

Precious dirt underfoot: A History of Soil Knowledge

Proposal for an APART scholarship of the Austrian Academy of Sciences, Vienna
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ABSTRACT

The project aims at making a contribution to an environmental history of soils.

Soils are among the most intricate ecosystems. They are the basis for human survival, sustaining plant life, on which we ultimately depend. The project deals with 'societies' memories' about soils, this project looks at knowledge production, re-production, dissemination, but also at forgetting, error, magic and re-invention. Knowledge about soils, attempts at their classification, tests to determine their quality and measures how to keep them fertile and to prevent erosion have been developed over millennia in such processes of empirical knowledge production. At present, no comprehensive work on the history of soil knowledge exists.

Soil knowledge is mainly found in agricultural textbooks, manuals and agricultural calendars, in texts by natural philosophers, theologians and, later on by biologists and natural scientists. The research will combine findings gained by analysis of texts with those from archeological and pedological research about soil fertility, erosion and degradation.

Questions of epistemology and questions of the authority of knowledge in conjunction with soils are central to the approach, which is modeled after Michel Foucault's idea of an archeology of knowledge. The project is further informed by constructivist approaches (after Heinz von Foerster) and by Bruno Latour's concept of 'circulating reference' in scientific work. The approach is interdisciplinary, drawing from the historical sciences and those natural sciences that are concerned with soils, such as Pedology, (Historical) Geography and Ecology.

Special emphasis will be put on gathering data about fertility management, rather than merely studying erosion. Information on fertility management will be collected from several case studies situated between Antiquity and about 1900. This has never been done before. By making fertility management a main topic, the proposed study will break new ground.

A first set of 14 research questions to begin with has been developed, but the main questions underlying the research are

- How did the various authors conceive of their works, e.g. as being science, as being best practice manuals, as being basically part of a moral education project, etc., and how did these concepts influence their attitudes towards their subject, soils?
- How did the knowledge systems in which soils were dealt with develop over time and place?
- In the light of modern knowledge about fertility of soils, can one distinguish between dysfunctional and functional measures, in particular with regard to their employment under different natural circumstances and estimate the amount of work needed for soil maintenance?
- How can traditional knowledge (experience based knowledge) be contextualized to enable its use in sustainability sciences?

The project builds on previous studies by the applicant and will use existing expertise.

Its main products will be:

- A monograph on the environmental history of soil knowledge
- An essay collection on world soil history, edited by John R. McNeill and the applicant
- The part on 'practice' in a monograph on 'Environmental History – Concepts, Theories, Practice'
- Scholarly articles in peer reviewed journals.
- Presentations at international conferences

The monograph on soil knowledge will be submitted as 'Habilitation' at the Faculty of Humanities and Social Sciences, Vienna University.