

Caring with Haunted Microbes: Transformative Times in the Anthropocene

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Caring with Haunted Microbes highlights the significance of time in caring/responsible non-anthropocentric scientific knowledge production in a time of environmental crisis explored through the scientific research on marine microbes. It is based on the analysis of scientific publications of, and ethnographic fieldwork with, marine microbiologists. Through several case studies, I explore how in the light of climate change and a renewed attention to microbial life in the ocean and their role in the global carbon cycle, recent scientific investigations had to re-evaluate what microbes can do.

I argue that the scientific findings of microbes' abilities to memorize, kill themselves, get jet-lagged, and sequester carbon in the ocean require new ontologies. Analyzing various cases in which microbial life appears to be 'haunted'—that is, for example, when microbial behavior becomes contingent on its non-linear history with unpredictable consequences—I explore links between scientific knowledge politics, social epistemology, and metaphysical assumptions in the practice of science.

Attention to the specificities of scientific practice cuts across some of the ethico-political dilemmas in the Anthropocene, in which discourses of human responsibilities have been viewed in opposition to the deconstruction of human exceptionalism and a celebration of the human as multispecies ecosystems. Making sense of newly affirmed phenomena such as the collective suicide of marine algae, or the circadian rhythms of cyanobacteria whose individual lives span less than 24 hours, requires new ontologies that replace the priority of being and presence with inheritance and transgenerational communications.

These new ontologies of microbial life account for how the microbes' temporal performances contribute to their existences and are best described in terms of haunting. The term "hauntology" was introduced by Jacques Derrida as a portmanteau of haunting and ontology. I argue that these "biohauntings" make explicit the contribution of scientific observation to the observed phenomenon. The point is not simply about the scientific findings themselves, but how these findings challenge both anthropocentric environmental ethics and more-than-human biopolitics, suggesting alternative conceptions of time.

To provide one example, I have explored how the discovery of apoptosis (programmed cell death) in marine microbes changes the understanding of death —death can no longer be understood as evolutionary adaptation and the limit of life, but instead must be seen as an integral part of life —and the political and ethical implication of those changes.