

Book Reviews

Engel-Di Mauro, Salvatore. 2014. *Ecology, soils, and the left: an ecosocial approach*. New York, USA: Palgrave Macmillan. 232 pp. ISBN 978-1-137-35821-9; US\$100.

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Salvatore Engel-Di Mauro argues that although soils are formed and shaped by irreducibly social *and* ecological processes, scholarship consistently focuses on only one part of this dialectical relationship: soil scientists fail to recognize the political drivers of changes to soils and the practice of soil science itself. Meanwhile social scientists neglect the reality and richness of biophysical processes. Engel-Di Mauro sets for himself the ambitious task of developing a framework that is capable of comprehending soils in all their "ecosocial" complexity. His thesis is a compelling one.

The introduction to *Ecology, soils, and the left* elaborates the need for such an integrative approach by arguing for the centrality of soils, while emphasizing the inadequacy of critical and positivist approaches. Engel-Di Mauro also outlines a "general theory" of the relationship between soil degradation and the capitalist mode of production; the main argument being that "the soil-destructive tendencies of capitalist relations must not be confused for any necessarily terminal devastation because, among other reasons, soils entail far more numerous processes than social relations alone" (p.12). His emphasis (both here and throughout the text) is on the fact that capitalism does not entirely control the direction of ecological processes. Yet, while most readers of this journal will likely grant this to be true in the abstract, they may be skeptical of Engel-Di Mauro's conviction that this requires a thorough re-working of critical scholarship on soils. After all, as the author also emphasizes, the biophysical processes which constitute soils must be understood in the context of capitalism's severe limits.

The second and third chapter offer, among other things, insightful critiques of the biases and assumptions built into soil science. Written from the perspective of someone thoroughly trained in soil science, these chapters add depth to the critiques originating from political ecologists. Engel-Di Mauro emphasizes the limits imposed by a system of soil classification that originated to serve agriculture; and not just any agriculture of course, but an "industrialized, profit-oriented" system of production (p.45). Echoing the foundational work of Blaikie (1985) and other political ecologists, he also insists that notions of soil quality must be understood as historically and geographically situated: "To claim generically that soil quality is to be supportive of human habitation," as is common in the soil sciences, "is to pretend away societal difference and political questions about soil use" (p.48).

Engel-Di Mauro argues throughout the book that critical scholars have effectively ceded the study of soil to positivist scientists by offering only critique. Inspiringly, he insists that "a soil quality index or equation could be devised that accounts for context and political struggles over land use" (p.57). Despite the serious political and analytical barriers to developing such an alternative system of evaluation, Engel-Di Mauro argues that it is possible, and he initiates this task admirably. He suggests that, as a

...first approximation...one can redefine soil quality thus: The extent to which a soil, with given intrinsic properties, nonhuman organisms, and relative degree of human-induced alterations, enables the fulfillment of survival needs of every human being, understood both biophysically and socially. (p.57)

Engel-Di Mauro acknowledges the significant challenges that await those who aspire to put such an understanding into practice, yet he remains hopeful that it is possible.

The next two chapters examine soil degradation in a similar manner. Among other contributions, Engel-Di Mauro makes the important point that political ecologists have focused rather narrowly on soil erosion (or, to a lesser degree, fertility), while other forms of degradation - like soil compaction - remain under-analyzed. The final chapters offer a sweeping review of "leftist alternatives and failures" before moving on to sketch an "eco-social approach to environmental degradation". Engel-Di Mauro points out the subjective nature of the concept of "soil exhaustion" as well as the difficulty of actually proving it in current,

and especially historical, environments. He also critiques the idea of "peak soil" as a catastrophist ideology; points out the reliance of ecological Marxism on outdated notions of homeostasis and linearity; and generally challenges anthropocentrism in critical approaches to environmental degradation.

Ecology, soils, and the left is a provocative, timely, and ambitious work. Engel-Di Mauro describes the book as a provisional and initial effort, as is surely necessary for such a broad-reaching project. Hopefully readers of this journal will take up the call to return to soil, and will do so with Engel-Di Mauro's provocative work in hand. Though the institutional barriers to the kind of integrative approach that he outlines are many (training, time, funding, and more), the potential rewards are promising.

It is important to note that *Ecology, soils, and the left* is in many ways classical political ecology: it takes environmental degradation as its object of analysis and employs a critical realist epistemology. While such an approach to soil has been highly instructive, and continues to offer great promise, there remains a need to pursue other research agendas as well. Rather than focusing on the anthropogenic origins of degradation, the political ecology of soil could focus, for instance, on the role of soil science in racialized territorial violence, and if so it might find post-structural epistemologies useful. Engel-Di Mauro would probably be supportive of this, for it reinforces his broadest argument: soils are inherently social and ecological, and the field of political ecology can benefit from and contribute to integrative studies that are based on this recognition. As such, *Ecology, soils, and the left* offers important challenges to both soil scientists and political ecologists, and lays out several promising directions for future research.

References

Blaikie P.M. 1985. *The political economy of soil erosion in developing countries*. London: Longman.

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