



A Review of "*Becoming Human*"

Becoming human: A theory of ontogeny, by Tomasello, M., Cambridge, MA: Harvard University Press, 2019, \$63.63 (hardcover), \$24.00 (paperback), ISBN: 9780674988651. <https://doi.org/10.4159/9780674988651>

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BOOK REVIEW

A Review of “*Becoming Human*”

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Inquisitive observers of human culture encounter a paradox: We treat the belief-systems, norms, and practices of our own communities as if they are a fixed part of our nature, yet across groups of people, the diversity of ways of being – and corresponding diversity of psychologies – suggests the opposite. This observation has motivated a sea-change in the social and cognitive sciences away from claiming human universals (especially universals based solely on the study of “WEIRD” populations, Henrich, Heine, & Norenzayan, 2010) and toward highlighting human diversity. This is an exciting and important change, but the explosion of new theories, new research paradigms, and new data can at times feel dizzying and chaotic for those of us who seek a principled way to understand what it means to be human.

In his book *Becoming Human: A Theory of Ontogeny*, Michael Tomasello provides an elegant, culturally aware, and evolutionarily informed account of what we share despite our differences: our uniquely human ontogenies. This book is centrally about human development, specifically the unique cognitive and behavioral capacities arising in the first five years that enable us to participate in human social life and culture. Readers familiar with Tomasello’s extensive body of work will recognize the foundations of the evolutionary argument: Adaptations for social coordination and social transmission explain how humans diverged psychologically from our nearest primate relatives. Our capacity for *Shared Intentionality* – for acting collaboratively with others toward shared goals – is the key to human cognitive uniqueness and also to our success. But in *Becoming Human*, more than in any of his prior work, Tomasello elucidates every aspect of the development of the cognitive capacities necessary for shared intentionality in detail. In so doing, he elevates development as the primary, principled explanation for human cultural and psychological diversity. The argument can be summarized by reference to the title: To understand being, we have to understand becoming.

Tomasello’s developmental theory is a classic nature-nurture interaction with twist: he argues for precisely timed maturational changes that emerge as a result of *transactions* between child and environment. The transactions are organized into four categories of learning experiences – individual, observational, pedagogical (instruction from adults), and collaborative (coordination with peers). As Tomasello states, “It is what children experience and learn during these maturationally structured transactions – and in many cases how they learn and who they learn from – that actually propels human ontogeny forward” (p. 35). An important part of the story is the capacity for self-regulation and adaptive action. Each social learning experience taxes the developing child’s executive self-regulation skills in unique ways. Self-regulating in various social contexts contributes to growth in cognitive capacities necessary for perspective-taking, problem solving, communication, and morality. This developmental account also neatly provides Tomasello and his collaborators a method for putting the

mechanism to test – experimental designs that encourage particular behaviors in children (and, by comparison, in non-human primates) *if* they have the requisite cognitive skills and self-regulatory abilities to act them.

Beyond the introduction, the remainder of the book is organized into chapters in two broad clusters. Each chapter takes one uniquely human capacity, shows evidence for its emergence from infancy to childhood, and describes the developmental mechanisms that drive change. The first cluster of chapters focuses on the development of uniquely human cognition: understanding the subjectivity of one's own and others' perspectives (social cognition), communicating in cooperative and informative ways (prelinguistically, and then eventually through language), learning from others (through imitation, testimony, and instruction), and collaborative problem solving (with co-equal peers). These chapters can be read as a set of windows into the same room – a cognitive architecture built for encoding and utilizing a shared representation of the environment in the service of cooperative action. Although one can read them serially or separately, the chapters are intentionally organized based on Tomasello's theoretical commitment to a causal order of importance: uniquely human communication requires perspective-taking, uniquely human social learning requires perspective-taking as well as language, and so on. Cognitive developmentalists will appreciate a re-casting of our favorite milestones – object permanence, declarative pointing, testimonial learning, word learning, theory of mind, event memory, conversational turn-taking – into a functional whole. Also, for those curious (or doubtful) about how humans diverge despite having a host of mental capacities common in other primates, Tomasello points to empirical evidence of subtle differences in ontogenetic timing and function of our common cognitions, and to how the uniquely human capacities interact with (and irreversibly change) our early-evolving primate ones.

The second cluster of chapters focuses on the development of uniquely human sociality and morality: how we honor joint commitments (thinking and behaving as a “we” instead of an “I” and a “you”), how we conceptualize kindness and harm (and behave prosocially), how we understand ourselves as members of groups (and understand the norms that govern groups), and the cognitive and emotional signatures of our developing moral identity. Here, he argues, is where the developmental achievements of young children become the foundations of human society. The cognitive abilities that allow us to function in cooperative groups also contribute to “uniquely human sociomoral motives and attitudes” (p. 189) such as respect, fairness, and the obligation to follow norms. The motives shift within the first five or six years of life as children's perspective on who is part of the collective “we” shifts from second-person dyads to larger groups. The developmental changes in perspective explain changes to children's moral behaviors and to their moral concepts. Tomasello ends this section with a final milestone of the first six years – a conscious awareness of oneself (as perceived by others) that is the requisite conceptual achievement for being capable of making one's own moral choices, and being held accountable for them.

The organization of each chapter is refreshingly consistent and lends itself to uses by different audiences. For career scientists, it can serve as a reference to particular developments in social cognition, language, and morality. For students new to the discipline, it can serve as a beginning text to an influential view and the experimental evidence that supports it. Visual thinkers will appreciate the figures – one in each chapter – that map out the changes in ontogeny and compare to our human development with the development of our nearest primate relatives. All of this is packaged in Tomasello's signature style of writing that fluidly alternates between big, sweeping ideas and concrete examples.

The balance of a broad, overarching theory and many pieces of evidence has a unifying quality. At the current moment, developmental science has more sub-genres than ever before. Specialties that dig deep into particular neurological changes, processing capacities,

or domain-specific bodies of knowledge have become silos, bringing the risk that we lose sight of the workings of the whole. This book holds the promise of reuniting some of those pieces. Beyond invoking the recognizable and uncontroversial theme of an active child, driven by some motivation (or sets of motivations) to engage with other humans in diverse social contexts, Tomasello's account draws deliberate, specific connections between the executive and metacognitive *processes* of human cognition and their conceptual and representational *outcomes*. Whether one agrees or disagrees with the exact details of the account, Tomasello reminds us that these two aspects of the human mind, often studied separately, work in concert with each other to drive developmental change. Whether or not one is primarily interested in social cognition, morality, or arguments for human uniqueness, there is something in this book for any reader curious about the developing human mind.

For readers who come to the book to understand human cultural and psychological diversity, Tomasello also devotes one or more sections within each chapter (for each major developmental achievement) to the questions of individual and cultural variation. These sections could be read as an interesting piece on their own, especially because they show us how far we still have to go to answer to our questions about the ontogeny of human diversity. Do children everywhere imitate arbitrary actions faithfully? Do cultural differences in the manner or degree to which adults discuss perspective lead to differences in tasks that require perspectival thinking? Does a dependence on peers (in some cultures more than others) lead to better collaborative skills? How does parental socialization influence the expression of moral emotions such as guilt and shame? In many of these brief discussions, Tomasello concedes that little data from psychological experiments exists, and he offers up hypotheses about what might emerge from new cross-cultural research. For those developmental scientists working on these issues now, it is a call to arms. And for those of us who will pick up this book to read again in ten years, there is a hope that some, if not all, of these questions have been answered.

Disclosure statement

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Reference

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