“ The Systematic Garden ”

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If we think of "Mother Nature", we imagine a flowering garden rather than an electronic network. Indeed, the computer seems to be "anti-Nature". Some people presume that it destroys Nature, even culture : electronic games are driving out the art of reading, which, as we know, is formative of the intellect. Nevertheless, the computer is definitely a fruit of our culture, a fruit very characteristic of our times, of our way of thinking, and of our present day desires (even when these desires also produce considerable fears…). In this sense, the computer is more a cause of uncertainty in the cultural world, an alterer of culture.
What can be established when we examine the relations between the computer user and the image or concept of Nature ? At first, relations between Nature (organic life) and the computer are in a representative area (image of Nature), then they gradually become descriptive (simulation of physical laws) and finally, the better the computer graphic artist knows the wheels and cogs of his machine and allows himself to be pervaded by them, they become imaginary (artists who programme their own software).

Most computer-realised images of nature are representations. Many computer artists are attracted by the theme of landscape. Moon, desert, rocky landscapes, and sometimes seascapes, which are relatively easy to produce by computer means, because of their similarity to geometric models. The theme of the prehistoric or the primal jangle was a late development, i.e. one triggered by *Jurassic Park* (Spielberg, 1993).
Finally, these landscapes may also be industrial or some urban ; others, more interestingly, depict the body of the computer itself, so that it becomes an enormous, imaginary computer.
In all these areas, the camera (standpoint) works at high speed. It is therefore said that it “navigates”. Such films are often shown in specially equipped cinemas with moving seats linked to the image, so that the body of the viewer is carried along with them. It is as if the distance from body to screen is dispensed with, and the viewer is projected into the image.
The landscape, therefore, is no more than a field of movements, of hops and leaps, a stage-set where what is shown is more skilfulness, motion and speed than an actual decor. Nature in it has no soul. What the image demonstrates is actually a way of seeing, or rather, of not seeing.

These films are seldom films to watch, to reflect upon… but they present a physical shift in our intellectual order, as if in a state of suspension, bodiless, like Alice in Wonder Land when she flies over the fields more quickly than she herself can grasp (1). A movement set free from the body, the dream of every computer scientist, of every person ? When certain exceptional works do permit the perception of details, these appear cold, overloaded with reflexes, as if they were made of plastic, and the image of Nature remains but a poor parody.

But do not be deceived ! The plastic effects are not the result of an illusion, but rather of a lack of calculating ability (or tricks of avoidance). Scientific researchers often have access to better means than producers or artists. One of the scientific branches is working on the theory of fractals (2) the mathematical function of repeating structures, and this offers a remarkable representation of certain natural phenomena, including descriptive models of fire, stone, fog… and ferns ! Other mathematical equations are already applied in many industrial areas, for example in aeronautics, in order to visualise and investigate the course of liquid particles or gases around a moving body.

This area concerns simulation rather than depiction. The physical lows of Nature not only allow the reproduction of appearances, that is, of the visible surface (3), but above all, of the corresponding organisation of an element or a scene below the surface, the possible animation of which is already a firm, written component. These models are no longer merely external, in the sense of appearance, they concern structure, mode of behaviour, even growth. They are internal models (4).

This possibility of programming the external world can be extended still further. In fact, the idea of the programme does not only apply to immobile bodies; since the discovery of DNS (5), we know that a kind of programme is reproducing in our body and in every living body, a programme which is constantly necessary for the renewal of our cells ; it is possessed and transferred by our chromosomes. As a result, our image (our self) would originate in part from this programme and combination of programmes.

The concept of life, therefore, cannot be so easily separated from that of the programme of reproduction. The imagination of the computer graphic artist does not disregard this element (6).

However, this capacity to penetrate the body of an object and alter its laws is not without unexpected effects : the more complex the image is (perspective, light, textures, even transparencies.... or animations), the longer the duration of the calculation becomes. The image only becomes visible after some days of continuous calculation work (something unknown to users of graphic programmes with the mouse). So the work of the computer graphic artist is

quite clearly divided into two or three phases he conceives and programmes and the computer realises — the individual can transform expectation, impatience and stress into positive work on other programmes — and then the artist receives the image. The work does not take place in one phase, but bit by bit.

This calculation period, to which the computer artist has not access, can exasperate him, or in a mysterious way, by contrast, it may lead him to dream with the machine the numbers become unruly, gain a life of their own… they copulate… fertilise the image, which then ripens. The necessary time becomes a time of gestation.

Even more, this time demands a separation : the calculation takes place in the body of the computer, within the system, and the image appears on the surface, on the screen. Between the substratum and the flower : electrical threads, multi-coloured stem. The programme matures and produces the images in the same way as a corn buried beneath the ground. For economic reasons, of course, technological research is constantly attempting to cut down the calculation time, in order to obtain what is known as real time, the moment, that is, at which the image or the series of images directly appear. So is imaginary data processing being altered ?

But it is essential to repeat here that even though the image is finally perceived by the eye only as a surface, the process of creation about which I am talking concerns three-dimensional space. Perspective space is reconstructed, automatically recalculated, so that the appearance of the object is always the same as in reality (origin of the expression virtual reality). This isomorphism pervades the intellectual sphere of the creator, who perceives in it a counterpart to our universe. The creator works almost autonomously, not only on the surface, but above all in a parallel world where he can “artistically fertilise” his own precepts, whatever these might be. With the pretension that these equate with reality. Dreams of the demiurge ?

The work of the English artist William Latham appears a good example of these numerous overlaps, work in which geometry, programmes and the imaginary complement each other.

After initially working as a sculptor, Latham became interested in computers. He then developed his own numerical world, assisted by Stephan Todds, an IBM programmer (7).

His forms, light-coloured on a black background (no decor) are similar to the tentacles of mussels, or intestines, or animal and plant hybrids ; organic. They develop themselves, create themselves in a form of displacement - as if observed through optical apparatus - which the computer is, in a certain sense.

One of his most recent works “The Evolution of Form” begun in 1990 presents 9 figures arranged frontally in space. From this group, Latham retained only one, which in turn will

undergo a chain of transformations in order to produce 9 altered figures, 9 daughters. The artist repeats a new selection etc… and so on until…?

The interest here is in the process of evolution, in the automatic morphogenesis of which this work may be viewed as a demonstration. Latham calls himself a "creative gardener" because of the symbiosis existing between himself and the programme… which in fact could dispense with the will of the artist… Except perhaps with regard to the origin and the end… but Latham keeps very quiet on that point.

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