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NEW IDEAS IN ART AND EDUCATION

The world of today cannot be defined on the basis of concepts which belong to the past. For nearly a century the artist has been absorbed in the task of defining his place in the world in which he lives. Producing in the process the diverse manifestations of modern art. Beginning with the Impressionists, who sought to reconstruct the visible world mainly in terms of light, nearly every generation since has made its contribution to the ongoing aesthetic revolution. The Futurists were the first to leave the conventional frame of reference behind by substituting concepts of energy and motion, for subject matter which has been traditionally associated with the visual and the plastic arts. The Cubists experimented with the established modes of pictorial representation, gaining in the process a new understanding and appreciation of space. For the Constructivists space was to become the invisible clay, a new medium where the traditional figure-ground tension of pictorial space was transformed into a dynamic, non-objective, at times disoriented space containing unlimited energies of expression. In this search for a "new sense of space" the artist has succeeded in freeing the two-dimensional forms, such as drawing, painting, photography and even film from their historical function of communication on a single, linear, deterministic level. Modern art is revolutionary because it has changed man's visual habits, his mode of perception and translation. Modern art seeks to create new patterns of communication. Thus it is not possible to predict all the changes of consciousness that might be the result of its ongoing impact. A change which has been registered on the contemporary consciousness has to do with the abolishing of the traditional distinction between two and three dimensional modes. This required a re-adjustment if not termination of the concept of illusion of space.

This meant specifically the termination at the moment of experience of the automatic response, which could induce the mind to perceive or see space within the confines of the picture plane. This in turn has led to the termination of the conditioning of the individual, who judged reality on such ambiguous terms. Where the memory, the imprinted sensation of depth and dimensionality and especially the reproductibility of this memorized learning had become the task master. Where the experience itself became less and less relevant. Modern consciousness is a consciousness which expresses through new, often disturbing images the liberation of the artist from any centralized dogma. Rejecting the artificiality of the arrangement, the liberated artist seeks to create new art as an expression of the new world view. And he seeks to create new concepts, new methods, new processes and solutions which can connect reality, art, man as the creator and man as the observer into a new network of communication. The liberation of the artist from the dictates of the past has been an essential pre-requisite for the emergence of a generation of artists

who can deal with the present on this level. Born into this age, these artists have begun to perceive many, hitherto unknown connections which exist between the world which is visible to the unaided eye. And the world which lies beyond the hard surface of reality. A world which has stood untouched from the time of creation. This new generation of artists have begun to produce works which have not been known in the past. This art is scientific as well as expressive. It is scientific insofar as it is concerned with the exploration and understanding of the universe and the energies which give life to everything that is living. The concern of the artist spans an enormous reach. It can be such pure subject matter as the phenomena of light, space, movement, sound, colour on one hand. And it can deal with the impact of these forces on human behaviour, feelings, perception on basic or very complex levels. The artist has begun over the past five decades to bridge once more the gap which has separated the artist from the scientist. There can be no doubt, this change is a healthy one. And in the final analysis the modern world simply has very little need and even less room for the ultra-personal introspection of the „romantic“ artists of the nineteenth century. But there is very definitely a room for the new artist who can deal with and who can humanize the “monster” of technology. The new aesthetics that is slowly emerging must accommodate the artistic vision to very real social needs. The principles of this new social need have not yet been fully defined. But a number of parameters are becoming apparent. It is quite clear that the new aesthetics will involve as its principal goal the adjustment of the individual artist to the new reality which is evolving simultaneously. In a very real sense this means the reajustment of the mental frame of reference of the observer in relation to the work of art in relation to its surrounding, freed from any historical impediments. This is readily comprehended. It is not quite so easily translated into a work of art and the experiencing of such works. With respect to the aesthetic moment, both the creator (whose function is to initiate the creative process through the manipulation of specific images, forms, colours, movement, materials, feelings, etc.) and the observer (whose function is to complete the cycle of communication as an active force) are now placed into an altered, redefined condition involving stimulus, response and evaluation. The novelty of the condition can be measured on the new requirement for SIMULTANEOUS JUDGEMENTS, instead of SELECTIVE JUDGEMENTS. This in turn leads to the adjustment of the mechanics of perception on every level. This in turn produces as an inevitable consequence the merging of the creative act, consisting of the act of experience and the created work into a single new entity which has been called by some an environment. Roy Ascott expresses his view on this development as follows:

“We may say that the boundaries between making art, the artifact itself and the experience of the work, are no longer clearly defined. Or more precisely, that the tendency for this to be so is evident. There are still in this transitional period many artists who contrive to force the new sensibility (cybernetic vision of art) into old molds, just as in technology there are many industrialists who attempt to squeeze cybernetion into a nineteenth century structure of operations.

The participational, inclusive form of art has as its basic principle “feedback”, and it is this loop which makes the triad artist (artwork) observer an integral whole.

We can say that in the past the artist played to win, and so set conditions that he always *dominated* the play. The spectator was positioned to *lose*, in the sense that his moves were predetermined and he could form no strategy of his own.”

Historically the theatre has served as perhaps the chief laboratory for experiments involving three-dimensional space, light, colour, movement, sound and the actor. But these experiments, while environmental in a certain degree were usually undertaken in relation to the stage function as the medium of performance. The performance itself tended to be highly exclusive, in that the aesthetic experience was the point of attraction as well as the barrier against involvement. Pure experiments on a sufficient scale, ex-

cepting the Constructivists and the Bauhaus have been quite rare. The theatre is today totally unaware of the currents which have given the fine arts a great impetus forward. The theatre shows no desire for experimental work. As it is overburdened by bureaucratic structures, its greatest fear seems to be the future. Unwilling even to deal with the present it has settled to look backwards into the past. On the other hand artists, painters, sculptors and film makers have successfully re-established contact with the central ideas which emerged from the creative experiments by the Cubists, the Constructivists and the Bauhaus. The process of transformation, which is implied in Boccioni's statement about his intentions:

"... to make a synthesis from the unique forms of spatial continuity, to effect a fusion of a head and its environment, to show how objects are prolonged in space, to model light and atmosphere, to fix human form in movement"- is now finally under way. This statement is essentially synchronous with the aims of the contemporary art movements. And what is equally important, serious efforts are under way to offer support for these aims through the establishing of experimental labs. Following the leads of such men as Gyoergy Kapes, the creator of the Institute of Advanced Visual Studies at MIT, the Ontario College of Art under the leadership of Roy Ascott is establishing appropriate facilities for experimental work involving the new media in every possible combination (Canada).

During the twentieth century the modern world's fairs have become opportunity and inspiration permitting the artist to undertake projects, with sufficient funds on a sufficient scale from which it has been possible to draw certain useful conclusions concerning the more complex and sophisticated forms of expression which have become perfected over the past decade. A project which has dealt with the question of space, light, movement, sound and the application of modern technology on such a level has been the MITSUBISHI PAVILION at the Osaka World's Fair.- The Mitsubishi Pavilion contained a number of exhibits on the progress of technology and its relation to Japanese land and nature under the title: Nature of Japan and Dreams of Japanese People.

The designers of the Mitsubishi Pavilion made a conscious effort to create a programme of forms, images, sound and light, which would act upon man's five senses. The chief medium of these exhibits was space itself. With the visitor becoming a participant in the events that took place around him involving him in a spatial, perceptual and psychological sense with the programme. These exhibits were located in the CHAMBER OF STORMS and the CHAMBER OF VOLCANOES.- The Chamber of Storms expressed the violence of Japan. As the visitor passes through the exhibit space, he finds himself amidst a furious rain storm and is threatened by huge waves. In the Chamber of Volcanoes the visitor is confronted by the inferno of a volcanic explosion. While the programme content is not freed from its predictable illusionistic premises, it offers certain considerations for the greater involvement of the spectator or visitor than it is possible to obtain in a traditional theatre or motion picture performance. The experience can thus be used as a means of instructing the senses. Which hopefully will lead to the heightening of the experience of an individual in similar situation which is perhaps less structured.

The secret of the presentational technique which is being employed at the Mitsubishi Pavilion is a new seamless HORIZONTAL MIRROR SCREEN which was developed by the Toho Technical Laboratory and the Mitsubishi staff. Additionally other screens and mirrors are being utilized to cover the entire space with images which are being projected from a number of hidden positions. In effect the exhibit chambers have become transformed into seamless, three-dimensional screens with the spectator in the midst of events which are staged by the most advanced techniques.

Other experiments in real space:

By shifting the focus from two-dimensional to three-dimensional art the artist has set

for himself many new problems. Art has become play concerned with forms of artificial problem solving. In dealing with these problems it has become necessary to revise the available methods of analysis. Gabo and Moholy-Nagy were among the first to suggest the use of transparent materials for this purpose. Space which is being constructed from transparent materials can be considered as being highly analytical as it reveals to the observer a **SIMULTANEOUS PRESENCE** of all the elements needed to express a certain form, a certain structure or composition. By employing transparent materials the artist is able to discover space relationships in **INTERIOR SPACE**. He can focus at the same time on the **CONFIGURATION OF PLANS** which had to be arrived at if a certain balance between **INTERIOR SPACE** and **SURROUNDING SPACE** is to be arrived at. By introducing light as a variable, as a force, the artist can create a dynamic medium of great power. Many new materials are being produced today which lend themselves to such application. The kinetic potential of transparent media has fascinated all those who have been exposed to its presence. The ever present force of tension that exists between light and space has been beautifully expressed by **VASARELLY** in his **Yello Manifesto**: "Using the screen as a mediating metaphor between art and reality Vasarely states that **THE SCREEN IS A PLANE SURFACE; YET ALLOWS MOVEMENT; IT IS ALSO SPACE.**"

This statement conveys the essence of experiments which have been undertaken by the author involving the media of space, movement, light and colour. Taking the plane surface, the screen of Vasarely, as an element of spatial construction, the aim was to create configurations of three-dimensional space. The three-dimensional space programme of the Mitsubishi Pavilion and the author's work is set here in a contextual relationship to the ideas of Vasarely, in order to illustrate a certain currency in the contemporary idiom that deals with design in three-dimensional space.

The image space concept:

The world of today is in continuous flux. In order to express change, the artist has to search for appropriate means by which to accomplish.

The proliferation of novel techniques, novel forms of expression is in itself a quantitative indicator of the many possibilities which are open to the artist today. The Image Space experiments are in themselves the result of a proliferation of ideas and materials. The underlying concept is based on the use of a novel, highly efficient, structurally rigid architectural screen material that is available under the name of **POLACOAT SCREEN**. This screen is basically constructed from a rigid sheet of acrylic which has been treated with a diffusion layer that allows the generation of uniformly bright images across the surface of the screen. In analyzing its characteristics it suggested application beyond the predictable single function as a flat screen. Using the Polacoat screen as a mobile screen module in space, it is thought that it should be possible to create novel pictorial arrangements or structures which could be either flat, or three-dimensional or both. This concept can be readily realized by suspending individual screen modules from either vertical or horizontal tracks. A screen module can be moved in space and rearranged in space in relation to other elements of construction within the space according to a given programme. In a proscenium theatre context the Polacoat screen module could be used to replace the conventional and optically inefficient cloth cycloramas. In a pure art context the Polacoat screen is used in experimental work in two- and three-dimensional space constructions with static and moving images. The images are to be generated from film, slides, photographs, video-images, animation, computer generated images and images which are derived from electronic microscopes. A material of more recent times that is even more interesting than the Polacoat screen is the new so called **Polychroic Light Control Film**.- This material consists of a plastic sheet containing very thin opaque louvers evenly spaced. Depending on the angle of view, the density of the louvres and

the relative change in the position of the viewer, the surface of the film will be totally transparent to the eye (85 % max. transmission). While at a given point the film surface will become totally opaque. The material is highly responsive to the presence of light. It can be used as screen material for the projection of images, for sophisticated constructions involving space and light and images. A principal advantage of such a screen over standard screens is the fact that it can become transparent while an image has been projected onto it. All that is necessary is the tilting of the screen by 15—20 degrees and the screen will reveal objects or screens which have been set up behind a given surface. These screens are available in various colours and various material thicknesses. The availability of this material will make it possible to undertake experiments across the whole range of possibilities from three-dimensional to flat-pictures. Permitting experimental research involving the illusion of space, of colour and of movement. Work that could not be undertaken in the past because of the lack of proper materials. Thus by adding to the eternal presence of light sophisticated materials which can be used to modify light and perception, the modern artist is well on the way in the third quarter of the twentieth century in creating new, apparently limitless forms of expression.

¹ Roy Ascott, Behaviourist Art and The Cybernetic Vision. Published in Cybernetica Vol. IX, 1966 and Vol. X, 1967

² Frank Popper, Kinetik Art, p. 45.

³ Expo '70 Mitsubishi Pavilion, Illustrated Brochure.

⁴ Frank Popper, Kinetik Art, Graphic Society, New York, p. 98.

- Polychroic Light Control Film — Release of the 3 — M. Company, St. Paul, Minn.