

the behavioral immune system? And is there anything that cannot be explained as a consequence of parasite stress? These questions remain because the book describes an ongoing project with a huge scope. Have Thornhill and Fincher overstretched the theory? Perhaps. But much of life is about getting sex and not dying. In both pursuits, it might pay off to vary one's behavior contingent on the presence of pathogens.

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INTERSPECIES ETHICS. *Critical Perspectives on Animals: Theory, Culture, Science, and Law.*

By Cynthia Willett. New York: Columbia University Press. \$90.00 (hardcover); \$30.00 (paper). ix + 220 p.; index. ISBN: 978-0-231-16776-5 (hc); 978-0-231-16777-2 (pb); 978-0-231-53814-5 (eb). 2014.

This book both critiques the conventional approaches to interspecies ethics and proposes a theoretical alternative, which the author calls "biosocial communitarianism." Traditional animal ethics in the animal rights and animal welfare traditions has had a one-directional focus on human treatment of animals. Willett argues that this sort of approach neglects animal agency, and that it fails to capture some of the ways that humans and nonhuman animals might interact in multispecies communities. She has less to say about some of the classic problems of animal ethics—such as industrial meat production and the ethics of keeping wild animals in captivity. Instead, she mines the work of scientists such as Frans de Waal, Barbara Smuts, and Marc Bekoff for insights about animal social behavior. Philosophically, she also draws less on classical ethical theory—Kantianism, utilitarianism, and virtue ethics—choosing instead to develop her communitarian view by engaging more with continental philosophers: Levinas, Merleau-Ponty, Deleuze, and Haraway all figure in the argument.

The author makes much of animal play and humor. For example, on page 52, she tells a story from Frans de Waal's work about a chimpanzee who plays pranks on visitors to the Yerkes Field Station in Atlanta. The animal would secretly fill its mouth with water, act nonchalant, and then spray the unsuspecting visitors. The story highlights the animal's agency. On pages 100–101, we also learn about Barbara Smuts' observation of a troop of baboons who pause beside a stream for a moment of "silent contemplation." Again, there is something important about the animals' behavior that we miss if we focus too narrowly on questions about how we humans should treat animals. These and

many other anecdotes ground the book empirically and give it texture.

One potential concern about the volume is that it focuses somewhat selectively on charismatic species whose social behavior we find it easy to relate to: elephants, canids, and primates get a lot of attention. Willett does not have much to say about what it would mean to form an interspecies community with the animals that many people eat, with insects, or with wildlife such as opossums or skunks, birds or bats.

Nevertheless, the emphasis on community is welcome. Chapter 5 develops the author's own interspecies ethics by exploring four layers of interspecies community structure. The first layer focuses on the horizontal transmission of affects, such as laughter or fear, from one animal to another. The second level involves attunement through interaction, such as play. The third treats biosocial networks as the background context within which animals and humans might experience a sense of place, or of being at home. The final level involves "sublime compassion" and generosity that both humans and animals sometimes exhibit. Willett's alternative ethical structure gives activists and philosophers a way to reframe their work on animal ethics to emphasize animal autonomy and interspecies community.

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## GENERAL BIOLOGY

TOOLS FOR CRITICAL THINKING IN BIOLOGY.

By Stephen H. Jenkins. Oxford and New York: Oxford University Press. \$49.95. xv + 324 p. + 23 pl.; ill.; index. ISBN: 978-0-19-998104-5. 2015.

Biologists would undoubtedly agree that fostering critical thinking is an essential educational goal, but it is less clear whether such agreement extends to what the essential features of "critical thinking" are. Although educators such as Peter Facione, Robert Ennis, and others have worked to create consensus conceptualizations of critical thinking, *Tools for Critical Thinking in Biology* follows its own path. In the first six chapters, Jenkins outlines his core features of critical thinking and embeds them in a series of carefully chosen and engaging case studies: Discovery and Causation; Observations as Evidence; From Observations to Data; Experiments: The Gold Standard for Research; Correlations, Comparisons, and Causation; and The Diverse Uses of Models in Biology. These chapters