

More than dirt: a new view of *Soil and Culture*

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Abstract

Soil and Culture [Landa and Feller (2009)] is the capstone project of the International Union of Soil Sciences' Commission on the History, Philosophy, and Sociology of Soil Science for 2006-2010. This paper will provide an overview of the book, and how it fits into strategies aimed at raising the public awareness of soils and soil science.

Key Words

Soil, culture, art, literature, philosophy, environment.

Enigma

SOIL –beneath our feet
–food and fiber
–ashes to ashes, dust to dust
–dirt

As reflected in a special issue of *Science* (2004), soil is the final frontier of environmental research. The critical role of soil in biogeochemical processes is linked to its properties and place—porous, structured, and spatially variable, it serves as a conduit, buffer, and transformer of water, solutes and gases. Yet what is complex, life-giving, and sacred to some, is ordinary, even ugly, to others. This is the enigma that is soil.

A cultural history

It has been said “scientific advances do not truly become the possession of a culture until these discoveries are expressed through that culture’s art and poetry” (Frodeman 2003). For soils, no such cultural history has been written—that was our goal in *Soil and Culture* (Landa and Feller 2009). The view of “culture” in our book is, however, more expansive, both temporally and topically, spanning to antiquity and beyond just art and poetry. As soil is a key consideration in the everyday life of many, rather than an abstract scientific concept to a few, *Soil and Culture* explores the perception of soil in ancient, traditional, and modern societies. It looks at the visual arts (painting, textiles, sculpture, architecture, film and comics), literary arts (prose, and poetry), religion, philosophy, anthropology, archaeology, stamp-design and wine production. Like soils, humans dwell in the dark, as well as the light. Thus, we have extended the reach to topics such as disease and warfare.

Soil and Culture explores high culture and popular culture—from the paintings of Hieronymus Bosch to the films of Steve McQueen. It looks at the work of ancient societies and contemporary artists. Our contributors delve into the mind of Carl Jung and the bellies of soil eaters. They examine Chinese paintings, African mud cloths, Mayan rituals, Japanese films, French comic strips, and Russian poetry. Like the biodiversity that characterizes soils, we have gathered a diverse pool of contributors—poets, studio artists, gallery owners, farmers, philosophers, historians, geographers, geologists, as well as our soil science colleagues.

Perspectives

Our profession has a big tent, and as well as our specialization, most of us have enjoyed exploring the territories within that tent that are less familiar, as well as the surrounding biological, physical and earth science-realms beyond those tent walls. With *Soil and Culture*, we are now going further from familiar grounds—not on a path of dilution, but rather one of enrichment and new perspectives—to see the realm that we study through other people's eyes. We hope that our readership will include our professional kin and neighbors in science. But we also hope to attract others beyond the neighborhood, and to further the possibilities of dialog beyond those boundaries in the future—soil scientists talking with and working with sculptors, philosophers, painters and environmental historians. The list of human endeavors touched by the soil is immense, and such non-traditional linkages would seem to be fertile grounds indeed.

Our authors delve into the complexity of physical-, chemical- and biological-processes operating in soils, and how soils touch people's lives on a variety of levels—from the intellectual, to the pragmatic, to the spiritual. As Benno Warkentin (1994) has observed: “Because of the importance of soil to life on earth, soil has been viewed subjectively as well as objectively, emotionally as well as rationally.” While scientists investigating soils can measure water infiltration pathways and rates, and use gas chromatography to investigate the release of volatile organic compounds, there is also a human component to such processes:

"To dig out the earth was to discover unusual treasures like pieces of colored glass, snail shells, and shard of pottery. To water the earth and see how it absorbs the water we provide is also a unique experience. To walk on the earth after a rainstorm is to be in touch with absolute fulfillment: the earth, satisfied, floods us with its well-being, while its many aromas saturate the air and fill us with life-creating impulses." Reinaldo Arenas (1993)

It is this interface, of soil science and the soil underfoot us all, that our authors explore in *Soil and Culture*.

Outreach

Outreach has become an increasingly important concern to scientific societies and funding agencies. For the environmental sciences, the point is succinctly put by Harrison et al. (2009): “Because of the important role science plays in peoples’ lives and the significant (and increasing) impact of humans on the environment, there is a great and growing need to improve links between scientists and society.”

Outreach from the soil science community can take many forms. The future of soil science is something we discuss a lot (*e.g.*, Hartemink 2006). Among the recent suggestions on how to better communicate our message of the importance of soils, soil stewardship, and soil science have been greater efforts at attracting liberal arts students to take soil science classes (Peterson 2008), and using the arts and humanities as bridges to greater appreciation of soil and soil processes (*e.g.*, Wessolek 2009; Sauer *et al.* 2009). In addition, a recent (U.S.) National Academy of Sciences report (Steering Committee for Frontiers in Soil Science Research, 2009) notes:

- There is a need to inspire the public about the value of soils.
- Soil science is an undervalued science and soil is an undervalued resource. It is important to raise public awareness of what we do and how soil science can resolve regional and world problems.
- Ecosystem services provided by soil include cultural aspects (aesthetic, spiritual, etc.), as well more traditionally recognized roles (providing food/fiber, water-quality regulation, nutrient cycling, etc.)

We hope that *Soil and Culture* and similar future efforts will aid in continuing efforts to encourage outreach to the broader community, and thinking about soils on various planes of abstraction.

Acknowledgements

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