

# Play's the Thing

A new book argues that play may be the primary means nature has found to develop our brains.

**BY BENJAMIN SCHWARZ**

**Review of [THE EVOLUTION OF CHILDHOOD](#) by Melvin Konner**

This [monumental book](#)—more than 900 pages long, 30 years in the making, at once grand and intricate, breathtakingly inclusive and painstakingly particular—exhaustively explores the biological evolution of human behavior and specifically the behavior of children. Melvin Konner, an anthropologist and neuroscientist at Emory, weaves a compelling web of theories and studies across a remarkable array of disciplines, from experimental genetics to ethnology. He ranges back to the earliest, egg-laying mammals, discusses topics as seemingly modern as cross-gender identity conflicts, and draws on scientific work examining all manner of species with which humans share distinct characteristics. (In the way we teach our young, for instance, Konner points out that we resemble cats large and small far more than we do our closer genetic relatives, the large primates.) The organization of these disparate puzzle pieces is itself a tour de force. Though the sheer volume of information and the not infrequent appearance of terms like synaptogenesis and N-methyl-D-aspartate glutamate receptor can be daunting, Konner's style is conversational (if sometimes occluded) and his tone is, well, kind. To read this book is to be in the company of a helpful and hopeful teacher who is eager to share what he's found.

Dividing the book into four often overlapping “levels of observation”—the genome, the nervous system, society, and culture—Konner assesses the development of the brain from the first vertebrates through the hominins, with their slow-growing, enormous, super-energetic brains. This development depended on a high-quality diet of fruit and then cooked foods, both plant and animal, and particularly aquatic fauna—not to mention the grandmothers and other “helpers at the nest” who ensured that children were fed. In fact, human brains are so large that were they to reach full size in utero, women’s bodies would not be able to deliver them. Much of the brain’s growth occurs after birth: the human brain more than doubles in volume during the first 12 postnatal months, and nearly doubles again over the subsequent 12 months. This means that infants, with their far from fully developed brains, are extraordinarily helpless for a long period after birth. One reason humans evolved into creatures that walked upright may have been so that mothers could carry offspring who could not yet cling to them.

Konner then explores the genetic and neurological foundations of basic temperament and gender identity and of formative behaviors such as infant attachment and the acquisition of language, and he describes the interrelationship between the biology and psychology of puberty. Unlike animals that hurtle from infancy to puberty, the humans who have escaped the risks of infancy but not yet embarked on the risks of adulthood experience a sort of mini-transformation during the “five-to-seven shift,” and emerge with markedly enhanced powers of cognition into a period of slow growth. This prolonged

halcyon phase, sandwiched between the confusion of early life and the intensity of adolescence, seems evolutionarily designed to imbue children with the culture that our enormous brains make possible—the culture that our species (almost) alone can claim.

The sine qua non of culture is socialization, a process we share with many other species. For mammals, it begins with an extreme bond between mother and offspring—a bond that has existed since early in the age of the dinosaurs, when even the infants of egg-laying mammals could feed directly from their mothers' bodies and demand attention by crying. (Mammalian young cried at high pitches that their mothers could hear but reptilian predators could not.) Although the mother-child bond forms the core relationship, we are cooperative breeders. There is “ample evidence,” developed most prominently by the pathbreaking anthropologist [Sarah Blaffer Hrdy](#), that “human mothers have always gotten help” from fathers, grandmothers, older siblings, and other relatives. Still, some evidence suggests that kinship is not the be-all and end-all it is often believed to be. Research on the [!Kung](#) hunter-gatherer society, for example, shows no particular advantage to having a full complement of parents and grandparents, and in cases in which children have few kin, other adults apparently take up the slack, supporting the idea that indeed, it takes a village. Crucially, the many years that human females live after menopause confer a unique advantage on the species, in that grandmothers are almost always involved in child care, allowing their children, particularly their daughters, to produce more and healthier children.

KONNER IS ESPECIALLY interested in play, which is not unique to humans and, indeed, seems to have been present, like the mother-offspring bond, from the dawn of mammals. The smartest mammals are the most playful, so these traits have apparently evolved together. Play, Konner says, “combining as it does great energy expenditure and risk with apparent pointlessness, is a central paradox of evolutionary biology.” It seems to have multiple functions—exercise, learning, sharpening skills—and the positive emotions it invokes may be an adaptation that encourages us to try new things and learn with more flexibility. In fact, it may be the primary means nature has found to develop our brains.

Finally, Konner argues that even if culture is as subject to the laws of evolution as other aspects of physiology and behavior, it is, in its complex forms, unique to our species. (He does emphasize, however, that humans share with other animals a host of qualities and emotions—love, grief, altruism, heroism, loyalty, shame, dignity, awe, thought—that have wrongly been ascribed to humans alone.) Humans may not be the only ones who teach, but we alone create and build in a cumulative way, and we alone suspend ourselves in “webs of significance we ourselves have spun,” as Konner, borrowing from [Clifford Geertz](#), elegantly puts it.

Ultimately, Konner is attempting to construct a sort of theory that encompasses all of human life. The evolutionary processes he describes are the way in which at every level—the genome, the nervous system, society, and culture—we, who carry along information accumulated over billions of years, continually interact

with the environment, and thereby learn and change in response to it. Children, who are shaping and organizing their very selves, experience this most powerfully. And it should not be surprising, he speculates, if children—in the midst of the most exploratory phase of human life, thanks to “their huge, fast-growing, thoroughly dynamic brains”—have throughout the history of the species often been at the vanguard of cultural innovation.

This book is the flower of an astoundingly productive and innovative period of scholarship on evolutionary behavior; it sums up a generation’s worth of thinking and research. But although a work of singular importance, it’s not flawless. Konner’s efforts sometimes flag: his writing fails to sustain a consistent precision and focus. Relatedly, at times Konner seems overwhelmed by the encyclopedic nature of his project. When he sifts and assesses evidence, he’s always judicious and often brilliantly imaginative. Too often, though, *The Evolution of Childhood* reads like a compilation of research and findings rather than a work that distills that material to create an elegant synthesis—this book hasn’t been subjected to the rigorous and comprehensive editing that a work of such significance demands. But only a book of such staggering ambition can be faulted for failing to achieve consistent greatness.