

Jürgen Claus: THE ARTISTIC EXPERT SYSTEM - Foundation and first steps towards a "SOLART Expert System"

It is solely the artistic phenomenon that provides us with material to find metaphors of significance within social, cultural, demographic, geopolitical and electronic changes. We cannot forego ascribing these metaphors of significance to the electronic fin de siècle. They are characterized by the fact that the artist, making use of instruments, creates open forms and symbols accessible to the general public.

In contrast to any other "maker" (for example in the fields of philosophy, economics or sociology), the artist does not work with imaginary or real material alone but with the paradigms of perception. In a way, the artist who employs electronic media in order to achieve the above-mentioned open forms and symbols puts each work to the test (of significance) as regards the nature of his/her instruments. Failure included!

This is also true for the artistic expert systems which are being planned. An expert system is founded on a basis of knowledge constituted by numbers and facts but also by relations, experiences and rules. They are stored in a data bank. Furthermore, the expert system requires transmission programs. They must render the basis of knowledge applicable to the individual case. They are a primary research objective of artificial intelligence.

To illustrate this creative expert system I would like to refer to an example from my own artistic practice. For several years I have been working on the development of solar, or rather, solar-energy sculptures. They are vertical constructions (with a height of approximately 30 meters in their final stage) with wings furnished with solar cells that follow the position of the sun by means of computer-control. They are energy banks as well as part of an energy network. They are self-sufficient receivers of light, transform light into an environmental art work and are furthermore energy reservoirs which transport energy to nearby buildings.

These sculptures are based on ecological systems, putting art back into the environment: SOLAR ART. The expert system SOLART to be developed for this purpose works as a graphic interaction system through which images, data, and graphics can be called up in real time. Here, computer programs based on symbols are employed, which are meanwhile also available for microcomputers, and even with an augmented capacity. The so-called touch-screen system is also helpful, allowing a direct call-up through touching the symbols on the screen. The knowledge base, flexible within itself, contains expert and environmental information, about solar radiation in general, about its distribution in different regions under current meteorological conditions, the consumption of energy in local and regional areas, etc.

The knowledge of such an SOLART expert system, however, includes numerous further factors related to architecture, urban planning,

material science, statics, etc. In addition, it encompasses many fields that contribute to the essential concept of light in art. Light is merely the general metaphor which is revealed as the basis for a semantic network within the system.

In this context, one should also refer to the interactive video disc that, to my conviction, represent an excellent vehicle for documenting the multi-layered art forms of our time which are related to the environment.

The SOLART Expert System is part of the preparatory work for solar-energy sculptures. In the framework of this I produced in 1988 a short digital video which I'm going to show in Locarno. The simulation, illustrated by notebook sketches, offers some headlines for a forthcoming SOLART Expert System. In addition I'm showing a second new video about the solar-energy sculptures, produced in 1987 around the MIT, Cambridge, Massachusetts.

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