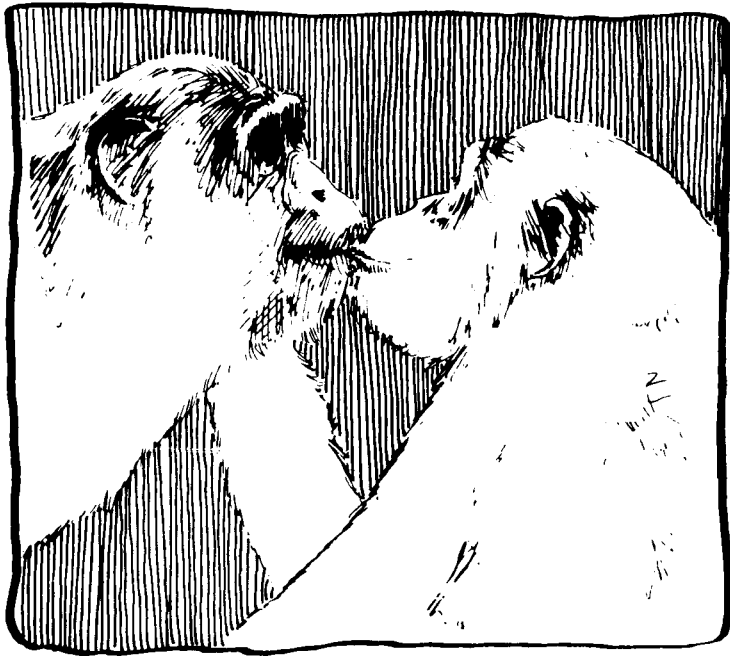
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## ON BECOMING HUMAN

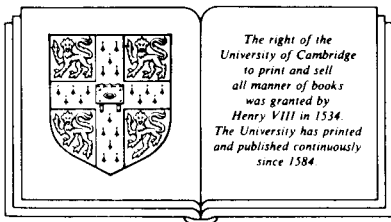
*A model of the transition from ape to human  
& the reconstruction of early human social life*

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# On Becoming Human



**Nancy Makepeace Tanner**



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The cover photograph is of Lake Naivasha in Kenya, eastern Africa.  
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# Preface

*On Becoming Human* presents a new theory on the transition from an ape-like primate ancestor to the early hominids. The book develops a model for the reconstruction of the lifeways of the ancestral ape population, the transitional population, and the early hominids. It suggests that plant gathering with tools by females for obtaining sufficient food to share with their offspring was a very early innovation, and one that played a critical role in the transition from ape to human.

Four things stand out about this model of human origins. First, it examines the roles of women and children, as well as of men, during human evolution. In exploring the roles of members of my own sex along with the roles of males in early human social life, this model seeks to correct what has been both a ludicrous and a tragic omission in evolutionary reconstructions. Second, this model stresses the sequential development of important economic innovations—initially, the invention of food gathering, followed much later by hunting. The inventions of gathering and of hunting occurred at different times, and this had important evolutionary implications. Third, the model presents a method for reconstruction of social behavior (which, of course, does not fossilize), as suggested not only by the fossils themselves but also by the study of present-day gatherer-hunters and the investigation of social behavior among our ape cousins, especially of the very closely related chimpanzees. The importance of developing a biocultural anthropology—that is, of integrating data and concepts from fossil studies with those from primate behavior research and the perspectives and understandings of cultural and social anthropology—is emphasized. Fourth, the model delineates the interaction of gathering, food sharing with offspring, and natural and sexual selection in a new environment in order to suggest the actual dynamics of becoming human.

Nancy Makepeace Tanner

# Acknowledgments

Of the many friends and scholars whose ideas have influenced me and whose encouragement has sustained me, I wish to make special mention of those who, each in his or her own way, had a particularly important impact on the development of this model.

Clifford Geertz was my first anthropology teacher. The four years I spent doing ethnographic work among the matrilineal Islamic Minangkabau of the highlands of western Sumatra during the mid-1960s and early 1970s were, in large measure, due to his inspiration. Even more important to me, however, was the range of his scholarship, as exemplified in the essays now collected in *The Interpretation of Cultures* (1973). His work strengthened my conviction that it is still humanly possible to be an anthropologist in the full sense of the word: that it is still feasible to integrate concepts and data from social, cultural, and physical anthropology and archeology in a meaningful way. Of his writings, my favorite essays have always been "The Growth of Culture and Evolution of Mind" and "The Impact of the Concept of Culture on the Concept of Man," first published in 1962 and 1966, respectively. The impact of these essays on my own thinking is evident throughout this book.

Before he died, Lloyd (Tom) Fallers used part of an early unpublished essay on the transition from ancestral ape to early hominid written by Adrienne Zihlman and myself (see also Tanner and Zihlman, 1976a), which first put forward some of the basic ideas I have built upon in Chapter 7, for a graduate course at the University of Chicago. I doubt there was anything else that this wise man whom I so deeply respected could have done that would have been more meaningful to me at that point in the early development of this new model.

Sherwood Washburn, in his lectures at the University of Chicago in the early 1950s when I was still very young (and a premed student) and, later, when I was a graduate student in anthropology at the University of California, Berkeley, in the early 1960s, gave me an evolutionary perspective and introduced me to the range of data useful for reconstructing the social life of our hominid ancestors. I could never really forget the excitement over evolutionary puzzles that he engendered. Our approaches are quite different, but he showed me what tools I needed to acquire.

## xvi *Acknowledgments*

In the early and mid-1970s Adrienne Zihlman, a physical anthropology colleague at the University of California, Santa Cruz, rekindled my old interest in human evolution. She reintroduced me to the literature and with a sure hand guided my initial explorations in the burgeoning scholarship of today. She is a careful and exacting researcher, and her high standards of documentation on our joint work (Tanner and Zihlman, 1976a, b; Zihlman and Tanner, 1979) proved to be an inspiration and a challenge in my combing of the literature for this book. Many of the ideas in the present book were first developed in conversations with her and were set forth in preliminary form in an unpublished and unfinished manuscript we worked on from 1973 through the summer of 1975. Jointly and singly we published on a number of topics growing out of that thought, discussion, and writing (Zihlman, 1974; Tanner and Zihlman, 1976a, b; Zihlman, 1978a, b; Zihlman and Tanner, 1979). In early 1976 I determined to give first priority to working through the model in complete, fully developed form. The present book is the result of that effort. I must of course take full responsibility for the formulation as it is presented here, for interpretations of data, and for any inaccuracies that might exist; however, my intellectual debt to Adrienne Zihlman is great. During the period in which we worked jointly, her enthusiasm, her effort, her carefulness were unflinching. Above all, I have rarely enjoyed intellectual discourse with anyone else so fully.

A different type of influence came from Hildred Geertz. In the early 1970s, in the course of two field trips back to the Minangkabau of Indonesia (the people I had lived with and studied from 1963 to 1966), I became interested in looking at the roles of women cross-culturally in several societies (Tanner, 1974), largely inspired by the example of Hildred Geertz's research on the Javanese family (1961). I valued her encouragement of my work, "Minangkabau Women in Historical Perspective" (a project funded by the Ford Foundation, 1973–1974), and of further cross-cultural comparisons. A cross-cultural perspective on the roles of women formed the immediate context from which I began to explore the roles of women in human evolution.

Special thanks are due Mary Hilger and Tina de Benedictis for their expert, long-term research assistance over a considerable period of time. Tina de Benedictis, a primatologist who was completing her Ph.D. in anthropology at the University of California, Berkeley, performed extremely thorough library searches on a vast array of topics. She assisted with both the initial research and the subsequent verification and checking of data for the charts, diagrams, and illustrations in a highly professional, competent, and careful manner and made many pertinent suggestions regarding their format and content. In addition to the work that could be done in Berkeley, she also gallantly commuted to Santa Cruz twice monthly for nearly two academic years; and her responsible, consistent, scholarly assistance on many aspects of the project was deeply appre-

## *Acknowledgments* xvii

ciated. Mary Hilger, a professional librarian, assisted me with all phases of the work. Her daily troubleshooting on a wide variety of topics and tasks, good sense, library expertise, and organizing ability contributed more than I know how to express. Her skill and resourcefulness as a professional librarian were invaluable in reference searches and the compilation of the extensive bibliography. Both Tina de Benedictis and Mary Hilger were involved with almost every aspect of the research at one point or another; they read and reread the manuscript, along with many references, and made numerous useful suggestions as to both content and presentation. I also want to acknowledge the research assistance of Sjamsir Sjarif, Elna Brunckhorst, Michael Brezel, Rick Topkins, Jane Huskins, Gary Glasser, Laurie Stuart, Ruth Arnold, and Laura Martinez, who worked in early phases of the project, and of Marilyn Hing, Margot Gerber, John Olmsted, Barbara Sironen, Joan McAdams, Dave Merkel, and especially at the very end, Patricia Ballard for assistance in later stages.

The illustrations and figures are the work of the artist Dee Anne Hooker. She translated the concepts and data into visual form—a difficult task that took many long hours, inspiration, and humor, as well as a great deal of thought and talent. Her ingeniousness and many ideas were a constant source of inspiration and delight. Suzanne Copeland also assisted with the illustrations.

I especially appreciated the suggestions made by friends and colleagues who read all or part of the manuscript at various stages—Clifford Geertz, Hildred Geertz, Tom Fallers, Diane K. Lewis, A. Kay Behrensmeyer, Diane Gifford, Jack Cronin, F. Clark Howell, John Pfeiffer, George Stocking, Marta J. Devins, Theresa Harned, Ernest Callenbach, and Jim Moore. I thank F. Clark Howell for loaning out many pertinent articles and manuscripts and Alice Davis for consultation; and thanks also to colleagues consulted on specific points, including F. Clark Howell, Jack Cronin, Claudia Carr, Leo Laporte, Eli Silver, Don Johanson, A. Kay Behrensmeyer, Garnes Curtis, and Dan Livingston.

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Nancy Makepeace Tanner