

DWTKS

DIALOGUE WITH THE KNOWBOTIC SOUTH

■ Orcadas (Arg)

■ Signy (UK)

Bird I. (UK)

Technotope

Recorded series of measured values represent natural conditions in the form of digitally coded data structures. For the purpose of these transformation processes, Antarctica is surveyed (in the deep sea as in the orbit, in its pack ice as in volcanic craters) by a formidable array of automatic measuring instruments which, installed and maintained by scientists, observe and record natural phenomena as an extension of perceptual organs. These measuring instruments divide the entirety of nature into processable information units. Their sensory capacities are highly specialized and focused on individual phenomena which are additionally broken down into space and time fragments to generate information output. As a result, this fractalization of nature can only take into account the technologically perceptible structures of the Antarctic reference nature.

Exterritorialized Nature

The large volumes of acquired and corrected data representing Antarctica in our data bases are freely accessible via electronic networks, even to non-scientific users. The result is a digitized telepresence of reference nature in a public data world.

Reconstructed Nature

Natural scientists transform exterritorialized nature into models, formulating functional mathematical equations to reflect system effects as they might take place in the reference nature. These models are tested by simulation. Measured digital values fill the variables in these equations and are thus reorganized in a processual context of effect. Simulation provides a means of reconstructing natural processes which, in the exemplary case of Antarctica, mainly take place on an infinitely small or infinitely large scale, in inconceivable depths and complexities. These mathematically interpreted, invisible processes can be projected into the future to generate predictions that allow to judge the effects of parameter manipulations. Nature becomes a concept.

CAN Computer Aided Nature

The current scientific dialogue relies increasingly on this reconstructed form of nature. Answers are no longer supplied by reference nature via the experiment, but by the medium, i.e. the computer. At the same time, the dialogue is popularized in the sense that it becomes generally accessible through public data networks. The circle of participants in the dialogue widens. Reconstructed nature detaches itself from its technological synthesizing process. It becomes emancipated from its reference basis and assumes the role of an autonomous partner in the dialogue, emerging as Computer Aided Nature (CAN).

The Knowbotic Dialogue

KR+cF devises a dynamic infrastructure for a Public Knowledge Space in which a dialogue about a potential nature can take place. Here knowbots, as hypothetical elements equipped with generative algorithms, incorporate scientific, economic and political forces within the Antarctic Research and expose a confrontation with the dynamic complexities of a Computer Aided Nature. The modifying operations between the visitor and the knowbots generate tensions and disruptions between the inadequacy of traditional concepts of nature in the face of technological and cultural developments on the one hand and the abstract conceivability of the Computer Aided Nature on the other. The result is a confrontation between the experiences of our historical (physical) presence in real space (nature) and the conceptual freedom prevailing in the Public Knowledge Space. In this way, knowbots become the generators of differences and gaps in virtual systems.

Chimera CAN

This chimerical nature, unlike hermetically sealed virtual worlds, owes its existence to its linked effectiveness in reality. Using actual strategies in Antarctic research as its material, KR+cF thus devises an experimental practice in between the actual, the virtual and the hypothetical qualities of a Computer Aided Nature.

Visitor-Knowbot-Antarctica

Knowbots: The energy flow in icebergs reconstructed in scientific simulations assimilated with continuously updated satellite data series provide the dynamics for the operations of the knowbots. These operations connect the information output of several international Antarctic Research projects on the Internet with its potential perceptibility and effectiveness in real space. Their paradox potential - as fictitious occupants of the Network and at the same time as functional elements with light and temperature qualities in real space - enables them to resist the partitioning of the ideological fields on the network.

Visitor: The visitor can activate, irritate or modify the manoeuvres of the knowbots in a virtual arena. Interfaces for the manipulation by the visitor: 3D-Audio orientation, head mounted display (mono-ocular), data trigger.

Sea Ice Buoy Data (field data): A data logging system within the buoys collects and averages the sensor data measuring air, ice and ocean data and transmits them to two polar-orbiting satellites (ARGOS) every 3 minutes.

Dynamics of Antarctic Sea Ice: Field Data + Model Results = Output (temperature distribution, conductive heat flux, ice growth velocity)