“Art in its wider sense, can become the instrument of cognition only through the precise recognition of reality. In this respect, science can give instructions for the artist concerning the way of thinking when creating work of art. When the artist’s activity involves the description of the world by means of mathematics and physics, the work of art, irrespective of its message, simultaneously expresses a content that aims to decode physical or other kind of phenomena. This chain of thought manifest itself in the work of Zoltán Szegedy-Maszák, regardless of their medium, whether it is an interactive work or a camera obscura print.”

Zsolt Petrányi
(from the catalog of the exhibition „Obserwatorium”, Warsaw, Poland 1998)
Zoltán Szegedy-Maszák

early works: from painting to interactive computer-projects

Zoltán Szegedy-Maszák first graduated as a painter at the Hungarian Academy of Fine Arts. In the period of 1989-1990 he painted mainly abstract expressionist paintings, in his dark brown and black-tone compositions the figurative motifs were only starting points to gesture-experiments. At the academy Zoltán Szegedy-Maszák gradually gave up painting and started to work with technical media: photography, video and computer.

His approach to experimental photography uses the same - expressive and minimalist - language like in his paintings, but the geometrical-optical experiments and the use of computer algorithms in his early installations are pointing to the direction of the analytical interest manifested in his later works.

"Untitled" - mixed media 60x80cm, 1989

"Photogram" - object, 1990
In the period of 1990-94 he became interested in experimental photography, using his hand-made camera obscuras he created hundreds of images involving the questions of geometry and optics in a very expressive way. The pinhole camera enables the photographer to place the photosensitive material in various forms inside the black box. In Szegedy-Maszák’s photographies the results of these effects are unusual perspectives, sometimes strange, wildly expressive spectacles: sometimes the geometrically deformed, almost abstract forms are recalling the motifs of his early paintings.
Using Pinhole cameras equipped with multiple "objectives" (pinholes) he discovered the way to "capture" the whole visible environment of the "camera" creating extreme pictures of various spaces. These experiments with the geometrics of the "outside" and "inside" world of the Camera Obscura led him to extend his experiments to discover the link between photograms and images captured in the pinhole camera.

![Camera Obscura shooting, 1991](image)

After his first experiments with photograms, he decided to embed the photogram experiments to the pinhole-camera imaging: by placing identical objects inside and in front of the camera-obscura at the same time, he was able to capture the photography and the photogram of the object on the same film - this way the light source of the photogram was the picture of the object itself rendered by the pencil of light. Years later he used the collection of these experimental images as input to his research in digital imaging - he followed similar experimental/analytical approach, but in the project "Acchilleus and the Turtle" (1998) the subjects of the observation became the methods of digital transformation instead of geometrical/optical ones.

![2 objectives, 1994](image) ![4 objectives, 1994](image)
Going back to the year 1991, his interest to technical media manifested in his installations and performances: there is no doubt about that the expressionist way he pointed to the “image-destroying capability” of video was a clear continuimmet of his painting-experiments, while he turned to the “formal logic of digital imaging” in his first computer-related installations.

Sub Voce 1991, performance
After graduating at the Painting Department he continued his studies at the Intermedia Department and started to deal with computer images. His attitude of using cheap game-computers, which had to be programmed using very low level (assembly or machine code) languages, determined that his interest turned to the visualization of formal algorithms.
First Szegedy-Maszák used a computer in the installation exhibited on the show "Ostmodern" (Munich, 1991): he created a fractal-like image assembled of rectangular polaroids. He "recaptured" dots of a random graph with polaroid images picturing the wall on which the previously taken were mounted on: this way he created a "double closed circuit". All the polaroids show the previously taken ones, recalling the iterations of random-number generation of a Sinclair ZX 80 game-computer.

In the piece "Oscillation" he used the effect of a "bug" in the operating system of a Commodore plus4 game-computer. The program used a similar "closed-circuit" algorithm like the "Ostmodern"-project: the "hidden remembrance" of the computer's graphic memory drives the drawing program, while the content of the "hidden" graphic memory-segment is flashing periodically on the screen.

The capabilities of the cheap computers are limited, the only way to show the graphics or animation produced with them is to videotape them, so Szegedy-Maszák wrote short programs and scripts that he recorded on video and showed short loops on TV sets. The material of the videotape acts a significant rule in the installations: the colors of the spectacle and the looped sequences are pushing these pieces at the very border of video installations and computer graphics.
From his previous series of camera obscura pictures, he made camera obscura films, which were recorded on videotapes. Later he used these video films as a starting point for computer installations, and he turned more and more towards digital media.

“Real Time” - computeranimation, 1991
He became one of the very few artists who have the knowledge and ability to work with computers independently from technicians: usually he himself writes the programs for his projects. When he works together with computer engineers the collaboration is not the usual "artist and technician" relationship but a creative co-authoring on the border of science and art.

Using computer he has been always familiar with the idea of interactivity, so when the internet and the world wide web appeared they were obvious challenges for him. Zoltán Szegedy-Maszák started to create art works especially for the web. His first completed project was the Cryptogram, which was exhibited, many times in different versions of networked installations.


He is an associate professor at the Intermedia Department of the Academy of Fine Arts Budapest, teaching interactive computer art. He also works for Center for Culture and Communication as a program coordinator.

Ágnes Veronika-Kovács, 1998

“Real Time” - interactive installation (detail), 1991