THE ARTIST AND THE TECHNOLOGICAL SOCIETY.

A SURVEY OF ATTITUDES IN THE WAKE OF SCIENTIFIC AND INDUSTRIAL REVOLUTION.

BY

G. G. BAKER.
One of the most frequently repeated questions of our time is "what is art?". Since we have become conditioned to the idea that "significant art" - a much overworked modern term - belongs to the revolutionary avant-garde, artists carry their search for the "now at all costs" into the field of "non art".

Marcel Duchamp’s early anti-art jokes such as his "ready mades" came into vogue during the sixties, a proceeding observed by their original perpetrator with his characteristic irony. In one of his comments on the phenomenon he observed "In Neo-Dada they have taken my ready mades and found aesthetic beauty in them. I threw the bottle-rack and the urinal into their faces as a challenge and now they admire them for their aesthetic beauty" #1.

The selection of the objects themselves is not without significance. Early man, before giving expression to his will-to-form, selected eoliths, shaped at random by nature. Twentieth century man selects the debris of the technological society. Cesar and Chamberlain select the crushed remains of automobiles as objects scarred by man’s activity and to that extent humanistic. Spoerri enshrines the remains of meals with the aid of fibre-glass and fixes them to a wall. Warhol selects the unaltered creation of a graphic designer and, trading on his own personality cult, elevates "his" Brillo boxes and Campbell’s soup cans into collector’s items. Significant in the activities of such artists is that they select items previously created by someone else, a graphic or an industrial designer, and this is in itself an admission of the extent to which these servants of industry have shaped our environment.

Renate Poggioli sums up the modern situation in the arts as the result of the pressures of materialism and mass production upon the fine artist who, linked to a long tradition of exclusiveness and quality, finds himself swept aside by a society whose needs are catered for by the "mass" artist.

According to him "The artist was driven to turn the weapons of his antagonism and nihilism against himself, instead, as formerly, against society". #2.

This statement seems accurate with regard to the modern developments in art, the forays into non-art, the rise of pure conceptualism and attitude art. The May 1974 edition of Studio International demonstrates how effectively this type of auto-destruction has robbed contemporary art of its vitality. The cover consists of a photograph of fish. Articles on the pleasures of fishing alternate with examples of fish used in art, from early mosaics and zodiacal symbolism to the works of Klee and Latisse. These are presented alongside a modern experiment, the portable "Fish Farm survival piece No.3".

#1. Movements in Art since 1945 - Edward Lucie-Smith. (Page 11).

at the Hayward Gallery in London. The "Fish Farm" does not seem to me a revolt against society. It is in fact a capitulation to a society that has conferred on the scientist the imaginative and creative role formerly played by the artist. As a result, the artist attempts to become the scientist and copies his procedures. His studio becomes a laboratory.

Poggioli defines the role of the artist as one in revolt against society. This has become an exceedingly popular artistic concept, reinforced by the hold the mass media have on contemporary artistic thinking and also on what is presented as the "art" scene in art to-day. Thus art is popularly identified as revolutionary and is often given a political role as if this is a measure of its significance. This attitude becomes as dangerous a guide to aesthetic evaluation as was the academic conviction that the successful application of a series of rules ensured the excellence of the art so produced. On the other hand, a point frequently overlooked, the application of such academic rules did not conversely prove that a work so produced be sterile, as the most memorable works by Poussin, for example, prove. If once the revolution is over the work ceases to have any but an historical significance, it has proved itself lacking in that still indefinable quality of appeal which alone can give it greatness.

This quality is difficult to capture in the mass media particularly in the mass of books reproducing pictures and commentaries for the art market. The result has been that the most commercially successful artists to-day are those whose works are readily reproducible and lend themselves to written commentaries. In fact the art market has adopted the proven techniques of commercial marketing: novelty value plus the activity of the art critic as promoter, his comments aimed at the collector who wants to be sure of investment value - hence the over-worked word "significance". The ready assimilation of pop art and the number of books devoted to the movement and its artists is in itself significant.

Previously commercial artists borrowed from the fine arts the styles most suited to their needs; the pop artists have reversed the process. Selecting commercial art forms geared to the mass media and also a pervasive environmental influence readily recognisable by the public at large, its commercial success has been assured.

The question of what art is, and claims that the boundaries between art and non-art are successively crumbling, do not to me seem as significant as the fact that the question is asked. The function of art criticism has been in a large measure aimed at removing the obstacle of prejudice from the appreciation of art. Prejudice removed, we are still confronted by the actual aesthetic impact of the work itself, unhampered by literary associations. The work is otherwise a product of mannerism. This has become a feature of the art scene, as even "art for revolution's sake" becomes a mannerism. The instant dissemination of trends from the areas in the forefront of the art scene by means of the mass media have resulted in art exhibitions being selected on the
basis of current fashions in the art world.

Our own "Art, South Africa To-day" exhibitions have provided a good example of this. If hard edge is "in", awards and selection favour the artiste working in this technique. That an artist working in South Africa should adopt a technique fashionable in New York and London implies that we are losing our individuality - even, thanks to our selectors, our right to individuality. If it is a true reflection of our own art, then mass culture has succeeded in infiltrating society to the extent that should give rise to serious concern. The situation is as much a result of the producer-consumer society as the formerly despised commercial arts.

The retreat of the avant-garde towards its fish farms and written ephemera is counter-balanced by the expansion of the commercial arts field to the extent that "commercial artist" has been discarded as a limiting definition. In Zurich in 1964, a conference of more than three hundred graphic designers replaced the term "commercial artist" with "graphic designer" because of the wide-ranging activities of such specialists. This term accepts the fact that activities other than purely artistic creation are included, for example the use of photography, typography, environmental planning etc. There was no discussion as to the nature of art itself, the term was simply extended. Part of the reason for this may be that the graphic designer is assimilated into society and is in fact one of its most important members, so that the insecurity implied by the "what is art?" question is absent.

The artist who aspires to "fine arts" status may often seek, perhaps subconsciously, to reassure himself of his place within society. From time to time the death of art has been proclaimed, along with the death of God, morality and privacy. Such a situation arose during the Russian revolution. Kandinsky, Gabo and Pevsner, who believed in an "art for arts sake" philosophy, retreated from Russia and the new order proclaimed by Malevitch, Tatlin and Rodchenko. They considered art to have a purely utilitarian function within society. In the face of industrialization they proclaimed the death of the easel picture and the triumph of the utilitarian object. Tatlin's designs for stoves, workers' outfits and gliders replaced his previous attempts in the field of "art for arts sake". The avant-garde therefore themselves created the vacuum that was to be filled by the official socialist realism policy.

Art has flourished best where it has formed an essential part of the society it served. Modern society has developed technology capable of mimicking artistic production and has also provided a change of employment that has initially appeared to leave little scope to the artist for his traditional role of imaginative collaborator. Art has had a longstanding tradition of mysticism. Used in prehistoric and primitive societies, paintings, images and masks had been used to aid wish fulfillment. It is possible that the artist himself may have been a shaman or witch-doctor.
During Egyptian times, the life-perpetuating reliefs, paintings and statues were often executed by common craftsmen, but artists of genius emerged from time to time to create memorable works even within the limitations presented by tradition. Priestly ceremonies were needed to ensure the efficacy of the images produced. A Ka-statue, however faithful a portrait it might have been for owner number one, could be taken over by owner number two if the inscription were altered and the correct procedures followed. The written symbol came to challenge or conversely to lend significance to the artist's product. It is tempting to consider a parallel between this ancient practice and the amount of words that inevitably accompany and bolster contemporary art movements. The immortality modern literature confers is on the artist himself.

By the fifth century B.C., in Greece, art had gradually come to lose much of its traditional mystic aura, and the cult of the artistic personality entered the scene for the first time. Of particular interest is that this preceded the mannerism so often encountered in the products of the fourth century B.C. During Hellenistic times art became the mirror of society itself instead, creating the baroque, bourgeois products typical of art which reflects mass tastes.

Art was to remain useful as a propaganda tool, just as the work of the graphic designer is utilized today. Propaganda which does not have the sympathy of the artist unfortunately usually results in the lowering of quality in the work itself. During Roman times art became a combined propaganda tool and status symbol. Copies of Greek originals and the propaganda carvings of the triumphs of Roman generals became a feature of the Imperial age initiated by Augustus. This exploitation is probably responsible for the general lack of really stimulating Roman art, save where it reflected their love of nature or, in portraiture, their reverence for their ancestors.

Christianity then utilized art for propaganda purposes, but generally without damage to artistic production since the average artist was a believer in the doctrines he portrayed. His enthusiasm often led him to subconsciously heighten the emotional content of the work, producing work expressive even to the agnostic onlooker through its combination of artistic skill and sincerity. The works of El Greco, or the unknown carvers of Romanesque cathedrals display this quality. If the artist was not religious, he might revel in texture or colour for its own sake and the extent of his ability would determine the arousal of enthusiasm in the beholder.

The usefulness of art as such remained unquestioned until the nineteenth century when the increasing activity in the field of science and industry deprived the artist of much of his original function. Science stressed the importance of an objective view of the world, and in its support came the camera, the ultimate objective tool. Religious art died an aesthetic death and tends to linger on in the form of the kitsch sold in religious art shops.
Impressionism was the swansong of naturalism in art. It utilized the discoveries opened up in the field of colour by chemists such as Eugene Chevreul and also the availability of commercially produced paints which provided "commercially" brilliant colours. The informality of the snapshot led Degas, for example, to experiment with irregular composition. This art led to its own inevitable dead-end. It was also an art produced for its own sake, for the galleries and for private connoisseurs. While it retreated from public view, the creations of Cheret and Toulouse Lautrec became part of the "art for the people" scene, heralding the split between the fine and the commercial artist.

The function of high priest meanwhile passed on to the scientist and engineer. Their discoveries and machines take the place of heavenly forces in promising material prosperity or instant annihilation. Added to this is the fact that industrialization and increasing world population have created a pressure in the world's cities that makes ancient Rome look like a village. Society is faced with the same problem that the ancient Romans attempted to solve with "pamem et circenses". Looking back to Roman times, it would seem significant that, along with art, the quality of entertainment dropped to please the masses rather than the discriminating few. The "blood and guts" entertainment of the circuses is aptly paralleled by the vast majority of fare on offer in the modern cinema. That it is in perfect accord with mass tastes is seen by the record-breaking runs of cowboy epics, gang violence themes or the sugary fare for the sentimental such as "Sound of Music" and "My Fair Lady".

From the broad point of view, employment is essential for an ever accelerating world population. Vance Packard gives an interesting summary of this situation.* The re-absorption of soldiers into civic life after world war two aggravated the situation of surpluses created by the increasing mechanization of industry. As surplus leads to lowering of consumption and subsequent unemployment, people must be encouraged to consume more than they need. Fashions are changed in order to encourage turnover and planned obsolescence ensures that the consumer is obliged to replace his goods.

In the case of non-essential items, advertising must aim at the areas of least resistance, generally the least educated, immature and irresponsible who squander the greatest amount of money. This situation has been largely responsible for the kitsch and bad taste of much commercial art. As they are in the majority, and the focus of "hard sell" techniques, the effects on society are enormous. This public is given the art it can appreciate in order that it may not question the "values" propagated by it. Art, instead of increasing awareness, the role it has played in

* The Hidden Persuaders.
different forms throughout the ages, must instead conceal, or at least deflect questioning. It has moreover to flatter ignorance and pand to mass needs so that complacency is seldom shattered.

John Galbraith went as far as to lay the blame for the permissive society at the door of this kind of advertising. By extolling the virtues of youth, hedonism and materialism this advertising approach - coupled with the effects of cinema, television and popular literature ensures that the myth is maintained and that the public remain convinced that what they want (or think they want) is right. Parents out sampling the pleasures of perpetual youth leave their offspring to pursue their own paths.

Joseph Berman and Israel Gerver have further defined the problem of the mass artist as follows: he can rarely define his own problems, because they are predefined for him by the keepers of the public taste. The solutions are necessarily simple, since they cannot go beyond public knowledge. Business interests are ruthless in their reduction of art to a useful tool, its value calculated purely in accordance with the probable cash return.

A good example was provided by the experience of a student from the East London Technical College, trained as a graphic designer and employed by a large packaging concern. An artist of sensitivity and taste during his college days, his designs for a "festival package" for a bottle of Cinzano were rejected one after another until he was forced to produce a gaudy, kitsch ensemble of garish colours depicting balloons with violent highlights and a general overloading of decorative detail. The result was in appalling taste, but suited the client who presumably felt it to be the design best calculated to please the buying public. This problem disappears in the case of the more expensive and essential items such as computers or medical products, aimed at the discriminating few.

Related to the use of advertising to flatter mass taste is the use of kitsch to bolster dictatorships. Clement Greenberg defined this as the substitution of apparent concession to public needs for actual political power. The Fascists for example staged fancy dress "revivals" of ancient Roman processions and dress. This lent emotional support to their regime. #2.

John Berger defines the Soviet art policy in this respect as follows: "Art was defined in the popular mind as a social privilege because it faithfully followed in form the art of the old ruling class. Oil paintings in gilt frames, public buildings conceived as palaces, ceilings with frescoed skies painted upon them.


#2 Kitsch - Gillo Dorfles. (Page 125).

#3 Art and Revolution. (Page 61).
Public doorways with caryatids. Underground stations lit by imitation candelabra. The sense of privilege was intended to compensate for the many material sacrifices being demanded. One could say in conclusion that just as Marx had defined religion as an opiate for the masses, one can now replace the word "religion" with "art". Art has proved its value as a propaganda weapon. According to Greenberg, the main trouble with avant-garde art and literature, from the point of view of fascists and Stalinists, is not that they are too critical, but that they are too "innocent", that it is too difficult to inject effective propaganda into them, that kitsch is more pliable to this end.

I do not believe this is so much a reflection on the ability of either type of art to transmit propaganda, but that kitsch is so strong a feature of mass culture that until this level is raised, kitsch remains truly a feature of mass society, while the products of higher sensibility and taste remain basically alien to it. Therefore the problem of fine arts is that it remains a specialized product packaged for a certain type of consumer and fails to affect society to any significant degree. This seems to me to be responsible for so much of the negativism in contemporary art. Frequently artists expend effort in futile attacks on their own field. An example of the extremes to which such "confrontation" attitudes are taken, is provided by the stark, blank framed spaces produced by the American, Josephine Baer, in her "Diptych, Verticals Flanking" of 1967, and the "Badly constructed Canvas" (1967) by the Dutch Pieter Engels, which shows a collapsing frame deforming a piece of canvas, otherwise unpainted. Gilbert Lascault refers to their work as follows:

"To contemplate the frame of the picture is already to interpret it as a constraint and to contest it. Jo Baer attacks the frame; in her use of the convention can be seen her denunciation of it, for she pushes it to an absurd extreme and causes a scandal by her excessive conformity - a "virgin", or whitened, canvas is framed with finicky deliberateness; the precision reveals her hate, for it exists without content; the frames are empty, like certain social frameworks. From Jo Baer to Pieter Engels the distance is less than one image; heavy hinged frames allow the canvas to be deformed and torn; the law of the frame asserts its own inconsistencies. If the process of "art" limits itself to futile confrontation with non-essential trivialities, then it is scarcely surprising that this type of work remains alienated. It is an "attitude" which, once its novelty value has worn off, fails to retain anything of aesthetic value for its own sake. It has simply provided a starting point for Lascault to play with metaphors, that this attitude becomes a dead end is well illustrated by the fact that Marcel Duchamp abandoned art for chess.

* Art and Confrontation. (Page 64).
The increasing withdrawal of fine arts from real social involvement has resulted in commercial art expending to fill the vacuum. The Swiss have been the most active in promoting an integrated graphic and industrial design programme. The brash American billboard is outlawed in Switzerland and poster size is limited so as not to interfere with the scenery, the national tourist asset. One of the most striking features of the Swiss approach is its "coolness" or impersonality, a trait rooted in the Dessau period of the Bauhaus and originating in the Russian constructivist and De Stijl aesthetic. This "coolness" or mechanical impersonality has had its effects on fine arts movements such as op, pop, minimal sculpture and post painterly abstraction.

Consideration of the changes within the Bauhaus itself show the way in which the artist has become subservient to the machine and the machine-made product. When Gropius amalgamated the school of art and school of crafts at Weimar, his avowed aim was to train the artist in the use of machines and materials so that he would be competent to impose his will on the machine, ideally to become an artist-engineer. The tools of early man set him on the path to the conquest of nature and the assertion of his own personality. The tool remained his artefact. The rapid acceleration of modern technology has had the tendency to reduce man to the servant of the machine, which dictates the impersonality - and consequent dehumanization - of the image. The reaction of the artists has been split into two main groups, the pro-mechanistic such as Mondrian, El Lissitzky, Moholy-Nagy Vasarely, Tony Smith, Donald Judd etc, and the romantic or anti-mechanistic, best represented by the group of abstract expressionists.

In the commercial and industrial field, denial of technology becomes an impossible anachronism. William Morris attempted to recreate an anachronistic - and necessarily exclusive - arts and crafts movement. His hand operated "Kelmscott Press" utilized overcrowded woodcuts and the hard-to-read gothic texture type. The result was a grotesque parody of the illuminated manuscript, produced in limited and expensive editions. Beardsey, on the other hand, utilized the new photomechanical reproduction processes to express his own individuality. His brilliant drawings for "The Rape of the Lock" are both individual and highly suited to the line block. Beardsey's descendants have been the number of commercial artists who have exploited sophisticated reproduction techniques for the dissemination of illustrations of great sensitivity, including subtle watercolours. The flat, hard colours, currently popular in many of the fine arts fields are an anachronism. Lichtenstein and Warhol turned to the thirties to collect material from a debased form of commercial art. The brashness of Pop art during the sixties is ironically counterbalanced by the tasteful productions in the field of commercial illustration during the same period.
The Bauhaus programme was one of social reform with the aid of the machine. Gropius considered architecture to be in the foreground of the new social revolution, with painting and sculpture as components of building. His concept of architecture was in the mechanistic international style tradition. During the Weimar period the dominant personality was Johannes Itten, creator of the Vorkurs, but his cult of extreme individuality led to differences of opinion with Gropius and he left in 1923. It is of interest to note that in his book on colour Itten analyses basic colour relationships but also concedes the presence of individual preferences based on psychological differences. Kandinsky, who stayed on at the Bauhaus, was dogmatic regarding his colour theories, assigning absolute and immutable values to both colour and formal relationships. Itten's place was taken by Laslo Moholy-Nagy in 1923. This was the year that the old slogan of unity of art and handicraft was replaced by "Art and Technology, a new unity".

Moholy-Nagy was an admirer of El Lissitzky, the Russian constructivist. El Lissitzky had converted Malevich's "Suprematism" to his own theory of "proun". "Proun", which is Russian for "object", was very much in accord with the non-representative aims of De Stijl and Moholy-Nagy moved to Weimar where he became a disciple of Theo van Doesberg. Van Doesberg had established a De Stijl cell in Weimar in opposition to what he considered was the over individual and arty crafty approach of the Bauhaus at the time. His attitude to the machine was as follows:

"The machine is, par excellence, a phenomenon of spiritual discipline. Materialism as a way of life and art took handicraft as its direct psychological expression. The new spiritual artistic sensibility of the twentieth century has not only felt the beauty of the machine, but has also taken cognisance of its unlimited expressive possibilities for the arts ... under the supremacy of materialism, handicraft reduced man to the level of machines; the proper tendency for the machine (in the sense of cultural development) is as the unique medium of the very opposite, social liberation^9. Van Doesberg's naive view that the machine heralded the end of materialism, when in fact it increased its stranglehold, was perhaps conditioned by his expectation that the machine would leave man more leisure. In this spirit of optimism De Stijl set about creating the environment for the brave new world, dominated by grid layouts, primary colours and depressing uniformity. The artists imitated the machine instead of letting it create the mechanical "works of art". Hiroshi Kawano has since produced an "Artificial Mondrian" by programming a Hitac 5020 computer by means of Fortran.

* Theory and Design in the First Machine Age.
Rayner Banham. (Page 151).
The Bauhaus Bucher, in their layout and typography virtually "poster books", were largely instrumental in ensuring the spread of ideas and were either written by the Bauhaus staff themselves or by individuals whose theories accorded with their own ideology. Mondrian's theories on neo-plasticism appeared as a Bauhaus publication. Initiated by Moholy-Nagy and continued by Sayer, more and more work was done in the graphic design field. To its primary function of advertising was added a new, more subtle function of visual propaganda, the dissemination of an essentially machine based aesthetic.

Painting at the Bauhaus was an essentially private rather than school activity, despite the number of painters on the staff. Gropius' 1919 manifesto had declared that "all the arts culminate in architecture". Architecture itself was conditioned by the availability of prefabricated and therefore mass produced units. This ultimately dehumanized concept of architecture, condemned by the individualist Frank Lloyd Wright, seems to have led to the "serialisation" of humanity itself. An example of this reversal of the original Renaissance and Greek concept of man being the measure of all things, is provided by the work of Oscar Schlemmer. Appointed as "master of form" in charge of the sculpture workshop, his work in sculpture took second place to his experiments in the Bauhaus theatre. His contrived, mechanised figures in both sculpture and painting reduce the human figure to a type, programmed like mechanical dolls. The Renaissance experiments in relating the proportions of architecture to the proportions of the parts of a man's body in relation to the whole, can be contrasted with his "walking architecture" and "jointed puppet". Of the latter he said "The striving to release man from his limitations and to increase his freedom of movement beyond its natural range leads to the replacement of the human organism by the mechanical Kunstfigur: automaton and puppet. The "Kunstfigur" makes possible any movement, any position, in any time whatsoever, and it permits a device used by great artists in their heyday: a variation in the size relationship between the figures, so that important characters are large, unimportant ones small. Another significant result is the possibility of establishing a relationship between the naturally naked human being and the abstract figure, both of whom are enhanced in their essential nature".

A study of Schlemmer's stiff and depersonalized human figures seems to me to show that abstraction and architecture might well be enhanced, but that "essential nature" projected by them is mechanical, not human. A rather odd statement relating to his "walking architecture" reads as follows:

"External space - apart from gravitation - is neutral, but we perceive its dimensions indirectly, and we therefore shape our rooms as cubes".


MASS MANIPULATION THROUGH EMOTIONAL APPEAL:

(1) A parade through the streets of Rome, organized by the fascists.

FROM HUMANISM TO DEHUMANIZATION:

(2) Francesco di Giorgio: Study of proportion (1482) from his architectural treatise in which ideal proportion is taken from the human body and applied to architecture.

(3) Oscar Schlemmer: (from left to right) "Walking Architecture" and "Jointed Puppet" Man becomes a symbol.
A study of primitive dwellings, from the igloo to the native hut, strongly refutes such an assertion. Rounded and organic forms exist in nature rather than cubes, unless one takes the Egyptians, who did have a relatively cubic environment (sky above, desert cliffs on either side, fertile Nile valley below), into consideration. The psychological basis of Schlemmer's own cubic view of the world is no doubt to be ascribed to his being conditioned by contemporary architecture, which would seem to support Gropius' idea of architecture as a major conditioning factor.

The anonymity of Schlemmer's figures is not an isolated phenomenon in twentieth century art and points to increasing alienation despite increasing communication. Portraiture relies mainly on photography. Amongst the many painters who have used the human figure, there is the tendency to reduce it to a type or even a statistic reflecting the artist's state of mind. Artists like Kanoritz and Pistoletto use realistic figures, but give them the hard, unsympathetic quality of bad photographs, thereby adding nothing to the pure mechanics of seeing. All Bacon's figures are deformed, eviscerated and basically indistinguishable from each other, despite the application of different names. Gliceretti's sculptures are shattered, attenuated and withdrawn. The figures of Appel, Saura, do Kooning and even Dubuffet are expressionistic gestural shapes, rather as if the artist could experience only his own emotions in opposition to the mass of humanity by which he is confronted. Such "mass vision" is compensated for by the cult of specific personalities such as film stars, politicians and other figures projected by the mass media, providing a substitute for identification. Again this cult is reflected in art, perhaps most cynically by the serialized figures of Warhol. It seems likely, but my knowledge is not firsthand, that television has been the major means of reducing people to spectators, withdrawing into isolation from their own neighbours. The fact that even sport has become professional, reducing the vast majority to spectators, has produced the "happening" as a counter-attack, as well as accounting for the increasing importance given to serendipity. It is significant that the artists should feel themselves responsible for recognizing and attempting to reverse social tendencies toward conformity and impersonality, while not always remaining aware of their own tendencies in that direction.

The Swiss approach to graphic design, rooted in the formalism of the later Bauhaus style, has met with resistance from graphic designers who feel that their field should still express individuality without sacrificing effectiveness. Hans Neuburg defended this style to the 1954 International Council of Graphic Design Associations Congress in Zurich:

"... constructive elements have gained the upper hand, artistic intuition and fancy have given place

to a more methodical and mathematical design approach. He attacked the opponents of this view with the justification that "the work of the graphic designer is not art for arts sake!". Unfortunately, depersonalization is not a phenomenon limited to a section of the graphic design field, but has increasingly invaded the area of "art for arts sake!". Influential followers of the style, also connected with the De Stijl, include Max Bill, Richard Lohse, Josef Albers and Victor Vasarely, who trained under Moholy-Nagy in Budapest.

Moholy-Nagy, one of the most materialists of the Bauhaus staff, had experimented with programmed art, ordering pictures to be factory made according to telephoned specifications. This has become a standard practice, for example Paolozzi and Kitaj send instructions regarding their graphics to their printers.

Vasarely, who worked for a time as a graphic designer, made this kind of programmed art his vehicle for expression and moreover dogmatically asserted his approach as the true modern trend. According to him "if the art of yesterday signified 'to feel and to do' to-day it signifies 'to conceive and order to do'!". He defended this approach as follows: "the value of the prototype does not consist in the rarity of the object, but in the rarity of the quality it represents!". Computer graphics have, unfortunately for Vasarely, demonstrated that his particular 'quality' is readily programmable. An ominous note is sounded in his statement "if yesterday the durability of a work resided in the excellence of the materials, their durability and in the mastery of the hand, to-day it rests in the knowledge of a possibility for recreation, multiplication and expansion. Thus the artifact disappears with the myth of uniqueness and the diffusable work triumphs finally, thanks to end through the machine!".

No reason is given for discounting uniqueness as a "myth" but this ideology is becoming alarmingly popular, the influential Clement Greenberg being one of its converts, a point to which I shall return later.

Vasarely's graphics and multiples have readily been reabsorbed into advertising. The "op art" technique originated in commercial art. An early example is the 'Nicolas' bottling company advert designed by the brilliant French poster designer A.J. Cassandre in 1935. Cassandre, who was amongst the first to introduce synthetic cubism as a form of visual shorthand into poster design, also anticipated the exploitation of hard edge and comic strip technique. This is illustrated by his layered-style poster in strip sequence for Dubonnet. Posters have themselves had the popular appeal and wide diffusion far exceeding the claim made by Vasarely for his own impersonal graphics.

* Aldo Pellegrini - "New Tendencies in Art". (Pages 166 - 167).
KINETIC ART:

(4) Vasarely: "Metagalaxy" (1959)
This work resembles the computer programmed example below.

(5) Computer aided graphic by Zdenek Sykora.
The artist copies the pictorial concept programmed by a computer.

(6) Left to right: Otto Piene: "Light and Movement" (1966).
Julio le Parc: "Continuel mobile" (1961).
Both works utilize motorized parts and lights. Piene's work is successful as an attraction for the Womiland Department Store, Cologne.
Cassandre: Poster for 'Nicolas' (1935)
A commercial use of 'Op Art' techniques which preceded the movement.

Cassandre: Poster for 'Dubonnet' (1932)
Use of comic strip technique and Léger style figures, anticipating their popularity in Pop Art during the sixties.

In this case the use of a "commercial" sign as a nonfunctional work underlines its futility as an attempt at "art".
The poster has been a collector's item from its earliest days, Toulouse Lautrec posters being removed even before the paste had dried. However it came into its own with the "Hippie Poster", which originated in San Francisco during the 1960's. Difficult to read, 'off beat' and highly individual, their success is due to their re-affirmation of human individuality even if this involves throwing logic overboard. Above all they avoid the sterility that is a feature of Vasarely's work. Posters are now sold as graphics. For example, reproduction of a bull-fight scene by Francis Bacon was used as a poster for his exhibition in Paris in December 1971 and was also offered for sale. It is perhaps significant that his latest works have become increasingly flat, and therefore increasingly effective for this type of reproduction.

That an excessively mathematical and mechanical approach need not be the inevitable result of programming is best illustrated by architecture, a basically programmed activity. The works of Frank Lloyd Wright at their best have an individuality which stems from his consideration of each project on its own merits, in terms of site and function. He condemned the early works of Le Corbusier as "boxes on stilts", of which the 1929 Villa Savoye at Poissy is a good example. Lloyd Wright viewed the exhibition of the International Style of modern architecture in New York in 1932 with interest mingled with distaste. He had himself influenced the style to some extent, but he was violently opposed to the mechanistic bias of the new trends. His "Falling Water", the Kaufmann house built in 1936, exploited the use of bold cantilevering in ferro-concrete in order to re-echo the rocky ledges of the waterfall below. However he also incorporated natural stone into some of the surfaces of the building.

When he designed S.C. Johnson and Son administration building in Racine, Wis., (1936 - 9) he boldly included avant-garde features such as free standing mushroom columns. However he avoided strict mechanical regularity by softening the corners of the square tower of the complex into curves, and counter-balancing the glass curtain walling with brick stages. To him must be given the credit for mastering the new technical media at his disposal but never allowing them to dictate to him or to eliminate natural materials altogether. It is possible that this approach influenced Le Corbusier's change of approach during the fifties, even to the rough cast concrete finish of his Marseille's "Unite d'Habitation".

Ludwig Mies van der Rohe, last head of the Bauhaus, carried mechanization to extremes. While his Seagram building, violently attacked by Wright, is an elegant example of his fascination with steel, glass and precision, it does not seem to me to be an idea that lends itself to repetition. A city composed of endless variations on the Seagram building would be a featureless prison. Mies however did repeat his ideas endlessly.
The United States Court House and Federal Office Building, Chicago, 1964, is a grossly widened repetition of the Seagram building. Its width gives it an appearance of heaviness, counteracting the elegance of steel and glass.

Mies' approach to building is rigidly conditioned by the availability of parts provided by machine production, which dominates his buildings to an obsessive degree. Their rigidity and repetition become monotonous. The Greeks, using only three basic orders in their buildings, demonstrated how the simplicity of these basic units could yet become subtly organic and optically satisfying through the use of subtly irregular spacing and curving of horizontals and uprights. No such human touch redeem the works of Mies from mechanical rigidity. Fortunately modern architects, even his erstwhile disciple Philip Johnston, have begun to react against this formalism. Kenzo Tange has perhaps been the most successful in combining modern technical expertise with creative individuality.

Meanwhile the fine arts field appears to be undecided as to its direction. Modern sculpture has become particularly mesmerised by the machine. The sculptors whose work has been classified as 'minimal' have made a virtue out of mechanical smoothness and repetition. This tendency can be traced back to the work of the late David Smith, particularly the 'Cubi' series of his last period. Edward Lucie-Smith made the observation that Smith's works gain in impact by being seen together rather than singly. Their smooth abstract quality, with welded shapes balanced in uneasy defiance of gravitation, have an anti-personal, bland quality. Collectively they assert their alien presence more forcibly against the landscape backgrounds favoured by Smith.

Antony Caro, acclaimed as the most significant heir of Smith's anti-personal late style, used unaltered industrial products to an even greater degree. His constructions sprawl in a given space, their overt justification being that they heighten the spectator's awareness of the environment they occupy. The 'minimal' sculptors, such as Tony Smith, Robert Morris and Donald Judd carry their disengagement to the extreme of having their works factory assembled. Similar and virtually devoid of content though their work is, Judd is loud in his denial that they can be grouped together. He complained as follows. 

"Smith's statements and his work are contradictory to my own. Bob Morris' dada interests are very alien to me and there's a lot in his dogmatic articles I don't like".

# Studio International April 1969. (Page 184).

THE MECHANICAL BIAS OF MODERN SCULPTURE:


   The sculpture takes on the aspect of a functionless machine.
I find his argument for dissimilarity remarkable, for he bases it primarily on the ideas of the artists as expressed in writing, rather than on a detailed analysis of the works themselves. The tendency of Studio International to become filled with words rather than reproductions shows the extent to which theorising and conceptualising have taken the place of works of art. The March 1970 edition of Studio International contains for example two illustrations showing an exhibition of stripes by Daniel Buren at the Wide White Space Gallery in Antwerp in January 1969. Accompanying this is a five page commentary by the artist concerning his concepts, and a further page of comments by Michel Claura on Buren's text. The quality of this latter comment is well illustrated by the following pearl of wisdom (Page 104).

"Each time Buren presents his proposition afresh, it is self-contained because it is relational. The situation is specified and the proposition is enlightening for this reason. For, precisely, this proposition does not exist in itself, but is made manifest in a being ever different in relation to the sameness which causes it to be."

Harold Rosenberg summarised this tendency towards pompous verbal inflation quite neatly as follows. *

"The Art Establishment subsists on words—much more in fact than it does on pictures*.

Donald Judd's reliance on verbal differences is borne out by the comments made by Barbara Rose regarding the minimal artists. According to her *[1] to [2] Andre, Flavin, Judd, LeWitt and Morris are the most conceptually interesting. By that I mean that their artistic ideas seem strong and deep enough to live beyond individual phenomenological experience and physical objects. Their work involves ontological questioning of matter, of the relationship between ideas and physical form, of "art" as material object, space, place or concept. One must think as well as perceive to get the full effects of their work which unfolds over time in conceptual richness*. To me her use of the words "conceptually interesting" rather than, for example, "aesthetically compelling," suggests that "art" is shifting from a level on which it can affect the unbiased and sensitive viewer to providing a kind of intellectual game for initiates. To me it is significant that this swing is towards the literary, a reflection of the way in which commentators dominate the art scene. This is further borne out by Rose's evaluation of the artists as follows: that Judd's criticisms for Art Magazine between 1959 and 1965 [made] significant contributions to the language and approach of art criticism which have been only partially explored*[3] and further Flavin's metaphoric syntax and verbal precision in his various collections of 'remarks' and 'comments' have a protoan energy and multi-faceted profundity which is mind-boggling*.

* The Sociology of Art and Literature. (Page 391).
One of the said Flavin's "remarks" reads as follows: "The contents of any hardware store could supply enough exhibition material to satisfy the season's needs of the most prosperous commercial gallery." This is certainly a "Profound" remark; his own work, for example, utilizes neon lights available at the said hardware stores. These are simply arranged according to his tastes. Followers of the neon light style have attempted shaped neon lights. This seems a futile exercise in view of the fact that shaped neon lighting has been used commercially, with varying degrees of creativity, for years. A good example of this type of "development" is the reproduction of Rembrandt's signature in neon lighting by Robert Watts in 1965.

Barbara Reise continues her extollation of the written word as follows: "Is Watt's paragraphs' and 'contents' on 'conceptual art' are models of verbal economy in which meaning extends beyond the precise denotation of words and punctuation". If Is Watt's verbal achievements automatically lend significance to his work, to my mind a boringly didactic exploration of endless permutations of cubes, then one would expect that William Klein's magnificent poem "The Cigar" could elevate to great art the surprisingly feeble illustration accompanying it.

The enormous circulation of art books and periodicals are therefore encouraging a primarily literary approach. In my opinion the special quality of aesthetic awareness, which, belonging to the aesthetic experience itself, eludes literary definition, has perhaps best been summarised by Harold Cohens: " he sees a falling leaf and muses on it as a symbol of transience, meditating on the impermanence of all earthly things, the brevity of human existence etc. is not contemplating the falling leaf aesthetically ... as a symbol it loses its individuality and particularity".

There also seems to be a tendency to dogmatize, relating values to the prevailing aesthetic theories. Greenberg is prone to this authoritarian approach. Interviewed by Edward Lucie-Smith in 1963 at the height of the minimal and colourfield dominance of the contemporary scene, Greenberg attacked the individuality of established artists; "Money and mores share the capacity to impose oneself. Their work has presence - a treacherous quality because so evanescent". This is a masterpiece of dogmatism. Greenberg fails to explain why "presence", by which I assume he means personal individuality, should be classed as "evanescent". This can scarcely be altered by the passing of time, provided that the quality resides in the work itself and not in a personality cult centered round the artist. Not all works by a well-known artist may be equal in impact, though they all have market value.

* Art and the Future, D. Davis. (Page 44).
Such value would reside only in the truly effective works that authors, given the small decorative figures remarkable "presence". If Greenberg is referring to personality value implicit in "presence" becoming something of the past, the implications are that we, or future viewers, are to become less and less sensitive to personality. Such a prospect would certainly justify a William Morris type of alarm at the prospect of so anti-humanistic a society.

Greenberg then goes on to quote Colin MacInnes' text for a show of Tim Scott's work. "The trouble with Moore is that his stuff said right off that you were in the presence of a masterpiece. It's able to say that - for the time being - because it meets your expectation of what "big" modern art should look like", Scott, introduced by the "New Generation" show at the Whitechapel Art Gallery in 1965, favours slick, industrial finish and minimal content. His "Circean" (1966) approaches the streamlined logo of graphic design. Perhaps a general absence of impact or personality necessitated that Moore's art be "devalued" because it possesses such qualities. To some it seems otherwise remarkable that a catalogue about the work of one artist should be concerned with attacking another.

The point that Moore's work "meets your expectation of what big modern art should look like" takes as a matter of course that our appreciation of his work is rooted in preconceived expectations of style, apart from the obvious fact that not all of Moore's work is "big" in any case.

The twentieth century habit of writing books on still living artists, revering their most fatuous remarks with ludicrous reverence, has come into the realm of big business. Formerly the diffusible art work consisted of the graphic, properly considered a multiple of the original, though this term is more generally applied to three dimensional prints to-day. Now the revenue and consequent publicity available on an expanding market have resulted in several books being written concerning famous or popular artists during their lifetimes. The mystique traditionally accompanying the written word has conditioned largely uncritical acceptance of ill-founded claims and verbal romanticising often found in such works. In a book on Paolozzi, Frank Whitford comments as follows on a plastic model of the Hulk, a grotesque hero of American comics, given a chrome finish by Paolozzi:

"Thus the Hulk immediately becomes acceptable as a small scale heroic monument, and, with a chrome finish, the sophisticated treatment of the pose and the detailing..."

# Eduardo Paolozzi - Frank Whitford. (Page 27).
become clear .... the model figure acquires a reputable artistic tradition. The "artistic tradition" suggested by chrome is in fact more reminiscent of chromed motorcar figureheads, apart from the naive assumption that a change of medium is a guarantee of aesthetic significance.

The work of Lichtenstein shares the "pop art" facility of lending itself to verbal expression, abound as it does in clichés and metaphors. Hamilton comments on his work as follows: "When he works in three dimensions he does so only to examine the paradox of applying flat conventions on a more elaborate surface. His cups and saucers and the bust of a blonde girl are about two-dimensional language interacting with three-dimensional structures. One of his most haunting images is of a girl's head seen from the back, she holds a hand mirror reflecting her face so that the conflict between the flatness of treatment and the requirement of reading the picture in spatial layers is very disturbing."

Lichtenstein's Blonde I (1965) * a ceramic bust, fifteen inches high, has a face covered in Ben Day-type dots and added shadows, making a travesty of the 3D qualities of what is, after all, an extremely uninteresting head. Despite the interest value Hamilton claims for it on the grounds of technique, it remains banal.

To Hamilton, himself a very literary-minded artist, a visual pun becomes occluded as a value instead of a mannerism. Lichtenstein's work relies heavily on its series of "in" jokes, such as his hordedged versions of abstract expressionist brushstrokes. The incongruity of his enlarged Ben Day dots and commercial "finish" is not criticized as being untrue to the medium, a criticism justly leveled at similar travesties in other media, for example the mistaken attempts of early printed books to imitate the illuminated manuscript. The tendency to copy a machine type finish is a simple, but revealing, reversal of the same mistake.

By "revealing" I mean that whereas the copying of handcraftsmanship implies that the personal touch is valued, the copying of machine produced work in hand production implies a worship of the mechanical.

Attempts to justify Lichtenstein's plagiarism of low level comic source material, take the form of comparisons between the loosely organized source illustrations and the 'smartered up' versions by Lichtenstein. While it might prove his ability to organize a decorative area, a characteristic skill of any competent commercial artist, his lack of originality remains obvious. Characteristically such comparisons do not take into account the fact that the comic strip techniques has had its share of original creative artists, whose work fulfills its function as well.

Lichtenstein’s "Takka Takka" (1962) is here compared with the loosely organized source material.

One of the illustrations by Uderzo for "Asterix the Gladiator". This shows a strong sense of design. It also fulfills its function as part of a comic strip.
BURNE HOGARTH: Extracts from his "Tarzan" strips:

TARZAN GRIMACED AS HE SWAM THROUGH THE NOISOME ODORS RISING FROM THE SLIMY WATER AND FROM THE LOW, MARSHY BANK BEYOND. GREAT, UNBLINKING EYES HUNGRILY WATCHED THE MAN SWIMMING DIRECTLY TOWARD THEM.
Lichtenstein poses next to a poster advertising an exhibition of his work at the Pasadena Art Museum, California. His work lends itself admirably to poster reproduction as it is flat, bold and mechanical.

A letter from Jean Tinguely is reproduced by Douglas Davis in his book "Art and the Future". Perhaps this represents a subconscious desire to reproduce something, however bad, that possesses the 'personal touch'.
Burne Hogarth brought a feeling for drama (based on his admiration for Michelangelo) and a sense of decoration (inspired by Japanese woodcuts) to his "Tarzan" strips. Herge's concise cartoons for his "Tintin" series are excellent in their context, as are the Romans created by Uderzo in the Asterix books, though the colour organisation of these books lack the sensitivity of Herge's books. Besides such works, the banality of Lichtenstein's efforts seems doubly evident.

Lichtenstein's success was in fact assured by the undercover popularity of his source material. Hamilton's collage for the "This is Tomorrow" exhibition of the I.C.A. group in London at the Whitechapel Art Gallery in 1956 prophetically showed an interior with a comic strip framed and hung on the wall. The title, "Just what is it that makes to-day's homes so different, so appealing?", suggests that the collection of the worst commercial kitsch displayed in the interior was in fact representative of the folk "culture" of our time. The ready success of Lichtenstein would appear to endorse this attitude.

In an article on the "Documenta 4" exhibition in Kassel of 1968, *Robert Kudielka remarked on the difficulty of ageing gracefully* displayed by the works of artists acclaimed during the sixties, notably the pop artists. Of Lichtenstein he had this to say: "the big disappointment is the negative development of Roy Lichtenstein since 1967". However the reason given for this disappointment is not the obvious one that familiarity with a gimmick exposes the lack of underlying aesthetic value. Instead, he is attacked for forsaking his original gimmick to a certain extent: "Without seeming to arouse the impression that he has changed more than his subject - why not classicistic for a change, instead of comic strip or action painting? - he has in reality basically revised his concept. Instead of using a ready-made image in his pictures, he exploits such an image - in this case the dot grid - for the construction of a totally new and abstract work". Why this presumably promising trend should earn censure, rather than the quality or absence thereof of the works themselves, is not explained. In actual fact Lichtenstein's own creations do expose the poverty of his imagination, but this does not excuse a condemnation purely on the basis of "revised concept". Greenberg's reference to "expectations" would seem to be justified; Lichtenstein, having been neatly catalogued, is condemned for attempts to ditch his own narrow stylistic gimmicks. Thus the "packaging" of modern art is exposed.

An example of the kind of futility sometimes achieved in using a commercial idea divorced from its original function - adding nothing to fine or commercial art - is the work of Winfred Gaul. Using traffic signals as a starting
FUNCTIONAL AND NON-FUNCTIONAL DESIGN:

This work is placed in the street and resembles a street sign. The approach lacks depth as a result and is also nonfunctional.

(19) A design for a bus sign produced by Canadian designers Gottschalk and Ash, incorporating a logo designed by Ian Valentine. Space and placing are handled creatively, resulting in a simple work that also fulfills a function.
(20) Rotating illuminated sign Designed by Max B.Kampf.

(21) An example of minimal sculpture:
Carl Andre: "Cedar Piece" (1960 - 4).

(22) Paolozzi: "Osaka Steel" (1969).
This work, commissioned as an emblem for Osaka Steel, presents no stylistic break from the latest, depersonalized works of Paolozzi.
point, she created her own "signals". These she referred to as "the hieroglyphs of a new urban art" which, she claims, "unveils the beauty of the decor of their original to form a new language of a new, cool, unexplained beauty". An example is her "Drawn a Horizon" of 1966. I feel that the creation of a pseudo sign to further confuse the already overcrowded street scene is a misdirected activity.

Her interests in design should be directed at improving the street signs themselves. The Swiss, for example, have already given attention to this problem. The rotating sign by Max Kampf combines well-designed lettering with a dynamic three-dimensional arrangement of shapes that could pass as a minimal work if the sign were removed. The British work in transport graphics for airlines is another example of dynamic sign design. A good example is the flight symbol for P.A.A. designed by the Henrion Design Associates.

The collaborative role of art in the service of religion and magic has been replaced by art in the service of science. The purpose of science is demystification and a basic materialism that has robbed art of its magical aura and the right to speculation, associated with religious art. Unless the artist is himself a scientist, the result is not an ego-enhancing as he could wish. Many artists have brought a fresh, creative approach to science, with the result that some creative work does appear in the service of scientific illustration. Bedick's sensitive wood engravings to illustrate his "British Birds" is a good early example.

Elisa Pecorani's illustrations for Assenaga Medica e Culturale (1966) show the artist acting as creative intermediary between scientist and lay public, creating a dynamic graphic equivalent of virus structures.

Another remedy has been for the artist to imitate the processes of science, including conceptual phraseology borrowed — usually out of context — from scientific treatises. Barbara Reiss's reference to the minimal artists' "ontological questionings of matter" encourages the ego-enhancing image of the artist as scientist.

In contrast to the scientific illustrators, and reasonably close to the minimal artists, is the work of Hans Haacke. Like Judd, for example, he used plain geometric forms. In these he encloses various natural elements, crystals for example, and makes his work the equivalent of a picture frame for a natural activity. His "Whoresauce" (1963-5) contains water which simply condenses on the transparent interior of the cube.

* 1. Frontispiece for "Art Without Boundaries".
Elisa Patergnani, illustrations from Rassegna Medica e Culturale (1966).

The use of the airbrush enables the artist to create a 'mechanical' finish to this illustration.

Ilona Richter (Hungarian). Illustration from Fauna e Flora del Golfo di Napoli.

Medium: colour pencil and gouache.

Here elegance is combined with the rather mechanical precision necessitated by the subject.
another work "Roller" (1959) * a plexiglass disk placed on a base rolls back and forth, causing varying patterns in the water inside. This type of work takes as its model the Duchampian idea of selection. I am inclined to relate this activity to the selection of eoliths by early men. Now materials have made the trapping and enclosing of fluid feasible, but it remains to be proved whether artists will be able to transform it into a work of art. In Haacke's work it remains simply a natural phenomenon in a synthetic environment, perhaps on a par with the pressing of flowers and "creating" pictures out of their remains.

The Dutch graphic artist, M.C. Escher, concerned himself so obsessively with illusions of negative and positive, metamorphosis and relativity etc, that his works have been annexed as a visual aid to explanatory works on higher mathematics and so on. Contemplation of his work forces one to examine his concepts, rather than respond purely to visual appeal. In many, this becomes so disturbing that it interferes with aesthetic qualities. The works become thereby purely symbolic. His 19.5 x 700 cm "Metamorphose" composed of twenty nine woodcuts, completed between 1955 and 1958, is a visual puzzle with endless permutations. More pleasing aesthetically than the entire complex is the section in which a cubist town ends in a chessboard "sea". It has a visual appeal and metaphysical quality that transcends his otherwise didactic work. His "Convex and Concave" (1955) a lithograph, plays with our perception of space. So overriding is this preoccupation that the technique is stiff and the figures wooden, a fault encountered in much of his work. He himself explained the work as a game played in "mental reversal, this inward or outward turning, this inversion of a shape". On his series of "relativities" be had this to say: "Before photography was invented, perspective was always closely linked with horizon. Yet even at the time of the Renaissance it was known that not only do the horizontal lines of a building meet at a point on the horizon (the famous "vanishing point") but also the vertical lines meet downwards at the zenith ... But now that photography is part of our everyday lives, we really have to understand vertical perspective ... in the following prints the vanishing point has several different functions at one and the same time. Sometimes it is situated on the horizon, the nadir and the zenith all at once". *

This fascination with theory is not a characteristic of Escher's work alone. In the lithograph called "Melvaders" a figure sits holding an open framework cube which is reminiscent of Sol le Witt's endless exercises on cubes. The difference is that, being represented two dimensionally, Escher hints at an impossible third dimension. Edward Lucie-Smith described

* Art and the Future by Douglas Davis. (Page 95).
M. Escher: "Relativity" (1953)
The purpose of this lithograph is to illustrate three forces working perpendicularly to each other.

This creates a visual puzzle based on perception of volumes.
(27) M. Escher: "Belvedere" (1958) lithograph.

(28) Sol le Witt: Sculpture series 'A'. Installation view of this 'minimal' work at the Dwan Gallery.
described an exhibition of cubes by Le Witt as follows: "The cubes were boxes of standard size. Some were closed, some open on one side only, some open on two facing sides. These were piled together in groups of three. The cubes were regularly aligned in their stacks, and the stacks regularly aligned with one another. Each of the eight rows set out the possible solutions in a fixed order of permutation, beginning with a row which established all the possible permutations when each stack contained only one example of each of the three kinds of cubes." To the mathematically minded, the above description is no doubt fascinating, but from the aesthetic point of view it avoids evaluation of the ensemble as a work of art. This idea of units is carried to the point of absurdity in the shaped canvases of Richard Smith entitled "A whole year, a half and a day" of 1956. The series is described as acrylic on canvas, and its dimensions carefully recorded: 61 x 61 x 21 inches. The obsession with precise measurement, a probable influence from the exactitude of scientific research, is a feature of descriptions of such works.

I include a quotation from a commentary by Sol Le Witt on Ruth Vollmer's mathematical forms, exhibited as sculptural solids, seen in the new plexiglass medium. *

"These pieces are not sculpture; they are ideas made into solid forms. The ideas are illustrations of geometrical formulas; they are founded on ideas, not invented and not changed.

"The pieces are not about mathematics, they are about art. Geometry is used as a beginning just as a nineteenth century artist might have used landscape. The geometry is only a mental fact.

"There is a single and single idea for each form; there is a single idea for each form; there is a single and basic material of which the piece is constructed.

"The material used has physical properties that are evident, and useful to the form. The pieces have a size small enough to mitigate any expressiveness. They are not gross and pompous. They are of the necessary size, neither large nor small; the form is in harmony with the idea.

"The scale is perfect.

"They are works of quality and excellence."

* Movements in Art since 1945. - E. Lucie-Smith. (Pages 244-245)
Le Witt's incantatory style - relying on dogmatic statement of "facts" rather than reasoned arguments - is to me a perfect example of the artist as high priest expressing the tenets of a "scientific" religion.

The activities of Walter de Maria seem to attempt to recreate the ancient connection between art and ritual. That there is a connection in the public mind seems evident as his work is reported as an art activity. The digging of trenches in the desert - sponsored but uncollectable - was recorded as a ritual act by means of the camera, a device upon which many 'conceptualists' place much reliance, for, though the avowed aim is to break free of the commercial dealer-collector set up, such artists seem reluctant to forego publicity as well. In 1968 he filled a Munich gallery with dirt, carefully recorded as '50 M3 (1600 cubic feet) level dirt'. Thus gallery goers were forced to make their way through the loose soil. Nothing was for sale, only an experience was offered. The nature of this experience may perhaps be seen as a reaction against the mechanized sterility of our modern environment, and existed for a limited period in time as a "ritual happening".

Judged on appearance alone - and here one is dependent on photographs rather than the physical presence that is intended to be all-important, a feeling of "magic" is created by one of the few minimal works with recognisable impact: Tony Smith's "Wandering Rocks" (1967). Geometric in form and possessing the sleekness of industrial products, they appear to be in the process of gliding menacingly across the floor. An aura of the primitive fear of spirits resident in inanimate objects is, I feel, convincingly evoked by the artist. However this is necessarily achieved by the anonymity which is essential to the effectiveness of ritual objects. One might cite the builders of pyramids or of cromlechs as the first 'minimal' artists.

The desire of the fine artist to feel reassured of his place within the social framework is perhaps best illustrated by the stated purpose behind Experiments in Art and Technology. An extremely poorly designed E.A.T. letterhead heralds the following proclamation, issued on the 1st June, 1967:

"The purpose of Experiments in Art and Technology, Inc, is to catalyze the inevitable active involvement of industry, technology and the arts". (In view of the longstanding activities of Graphic and Industrial designers, this statement seems surprising).

Stating that E.A.T's purpose is to provide a forum for experiment and for collaboration between artist and engineer, E.A.T. claims that "Engineers who have become involved with artist's projects have perceived how the artist's insight can influence his direction and give scale
(29) Tony Smith: "Wandering Rocks" (1967).

(30) Schöffer's plan for the future, his "Cybernetic City" (1966).
to his work. The artist in turn desires to create within the technological world in order to satisfy the traditional involvement of the artist with the relevant forces shaping society".

This idea harks back to Gropius and recalls the dangers inherent in such an attitude. To provide a forum for experiment is an excellent idea, for there is no doubt that the artists' media are expanding. If the artist is capable of manipulating the mechanical means at his disposal without losing his individuality - or essential sunshine - there is no cause for alarm. Unfortunately arts and critics working with or fascinated by new media, tend to discard as obsolete the traditional media and the resultant dogmatism of the avant-garde becomes as restrictive as romantic nostalgia.

Much of the work in new media adopts a kind of fun-fair approach. Flashing lights, movement and total environments, including the "magic" of holographic images (e.g., 1's nyler mirror with laser light for the Pepsi-Cola pavilion, at Osaka in 1970 for example), involve the spectator spontaneously. Against such competition, the salon picture and ordinary sculpture appear drab and static to a public which is in any case conditioned by years of cinema and television. Despite the much vaunted "public involvement", the new aesthetic seems geared to ultimate desensitisation. Science fiction authors seem on the whole to be more sensitive than artists to the dangers of such a trend. Ray Bradbury's "Fahrenheit 451" presents a horrifying picture of a public desensitized by television and comic strips. Statements by artists and critics that easel pictures are obsolete come alarmingly close to the picture of consensuous of intelligent literature presented by Bradbury, himself anti-machine in outlook.

Schöffer, whose spatio-dynamic towers have become most popular with the general public, has planned a hypothetical "cybernatic city". This city is intended to be "chromodynamic" i.e., it alters patterns of sound and light according to the stimuli transmitted by human activity. Part of the complex includes a "recreation centre" in which the worker can relax in a planned environment. His huge "Centre of Sexual pleasures" is planned in the shape of a swollen breast, (whether he has alternative accommodation in view for female leisure seekers is not stated). Schöffer envisages workers being exposed to pleasure stimuli before returning to their tasks. No allowance seems to be made for individual preferences, again a depressing feature of the modern tendency to "type cast" humanity. To me this idea is not only distasteful, purely because it becomes programmed and therefore dictated, but also alarming, for it carries with itself the forms of mass manipulation. Within so carefully controlled an environment this becomes an easy matter. Such planning exposes a tendency to think of human beings as statistics.
Counterbalancing such over optimistic programming for the future is the negativism and disposability of many modern artistic activities. Christo wraps up everything from coastlines to shop-fronts. Robert Morris offers an sculpture heaps of dirt. Richard Long created a "sculpture" by removing daily beads in the form of a cross in England in 1968. Yves Klein held an exhibition of capes in the Iris Clert gallery in 1959. Iain Baxter, a Canadian North American, set up a company during the mid-sixties called the N.W. Thing Co. Apart from such activities as collecting discarded plastics, the company takes it upon itself to issue "certificates of merit". Most significant is the use of symbolism; the award of an ACT certificate means that the said company considers the work to be an "Aesthetically Claimed Thing". An ACT certificate confers the status of "Aesthetically Claimed Thing" on anything considered to have satisfied "The stringent requirements of Sensitivity Information". An object which "qualified" for an ACT certificate was the Acme glacier, Goldtown, N.W.T. Canada. One hopes that God was suitably gratified.

Amongst the pressures responsible for such attitudes, there seems little doubt that the possibility of instant annihilation through nuclear warfare is a contributing factor. The fate of Hiroshima and Nagasaki is a grim reminder of the powers which can be unleashed; a passing of the initiative for unleashing Armageddon from heavenly to human agency. Creating enduring works may therefore be viewed by some artists as a waste of time.

Overemphasis on the importance of change, coupled with the wealth of new media now available, has made technical novelty appear as a desirable end rather than a tool that might possibly be used as a means of creating something of lasting value. The technique, often imperfectly understood, becomes an end in itself.

The type of romantic enthusiasm for the machine that was first displayed by the futurists has reached the stage where value is attached to the impersonality of machine finish. Artists have expended enormous effort in an attempt to make their work as "machine-finished" as possible. Bridget Riley's "Move Crust", for example, has been reproduced easily by computer. Warhol's use of endless repetition, a feature of mechanical activity, is also seen even in the recent work of the Australian Sidney Nolan. He exhibited his "The Snake" at the S.T.C. Television centre in London at the end of 1972. This consisted of 1654 separate paintings with identical motifs, only the colouring is changed, creating the illusion of a giant snake undulating across the surface. Such a work seems to be produced purely for a museum or gallery as it is in any case too large for private collection.

COMPARISONS BETWEEN COMPUTER ART AND ART IN A PREDOMINATELY MECHANICAL STYLE.

(31) "Wave Form". Computer Graphic by A. Michael Noll, (1965).


(33) Dutch stamps, programmed by computer.

(34) M. Escher: 3 spheres, wood engraving (1945).
EXAMPLES OF THE MECHANICAL APPROACH.

(35). Paolozzi - Graphic from the series "Zero Energy Experimental Pile" entitled: "Will the Future Ruler of the Earth come from the ranks of the insects?" (1970). Offset lithograph and screenprint. This work, which uses kitsch and diagram source material, was not printed by the artist, but by the Petersburg Press in London.

(36) J. Albers: "Incorrectly Rolled" painting on glass (1951).
The popular conception of art is heavily dependant on official art histories, package tours round museums and art galleries which leave viewers little time to decide for themselves or to see works traditionally overlooked, and most of all the contemporary scene as promoted in current exhibitions and art periodicals. Many artists now overlooked will survive the test of time on the basis of the enduring quality of their work. As the current use of ultra-modern techniques will have lost their novelty value by the twenty-first century, only the truly creative work will remain. In the same way artists imitating the commercial arts are less likely to be remembered than the most creative of the commercial artists. Their work, created first-hand to serve a specific purpose, often escapes the membanism of their initiators. In a result, truly creative commercial work should survive its function, just as art in the service of primitive beliefs has done.

Artists feeling uneasy regarding the "usefulness" of their work would be serving society better by working towards the improvement of commercial work.

In my opinion, the many pressures exerted by our technology orientated society favor conformism. The machine and the mechanical pose a threat when they and not individual creative personality, are upheld as the sole good. The stubborn individuality of a creative personality like Lloyd Wright, even in the face of avant-garde conformism, is our best insurance against mass conditioning.
BIBLIOGRAPHY


Art and the Future - J. Davis.

Posters - Attilio Rossi.

Kitsch - Gille Dorfles.

Science and Technology in Art To-Day - J. Ventrell.

Le Corbusier - Carlo Crosti.

The Sociology of Art and Literature - edited by Albrecht, Furmet and Griff.

Art and Confrontation, translated by M. Foxell.

Modern Graphics - E. Haugatroyd.

Painters of the Bauhaus - E. Roters.

The Art of Appreciation - M. Gurnean.

New Tendencies in Art - Aldo Pellegrini.

The Scientist - Time-Life Books.

Art and Revolution - J. Berger.

The Hidden Persuaders - Vance Packard.


Art and Anarchy - Z. Mind.

Theory and Design in the First Machine Age - A. Banham.

Bibliography – continued:

<table>
<thead>
<tr>
<th>Title</th>
<th>Author, Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Russian Experiment in Art</td>
<td>C. Gray, (Thames and Hudson)</td>
</tr>
<tr>
<td>Movements in Art since 1945</td>
<td>E. Lucie-Smith (Thames and Hudson)</td>
</tr>
<tr>
<td>Eduardo Paolozzi</td>
<td>F. Whitford, (Tate Gallery)</td>
</tr>
<tr>
<td>Richard Hamilton</td>
<td>R. Norfleet, (Tate Gallery)</td>
</tr>
<tr>
<td>The Graphic Work of M.C. Escher, translated from the original commentary by</td>
<td>J. Brighan, (Pan/Tallentine)</td>
</tr>
<tr>
<td>A History of Modern Art</td>
<td>H.H. Arnason (Thames and Hudson)</td>
</tr>
<tr>
<td>Eduardo Paolozzi</td>
<td>Diane Kirkpatrick (Studio Vista)</td>
</tr>
<tr>
<td>Modern Buildings</td>
<td>John Winter (Marilyn)</td>
</tr>
<tr>
<td>World Architecture</td>
<td>Brainin Copplestone (Marilyn)</td>
</tr>
</tbody>
</table>

Graphis 153
Graphis 165
Graphis 157
Graphis 163

Art and Artists – August 1974.

<table>
<thead>
<tr>
<th>Studio International</th>
<th>Issue Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>April 1965</td>
</tr>
<tr>
<td></td>
<td>January 1966</td>
</tr>
<tr>
<td></td>
<td>September 1966</td>
</tr>
<tr>
<td></td>
<td>April 1969</td>
</tr>
<tr>
<td></td>
<td>March 1970</td>
</tr>
<tr>
<td></td>
<td>April 1970</td>
</tr>
<tr>
<td></td>
<td>October 1970</td>
</tr>
<tr>
<td></td>
<td>December 1970</td>
</tr>
<tr>
<td></td>
<td>May 1974</td>
</tr>
</tbody>
</table>