

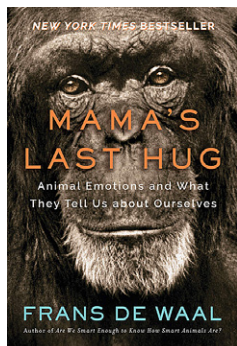
Mama's Last Hug: Animal and Human Emotions

By Frans de Waal. 2019. W.W. Norton. 336 pages, 36.95 USD, Paper.

Humans have held themselves superior to all other life forms for millennia. Dating back to Aristotle, this attitude in Western cultures was crystalized in the biblical notion that 'man will have dominion over the earth and all the creatures therein'. The consequences of this belief, and the subsequent actions over succeeding millennia, have been disastrous for the animals, as well as the earth itself. While ecologists, environmentalists, and most students of the life sciences are increasingly recognizing, defining, and warning us of these consequences, the notion of human supremacy is one that still remains strong. Why this should be so is a key question that primatologist Frans de Waal addresses in this, his 12th book, a "companion" to his *Are We Smart Enough to Know How Smart Animals Are?*, published by Norton in 2016. As de Waal explains in his Acknowledgments, "[e]ven though these two books treat emotions and cognition separately, in real life they are fully integrated" (p. 279). The arguments for animal intelligence and emotional lives presented by de Waal are compelling, supported by the increasing research in these areas and the rich anecdotal evidence gathered during his own long experience with primates and from other primatologists.

Mama's Last Hug begins with just such a story. We meet Mama as a 50-year-old Chimpanzee on her death bed. A researcher who had spent much time with her but who had not seen her in several years appeared for a final visit. On seeing him, Mama was transformed, from a listless animal on its way out to an excited, expressive creature that greeted her old friend effusively. How this could be seen in any other way as an emotional response is the mystery that de Waal seeks to unravel.

After a brief Prologue, the book continues for seven chapters. The first, "Mama's Last Hug", relates the story noted above; the next three discuss various emotions. Many of us conflate emotions with feelings, but de Waal distinguishes between them, defining feelings as interior states that we can describe using language and emotions as the deeply rooted, initially subconscious states that emerge into consciousness during various situations. The distinction is helpful, allowing him to address the idea that because animals don't have words to express emotion, they do



not feel emotion; they simply react behaviourally to various stimuli in instinctual ways. This idea is not to be underestimated in its force—centuries of animal research have been premised on it. Chapters 2 and 3 present evidence of positive emotions in animals—laughter, empathy, sympathy—while Chapter 4, "Emotions That Make Us Human", deals with negative emotions, including disgust, guilt, and shame. These chapters contain many instances, observed in the wild or concluded from ingenious experiments, demonstrating the reality of animal emotional lives. Two themes running through these chapters, and indeed the book, are the continuity between the behavioural responses of apes and humans, and the continuing, though diminishing, resistance of scientists to accept or, more accurately, to write as though they accept, that apes have emotions just as humans do.

These chapters are the foundation for the more difficult, controversial discussions in the next three, Chapter 5, "Will to Power – Politics, Murder, Warfare", Chapter 6, "Emotional Intelligence – On Fairness and Free Will", and Chapter 7, "Sentience – What Animals Feel". If you cannot accept that animals have emotions, then it will be next to impossible to accept, as argued in Chapters 5 and 6, that animals have complex political relations, can engage in murder and warfare, or choose to act with fairness, and have the capacity to think through the consequences presented at times decisions are required. But the evidence is strong, the stories compelling. If one accepts evolutionary continuity between apes and humans, de Waal's conclusions are inescapable.

Chapter 7 is the capstone of the book. It begins by exploding the long-held belief that human superiority is based on the size of our brains and number of neurons therein. Recent research has shown that elephants have more of both than we do! And the related myth that consciousness is a property of humans alone gets similar treatment. Not only that, but instinct as sole explainer of animal actions is itself relegated to the dustbin of historical ideas. In the process of making these remarkable conclusions, de Waal discusses "three reasons (apart from pressing ecological ones) that humans should respect all forms of life: the inherent *dignity* of all living things, the *interest* every form of life has in its own existence and survival, and *sentience* and the capacity for suffering" (p. 245; italics in the original). He admits that assigning dignity to all forms of life is based on our subjective evaluations, the danger we must guard against is falling back into the ancient concept of what the Elizabethans called the great chain of being.

It is more readily seen that living things have an interest in remaining alive. While this is obvious from the reactions of animals, from mammals to arthropods, it remains true of plants, which, science is discovering, have incredibly complex defensive systems.

The big reason for respecting all forms of life, however, is sentience, the idea, impossible to confirm with scientific certainty, that animals have conscious experience of their emotions. Surely this must be an essentially human capacity. Well, not so surely, it turns out. All creatures, from cells to fungi, plants, and animals, have some capacity for sentience, or the ability to adjust their experienced conditions. But “[s]entience in the narrow sense implies subjective feeling states, such as pain and pleasure” (p. 248). It is de Waal’s view that all living creatures, with and without brains and central nervous systems, should be considered as “sentient in the sense of having subjective feeling states” (p. 249). And this form of sentience resulted, de Waal believes, in the development of consciousness “relatively early in evolution” (p. 255).

The acceptance of these ideas is still ongoing, although science has come a long way from the early days of research into “affective neuroscience”, a discipline founded by Jaak Panksepp, who “was ahead of his time...” (p. 256). In Panksepp’s day, relates de Waal, funding for such research was difficult to come by, so strong was the opposition to animal emotions and intelligence, particularly in the field of psychology, dominated by Skinnerian behaviourism. My first degree was in psychology during the heyday of this movement, which I rejected instinctively. I took a personal delight in reading de Waal’s description of the movement’s demise. Unfortunately, its lingering legacy is the “gap between humans and all other species, which only widened with time” (p. 260). The results of that gap are still being promulgated in books

celebrating human exceptionalism, but meanwhile, “[b]ehaviourism is dying a slow death” (p. 262). And about time. As noted in my review (Cottam 2018) of *Through a Glass Brightly*, people who reject the notion that humans are animals need to elevate their concepts of what animals are. Personally, I find it comforting to think that rather than dwelling on some fictional peak, we humans are connected with all living matter, part of the great natural cycle of life and death, the only ‘eternity’—should we manage not to destroy the earth—that we can know.

Much of the evidence in this book is derived from field experience, whether in the jungles and other habitats where the animals live, or in the humane environments in which many research animals now reside, relatively free to interact in their normal social ways. It’s highly readable ‘popular’ science at its best, but the topics are huge and critically important, the concepts revolutionary if we accept them. Thus it provides some hope that we humans will realize that continuing to consider ourselves superior to all other forms of life is just what it takes to destroy our own.

Editor’s note: I used an advance reading copy to review this book. The final publication will differ somewhat—it will be indexed, for example, and has a different cover—so page numbers for quotations in this review may not exactly match those in the published version.

Literature Cited

Cottam, B. 2018. [Book review] *Through a Glass Brightly: Using Science to See Our Species as We Really Are*. *Canadian Field-Naturalist* 132: 202–203. <https://doi.org/10.22621/cfn.v132i2.2191>

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