

Changing the Earth's (Sur-)Face. Adjusting Nature to Human Needs

Workshop at the *Interdisciplinary Centre for Science and Technology Studies, Bergische Universität Wuppertal, Germany, May 24-25, 2018*

Humans have modified nature or, put more cautiously, elements of their specific environments ever since the Neolithic Revolution. This development has often been conceived of as a dichotomy between nature and science and/or technology. However, since the 1960s concepts like Boulding's "Spaceship Earth" or more recently Crutzen's and Stoermer's idea of the "Anthropocene" have shifted attention towards a more complex understanding of the relationship between nature and science/technology. Setting aside the difficulties to even define such a term as "nature", these systematic approaches have helped to find more fine-grained forms of analysis for studying the degrees of human interferences with nature. But these methods also have their shortcomings. While they are quite useful in order to describe gradual differences between similar levels of manipulation of nature, as e.g. traditional forms of plant-breeding vs. genetic modification, they do not help to explain similarities between very different types and methods of manipulation as e.g. the application of chemical knowledge to such diverse fields as plant-breeding or industrialized farming or even the recultivation of urban waste dumps and open pit mines.

The extensive use of science and technology as a means of changing nature seems to link such varied forms of manipulation as landscape designing/gardening or plant-genetics. But, though neither a genetically manipulated plant nor a beautifully designed garden is "natural", the ways in which they have been influenced by human intervention fall into different categories. The workshop wants to encourage discussion about how we could best define and describe such categories. As a starting point we suggest to focus on the purposes that have driven humans to change their natural surroundings, laying special emphasis on the late 19th to the 20th century. How and why have nature or specific elements of nature been altered according to human needs and what levels of manipulation have been employed?

The workshop wants to address these gaps in our knowledge. We welcome all contributions that relate to the different aspects of how and why man has interfered with nature. We invite papers from all fields of history with a focus on more recent history. As an initial for discussion we suggest the following topics:

From Parks to Urban Farming: between aesthetic needs and technical solutions

Parks and gardens in particular are essential examples of nature having been modified to human needs as they are under a more immediate human influence than the environment in general. However, the purposes for designing and building gardens and parks varied and vary a lot. Examples may range from medical or botanical gardens that have been established for scientific use to representational or recreational gardens and parks to gardens that were designed for economic or social reasons. The social aspect becomes particularly evident if one considers the importance of gardens and parks in urban planning, especially after the beginning of the Industrial Revolution.

Purpose-breeding plants

Plant-breeding was always performed in order to enhance the plants' qualities, be it their beauty, size or resistance to certain diseases. The 20th century saw the advent of new technologies that enabled scientists to customize organisms in the laboratory. Methods as e.g. genetic manipulation were invented to eliminate the randomness of natural crossbreeding, not only mimicking the process of evolution, but even trying to enhance it artificially. Some of these methods have met fierce resistance by a broader public whereas others seem to have been readily accepted.

Damage (Un)done? Dealing with the aftermath of manipulation

All changes applied to nature, whether to specific plants or to whole landscapes, have usually been perceived as serving the "common good". But some trends have since been re-evaluated and as a consequence call for reversion or further human intervention, such as the impact of industrialized agricultural methods on the environment or the use of chemicals as herbicides, pesticides or fertilisers. Many of the methods that are being applied to nature today are aiming at undoing the damage caused by earlier manipulations.

The workshop is being organized at the Interdisciplinary Centre for Science and Technology Studies ([IZWT](#)) at the Bergische Universität Wuppertal. Guests are welcome, please be so kind to register in advance if you want to participate: cirkel@uni-wuppertal.de.