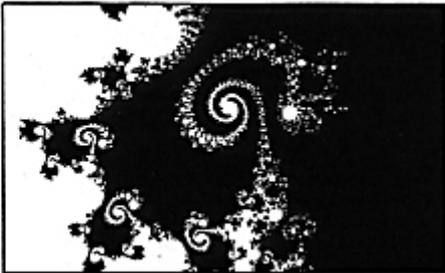
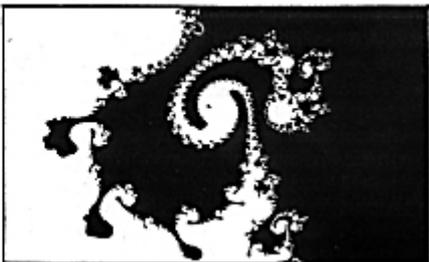
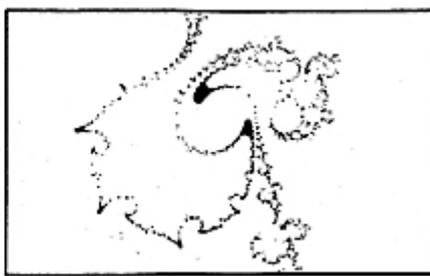
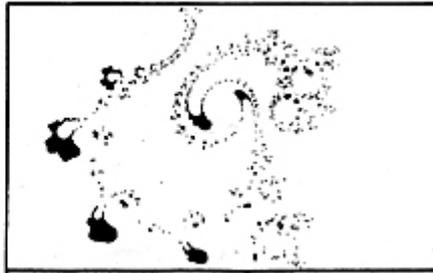
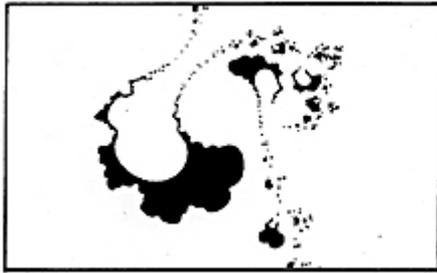


Mesias Manguashca

"A MANDELBOX"

A computer-synthesizer installation





"The ocean, the source of electrical, magnetic, and gravitative impulses seemed to use the language of mathematics; certain sequences of its discharge of power could be classified in terms of the most abstract lines of temporal analysis and set theory ..." (quot. from S. Lem SOLARIS)

In 1977 Benoit Mandelbrot published his book "The Fractal Geometry of Nature".

"In the end the word 'fractal' denoted a mode of defining, calculating, and reflecting forms that were irregular and fragmentary, fissured and fractured—from the crystalline forms of a snowflake to the discontinuous nebulae of galaxies ... and theoretical biologists started speculating that fractal scaling might not only be a singular but rather a universal phenomenon of morphogenesis." (quot. from James Gleick CHAOS-DIE ORDNUNG DES UNIVERSUMS, publ. Droemer Knauer Munich 1988)

Soon afterwards he discovered the set called after him.

"Examples like the Mandelbrot Set ... prove that simple procedures can produce an almost infinite variety and complexity. It may well be assumed that many of the complex forms and processes to be found in nature have originated in this manner." (quot. from Paul Davies PRINZIP CHAOS, publ. Bertelsmann Munich 1988) The Mandelbrot Set can be calculated by using a computer program based on a relatively simple mathematical formula. The results of the calculation are usually displayed graphically on a colour video-monitor. This is how the "fractal images" were produced that have thrilled the interested public in recent years.

If we can display a mathematical function in the form of an image, should we not also be able to display it audibly, as sound? And why not have sound and image at the same time? This

was the challenge I had in mind when composing the computer installation "A MANDELBOX" to be premiered at the Donaueschinger Musiktage in 1988.

I was, indeed, absolutely intrigued by the idea that a simple mathematical formula has the potentiality for creating a universe. I dreamed of actuating a mechanism that should not only produce an image on the basis of the formula but would also directly control all the parameters of a sound including its deepest level, the wave: "Pure nature". The technical material at my disposal did not permit this. The closest I could get was a computer synthesizer installation displaying the process of calculation visually and audibly. A program permits audience input of parameters. Within ten minutes the respective image appears accompanied by sound.

How then could I incorporate my urge to create or rather to "compose" in this work? The result is to be found in the "VIDEO MEMORIES" consisting of 17 video compositions of about 5 minutes' duration. Each composition uses a program to process the information of a fractal image that has been stored on a hard disk. The form, the operation, and the harmonics-melodics have been generated directly or indirectly by numerical information but they have been created freely. The exciting analogies of the forms of the images created by algorithm and of the forms of the micro- and above all the macrocosm stimulated me to read up on topics of the macro-world: the origin of the universe, forecasts for the future, and above all about how WE (human beings) are embedded in the existence of IT—something we probably will never grasp.

This concern with "Lightsound-macrocosm-space-time-shape" and mathematics found a "natural" counterpart in Stanislaw Lem's novel "SOLARIS". In fact, "SOLARIS" has interlocked with the "VIDEO MEMORIES" on several levels, they can be taken as a kind of exercise for a performance on the topic of "SOLARIS" that I am working on at the moment. All the texts quoted in the "VIDEO MEMORIES" are by S. Lem, mainly from his book "SOLARIS". Bernard Geyer and I have written the programs in our private studios on a Personal Computer ATARI-1040 in FORTH (version Mach 2). The entire package consists of several interlocked "libraries": Graphics, colour, midi, the spreadsheet part and compository algorithms. (The sequence ISLAND of the "VIDEO MEMORIES" was created by Bernard.)

"A MANDELBOX" was conceived as an exhibition-like installation. Meanwhile I have made a concert version of a selection of the "VIDEO MEMORIES". In Linz both versions are going to be presented: the concert is to be a kind of presentation of the installation and the installation in memory of the concert.

"Maybe these were data of the ocean's state of agitation? Perhaps these were the impulses that created giant formations somewhere thousands of miles away from the explorers? Perhaps the reflections of the eternal truths of this ocean transformed into inscrutable electronic structures? Its works of art perhaps?..." (Quot. from S. Lem SOLARIS)