Csáji Attila: Hungarian Implications of the Art of Light

Art Exhibition in the Electrotechnical Museum, Budapest, Hungary
November 10 – December 31, 2000

The art of light evolved in the last decades, and this evolution was greatly facilitated by the immense progress of the opto-electronics. I do not speak about a finished period, rather about a recent activity which point towards the future. In relation with the art of light I will primarily - but not exclusively - speak about Hungarian implications, the majority of which was exceptional on an international level.

Light is the main cause of visibility and one of the major human experiences. The source of the replenishing energy of life and one of the main base of our physical reality. The Hungarian language calls blind people "devoid of the world", and indeed sight is one of the major sources of our information, without light the majority of art would be incomprehensible, fine arts could not possibly be appreciated. Up to our century artists were more concerned with the creatures of light than with the direct manipulation of light. "Immaterial" light as a possibility for creating visible object is a concept specific of the twentieth century. This concept originated in the Bauhaus and László Moholy-Nagy played a crucial role in it's creation. He proclaimed with a prophetic intensity the future importance of the painters of light, and believed that all artist are to develop an intimate relationship with the clear shimmering of light, its specific characteristics, the interferences, the polarity of light, the specific optical apparatus, such as prisms and optical grids, lenses etc. Moholy Nagy belonged to the constructivist generation which believed in the importance of the tasks transforming the whole of the world, and considered artistic sensibility a crucial factor in this respect. "This was the time of the formal revolution, that of the jocular constructions based on forms." (Gy. Kepes) Their trust in new technology was almost baffling. The light-modulator constructed by Moholy-Nagy in the Bauhaus is like a constructivist statue, but its primary function is the transformation of light, and the creation of a light environment. This object was filmed why functioning, with the following title: "black and white and gray play of light". In the creation of the film Moholy-Nagy was aided by György Kepes carried the concept of the art of light most vigorously to the United States.

Before going on to describe the work of György Kepes I would like to speak a bit about another internationally renown contributor to technical arts, Nicholas Schöfer who was born at Kalocsa but spent many years in Paris. Schöffer was a typical example of the technical artists with a constructivist background and was convinced about the triumph of the new industrial civilization. His machine sculptures created during the fifties and the sixties are the first works of art utilizing electronics. His "saptio-dinamism" attracted significant international attention. These object moved, emitted light, were often interactive, and provided a new and unusual visual experience, broadening the aesthetic horizon. He was the most important international figure of the kinetic art, his influence reverberating throughout Europe. In Hungary in Eger a project called Kineteam (1980) was formed which continued Schöfer's work. The Members of the group were László Balogh, Károly Bodo, Lajos Dargay, Béle Tilless and Béla Szatmári. Their technical means were much more meager, but their work was and still is full of innovation. Schöfer offered some of his best works to his native town, Kalocsa. The director of the Schöfer museum in Kalocsa is Lajos Dargay a kinetic artist. In Hungary the most significant artist continuing the Schöfferian tradition is István Haraszthy. In the seventies he created very witty conceptual kinetic works such as Kalitka (Bird-cage), Anti vurlicer (Anti-turntable) etc. - in the last couple of decades he creates almost exclusively mechanical mobiles. He is most interested in the playful variations of movement and balance, the "cicada

variations'. Light kinetics is not part of his oeuvre, his early Plexiglas works (for example the Kopernikusz pillars) are only marginally related to this issue.

The other branch of the technical-art initiation is based specifically on the kinetics of light. This evolved predominantly in the USA. László Moholy-Nagy and his young co- worker György Kepes played an important role in starting this movement. György Kepes was the leader of the department of light in the New Bauhaus and later in the School of Design. Based on this work he was invited by the Massachusets Institute of Technology to Cambridge in 1945. In the fifites and sixties he creates murals with such excellent architects as Walter Gropius, Karl Koch, Pietro Beluschi, Luigi Nervi etc. He is the author of an exceptionally important essay "Light as a Creative Medium" (with Guggenheim scholarship), he is a guest professor at the Harward university, he publishes a book entitled Sight and another with the title New Landscape. In 1967 at the MIT Kepes created the Center for Advanced Visual Studies, an institute where artist, scientist and engineers can research together into the artistic possibilities of the new scientific and technical achievements. This institute, the Center for Advanced Visual Studies served as an example for the many similar institutes which were created worldwide on this basis. On of his most stunning work was created for the XIV Milano Trienale entitled "The night view of the city". Together with light artist and composer Paul Earls, he created the Garden of Flames. Here he touches on man's most ancient experience: the flame. Its free pulsating play is shaped by the music, and displays the pattern of the rhythm. Gas runs through aluminum pipes, at the end of which speakers are placed and there are modulating the flame. Later Kepes' attention turns to the complex ecological light environments. Such an environment is designed specifically for Budapest. He asks me and András Mengyán for collaboration. On the behalf of the Polaroid corporation he makes a series of polaroids. The corporation organizes a traveling show of his photos and photograms. Kepes' lectures have influenced generations: "science has discovered new sights, new tastes and structures. If one whishes to understand this new vision of the world one has to rely on one's senses and has to create to concepts necessary for its appropriation. We have to alter our vision to this." His thoughts can be paralleled with Gabo Nahum's conclusions: "If the scientific perspective fails to reach the depth of the human psyche, where the concepts created through our five senses dwell, science will not be comprehensible to all and will become a monster which would necessarily be uncontrollable and would not only destroy the scientist, but the whole of mankind as well." According to Kepes this task requires the collaboration of artists, scientists and engineers. This is the main task of the CAVS which can be considered Kepes' most important achievement, and which lead to the creation of many such institutions throughout the world. The first global meeting of such institutes the ARTTRANSITION took place in Cambridge at the MIT in 1992. "The time of the jocular formal experiments ha passed. Its time for some more fundamental faith" writes Kepes, for whom the core of the Avant-garde remains central to this day, but with a different interpretation. His relation to tradition is also much more complex, open to the new world discovered through research, but also bearing an ecological responsibility in relation with the technical civilization.

Some of the most extraordinary and internationally renown artists are cooperating with the CAVS. The presentation of their oeuvre is not my concern, but mentioning some of them is at this point inevitable. Harriet Casdin Silver is a hologram artist, who in cooperation with the exceptional physicist Steve Benton created the first transmission hologram of artistic quality, Wen Ying Tsai is a water-sculptor, Otto Piene is a light artist, creator of Sky Art, Nam June Park creates video installations, Friedrich St. Florian creates light environments, Lowry Burges was the first to gain the trust of the NASA for creating works of art. Paul Earl is one of Kepes' best friends, the key player of the Dreamstage, one of the most well known CAVS creation, and the founder of the International Kepes Society. Many artists have received degrees in the postgraduate coursed provided by the CAVS, for example the light artist John Powel, and Ese Laurema the exceptional Finnish light artist, gold medallist of the Expo in Seville, who is also a member of the Kepes Society.

The core of the International Kepes Society was formed at the Symposiums of Light organized at Eger. György Kepes has left the majority of his oeuvre to the city of Eger (he was born in Heves County). The Kepes Museum is the host of the Symposium of Light. The world around as is technicized. Our relationship to this technical civilization is ambivalent. It has simplified our life, and the prosperity it created is very attractive, but it is a self destroying force leading towards an ecological catastrophe. We must find a way out of the labyrinth of our technical civilization without becoming ludites, and slaves to irrationalism. One must not submit to technology - this would amount to suicide - we rather have to penetrate into this realm with the power of humanism, and must attempt to transform it aided by the power of an unprejudiced system of thought. This can only happen if besides rationality it is appropriated by intuition, which in turn will help in discovering and appropriating its beauty. We are often surrounded by mist, our view is sometimes hazy, but gusts of wind can easily clear our vision, and can create new perspectives, re-evaluating the previously perceived dimensions. The revolution which took place in the field of optics and electronics is such a revolution, the understanding of the importance of ecology, and the realization that on the different levels of organization of existence applying the measuring categorizing principles can not only be different, but also misleading. In the closing document of the first Symposium back in 1993 the necessity of an interdisciplinary approach was stressed. The amplification of an organic approach is necessary. A shift in the perspective is paramount. Sometimes a task can only be accomplished if one manages to withdraw itself from the particular filed - in our case that of art. This is what we do on the occasion of these symposiums.

Before embarking on the discussion of the most important medium in the filed of the art of light, that of the laser, I would like to speak about some rather different but interesting endeavors. One of this is related to the work of László Várnai. Várnai is a graphic artist utilizing light - who has been investigating into the polarity of light. For this purpose he utilized transparent material - mostly cellophane - which he cut, punctured or folded in order to produce tensions in macro-composition - and the created object is placed between two polar filters, and the position of one filter is altered. Light is separated from layer to layer, creating a constantly altered, colorful vision, fused into an amazing metamorphosis. The light source is just a slide projector. In some cases his works display the direct nature of calligraphic painting and the flawless quality of electronic programs. The polarized picture is often captured on light sensitive paper, sometimes it is displayed as a metamorphosis of the visual process. The interactive light- installation in the National Gallery consisted of eight slide projectors creating a polarized view of the micro-composition which was harmonized with István Dénes' music and the metamorphic changes.

The technical features utilized by László Lonovics were at first quite simple - but his visual creations were the more convincing. His works show lines radiating with light in rhythmical patterns, suggesting a clear ordered structure. Structure and flexibility are most important. Recently he creates computer-graphics. He utilizes the computer working in the traditional fields (painting, graphic arts). The computer is particularly well-suited for his kind of work, as he is inclined to create many variations of a single motive, and the computer is excellent in this respect, as the variations of color, form and light are practically infinite. Experimental photography is another issue. László Haris explored the microcosm of mater, and he is one of the best concept artists. Pál Gergus uses his own discovery, a 360 grade objective. Balázs Telek returned to the most ancient and simple technology of the camera obscura. Tamás Waliczki found ingenious ways for using the computer in the process of photography. This topic will be presented in detail at the conference.

In the art of light the utilization of a light source with special qualities, that of the laser is extremely important. The first steps towards this direction were taken during the seventies. The three fundamental qualities of the laser - maneuverability, great intensity and monochromatic nature (and the resulting coherence and interference capability) imply different visual possibilities. Denis Gábor was a major figure in the field of laser generated visual experiences, who invented holography, a

revolutionary new way for capturing images. Pál Gergus' thoughts about the real and unreal but visible virtual space is related to this topic. Tibor Balogh's name must also be mentioned, twenty years ago he wrote his dissertation on this topic, and later was involved in the technical aspects of holographic technology.

Three dimensional holographic image capturing relies on the interference of light and benefited greatly from the utilization of lasers. Almost a decade had to pass before holograms would be seen at art exhibitions. In Wiena in 1971 on the exhibition organized on the centenary of visual communication Margaret Benyon exhibited holograms of an artistic quality. The firs major "world" exhibition where the hologram was hailed as a new medium was organized at Frankfurt am Main on the occasion of the inauguration of The Germen Museum for Cinematic Arts. This wonderful exhibition was called Licht Blicke. The invitation was a printed hologram by Harriet Casdin Silver of the MIT, a conceptual grotesque piece. This was the first time for using the claufildian license on an invitation slip. I was the only so called "eastern European" guest, where I participated with a series of reflexion holograms entitled "Spring for Voltaire". The holograms were made at the Institute for Physics of the Technological University, with the cooperation of Zoltán Füzesi and Ferenc Gyimsei. They introduced me into the realm of the reflexion holography. The Voltaire series presents a kind of visual experience which can only be reached through holography. Beyond the fundamental magic of holography, meaning that an alternating space can be created on a plain surface, these holograms present the impossibility of sensing space. The fact that the object in front covers the object at the back is evident, yet in the third hologram this is no longer so, as the spring inside the head covers the eye, nose and mouth which should be in front of it. Thus an impossibility of perception or a miracle is created through the hologram. On this exhibition I was contacted by Harriet Casdin Silver. She suggested that I should be invited to the MIT. This happened in 1987-88 when I became a member of the CAVS. Here I investigated the visual possibilities of transmission holograms. My holograms about the calligraphy of light were made in the MIT MEDIA LAB. At the MIT and other American universities (Boston University, Union College) I lectured on the possibilities of the art of light, and specifically about the so called superposition method. I would like to finish this talk by a giving a short description of this method. We have been experimenting in this filed ever since the middle of the seventies at the KFKI. This was made possible by Norbert Kroó, the creator of the Hungarian laser research, who has been a devoted assistant in this project. In 1977 we created the FOTON-ART group. As a painter my most important task was the discovery of the cause and effect relationship in the seemingly random visual chaos created by the light waves, to create order and find the most useful patterns, the tools and possibilities for designing transformations. During the experiments I discovered new possibilities for interpretation. which led to e new method of transforming the picture. The method is based on interferences, but the novelty of the vision is achieved through super positioning, and for displaying it a coherent light is necessary. The pattern captured on an so called image-plate can be further interpreted with the use of traditional optical devices. On the resulting picture the original micro-pattern is seen together with its Fourier transformation and the related interference image. Their ratio can be altered in a continuous metamorphosis. The organic and continuous changes of the image create a transition between the perceptible world and the mathematically defined interferences of light. This process lead to an abundance of forms which can only be created with the laser. The process was patented in 1980. With this method the visual nature of thought demands that one should concentrate on the metamorphic processes, on the aspects of time and the creating of an environment through the medium of light, multimedia, and interdisciplinary knowledge.

I did not intend to paint a complete picture of the light of art, not even about its Hungarian implications. This is an ever expanding and dynamically growing field. I am aware of the subjective nature of my approach.