

Seismic Communication and Adventure Among African Elephants

The Elephant's Secret Sense: The Hidden Life of The Wild Herds of Africa.
By Caitlin O'Connell. Chicago: The University of Chicago Press. 2007.
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As the heir apparent to the voluminous nature travelogues of the Victorian era, contemporary memoirs from American scientists and conservationists have supplied an increasingly popular hybrid genre of science and travel writing. Unlike Victorian accounts of wealthy explorers traversing the colonies, these contemporary works are often imbued with earnest desires to reconcile the conservation of endangered species with the needs of local people. Caitlin O'Connell's book *The Elephant's Secret Sense: the Hidden Life of the Wild Herds of Africa*, recently released in paperback, uniquely contributes to this literature in that the author is a female scientist still in the first half of her already-accomplished career.

The book's 17 chapters begin with the author's experiences as an environmental contractor in Namibia as she first develops the hypothesis that elephants can communicate using seismic signals. Science then takes more of a front seat in later chapters describing her dissertation research carefully documenting the elephants' listening behavior and responses to seismic cues. However, these scientific findings are secondary to a clear-eyed

narrative of the substantial struggles of conservation work in marginally stable areas. Whereas many writers might tend towards rollicking barstool tales or professional triumphalism, O'Connell expertly captures the pace of international field work as an often languid enterprise punctuated by intense moments of achievement and frustration. Highlights include riveting descriptions of face-to-face encounters with dangerous wildlife, bizarre dealings with impenetrable tribal bureaucracy, and personal tragedies that the author, and reader, will not forget any time soon. Prospective volunteers and graduate students contemplating field work in Africa would particularly benefit from O'Connell's grounding account of her experiences.

The text is not without appropriate romance, however, and reading it will prompt rather than dissuade those budding researchers from heading to the field. Anyone with an interest in animal behavior will enjoy the lengthy accounts of elephants interacting with conspecifics and researchers around the waterhole, as well as the author's surprisingly vivid experiences with elephants in captive settings. The supporting human cast, such as the gruff native African sneering at the green American's perceived "save-the-world" naiveté before coming around to be a great help, is familiar but still entertaining. One disappointment comes from the author's accounts of her conservation work with local women who perform a poorly-understood role in dealing with

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human-wildlife conflict in this region. O'Connell repeatedly mentions her desire to connect with these women, but with the exception of one individual who becomes the author's confidante, I found these sections of the text to provide little illumination. This disappointment is probably a testament to the difficulty of the enterprise rather than any failing of the author.

Those readers expecting a detailed account of the science behind seismic communication in elephants will be disappointed, especially given the book's title. An adequate description of the author's findings is woven into the greater narrative, but several omissions prevent recommending this book as a great work of popular science. Elephant photographs are included as an inset, but figures are otherwise completely absent from the text. A richer understanding of the phenomena of sound waves traveling through the ground, anatomical/physiological detection of those sound waves by elephants, and the experimental setups used in the field and captivity would be gained from appropriate diagrams. I found it hard to envision the set-up of the observation towers,

subterranean microphones, and other equipment from the text alone. The behaviors used to define elephant responses to seismic signals may also not really come alive to the vast majority of readers that will not have spent time observing wild elephants. Given the increasing popularity of nature and science programming among the general public, I would think that visual references would be welcomed by most readers. Even though scientists are not the primary intended audience for this book, it is inexplicable that a bibliography of the author's scientific papers and other technical resources is not provided (despite publication by a leading press for ecology and evolutionary biology titles).

These limitations aside, effective communicators of science are scarce and O'Connell provides a valuable contribution in the form of a realistic and compelling description of international field work. Those interested in Africa or elephants in general will be rewarded, whereas those seeking a thorough discussion of animal communication will not be fully satisfied.