

Tomasello, M. (2021). *Becoming human: A theory of ontogeny*. Ávila: Dr Buk. 383 pp. ISBN: 978-84-18219-02-3.

After receiving a solid academic training and scientific collaboration at various universities, the multifaceted researcher Michael Tomasello became co-director of the prestigious Max Planck Institute for Evolutionary Anthropology in 1998. There he led a series of research projects that, over three decades, sought to unravel the evolutionary enigma behind human culture, a form of social organisation that guarantees the uniqueness of the human condition. In the present work, Tomasello proposes a theoretical framework for this research that goes beyond the classical core of the evolutionary paradigm in the light of contemporary advances in evolutionary developmental biology, focusing on hereditary variation and epigenetic mechanisms as a generative evolutionary process and on the constitution of individuals.

In the first of the four sections, dedicated to introducing the study and clarifying its background, the theoretical object is delimited in the identification of the psychological differences that exist between human individuals and the great apes that make the coordination and transmission of culture possible. Its goal, therefore, is to describe and explain the ontogeny of human psychology and its unique features compared to the ontogeny of the great apes. In order to carry out this enterprise, the author assumes that the sociocultural activity of the human species is the causal factor in the cognition and socialisation of individuals through the constitutive action of ontogenetic processes. This working hypothesis supposes an updating of Vygotskian theory which, rather than the transmissive dimension of culture formulated by Vygotski, focuses on its co-ordinating dimension, so that the co-operative factor in human cognition and socialisation is responsible for culture as a whole.

The ontogenetic proposal postulates three sets of processes in the constitution of the human being, which translate into the conformation of a series of ontogenetic routes. Thus, the maturation of children's capacities, their individual experiences and human forms of executive self-regulation are responsible for eight developmental pathways. The analysis of these is addressed in the central parts of the book; the second part is devoted to the four ontogenetic pathways of human cognition (social cognition, communication, cultural learning and collaborative thinking), and the third part is reserved for the ontogeny of socialisation through

collaboration, prosociality, social norms and moral identity. Thus, each chapter starts with the ontogeny of the great apes with respect to the corresponding pathway and then contrasts it with the description of the human ontogenetic pathways, with special emphasis on the differential factors, and ends with an assessment of the weight of the pathway in the child's development into a rational and moral creature.

In the fourth part, the author recapitulates his study to offer an overall picture of the theory of shared intentionality. As a species, the origin of the novelties that humans have presented throughout their evolutionary history is to be found in adaptations to ecological challenges and, especially, in the hyper-collaborative response given. In contrast to the great apes, who present only an individual intentionality, humans have developed two additional adaptations that provided the motivations and skills indispensable for their social and cultural way of life. Joint intentionality, which appeared in early humans, and collective intentionality, which is characteristic of modern humans, are evolutionarily distinct moments, but they are also key stages in the ontogeny of individuals, developing at nine months and three years of age respectively.

To close the work, Tomasello explores the possibility of extending the domain of the theory presented to the general ontogeny of the human being, that is, to make shared intentionality a global theory of ontogeny. This exercise shows the depth of the study developed and its potential for the fields of biology and psychology. Enriched by both, however, the major achievement of the work is to propose a novel anthropological model that reconciles culture and biology as closely connected and interdependent realities. This milestone in the understanding of human development lays fertile ground for future research aimed at unravelling the enigmas of the human condition.

Katerin Tsenkov Asenov