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Damian M. Smith
University of North Carolina

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Explaining Human Actions and Environmental Changes

ANDREW P. VAYDA

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REVIEWED BY DAMIAN M. SMITH

Andrew P. Vayda's latest work collects and critiques work from several fields of anthropology. The book provides an insightful and frank review of errors made by researchers in our search for answers to pressing environmental and social problems (i.e., land use change, environmental degradation, and warfare). Vayda's thought provoking reanalysis of his own and other leading anthropologists' earlier works better explains and refines event ecology, which he now refers to as causal explanation. Vayda argues ecological anthropology, and its many sub-fields, focused research on the wrong types of questions for far too long. As a result the past half-century of attempts made by ecological anthropologists to explain human-environmental relationships have been ineffective. At the heart of the issue is an overemphasis on trying to develop and link changes in specific ecosystems to larger global events, the development of more generalized theory, and a lack of focused research questions. This narrow focus has led the real causes of local environmental changes to be missed or misidentified.

Rather refreshingly he does not simply take to task other researchers for errors and omission; instead, he chooses to dedicate two chapters to his own work highlighting how causal explanations can help frame research questions and priorities. This gives anthropologists an opportunity to meaningfully provide governments and conservation organizations with

concrete causes and potential solutions required for making effective management decisions. Choosing to focus on the Indonesian forest fire in the late 1990s is a prime example of how causation can lead to different answers and research priorities; originally researchers concluded the Indonesian government forestry policy contributed to the widespread forest fires. Vayda highlights his and many other studies conducted after the forest fire of 1997-1998, which failed to make the critical distinction between the causes of fire starts and fire spread. While fire starts did occasionally lead to small fires, their causes were arson, swidden agriculture, and access to other resources; but these were not the type of activities causing forest fires to spread. Later analysis showed government forest policies created changes in the local microclimates and fuel loads, which predisposed the forest to rapid fire spread and did not necessarily increase the probability of fire ignition.

Earlier work assumed the causes of fire spread and ignitions to be the same thus lumping them together. However, little evidence exists to support the assumptions made by Vayda, and others at the time, to support the fire management policies and practices. This led to misdirected fire management policy efforts, like those of the US Forest Service. Vayda argues for and demonstrates that asking focused research questions based on casual explanations of events, backed up with systematically collected evidence can provide a more fine-grained analysis and a realistic picture of environmental changes.

While Vayda does an excellent job advocating for the use of causal explanation as an effective method, many times throughout the book he continues to hammer away at past themes, such as in the reexamination of Walters and Vayda, *Against Political Ecology* in Chapter 6. He critiques political ecologists for privileging certain causal explanations and refusing to acknowledge other factors may be more important or that some individuals are overly reliant on programmatic statements to make effective and grounded conclusions. While I am inclined to agree with him, some political ecologists do sacrifice

ecology for politics. I cannot say, I fully agree with his argument. Political ecology's aim, for those such as Terrance McCabe, is to explain how people are impacted by environmental change and how the prevailing political power structures affect local groups. This does not necessitate understanding or including all the biophysical interactions. Asking how something occurred can be equally important, as asking why something occurred. However, he is correct in asserting the research benefits of avoiding overly narrow and restrictive questions, which the questions in political ecology frequently are, so as to prevent the possibility of surprise.

Vayda spends a significant number of pages to take Darwinian Ecological Anthropologists (DEA) to task and ask whether the field is applicable "in interesting and important ways to explaining particular behavioral variation" (p.147) concluding the answer is no. This conclusion arises from the perception that DEA ignore the actual proximate cause in a chain of events, making unwarranted assumptions and conclusions. He believes their work on observed human behaviors reduces "Darwinian theory to Darwinian prediction[s] that Darwin never made!" (p.172). It is the act of bypassing the legitimate and reasonable causal explanation of events, in exchange for untested assumptions and generalities which limit their impact.

Vayda highlights the issue of language and vocabulary usage to describe these so-called processes or general discussions in anthropology. He argues that when "human agency is acknowledge [d] as having causal relevance" (p.195) the language used tends to obfuscate the author's meaning in regards to a process. He uses numerous quotes and excerpts to make his point, with quotes like the "unfolding of dialectical articulations (p.196)." He recognizes language used by anthropologists to describe linkages between causal events results in the reader failing to make connections in the chain of events. He asserts much benefit can be gained if anthropologists wrote in a more plainspoken style and avoided such nonsense.

I must admit as a biological ecologist, reading similar language, makes me wish anthropology in general would take his advice. However, the author at times falls into the same trap where vocabulary and style take over sections of the book leaving the reader in search of his point. The author at times acknowledges his own failing on this point, but it does not make it any less frustrating.

Ultimately, the book provides an excellent introduction to the ideas of causal explanations and event ecology. While the book is not without flaws, it forces the reader to think about how their own ideas and past assumptions and conclusions may be erroneous. The book demonstrates empirically grounded research, which eschew fads and global theories and provide real answers to pressing environmental problems. Vayda certainly wrote the book with ecological anthropologists as his primary audience, however I believe researchers and conservation practitioners working on interdisciplinary teams would benefit from reading his latest work.

Damian M. Smith, *Department of Agriculture, Plant Conservation Program, University of North Carolina*,
Damian.Smith@ncagr.gov
www.ncagr.gov/plantindustry/plant/plantconserve/
