

Attila Csáji: Laser Eye

Interactive Light Mobile Constructed in the Transit Lounge of the Ferihegy II International Airport, Budapest, Hungary, 1985

The mobile creates the experience of metamorphic shapes. It not only eases the strain of waiting but also involves the audience and the environment into the process of creation. The permanently changing forms erupt from the depth of a laser crater; their metamorphosis is connected to the departure and arrival of planes. The object is framed by a vast circular form, reminiscent of the human eye. Its centre is shaped like the cone of a volcano with a crater.

The laser show is projected from behind on a matte glass disc with a diameter of 1 meter which is placed on the bottom of the crater of the protruding form. The applied superpositional method takes the audience on a journey into depth, into the inner layers of matter as they are revealed by the laser. This method makes them experience "the hidden face of nature" (E. Kállai). The forms organically evolve from one another and change smoothly and playfully before the viewers' eyes. Unexpected metamorphosis is their element in which crystalline structure are organized into living cells and then into cosmic spaces.

This journey into depth is connected to the journeys above the surface, to the flights which arrive from and depart for all parts of the world. If a plane lands, say, from Amsterdam, there appears a tiny floating form in the centre of the concentric circles. It is a scanner form; its shape recalls a bird or an airplane. Its 'flapping wings' come closer and closer as the amplitudes grow, and when they reach the edge of the innermost circle, the vision is dispersed in a rupture. It is replaced by a pulsating circular signal, the sign of arrival.

If we step in front of the light barrier, built into the 'eye', this laser eye 'sees' us. Green leds light up, signalling that the mobile is ready to establish contact with us. If we put our hands on the sensors which are situated on the lower side of the outer circle (their form imitates hands), we can transcribe the vision by making it dissolve and change its character. We can transmit several instructions at the same time or we can watch the succession of different characters within one selected variant.

The eye-shaped frame is a paradox in itself. The glass disc is placed into the 'eye' so that it corresponds to the position of the retina in the human eye. While the retina transmits visual information from outside to the brain, here it is the laser beam from inside that creates a metamorphic process on the surface. It is also a paradoxical allusion to the early history of optics, to the Euclidean explanation of vision. Euclid thought that rays of light would leave the eye "and feel the shapes of objects... This absurd explanation has been, in fact, realized in this light mobile with the help of laser which is the protagonist of the present revolution in optics:

The laser program activates three distinct realms of forms:

1. The scanner exploits the fact that the laser produces a well-collimated beam. Changing the frequency modulates the scanners' movements and creates linear drawings of continuous lines.
2. The modelled transparent surface creates spatial webs of pure interferences.
3. The superpositional method, elaborated in experiments in my studio and the Central Research Institute for Physics of Hungary, produces light-images of the consecutive layers of the modulated material. These are called preholographical forms by physicists. (The method and the applied instrument were patent registered in 1980) The forms this method allows to produce have led to a new style which creates metamorphical changes by joining the spatial webs of interference with structural images in a controlled manner. By continuously transforming the

optical constellation and by modelling the plastical surface of the plate, specific forms or emblems can be 'drawn'. The method is also well adapted to commercial purposes.

The laser show is complemented by a continuous projection of images, polarized into different forms and colours, on the background simultaneously with the activation of the scanners.

The eye-shaped frame is made of plastic in subdued, greyish colours. The instruments - a 40 mW helium-neon laser, a super positional light mobile, scanners, polarizing projector, electrical control, a light barrier, sensors, and optical elements - are hidden in this plastic body.