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THE NATIONAL COLLEGE OF ART AND DESIGN

ASPECTS OF SYSTEMS ART

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CHAPTER ONE

AN INTRODUCTION TO SYSTEMS ART

"The impulse to order underlies most artistic creations" Sol Lewitt.

Common to a lot of art after abstract expressionism was the idea of order. The sort of 'anything goes' attitude which had prevailed was to chaotic. No boundaries, no limitations or structure led towards ambiguity as to what art was. Artists tried to re-define art and out of chaos chose its opposite, order. Lawrence Alloway in his essays tries to formulate an idea of arbitrary order. (1). Order as a human proposal, as a set of rules laid down by the artist. "The status of order as human proposals rather than as a echo of fundamental principles is part of the legacy of 1903-15 generation"(2). They placed emphasis on the idea of the artist as a human being at work. This lessened the prestige of art as a mirror of the absolute. Thus the personal decisions of the artists without external sanction are taken as the source of order rather than assuming that the order in a work of art is a symbol of a larger more universal order. This is then, to view order as a set of human decisions without the outside support of absolute beliefs.

"..... Whether the unit of work to be examined is an individual painting or an artists development, the formality discernable is evidence of humanity rather than detachment, of autobiography rather than impersonality." (3).

I use this emphasis on order because it is a key factor in the work I wish to deal with, Systems Art. It became apparent to american artists that an alternative to abstract expressionism must be persued. Abstract Expressionism had enjoyed the limelight for long enough, but for many this new art (systemic painting), lacking in obvious emotion, artists interference and autobiographical gestural marks, seemed very cold and aloof. Even though this american systemic painting may have grown as an alternative or rejection of abstract expressionism I think that, nonetheless, Earlier Geometric art had laid some groundwork. For these reasons I think it important to discuss here, however briefly, these traditions. This earlier geometric art was mostly a product of Europe and many Americans wish to deny this European influence, and many do. But in reference to a particular group of English artists most would claim to be working within a constructivist tradition and acknowledge its influence on their work. Realizing that terms such as constructivism are used so loosely and cover such a lot of ground it would be impossible for me to deal with it all here. I therefore propose to deal with history in a very general way. I do this not in an effort to push it aside but rather to acknowledge the influence of ideas. To try to understand how one idea can divide and multiply and so inform a wide range of different forms of art.

I feel it necessary to make it clear here that I wish to set up a situation within which a fair or more knowledgeable evaluation of systems art may be made. By setting up a situation I mean, where all things which may have had

some influence should be at least mentioned. I feel that these should be taken into consideration and dealt with before and proper evaluation of systems art should or could be made, as to what it is or is not. I propose to deal very generally with these topics and related points in this and the next section.

The use of the term system in reference to art is frequent. All art adheres to some form of system either one which has been instigated by the artist or one which has already been laid down, no longer questioned and has become an acceptable device within the conventions of art. There are systems or parts of systems previously devised which the artist may not be totally aware of using. But employing a system and exploring a system are two different things. Employing a system is using it as a support structure for something else, or as a method or way of working. Whereas exploring a system is to endeavour to reveal its internal order, structure and logic, to reveal the system itself and how it works. So what do we mean when we say systems art? Peter Lowe would say as I have, that systems are present in all art and art has always referred to systems outside itself. (4) In my opinion the answer lies in exploring and employing. We could go back as far as the caveman who must have invented a system when he scratched three lines on a wall, left a space and scratched three more. But what was the purpose of this? Did he explore it? What was his level of consciousness, or was it just a device for measuring days, buffalos killed, or whatever, without any further meaning or intention?

Egyptian murals and turkish mosques are obviously systemized, yet again was it just a support structure or ground plan for what was to be laid on top.

Even (14th-15th perspective in some senses could be considered just a device for mapping the three-dimensional real world onto 2-D surface of canvas etc., Thus creating the illusion of depth making it more credible as a representation of the real. Systems artists use actual space or use perspective exploring it as a system not as a support structure or acceptable artistic device. They explore these devices and structures themselves observing how a system works. There is a widely shared concern to display the fabrication of the work as a procedure rather than a creation. In drawing attention to the course of investigation which has generated the work, these artists reject strongly the tendency to view the art object, as a detached object, which concentrates on the magical powers of its creator. Rather they would suggest not an affiliation with magic but with science. A patient process of examination and experiment like the scientist who tests and formulates his intuition of the physical world. Thus the system is the means by which we approach the work of art. Its organization does not function as an invisible servicing of the work of art, but is the visible skin. It is not, that is to say an underlying composition, but a factual display.

The Oxford English Dictionary gives systems as meaning. "..... a set or assemblage of things connected associated or interdependant so as to form a complex unity, a whole composed of parts in orderly arrangement according to some scheme or plan" and systemic as meaning; "Arranged or conducted according to a system, plan or organized method involving, or observing a system". Many other words are used in connection with systems art such as order, sequence, permutation, variation, time, rythm, movement etc., etc., and it is an interest in these or should I say a very specific interest in these phenomena and the

exploration of it in their work that I would see as being the common factor or as providing a link between many (seemingly divergent) artists.

Each artist is individual and each employs system in different ways according to his/her own individual needs (with similar or very different results). The same system applied to something else will give different results. As I see it there are three main tendencies which occur within the artists who use systems. (1). Some employ a more random use in the sense that they let the system evolve as they are working. Order still prevails but elements of chance are allowed to come into play. Alteration may be made during the execution of the work. (2). Somewhat similar to no. 1 there are those who will sacrifice the logic of the system in order to enhance the visual aspects of their work. Meaning they would set down a system but if the results were not visually pleasing they would make alterations eg; 1, 2, 3, 4, but it could change 1, 2, 4, 3. (3). Others adhere to a more rigorous discipline. Once the rules are laid down the system must not be departed from. The logic of system is of utmost importance. No changes must be made, everything is predetermined, worked out before hand, no mistakes to be made during execution. This would have to be true say in the case of Sol Lewitt. His rules and plans must all be worked out before hand as the execution of his work is done by others.

It is probably unfair to catagorize any one artist saying he uses this or that method. Duchamp brought the creative act down to the level of choice and in this sense an artist has a right to choose and will choose, whatever method best suits his purpose. In fact there is no reason why anyone artist could not employ any one or even all three methods at once, and I would consider this is probably the case with most. Using whatever method is suitable they may

set out with a very rigorous discipline see it through and then decide to impose a more random method.

Colin Jones would consider two main procedures somewhat similar to the above categories. Firstly that of the predetermined programme, which may be permuted through set variations and secondly that in which the rules of the game are devised and the process is one of play with conflict. The first method offers the possibility of surprise when numbers become dimensions or colours and the system turns up clusters of an unpredictable character. He himself would favour the second, which in spite of rules being devised at the outset, it allows him the possibility of meditating on possible connections. It can be a lengthy process where the work is subjected to constant change, speculation, rejection, re-formation and the work grows through these various stages of adjustment and alteration.

Felim Egan would probably be a good example of how all three methods could be utilized at once or used at different stages in execution work. (5). He never wishes his work to be too predetermined but yet he used systems which by their nature seems planned and calculated. He starts off with a curved or geometric line drawn on canvas. The surface of the canvas is then divided by a 36 or 16 square grid. These grid square are numbered 1-16, each will rotate once twice or three times from its original position. So in this sense part of the system is predetermined. It is then elements of chance and alteration comes into play. If we were to follow the logic of the number system 1-16 the squares on the grid would occur as such. (see fig 1.). But because of the rotation process, square 1 and square 5 would be in similar positions so the sequence is altered (see fig 2.) to give odd/even odd/even number sequence.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

FIG (1).

1	2	3	4
8	7	6	5
9	10	11	12
16	15	14	13

FIG (2).

Now a system which he has evolved himself comes into play. The line which has already been drawn on canvas different sections of it are contained within the boundaries of each square. Having been rotated once, twice or three times they now occur in different positions. He himself has devised a plan whereby, where-ever the line occurs in the square top, middle ground, bottom or in corners it attains a certain significance which is then indicated by the thickness or colour of that line. But yet again alterations are made to enhance the visuals or make connections clearer by overlaying colours systems which have connections within themselves. This may seem an over-simplification and it is. I do not wish to do anyone an injustice because I have only used one example of the way F. Egan works, but I would hope that it serves to illustrate the versatility of the use of systems and also how difficult it is to pinpoint exactly what systems art is and what qualifies as a systems artist or art piece. "There is no such thing as the systems style since the patterns of thought are constantly changing and individual plastic works are purely samples of an ongoing generative process." (6). Because it is such a broad field with many different aspects there are a multitude of artists who could be considered to be working within the field of system. Also while employing its use on one level belonging to another view of art at the same time, it would be impossible to include everyone.

I had started off trying to include artists who deal with systems specifically, which were evident in their work, not as a support structure, but who explored and observed their order and structure etc., But even on this level there are too many. I was drawn to a group of English artists on seeing the title of a catalogue "Systems" which seem to point directly where I wanted but even within this group I encountered difficulties. There are many variables within this group who bring themselves under the common heading of Systems artists but does not mean everything or even anything else is common. For these reasons I wish to deal specifically with this group hoping to illustrate that even within a closely knit group so many variables, and variations on the theory and use of systems can occur. How this affects the group as a whole, and the individual as a member of a group. A lot of these artists claim affinities links or influences within the constructivist tradition. Because constructivism was not widespread in Britain until later on in 20th I wish to give a brief historical introduction as to how these links could have occurred.

I also feel it necessary to deal with the american scene mainly to give an indication of the broader use of systems and the level of systems art as an international concern or interest among artists. I wish to deal more specifically with Sol Lewitt who is of particular interest to me in my own work and whom I think has been very influential on art ideas today.

There are differences between the american approach to systems and the European (or in this case English) Mainly I think it is the way in which the Americans concentrate more on the internal order of the painting itself - the logic of the painting as a whole. They have dealt very much in oneness ie; the painting as one unit, a complete unit whose information can be taken in very

quickly. Relying on a sense of immediacy, the recurrent image is subjected to transformations and requires to be read in time as well as space. They take this one image and by constructing, distructing, arranging and rearranging they work with it through repetition and extension. The run of the image constitutes the system with limits set up by the artist himself. Most of these artists would work in runs or groups so it would be essential to see a run or group of work in order to see the logic and progression of the system at work. One unit could be read very quickly and would not display the system. We can only observe it by seeing enough of the artists work.

Europeans on the other hand seem to work within a more rigorous discipline, more constructed, indeed they place emphasis on the constructivist elements within their work. The order and logic of the systems are more diciplined and refined. I cannot emphasise enough how loosely terms are used and have become so broad in their use that it is impossible to deal with them within the confines of one definition. They are so broad and diverse in their use, in many different areas of art that it is hard, no impossible, to point and say, "this is the essence".

1. Lawerence Alloway, TOPICS IN AMERICAN ART SINCE 1945.
(The sixties one, hard edge and systems, page 65.
2. IBID, Page 84.
3. IBID, Page 65.
4. SYSTEMS - Catalogue of an exhibition sponsered by the British Arts
q Council, 1972-73. From the statement by Peter Lowe Page 34.
5. Felim Egan is a lecturer in the National College of Art and Design, Dublin.
6. SYSTEMS - Statements by Dave Saunders Page 40.

CHAPTER TWO

SOME IDEAS ON HISTORY

History, how it is presented to us, and our evaluation of this information is of utmost importance. Most of us here in Ireland rarely get the chance to see original works of art, so, most of our information about art and artists is derived from books, magazines, etc.. It must be remembered that most of this information is written by another person whose interpretations are bound to be prejudicial in some way, coloured by his own opinions, values personal experience etc., which are projected onto the work of art. If I may use the words of Michel Seuphor.

".... History as one knows quite well, is a story that each historian invents or re-invents for himself. Because the most impartial man in the world is incapable of shedding his own feelings, he sees an event through his own particular nature which has already been coloured even before he can formulate a judgement...." (1)

Context, circumstances etc., are all contributory factors when judging a work of art, and even more so when what we are basing this judgement on is second-hand information, once or even more times removed from the original. We must be very aware of all these things for what we are really doing is re-assessing or

re-interpretating the interpretations of another person. It is important that one should be conscious of time, circumstance and events which brought a work of art into being, but not to the extent of pre-colouring our views and decisions as to whether it is good, bad or whatever. In today's world it is hard for us to understand the significance for eg; the 'Mona Lisa' or the work of Michelangelo etc., had in its time. So many books have been written and so much information available that we have been saturated with it to the extent that these works are recognisable even to the most uninterested parties who have never seen or want to see the original. It does seem a pity to me that when we do get an opportunity to see an original our view is tainted by knowledge, views and opinions accumulated along the way. We cannot look with a fresh eye, but rather we look with our world view of events in history as related to us in books.

These arguments may seem superfluous within this context but I think them important in trying to establish links through historical events between a generation of artists most since departed and a newer generation who are practicing artists today. I myself, am one of the unfortunates who rarely get the opportunity to view art in its primary form and am therefore dependant on the information which others see fit to pass on in books, illustrations etc.,. Because of this dependance I cannot deal with my own views only, or events experienced, but rather with knowledge passed on and accumulated through various sources.

I have limited myself to some aspects of 20th century art which I think are vitally relevant to systems art. Although I realize the use of system has its origins much further back it would be impossible to encompass everything, but I feel that it was during 20th century art that an art has arose which concentrates on the use of systems, as a study in itself, as the content of the work, and not just as a support structure for something else. The art which we now term

Systems Art has definite links with past art and most of artists involved, particularly the english group I wish to deal with acknowledge these links and influence. However I do not wish to look at these influential sources and explore their doctrines here. This has already been done. What I wish to do is look at the way we see events in history and how links are formed and how we make associations between one movement and another.

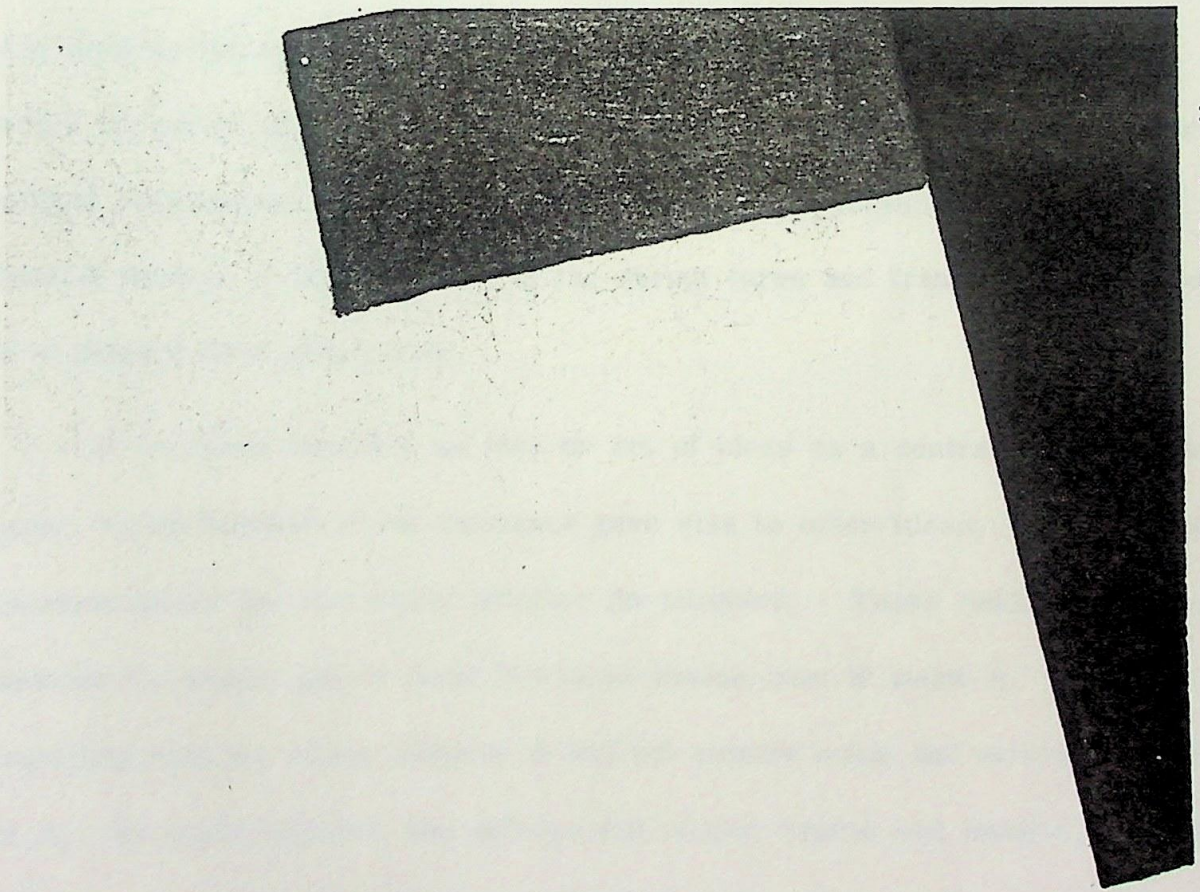
In Art history definitions of what an art form is are formed and along the way assumptions may be made which are far from the truth. People define things to make them more understandable for themselves but in some cases definitions can be too limiting. To define sometimes is to confine, and denies one the possibility of seeing things on a broader level. Cubism, for instance was defined and analyzed in art history to the extent that it made it seem more radical than the artists involved originally intended. Making it seem more radical and abstract obliterated its natural progression with previous art, and the fact that its roots lay in representation. (This is a danger which occurs when one writes ones interpretations and opinions (definitions) and present them to the world, they almost become gospel, and are taken so by some without question.) In the case of a lot of art movements, their doctrine have been taken, broadened so much, and used in so many different ways that they are almost impossible to catagorize and if they were, there would be so many catagories it would be impossible to remember. So someone says they are working within a constructivist tradition, what does this mean?

Constructivism has become so multi-faceted that it is hard to decide what work is within the constructivist tradition anymore. The term has been borrowed so often and has become so broadly applicable to many different branches of art. Born in Russia, what this term meant to a generation of Russian artists has been

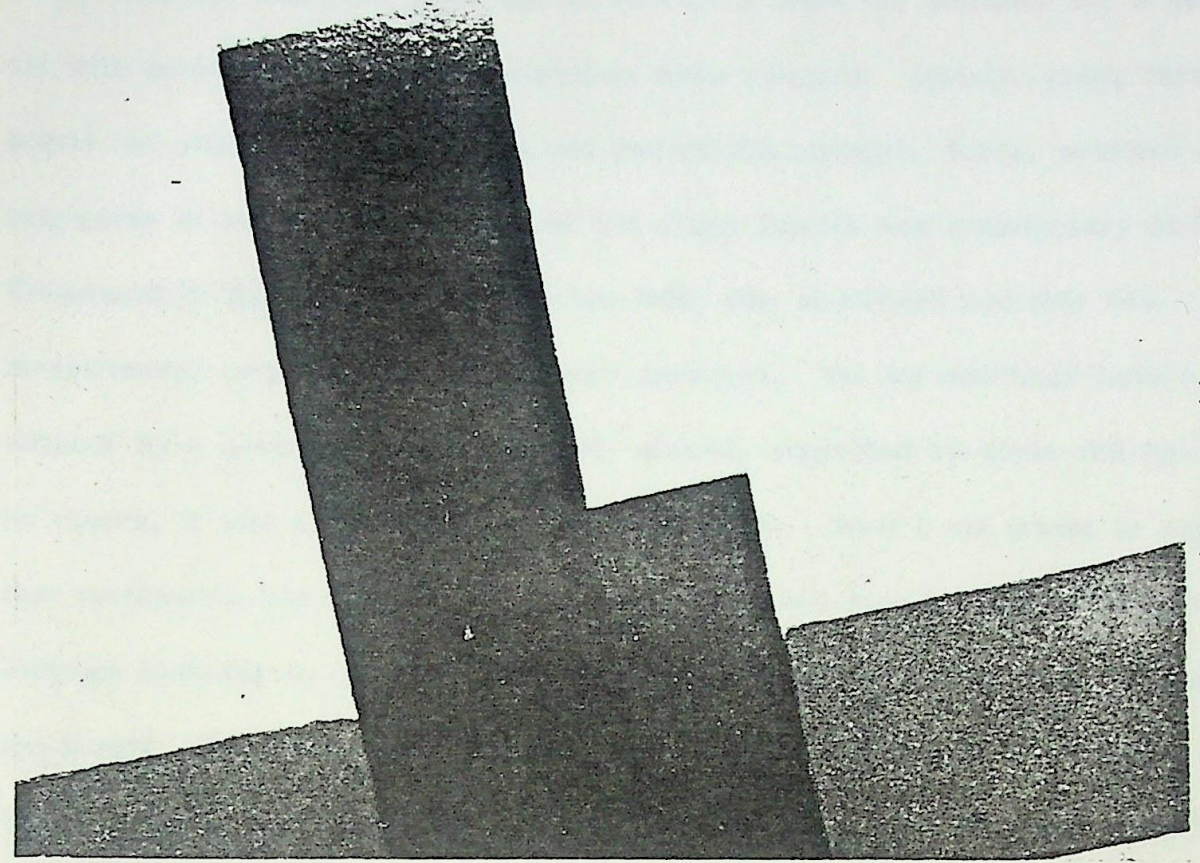


No. 1. Malevich, supermatist composition 1920.

No 2.



malevich, *suprematist composition*, ca. 1920. detail.



malevich, *suprematist composition*, ca. 1920. detail.

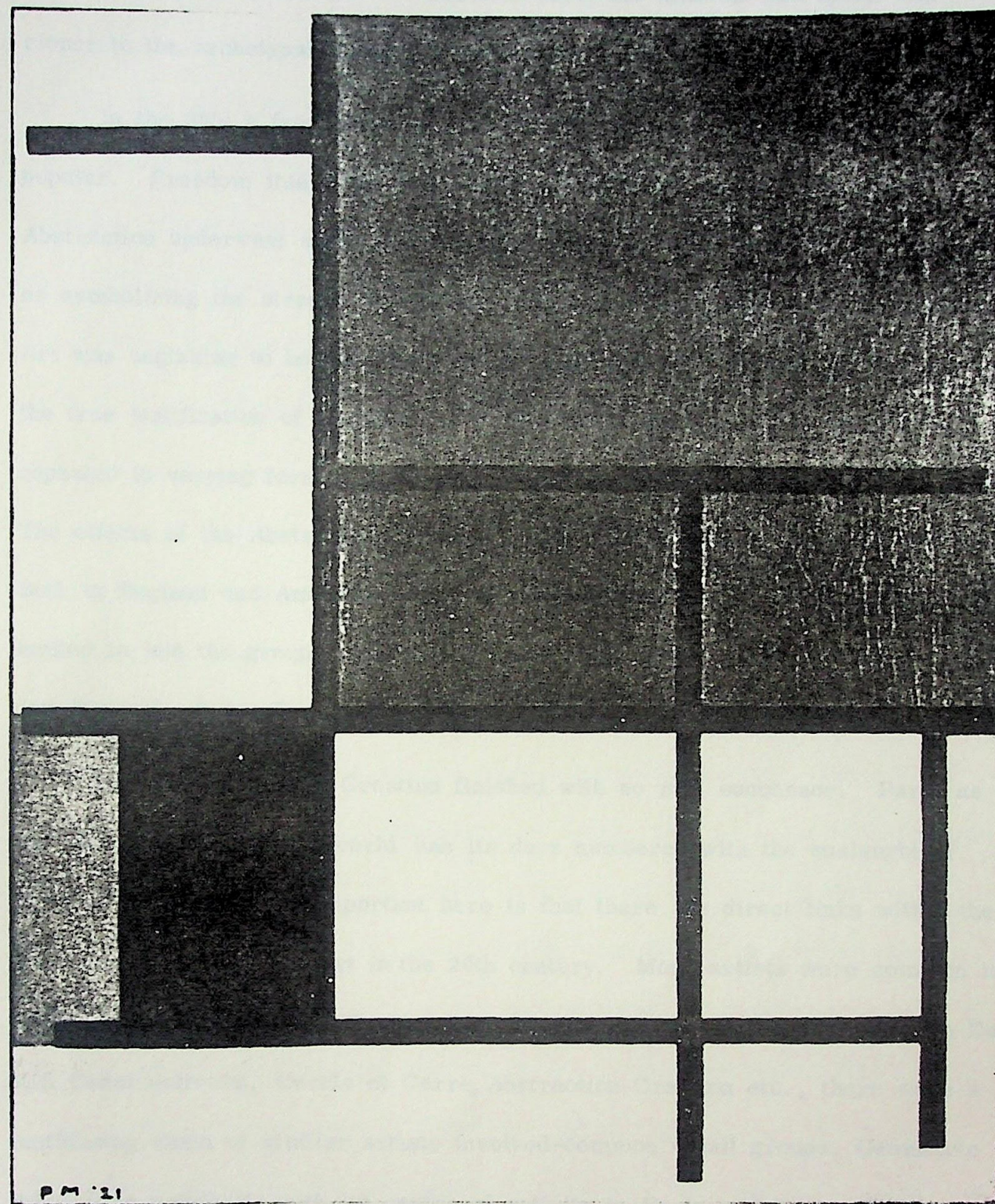
diverged from so often that its original significance has almost been lost.

Constructivism was born in an age of revolution when the demands for a new art with social and political implications were rampant. Russia, going through social and political upheaval, this art had all the strength, force, newness and originality of revolution. A new art for a new Russia was a necessary shift. Unfortunately this situation as time has told, was shortlived and this new inventiveness, originality, optimism were quenched. Yet its doctrines have been adapted by a newer generation. Used, abused, supported by some and ignored by others, it lost a lot of its idealism and purity. What I am trying to say is that movements like the Russian constructivists gave rise to many others, which although claiming to be working within a constructivist tradition would not be in the purest sense of the word but rather as a branch or section of a larger idea. What I wish to do is illustrate how one movement can lead onto others, influenced others, but have shattered and moved on making the source untraceable. Terms are used so loosely they begin to encompass more than originally intended. It would be unrealistic to represent the tradition of constructivism as a uniform or unified development according to agreed mover and strategies. One of the most fruitful aspects of this tradition is the abrupt turns and transitions which occurred in a general field of practice.

If we could consider an idea or set of ideas as a central core or starting point, which because of its existence gave rise to other ideas, linked by some common factor but not totally similar (in intention). These links are important because we cannot get to point B without having been at point A. But it is important that we strive towards B and not remain smug and safe in the knowledge of A. We must improve and enlarge not merely repeat and imitate. This has been successful in the sense that most artists that have used constructivist ideas

as a base have developed them in different ways, though none have stayed (or could stay) within the purist theory and constructivist principles. Rather they have taken what was necessary for them and developed them into many other 20th century movements. Today the constructive context or tradition is made up of a whole range of differing practices and should be seen as groups of artists of widely varying ages who are engaged in connected activities. As we know art ideas change even from conception to execution. The personality and individuality of the artist are always at work and for these reasons no two ideas could be the same.

I think it would be very wrong to put the birth of the modern movement and all influences on future totally in Russia within the constructivist movement. At the same time in Europe similar significant shifts were occurring although maybe not in such a politically charged society. Cubism had laid the groundwork and made breakthroughs for the formation of groups such as Bauhaus, De Stijl, Blaue Reiter etc., These groups and the doctrines were very influential especially De Stijl who had members such as Mondrian Van Doesburg. (Vontongorloo) etc., who were later to be very influential on American and English Art. These two large groups fell under the broader heading of Geometric Abstraction, of Geometric Art. Later this led to the formation of groups whose membership was broadened to encompass more international artists and also artists who worked in a freer manner, (surrealists). Such groups as Circle en Carre and later Abstraction Creation. I hope this serves to show how ideas snowball, losing bits and picking up others so that there is no pure definition which will serve all. Idealism and purity of ideas are lost in ways. Van Doesburg commented on this and probably said it better than I could, that artists had borrowed the exterior forms of the work of Mondrian etc., without understanding the spirit.



Composition with Great Blue Plane 1921

13

No 3. Piet Mondrian

18

"What was originally the potent symbol-the grid-is reduced to the role of a passive receptacle for signs far removed from the machine age spirit and closer to the archetypal images of surrealism". (2)

In the 30's a freer interpretation of abstraction became increasingly popular. Freedom itself was seen as belonging to the new art, Geometric Abstraction underwent many changes during this period. This art was understood as symbolizing the strength and freedom of the intellect against all oppression. Art was beginning to be oppressed in Germany and as situations there worsened the true justification of abstract art as the art of the free world was to be repeated in varying form in publications of French, British and American artists. The effects of the Abstraction Creation group were beginning to be felt abroad. Both in England and America. Barbara Hepworth and Ben Nicholson were both invited to join the group by Helion. At this time abstract art was a radically new form of art for England.

In 1963 Abstraction Creation finished with no real successor. Paris as the centre of the artistic world has its days numbered with the onslaught of World War 2. What is important here is that there are direct links within the development of Abstract Art in the 20th century. Many artists were common to groups which formed after the break-up of previous ones. From Cubism to De Stijl, Constructivism, Cercle et Carre, Abstraction Creation etc., there were a continuing chain of similar artists involved-common to all groups. Geometric abstraction originally with its centre of activity in Paris and Europe began to spread its wings and travelled to the United States having an influence on Abstract Art there.

With the worsening conditions in Europe World War 2 many artists fled to England and America. They were to be very influential in the art scene in

both countries. Later I will discuss this in more depth in Britain but in America, American Artist wished to deny this European influence wishing to find an art which was specifically American. Later they were to acknowledge the fact that their roots lay in Europe. Mondrian and Van Doesburg had both written how the essence of Geometric Abstraction was altered and its influence spread being used as form alone, without understanding the spirit. The relaxation of former principles, philosophies and idealism of Mondrian etc., led to a new form of art in America. (They had an idea of their own to produce an Art which was of their own culture).

It is clear here that European artists (inc. Russia) influenced both American and English but maybe not in such a direct way. The later artists do not seem to have the commitment, to theory, doctrines, philosophy and idealism that figures like Mondrian and Malevich had. Instead their practice is only derived from Constructivism and Neo-plasticism etc., it is not a practice of these in full. They have adapted form without the theory. People like Malevich and Mondrian were originators of ideas which were not fully realized or brought to full potential until today in the practice of Artists such as Sol Lewitt. The idea that an art piece could be executed by one, other than the artist, or even ideas of Conceptual Art, was Malvich's. They universalized their ideas by theory which was not always put into practice by others, but I think it took a while for the extent of their ideas to be understood.

"The idea of structure (or constructivism) has been well served, it should not be said that this vocation of art of our day of which cubism was the first manifestation continued by Russian constructivists, then by De Stijl and which the Bahaus since 1919 developed in its experimental teaching, would be delegated to the good old days of history. It was, on the contrary, going to be recognised as a constant

need of art as an aesthetic idea worthy of being defended." (3)

1. From the catalogue of the exhibition 'Geometric Abstraction' - 1926-42'.
Text by Michel Seuphor, August 1970.
2. Seuphor quotes John Elderfield in, Geometric Abstraction, 1926-42.
3. 'Geometric Abstraction, 1926-42' (see 1).

CHAPTER THREE

SYSTEMS ART IN ENGLAND

Because constructivism has had such a very wide use and has been incorporated at some level into the work of so many different artists it is hard to get a direct line of influence to the English systems group. It is because some of the members of this group have claimed to be working within a constructivist tradition that I think it important to try to establish historical links. In his introduction to Systems catalogue Stephen Bann tries to reconstruct the history of Constructivism in England and endeavours to draw together the threads and trends which have influenced the individual members of the group.

The Constructivist Tradition in England

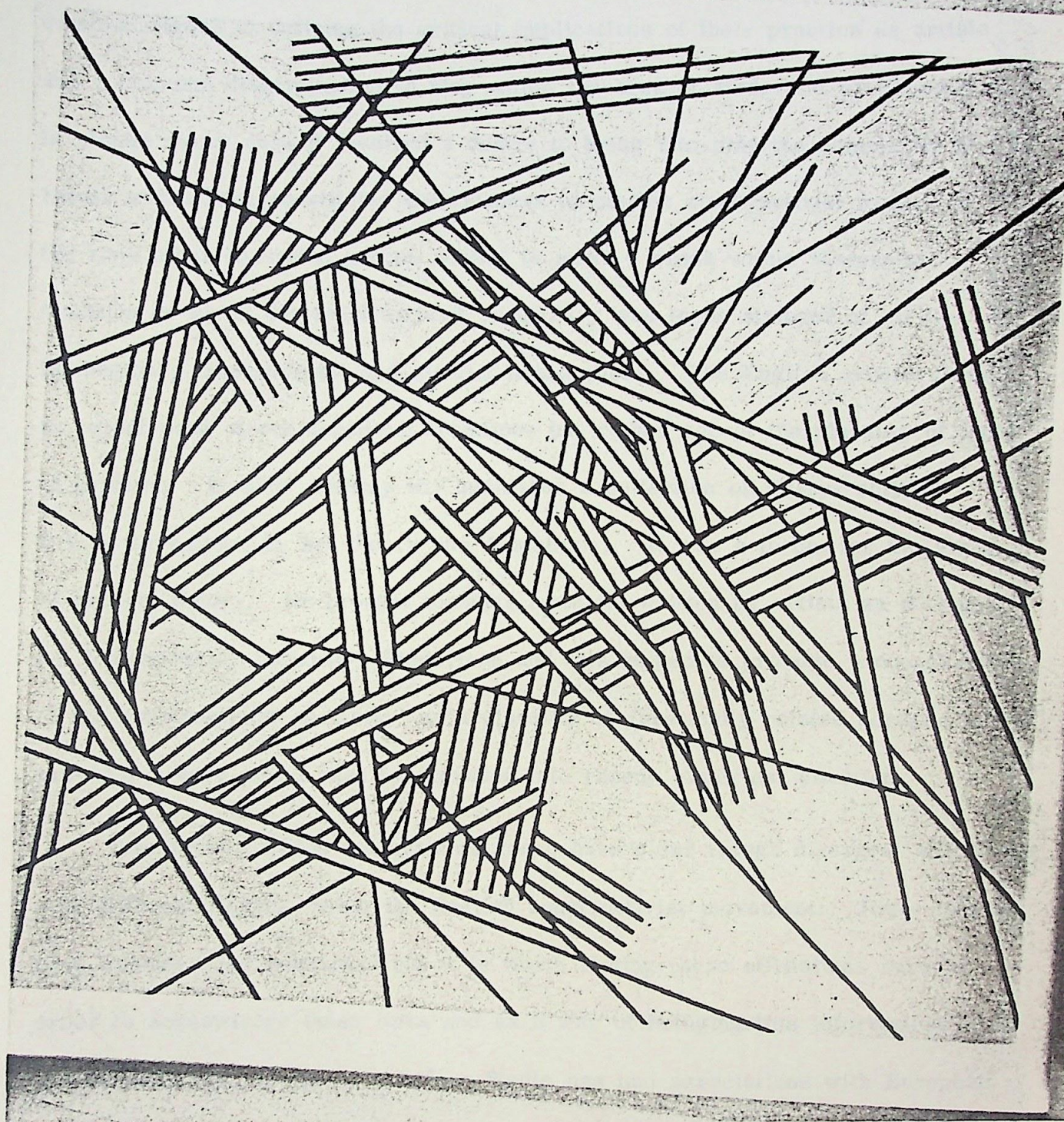
The only attempt at forming a group with some awareness of the modernist movement before World War 1 were the Vorticists, formed by painter, writer and polemicist Percy Wyndham Lewis (1882-1957) they only had the exhibition at the Dore gallery in 1915. Lewis attempted to break down the academic complacency which surrounded him in Britain. In the vortex he was looking for a central point of classical clarity, an art of activity, significance and essential movement

and a modernism that should be clean, hard and plastic. Few of his early Vorticist painting survived and he is remembered for work he did later. With World War 1, Vorticism, not in itself a highly original artistic movement was ended as an organized force. It produced few artists of ability or originality, but for the modernist movement in England it nevertheless was important in marking the moment of involvement in the new Experimental art of Europe.

Because the interest in Vorticism was short-lived it was not of much consequence and had little influence on artists attitudes. The worsening conditions in Europe, the onslaught of World War 2 such figures as Maholy Nagy, Mondrain, Gropius and Gabo established themselves in England. The influx of these artists brought about a situation whereby the issues of modernism were forced on the English artists. The formation of the circle group and their first publication 'Circle Anthology' 1937 maybe a hint of some sort of awareness of a constructivist tradition in England but it would be a mistake to consider that because of this a significant shift or transformation had occurred in the attitudes of English artists. Myfamway Evans was said to have noted at the time that the conceptions of the European artists differed radically from those of the English. Indeed it was the contributions of these foreign artists which showed an awareness of the necessity for a critical discourse to support the modernist enterprise. Only two English Artists, Ben Nicholson and Barbara Hepworth made contributions which only echoed each other and were of little consequence. Leslie Martin was Co-editor of this publication, an architech himself, he did not realize the immense role of importance the modern movement could play in the architechture. This is evidence of the fact that there was still no widespread sense of how the constructivist idea could inform an entire aesthetic and social position. Circles activities had as little influence as the Vorticists had had in the earlier period.

The constructivist tradition in England therefore dates post World War 2 because it is only since that time that there has been a sufficient quantity of artists working in this direction over a significant period of time. In 1954 there was publication of a work by Alex Tiranti '9 Abstract Artists', although far from being a coherent declaration of Constructivist principles, the range of styles were untidily wide, it did present the work of Kenneth Martin and Anthony Hill in a very solid way. From these two artists were derived the concerns which animate a large part of the systems group. In 1947 the American Charles Biederman had published 'Art as the evolution of visual knowledge' in which he situated the crucial stage of modernism with Cezanne. He proposed a course of pictorial inquiry that was a formal extension of Cezanne's work. He had succeeded in simplifying and schematising the evolution of modern art, in particular the constructivist tradition in a way that was very beneficial to English artists. Omissions were made because it was written during World War 2 when communications with Europe impossible, but, nevertheless he succeeded in re-invigorating the critical discourse of Constructivist tradition within the framework of an overall view of modernism.

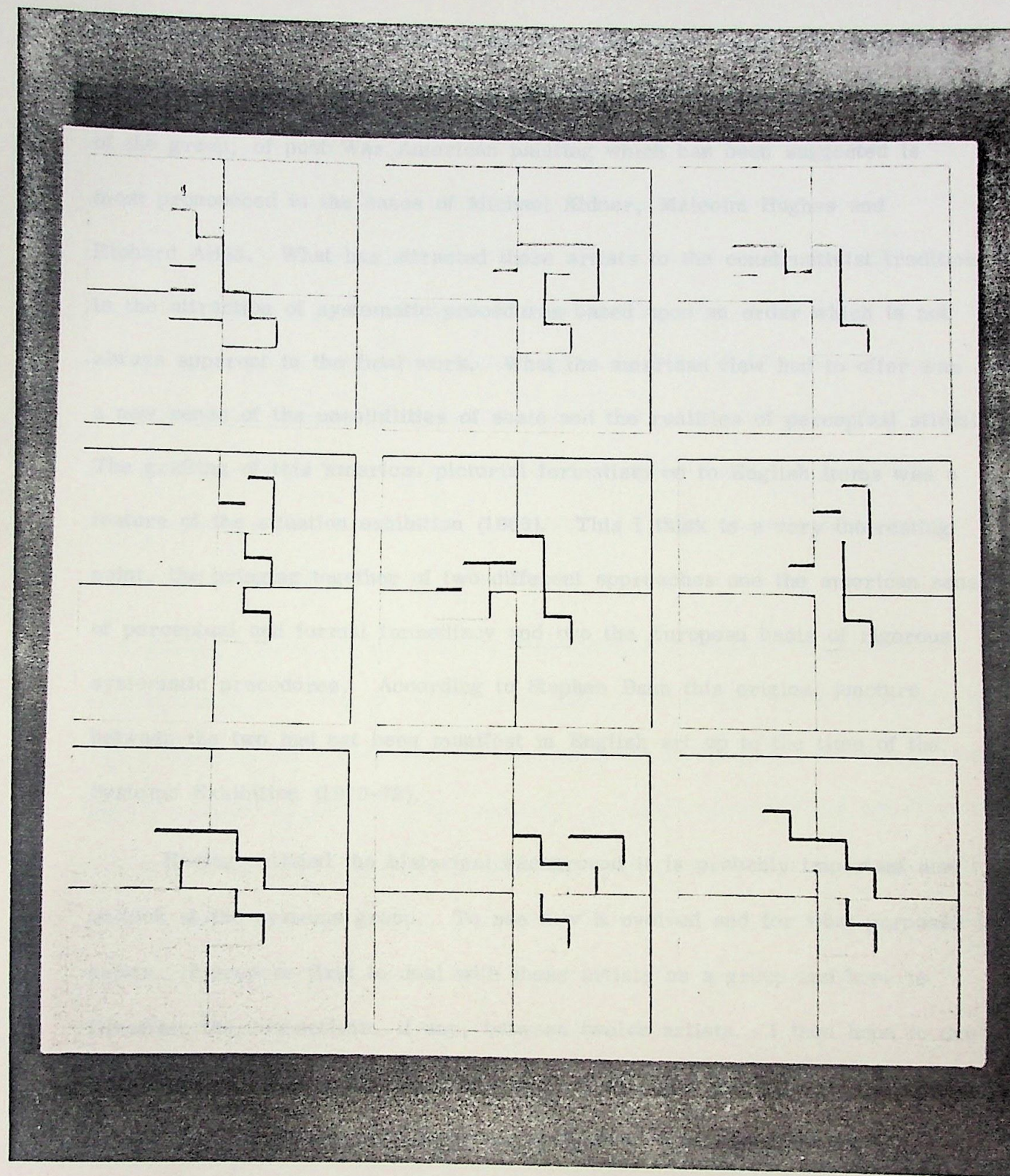
In 1958 Joost Baljeu began to publish the magazine called 'Structure' to which there were contributions from English artists such as Kenneth and Mary Martin, Anthony Hill, Peter Lowe - besides Neo-plastics like Jean Gorin and concrete artists like Richard Loshe. This is evidence of how Biederman's work had borne fruit. The closing years of the 50's were decisive in establishing various lines of contact which were to be re-inforced during the next decade. Besides the influence of structure there were also indications from Europe that new manifestations of the constructivist tendency were in evidence.



No 4. Kenneth Martin, study for chance order, change 2 (ultramarine blue) 1976
pencil and ink 26 x 34.5 cm.

What English artists could discern from positions as different as those of Biederman, Baljeu, Max Bill, Kenneth Martin and Anthony Hill was a common rigour in defining the critical implications of their practice as artists and a common determination to stay within the area of Modernist problematic. In almost every case it involved a desire to bring into play the complexity of issues which have constituted the richness of classic constructivist work. At the time other European groups wished to make a break within Modernist tradition in which the constructivist vocabulary was to be stripped of all its ideological, transcendental and idealist connotations. The English artists chose to reject none of constructivist traditions but rather accept the plurality of types of practice. In 1968 Anthony Hill published a collection of Essays entitled DATA (Directions in Art theory and Aesthetics). It was a forum for the airing of critical theory. He brought together material written by artists as divergent as Vontongerloo, Vasarely, Biederman and this helped to promote a consciousness of the constructivist aesthetic as a plurality of genetically related portions which provided a very sound base for advance into recent historical situation.

The artists within the systems group have clear though divergent affiliations with different figures within the English constructivist movement. These figures have already been mentioned but it is worth stating these affiliations here in order to acknowledge these links and as a way of bringing this information up to the formation of the group. Jeffery Steele has had associations with European optical and kenotic painters in the 60's but from 1969 onwards has described himself as being increasingly interested in "the theory and syntax of art and its implications".⁽¹⁾ John Ernest has made constructions exclusively since mid-1950's and himself and Gillian Wise, who became aware of constructivism through Biederman have both been close associates of Anthony Hill. Peter Lowe and



No 5. Anthony Hill - Hommage a khlebnikov No 1. 1975, relief laminated and engraved plastic 86.3 x 86.3 cm.

Colin Jones studied under Kenneth and Mary Martin at Goldsmiths school of art. A point which may be worth making here is the influence upon members of the group, of post War American painting which has been suggested is most pronounced in the cases of Michael Kidner, Malcolm Hughes and Richard Allen. What has attracted these artists to the constructivist tradition is the attraction of systematic procedures based upon an order which is not always apparent in the final work. What the american view had to offer was a new sense of the possibilities of scale and the realities of perceptual stimuli. The grafting of this american pictorial formalism on to English items was a feature of the situation exhibition (1960). This I think is a very interesting point, the bringing together of two different approaches one the american sense of perceptual and formal immediacy and two the European basis of rigorous systematic procedures. According to Stephen Bann this original juncture between the two had not been manifest in English art up to the time of the Systems Exhibition (1970-72).

Having outlined the historical background it is probably important now to look at the systems group. To see how it evolved and for what purposes it exists. I propose first to deal with these artists as a group and hope to illustrate the connections, if any, between twelve artists. I then hope to deal with them on a more singular basis to show the individual pursuits of varying artists and how these pursuits are very different even though belonging to a group.

The Systems Group

In 1969 the Amos Anderson Museum, Helsinki approaches Jeffrey Steele with a view to organizing an exhibition of English artists. He chose several

artists whom he considered to be working in a similar manner to himself.

These artists formed the main components of a larger more defined group who approached the Arncliffe gallery, Bristol with a view to organizing a similar exhibition in England. The exhibition was held under the heading of 'Matrix' 1971. In 1972, the British Arts Council, for the first time put on an exhibition of English artists who see themselves as a group 'Systems' an exhibition of twelve artists using order, sequence permutation was held in the Whitechapel Gallery and was subsequently shown at ten other galleries. The artists involved were, Richard Allen, John Earnest, Malcolm Hughes, Colin Jones, Michael Kidner, Peter Lowe, James Moyes, David Saunders, Geoffrey Smedley, Jean Spencer, Jeffrey Steele and Gillian Wise Cobortaru.

This exhibition provided a number of opportunities, possibilities and proposals for examination of this type of work by both artists and public. Most important was that it provided the artists with an opportunity for thorough examination of their work its intentions and historical context. An assessment of their activities and positions as artists within a group and singularly, and to attempt to try to clarify these. For these reasons this exhibition would seem to have played an important role in solidifying relationships and the ongoing existence of the group. The possibilities provided by it were as follows.

It provided the opportunity of examining the possibility of a modern classical art based on the idea of order with endless variety. This is a non-Utopian art rejecting fixed absolutes and accepting non-static concepts of order, paradox and change. Also to examine the possibility of an art which is non-hierarchical, - no one aspect is more important than any other. Where the sum of parts is greater than the whole. An art which is operational at a number of levels, conceptual-methodological and perceptual with attempts to make available information at all

these interrelated levels, which would propose the rejection of one-dimensional art ie., an art which relies primarily on immediacy and operates on a single level of response. This exhibition attempted to place both the generative activity and the artefact in as wide a context as possible and to introduce parallel modes of expression. ie., music, poetry and other creative disciplines. It also provided the opportunity of assessing the present position of some British artists working relative to the constructivist tradition and who see their activity in the context of structuralism and semiology.

Although the interests are the same and the will to clarify positions common to all artists they must not be seen as a single unit, or single thought machine, all working in the same way, following each others guidelines. It must be remembered that the systems group exists for the purposes of discussion and exhibition rather than for direct collaboration. Each individual pursues his own course. There is no joint Manifesto but rather a shared intense interest in factors such as, order, sequence, rhythm and structural relationships and in an art which investigates and discloses these phenomena. The systems exhibition demonstrated the division between the individual and the collective. Each artist was represented by a single work, preparatory material and studies for that work, and by a statement in the catalogue. Even though seen as a collection of individual pursuits it also demonstrated the group's collective interests. It is hard enough for the spectator to decipher the intentions of one artist when confronted by a group of work. Even though an individual work may not be easily read, when provided with a group of the artists work it at least allows one to focus attention on various formal and structural relationships and links, and group the work in some sort of time sequence. But when confronted with a group of individuals the burden to be borne is a heavier one. One has to abandon superficial links such as

personality etc., the succession of an individuals work in time and explore the ideological level on which the group is based. Rather the viewer is confronted by a cross-section of what has been produced by a number of individuals who chose to associate as a group at a particular historical stage. The difficulties encountered when dealing with groups is knowing that they must have some common bond and trying to decide what this bond is. It has already been stated here the reasons why these artists chose to associate as a group. But it may be an idea to consider to use a 'cliche'. "There is safety in numbers" and that it may be felt that more recognition for this type of work would come about if there were more than one person involved. So because of collective or common interest they bonded together to strengthen ideas and so appreciation. I think their function or purpose as a group is a healthy one. Discussion, interaction and exchange of ideas while being the basis for the group can also help the individual to sort out problems and widen the scope for his own ideas. I propose now to deal with the individuals, the different approaches to work. By dealing with it on an individual basis it is easier to show the connections, similar concerns within the group (giving a short account of some individuals and their personal approaches).

Malcolm Hughes.

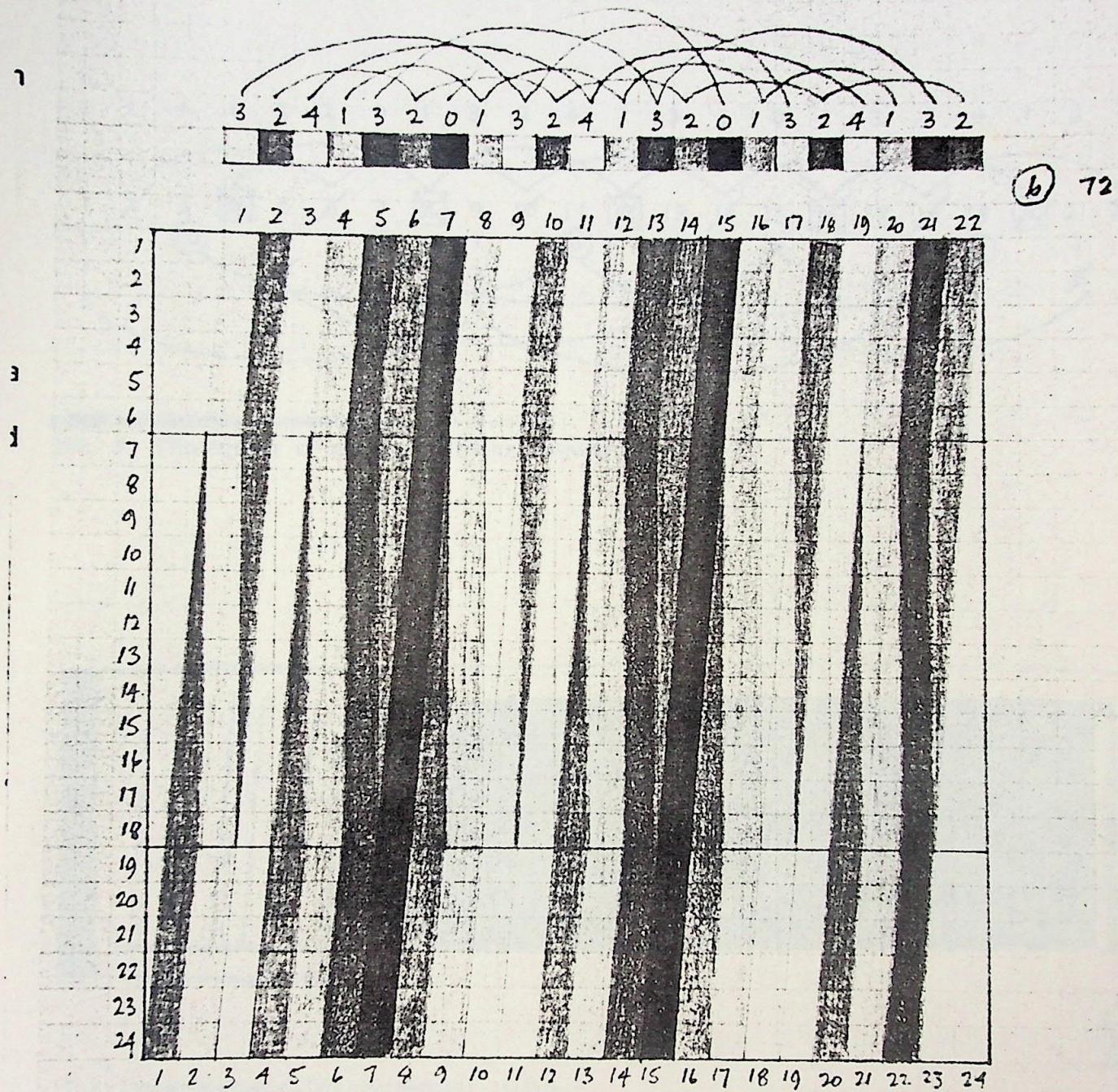
To allow signs, symbols, numbers or some sort of notation to stand in for the materials, or objects which they will eventually use is a practice of many artists at the preparatory stages of their work. Simply because notation such as this is easier to manipulate. Malcolm Hughes has very strong opinions about these notations which we use so freely and attach very little significance to. These signs, symbols etc., must have possibilities in terms of their own interconnectiveness before they can be allowed to stand in for anything else. They must have

a rightness in terms of their own relationships before one could feel or wish to carry on further into materialism. One can understand why he feels so strongly about this as it is precisely this manipulation of signs, symbols, more exactly numbers which are the basis or starting point for his own work. He points out that at the preparatory or working out stage one is unaware of what form the work will take ie., painting, relief etc., but this sort of information, signs symbols etc., can be ordered in such a variety of ways that it could become this or that, but before it could become any of these things it must have a degree of order or rightness of its own. This, although a very simple idea is important and one which I sympathise with personally. For eg., if one wished to use three large objects and wished to plan out various positions for these it is easier to substitute 1,2 and 3 in their place. But 1,2,3, have an inherent order, necessary to work out these portions successfully. We could not substitute 2,8,11, and expect them to be understood in logical progression and arrangement because they do not have any obvious degree of logical connectiveness, other than that they are all numbers. I personally would even bring this a stage further in say nothing should be imposed on an existing system without having a system or logical progression inherent to itself eg., colour-primary, secondary or ones derived from them. But this interest of Hughes goes a lot deeper than the obvious connections within number sequences. He wishes to observe and find the less obvious structures and orders. What they can signify and the way one can manipulate, disrupt and change that order that interest him. They can imply movement "not of the physical kinetic type, but of a conceptual kind, - X precedes Y and Z follows Y." In his statement in Systems Catalogue Hughes quotes B. Russell. "We can no more 'arrange' the natural numbers than we can the starry heavens, but just as we may notice among the fixed stars either their

order of brightness or their distribution is the sky, so there are various relations among numbers which may be observed, and which give rise to various different orders among numbers, all equally legitimate. " (2)

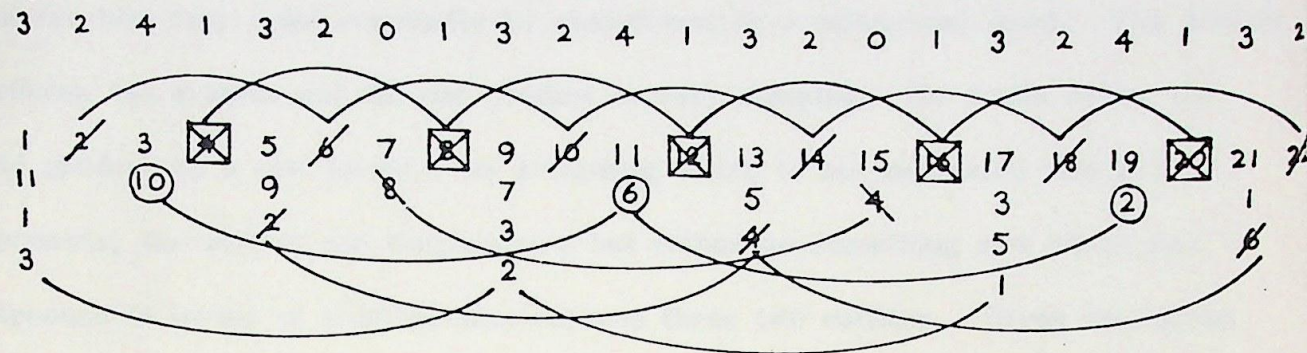
As I have said this interest in numerical sequence is the basis for his work. He starts with a natural number sequence eg; 1-22 (used in three unit relief / painting, 1973) (3). By shredding this natural number sequence he then transforms this basic numerical information via drawing, allowing possibilities for both painting and relief. He then combined these two square units (relief/ painting) together with a third double square unit which carries no ordered information. He says himself that on a conceptual level the work uses spatial disjunction . That is " the reading and de-coding of the conceptual content takes place by means of a visual imprint carried across the neutral plane". (4) In these concerns he compares himself to the use of space/silence in the later music of Webern, aspects of music which interest him.

Over a number of years Hughes has been concerned with juxtaposition. When two or more elements are brought together, external and internal dialogues may emerge. By working with a single conceptual structure, developing it in alternative, opposite, or parallell ways he thereby examines what can be induced by juxtaposition and cross-reference. This process can reveal new and extended properties. For him this exploration seems to go beyond the rational and point the way to an unexplored, intuitive creative area, where unexpected linkages are sensed. This reference to the intuitive here is of great interest to me. It is something which is normally associated with other art forms rather than an art of systems. In a discussion (Studio International) Hughes proposed that the choice of system is intuitive. It is where an act of identity takes place. (5)



No. 6 Drawing for Three Unit Relief/Painting, 1973 - Malcolm Hughes.

fig. 5



No. 7. (Shredding of natural number sequence, 1-22)

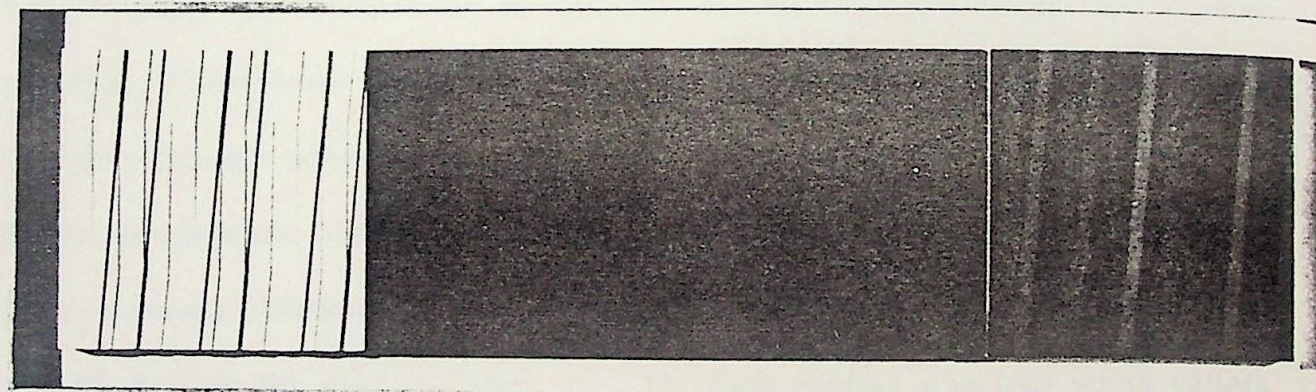
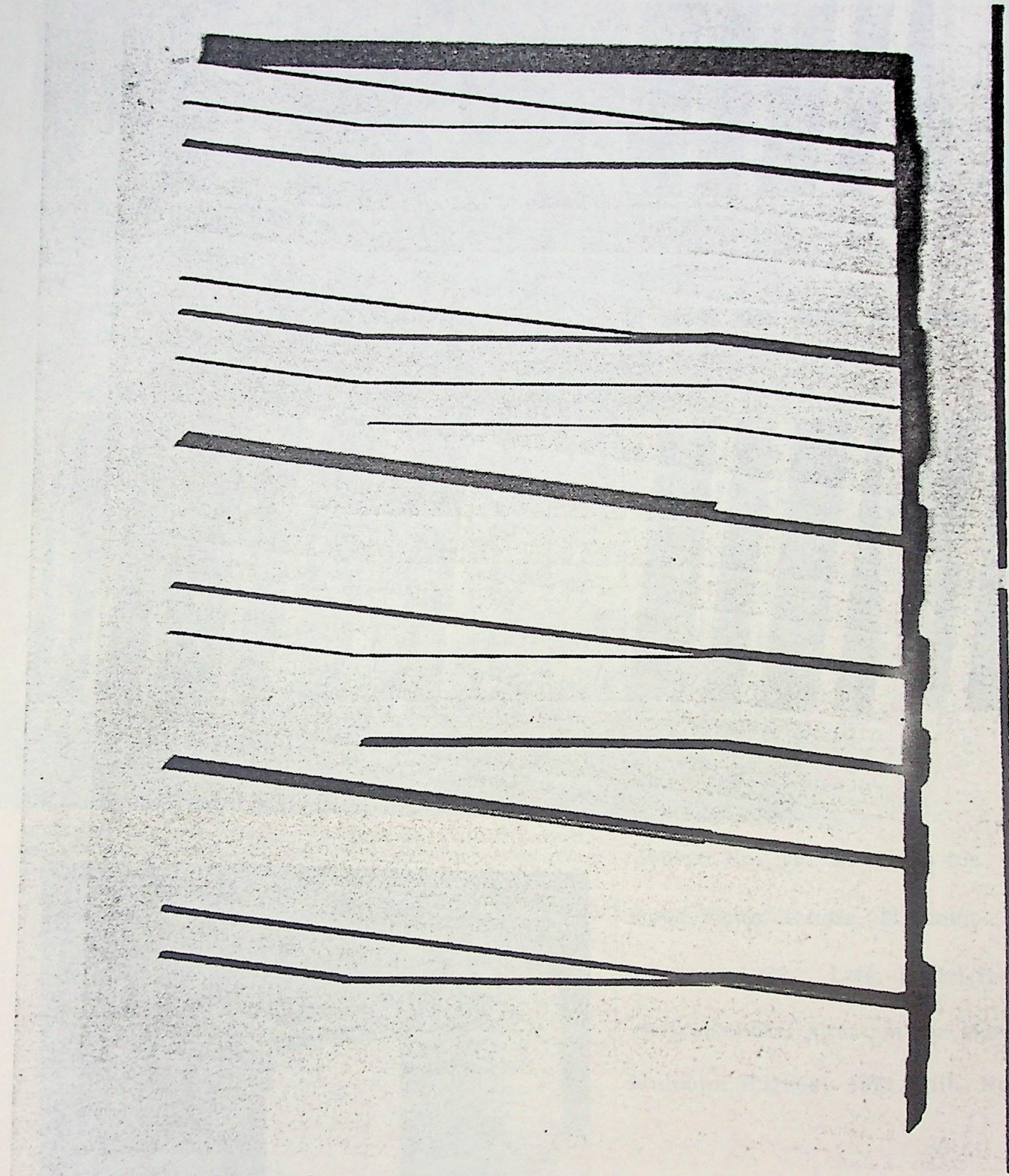


fig. 4 Three unit relief/painting 1973 mixed media 58.6 x 243.8 cm

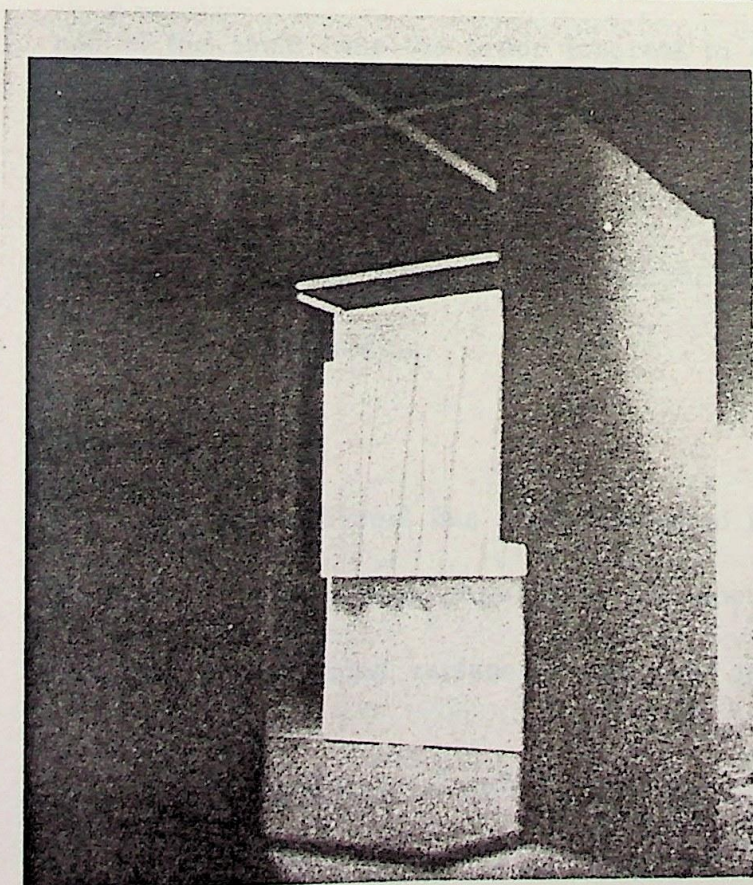
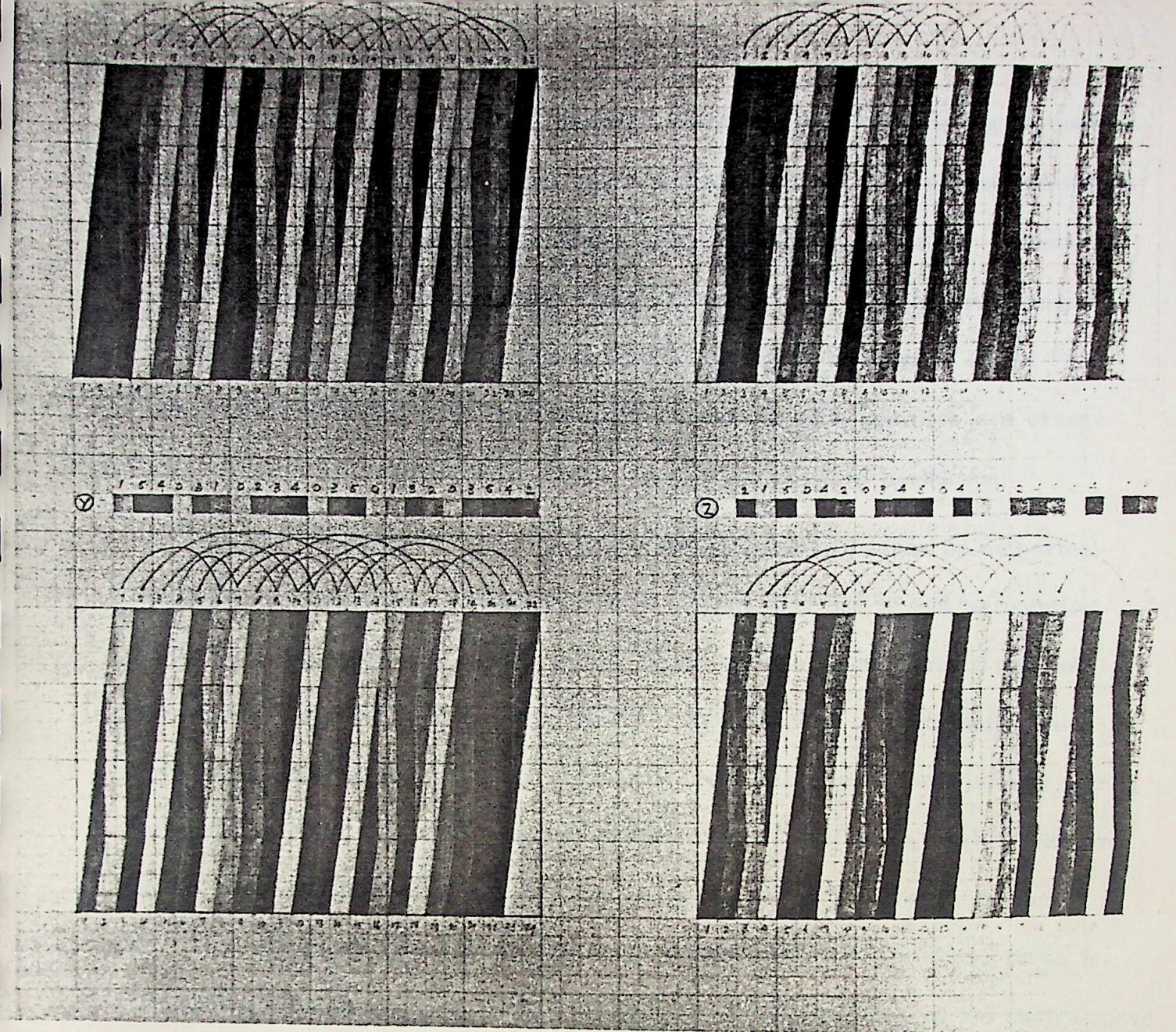
No. 8. Three Unit Relief/Painting, Malcolm Hughes, 1973.

This, although important to mention here, is something I hope to deal with in more detail in a later section. Hughes also believes that the more rigorous the system one starts with, the more perceptual possibilities emerge. Depending on how one develops a system, one could end up with a great number of variables but for him they must eventually be operational on a perceptual level. The duality between the system and the end product is very complex. He would define the end product as a new totality, as something which is not separated into two elements, the mental and the physical, but rather as something new which has happened in terms of relationships between these two entities. Given the object one is looking at, the particular starting point should be re-tracable, in his case a number sequence.

In his contribution to the Systems Exhibition, (6) , we can see how the same procedure was used as in the later work (already mentioned). The work has its origins in the ordering of elements derived from operations on a number sequence. They were subjected to the same shredding and extraction which provides the basic number structure on which permutations, etc., can be worked out. These permutations are then examined by means of drawings. These, whilst being complete within themselves as drawings, ultimately press for more investigation on the physical level. (7) The final product was four white reliefs which could not be viewed simultaneously from a single static view-point. (8) This as Hughes saw it was an extension into an environmental situation whereby the relation of the spectator, by his movements, gave infinite perceptual variations. It was by developing the numerical and drawing information in parallel modes which led to four reliefs, whilst appearing to be different were based on the same number structure. The play of elements of time and memory were important considerations.



No. 9. One of, Four White Reliefs, Malcolm Hughes (Systems Exhibition, 1972.)



Above, No. 10. Drawings for
Four White Reliefs, Malcolm
Hughes, 1972. Left, Model for
environmental situation for above.
Malcolm Hughes, 1972. (ill. No. 11.)

From numerical sequence, through re-arrangement, re-ordering, through drawing to either painting or relief, show Malcolm Hughes to be a man concerned with thoroughness. Wanting to work at, and try out all possibilities. Presenting himself with as many variables and modes of exploration. He concerns himself with the continual shifting from a perceptual to a conceptual stance, of the known with the unknown and the finite with the infinite with opposites and change and a continuous renewal of the mode of examination of these paradoxes.

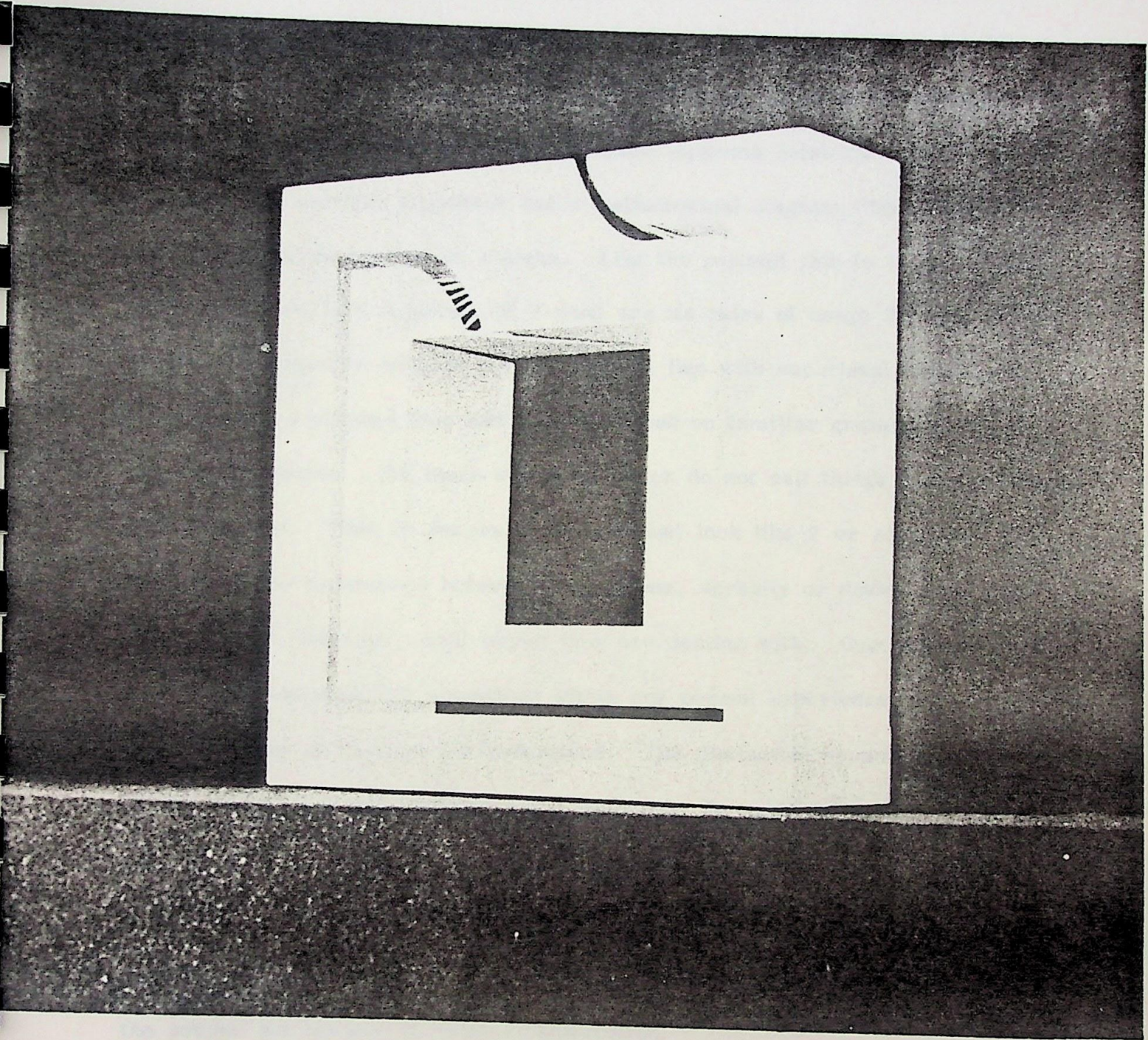
Many of the artists within the group use mathematical ideas or numerical sequences as a starting point for their work. They may use it just as notation to differentiate between one space, object, shape or colour and another and not as a visual component in the finished piece. But this sort of information has a wide range and variety of uses. Even on a very basic level these artists use mathematical principles, add/subtract/multiply/divide, as in the work of Richard Allen. Other concepts such as, positive/negative, symmetry, order, factors, etc., are frequently used. It should not be thought that they would use these in a flippant or casual way, but rather it requires an understanding of the abstractness and at the same time the order inherent to all its aspects. Because of its logical progressions and order it can be used as a base or as a means of working out but on the other hand, as in the case of John Ernest, it can become a study in itself. He tried to understand its abstractness, and the signs and systems involved in mathematics.

John Ernest.

For many years Ernest has been interested in mathematics. In pursuit of this interest he came across pictures of the moebius strip, the klen bottle and other examples of one-sided surfaces. Later he saw works by Max Bill which were

most of the systems one would use are comparatively trivial as systems and their complexity or interest is really to do with the awkward relationships they have with the object, which is in fact the thing which gave rise to them. His contribution to the Systems exhibition was a model of a Negative Moebuis strip.

(9) This was the result of an in depth study of this object or shape in an effort to find out what it was in essence. A moebuis strip can be made by taking a length of paper and giving a half twist and joining the two free ends together. It was the ambiguity of objects which interested him. One cannot decide what is inside and what out, they are the same. For instance if you decide to paint one side of a cylinder, only one side will be covered in paint, but if you do the same to a moebuis strip both sides will have been painted. By making models and subjecting them to different tests for eg., drawing a line down the centre, cutting it in half etc., he tried to understand the principles of the object more clearly but like anyone else there comes a point in ones chain of actions when one wonders exactly what one is doing. He had assumed that he was examining the properties of a mathematical surface with an unusual connectivity but became increasingly aware that he was actually examining the properties of a particular physical object. It became obvious to him that features like the face of the surface, or its edge came into being by a decision and that they were matters of definition, and that if he chose he could change the terms of the representation. At this point there was a change in procedures. Looking at the magical property of the moebuis strip, it could be cut along its centre line and remain in one piece it became clear to him that this was the property of the physical object, the paper band and not the unique attribute of a mathematical surface. If this held true for a thin solid-like paper it must hold true for a more substantial solid. The new solid was to have the shape of a torus with a hole in it. He began working on maquettes of this shape using variation to demonstrate the idea. The systems



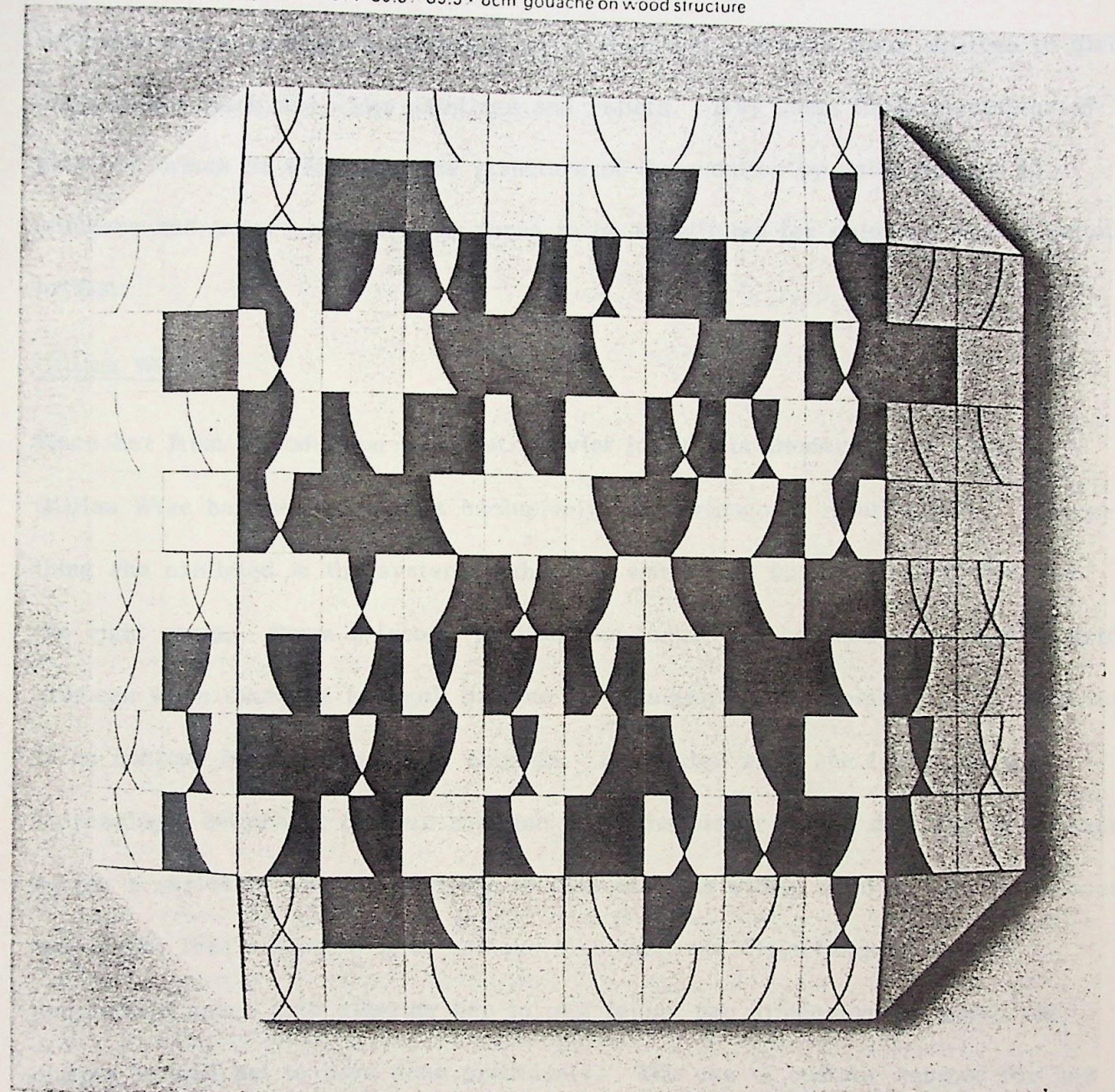
No. 12. Moebius Strip, John Ernest, 1971-72.

based on these surfaces but at the time did not relate these interests directly to his art. However, this interest developed into an obsessive curiosity about the nature of objects and the representation of things in general. We have all pondered over ideas of representation the limits of tromp l'oeil etc., but his interest is related to our very understanding of signs and their relationships to objects. He draws parallels in his statement (systems catalogue) between iconic signs like for example a portrait and a mathematical diagram illustrating sets and subsets interconnected on a plane. Like the portrait this too is an iconic sign. But what is it a picture of ? what are its rules of usage ? . We can all relate to the portrait because it is directly in line with our visual experience. It represents a person's face and thus operated on familiar ground, its rules are understandable. But there are signs which do not call things to mind through a resemblance. What do letters of the alphabet look like ? or sound ? . His interest in the connections between descriptions, verbally or drawn signs and their relations with the actual object they are dealing with. Once the description or sign is connected with something within our normal experience of the world we can relate the information and understand. The distinction becomes less clear as the subject depicted becomes more abstract. By making models we feel we can untangle the meaning of analogy by calling on our intuitive understanding but if we wish to go deeper into the topic we must proceed to undo the binding and examine the separate parts. By making models it may reveal many aspects of the subject not obvious to direct consideration.

So the initial motivation for study or exploration for John Ernest is an object. We love to look at things and handle them and he would say that he starts off with this point of view or any kind of approach artists may use for marshalling their philosophies is secondary to this initial motivation. He would suggest that

John Ernest

Relief Painting: Iconic Group Table 1977 89.5 x 89.5 x 8cm gouache on wood structure



No. 13. Relief Painting: Iconic Group Table, 1977. John Ernest.

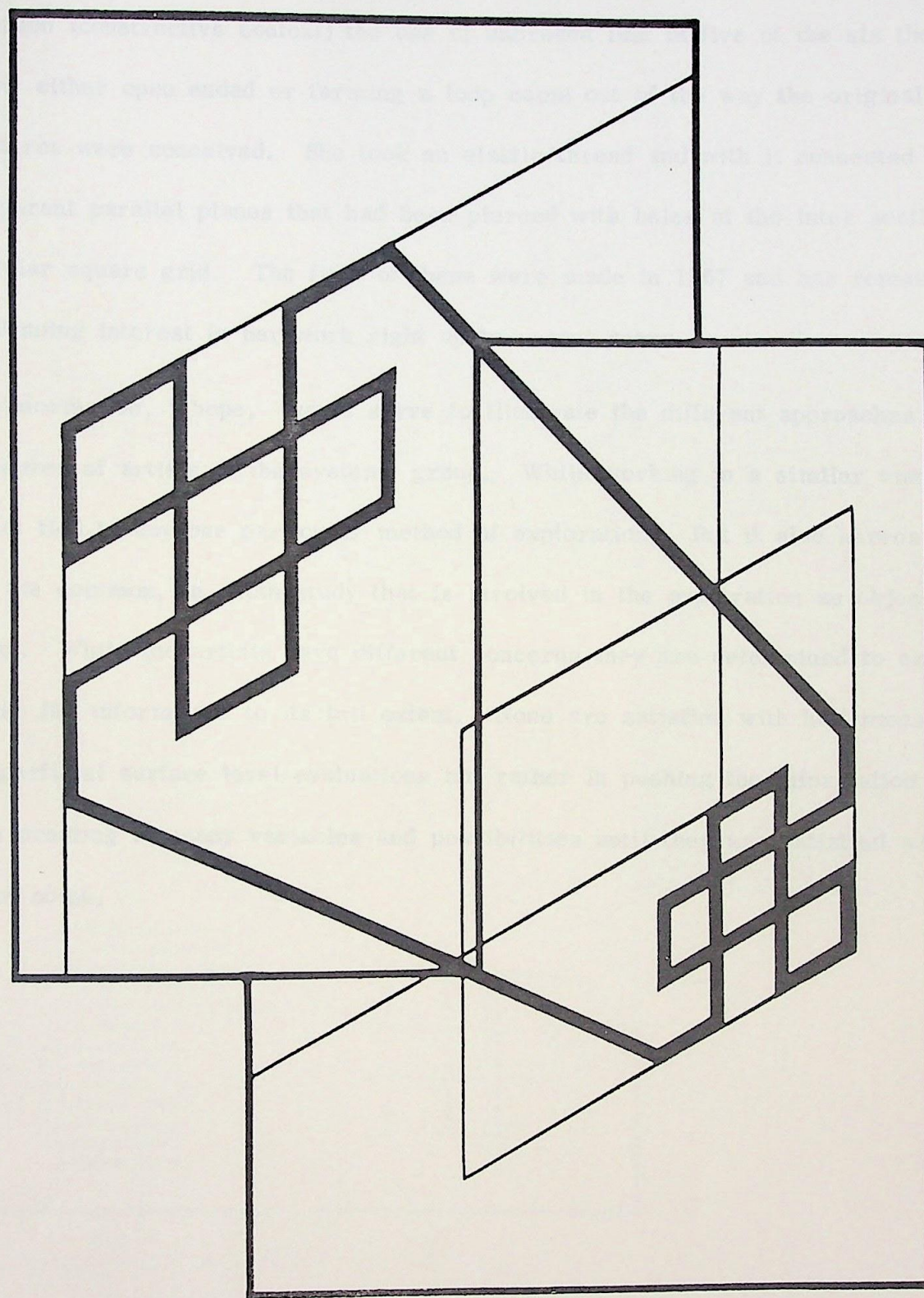
exhibition provided the first opportunity to make a major version. The finished object was a square torus with a continuous slot cut entirely through its body in a closed curve to form a moebuis strip. The torus remains in one piece. In other works we can see how Ernest uses not only numerical notations but mathematical principles in his work, eg., $+1 -1 = 0$. He uses these devices to give logic to his black and white paintings and reliefs. (10) Using these principles of plus and minus he works out the structure of the painting by using groups of numbers and letters and allowing these to be substitutes for colours, tones, relief, or flat.

Gillian Wise.

Since her first introduction to Constructivist ideas (via Biederman in 1958) Gillian Wise has worked almost exclusively with orthogoral relationships. Everything she exhibited in the systems exhibition was based on the straight line and the right angle. From a frontal position the forms can be seen as a regular grid although when extended in depth become increasingly more complex. The emphasis is on contour from which forms emerge. In earlier work she found she was increasingly detatching contour and line from the planar forms of relief structures so for a series of works she chose to take one line either open ended or a closed loop. She then subjected it to various tensions, and distortions on a pre-determined space grid allowing her to plot forms two dimensionally which she claims herself not to have done previously. The use of contour seemed for her to hold the space open and prevented the work from becoming a pictorial composition in fixed boundaries.

In later works we see this continued interest in connections between the two dimensional and 3D. Her drawings and prints usually relate directly to 3D

constructions she has previously made, with the representation in two dimensions of connections which have demonstrably made in three dimensional space. Some what similar to John Ernest she places some emphasis on the 3D object and the complex relationships it has with its 2 dimensional representation (manifestation). Her interests lie in the interaction between these and the different problems encountered when translating or moving from one to the other. When translating 3D to 2D, from actual space and physicality to drawing, flatness etc., the level of information or means of showing this information about the construction is reduced, because the nature of the 2D plane, like a photograph permits the choice of one and only one viewpoint. Having placed this frozen image (one particular viewpoint) she often feels the need to be clearer as to where exactly it is situated or hanging in space and so in some cases she used a border or some lines device to emphasise the shape of the pictorial space. This is used, at the same time, to connect up critical points on the square grid which controls all the drawings. It is here elements of change come into play and decisions have to be made. Sometimes the mesh of the compositional grid and the mesh of the image meet in a not entirely satisfactory crossing point, because the physical overlaps movement of the meshes are more complex than say a simple right angle linear crossing. In these cases she often has to accept imperfect solutions, but she would prefer that there would be a logical reason for her choice of solution. She feels it better to work within a certain framework or set of rules for judgement than to make decisions which are not wholly based on logic or with precise indications of why she should choose one solution over another. Where one solution seems to be of equal value to another one usually looks better and that will decide which one is used.

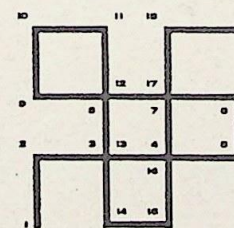


No. 14. Connexions, Gillian Wise, 1972.

1	2
3	4
5	6
7	8
9	10

Some of the forms shown in No. 4 are developed and interpreted in the surrounding works. To help make the connections here is a brief key:

- 1 is derived from d.
- 2 is derived from b.
- 3 is derived from c.
- 5 is derived from c.
- 6 is derived from b.
- 7 is derived from b.
- 8 is derived from a.
- 9 is derived from c.



No. 15. Relief Connexions, 1972, also Reflexion, 1972, Gillian Wise.

1. Systems, 1972-73, introduction by Stephen Bann, page 9.
2. Quoted by Hughes from, Bertrand Russel's, 'The Definition Of Order'
Introduction To Mathematical Philosophy, Allen and Unwin, 1919. p. 30.
3. See illustrations, 6, 7, 8, .
4. " " , 8.
5. Malcolm Hughes, "Notes on the context of 'Systems'. " Studio International.
May, 1972. Pages 200-203.
6. See illustration No. 9.
7. " " No. 10.
8. " " No. 11.
9. " " No. 12.
10. " " No. 13.
11. I have included illustrations of the work of other artists in the group at
the back.

CHAPTER FOUR

CHOICE, FREEDOM, THE PERSONAL.

"These paintings are not, as has been often claimed impersonal. The personal is not expunged by using a neat technique; anonymity is not a consequence of highly finishing a painting". (1)

Systems art, and other art forms in the same vein are considered by many to be cold, impersonal and detached. Working somewhat in this area myself I would deny these allegations on the basis that I know the level of personal in-put that goes into my own work. Choice, the freedom to do things in ones own way, to carry it out as one sees fit is surely the artists basic requirement, and is exercised in all fields of art. Ordering components, destroying and re-arranging is as much evidence of human interference as is the gestural strokes of the abstract expressionist. A system should be considered a set of human proposals of order devised by the artist, and worked on by the artist until he/she is satisfied with the results, and not as a doctrine which is laid down for everyone else to follow. The systems artist is not dictating what perfection is but merely striving towards it using his own wits and ability.

"The artists conceptual order is just as personal as auto biographical tracks". (2)

We must go beyond the instinctive or immediate reaction to see the artist at work. Go deeper than just glimpse because this work maybe highly finished, and accurately done the artists participation is not as blatantly obvious. It is not a surface affair. It must be sought after, studied. Works such as these, as agreed by the systems group, should give enough information to define the system that generated it. This information being there, it can be read, and so it is self-explanatory. It explains its own construction and what it deals with. In a sense it demystifies the art work, more so than in a more free art which can leave one wondering, with many possibilities, as to what exactly the artists is on about. In this sense can give the viewer pleasure at having deciphered it and in some senses makes it more approachable.

"Meaning follows from the presence of the work of art, not from its capacity to signify absent events or values (a landscape, the passion etc.,) This does not mean that we are faced with an art of nothingness or boredom On the contrary, it suggests that the experience of meaning has to be sought in other ways.....". (3) The systems group exists for the purposes of exhibition and discussion. A particular discussion which I am referring to was unedited and published in Studio Intermination (May 1972) (4) and was in connection with systems exhibition (1972). Several of the artists involved discussed with Stephen Bann and Tom Cross the variations in methods of employing systems, which is personal to the individual and the extent to which they chose to use them. Also discussed was the idea that this art was cold, calculated and impersonal and why these artists see it as not being so.

Because of the nature of discussion (this one being unedited) it being kept as open as possible one cannot take the statements of artists as being ultimately

what they believe in. Some are just comments in order to broaden topics and introduce new angles or just reflex reactions to what someone has said. Naturally some of these comments would be biased towards their own views or work procedures but I think it must be beneficial for all artists concerned to trash out different ideas in this way.

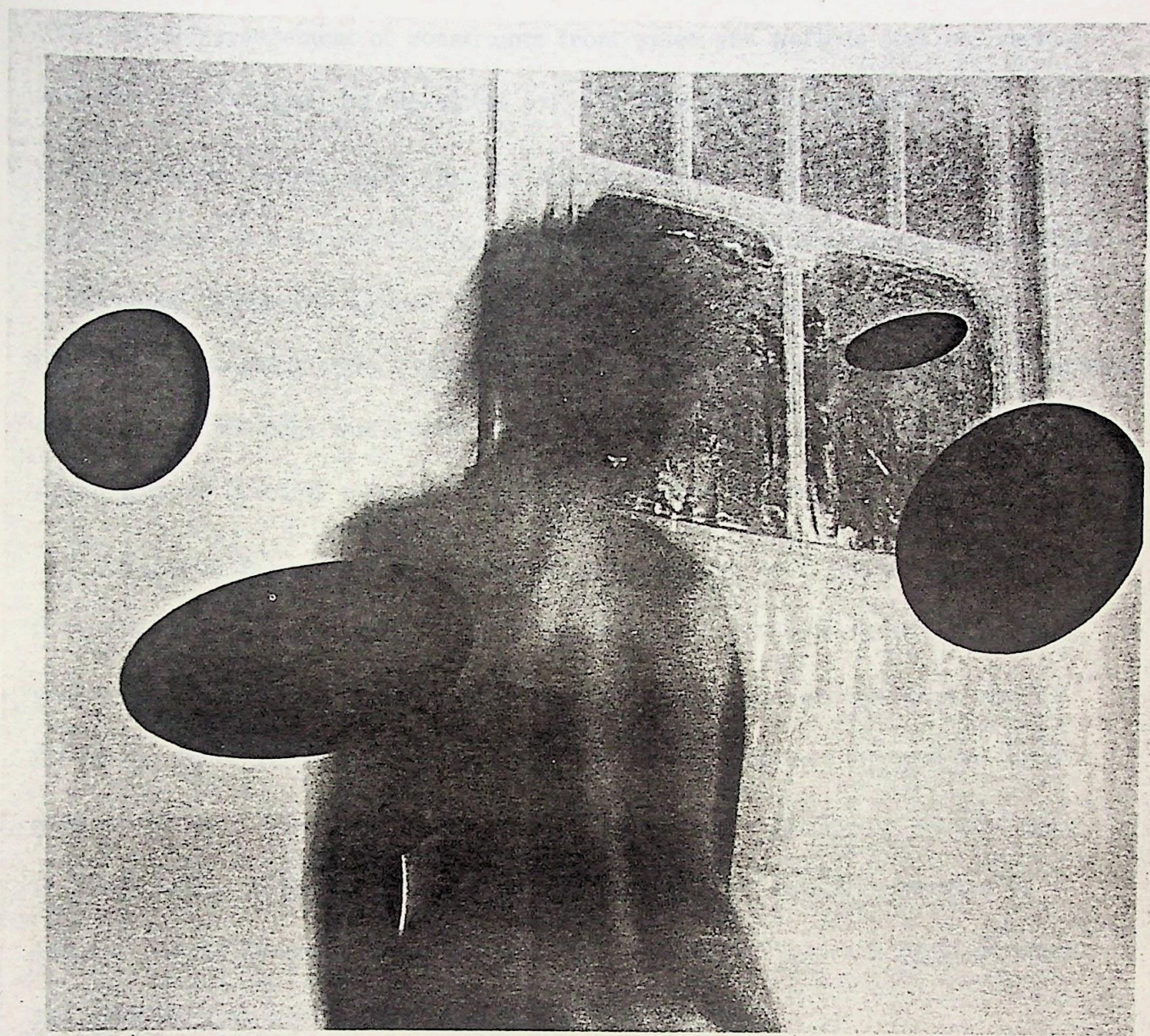
Within the group there are artists who work in the different ways I have explained earlier. Colin Jones considers that there are two distinct processes of working with systems 1. Those who write a score and then follow the logic of the score so the work is the result of decisions made at the drawing stage. 2. The artist who likes handling the elements all the way through and so the score or programme of the work, can change as a result of all kinds of decisions that are made whilst the work is going on.

The fact that both these procedures exist within the group would be I consider a healthy situation for purposes of discussion and selling alternative methods in operation. But as I have said before I don't think any hard and fast line can be drawn between the alternative methods as they are probably employed by all artists at varying stages.

Despite the different applications and uses or procedures in systems certain other issues are considered very important by all artists concerned. Although working in a structured systemized way which would be considered by many to be limited and confined the elements of Freedom and choice, the artists individual personal choice, must, and do prevail, in abundance in this area. Some would consider working in this way presents less freedom than working in a freer manner say as in abstract expressionism. In my opinion this is not so. In many ways it can present more freedom. We are all only limited by

our own set of rules and since these rules are instigated by the artist he has the freedom to set his own limits. He is not dictated to by a set of rules or system he has proposed himself. They are his rules and he manipulates them according to his own needs. He has made them, and can disrupt or destroy them. They have no power or potency other than that given to them by him. In the same way the abstract expressionism has laid down his set of rules or system. Depending on what direction one takes a system it presents as much freedom of choice and possibilities as do the many gestures of Abstract Expressionist. The individual act of invention is not in the forms themselves but in the particular ordering of them. "The artist who uses a given form begins each painting further along, deeper into the process, than an expressionist who in theory at least is lost in each beginning". (5) All the one image artist need to have done is his earlier work.

Choice of the artist is of utmost importance. Duchamp brought the creative act down to the level of Choice. "Choice sets the limits of the systems" and so affects the outcome and appearance of the work. Maybe it is because of the nature of using systems and that it seems always pre-determined calculated with no errors that makes people consider it to be detached and cold. Although the predictive powers of the artists are strongly at work he cannot always determine what the outcome will be. The selection of procedure and forms can initiate events and appearances which are not prefigured in the imagination. "The unknown is present in the known and familiar." Dave Saunders considers that the more restrictions one places on oneself the more freedom one is allowed. One may know the date one is feeding in, how many variables, elements, colours etc., how many all kinds of things, the modes of arrangement, generating structure and yet not be aware of the outcome. "If the thing is successful it will be more



No. 16. Laws of Form, Dave Saunders, London 1969.

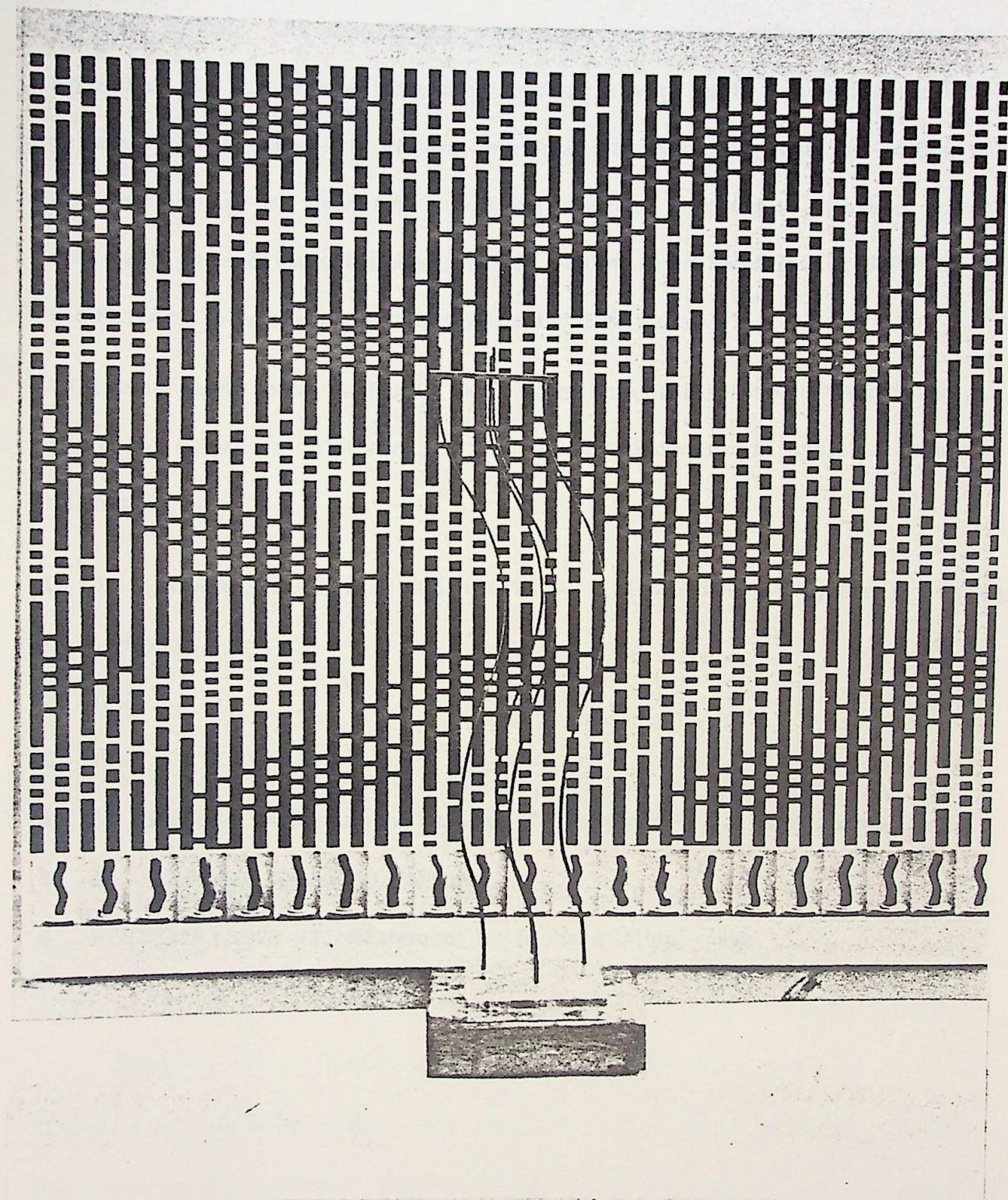
than the sum of parts and you don't know what the sum is going to be". He considers the arrangement of constraints as a creative process and the more elaborate the restraints the more rich in possibilities the outcome will be. "The initial arrangement of constraints from which you work is just as much a step into the unknown as the action painters step into 'the arena'".

Malcolm Hughes would agree that the starting off with a very rigorous system and depending on how you develop it, one can end up with a very great number of variables presenting greater possibilities, while Jeff Steele talks of the flexibility of working with a rigorous system. There is a balance between freedom and discipline and thus their relation to one another gives one the feeling of infinitely more freedom than what may be considered a freer way.

Malcolm Hughes considers the choice of system as being an intuitive act. It is where an act of identity takes place in terms of what system one chooses what way one develops it and from there how rigorously one can work with it. He makes decisions in stages and each state of decision enables him to have greater choice. Given the object one is looking at the particular starting point is retraceable, in his case a number sequence. From number sequence to shapes, shapes to tone, tones to physicality or colour each is a layer of choice and each with an ever increasing number of possibilities.

"You will always have Choice"- Peter Lowe somewhat in sympathy with Hughes he maintains that people think the use of systems rules out intuition. Choice is not always a rational thing, why this as opposed to that ? Personality is the irrational element which is not ruled out by the use of systems.

Most of the artists in this group would deny allegations that this art is cold and impersonal and rightly so. The choice of the artist and his system, if



No. 17. Column in front of its own image, second version, Michael Kidner, 1971.

considered as a set of human proposals of order forbids it to be considered so. The interference of human, in trying to decipher a code arrange componets in some ordered fashion and the will to have this information self explanatory is apparent enough. As John Ernest points out "any artist makes something that is special". No matter how impersonal looking a work is it represents his/her personal choice, choice of system, personal way of dealing with it, setting ones own restrictions and producing something which is personal to him/her. No one else could have devised the whole thing. Colin Jones feels that it definitily makes a difference in terms of how he personally does things.

"There is much scope in growth and change both in the form of media and in elemental make-up. The choice within the broad concept of systems seems to be unlimited". (6)

1. L. Alloway, TOPICS IN AMERICAN ART SINCE 1945. (Systemic Painting)
Page 87.
2. Ibid.
3. Ibid.
4. M. Hughes, "Notes on the context of 'Systems' ". Studio International.
5. L. Alloway, 'Systemic Painting'.
6. SYSTEMS, 1972-73. (Statement by Richard Allen, page 15.)

CHAPTER FIVE

SOME AMERICAN SYSTEMS ART

Differences of Approach

I have already touched briefly on the differences between the american approach to systems and the european but these should become clearer as one reads the information and is able to make comparisons and an evaluation for oneself. Unless one is willing to do an in-depth study of historical situations, what these differences are, precisely, is hard to pin-point, because it was through the succession of events in history that these differences occurred. I would be side-tracking from the main theme if I was to devote a lot of time to this. Rather, I would prefer to deal with very basic information, which although only touching on the reasons for the differences is enough to acknowledge them.

European artists had visited both America and England during the early stages of the twentieth century and later on, in the advent of World War 11 there was an even greater influx of these artists into both countries. Thus, they were to have some considerable influence on the course of modern art there. Therefore, this influence provides a common bond between the two countries, but

it is in the acceptance of this influence, and the use of information that the differences begin to occur. American artists have always been reluctant to acknowledge these influences, wishing to find an art that was namely american. Unlike the english artists, they did not work within the rigorous principles of Constructivism. However, it must be acknowledged that these earlier european artists had laid the ground-work to enable them to proceed in the way they wished. They chose to follow a course, where these earlier ideas could be used but at the same time altering the level of perception by introducing new factors such as scale and a more intense use of colour. Thus they produced an art, which although in some ways derivative, was not as directly linked as the english approach. The english approach is more directly linked with constructivist ideas and thus is more concerned with rigorously exploring systems and with more rigorous definitions. The information in the work is to be studied and deciphered by the viewer. American systemic painting grew out of a need for change and as a rejection of values which had persisted for a long time. A re-assessment of the position of art. Unlike the english, they reluctantly accept influence and have little time for mathematical mysteries or theory. They dealt more in a sense of immediacy. The painting as a whole, one unit, to be taken in on an immediate level of response. In order to make this somewhat clearer I propose to deal very generally with how systemic painting evolved, what its concerns were and what artists were involved. In the second section of this chapter I will deal more directly with the american artist Sol Le Witt.

Systemic Painting.

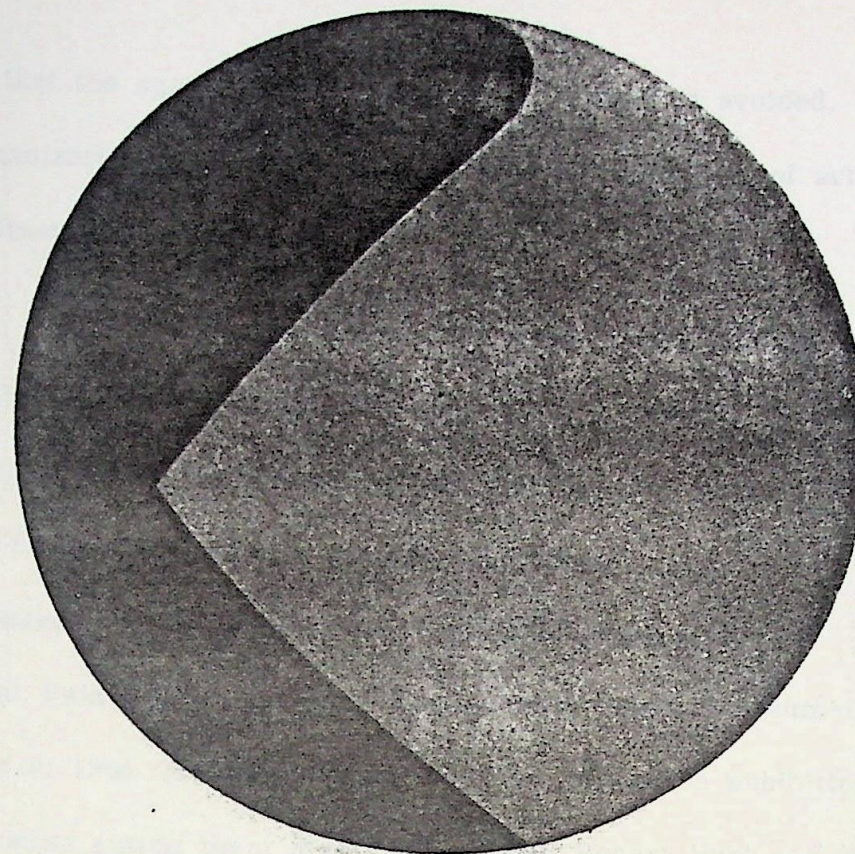
During the years 1947-1954 the american art scene was dominated by a form of art termed Abstract Expressionism. This form of art placed emphasis

on the materials used, and the work of art was seen as a process record of the creative act and as a vehicle for recording the anxieties of the artist. Many of the younger artists expressed dissatisfaction with this and it became apparent to them that alternative forms of art should be pursued. This rejection or shift from gestural handling is evident in the work of younger artists, eg; Jasper John's 'Targets' from 1955, Noland's circles from 1958, etc; . However, there were a few of the older artists who did not come as decisively under the heading of Abstract Expressionism, namely, Mark Rothko, Clyfford Still, and Barnett Newman. It was obvious from their work that they were not as interested in gestural marks and autobiographical statements and it is clear in the work of younger artists that their work was worthy of note. Of the three Newman was probably the most influential. His work had been admired in two exhibitions in New York (1951-52). With the shift of sensibilities away from gestural art the admiration and audiences for his work increased. His work presented a new way of looking and a new set of ideas for younger artists. He asserted the wholistic character of painting with a rigour previously unknown. His paintings could not be seen or analysed in terms of small parts. The total field was the unit of meaning. In 1951 he painted narrow canvases which were related in height to a man's size and could be said to have pre-figured the shaped canvases of ten years later. Newman made the essential moves, by reducing the formal complexity of the elements in painting to large areas of single colour he had made the break between an art predicated on expression and art as an object. In 1958 Newman had an exhibition in Bennington College which was repeated in New York the following year, and the echoes of his work were immense. In 1960 Noland's circles which had been gestural in handling became tighter. He also had influence on the work of Stella, Downing etc;. Newman helped to expand the possible choices

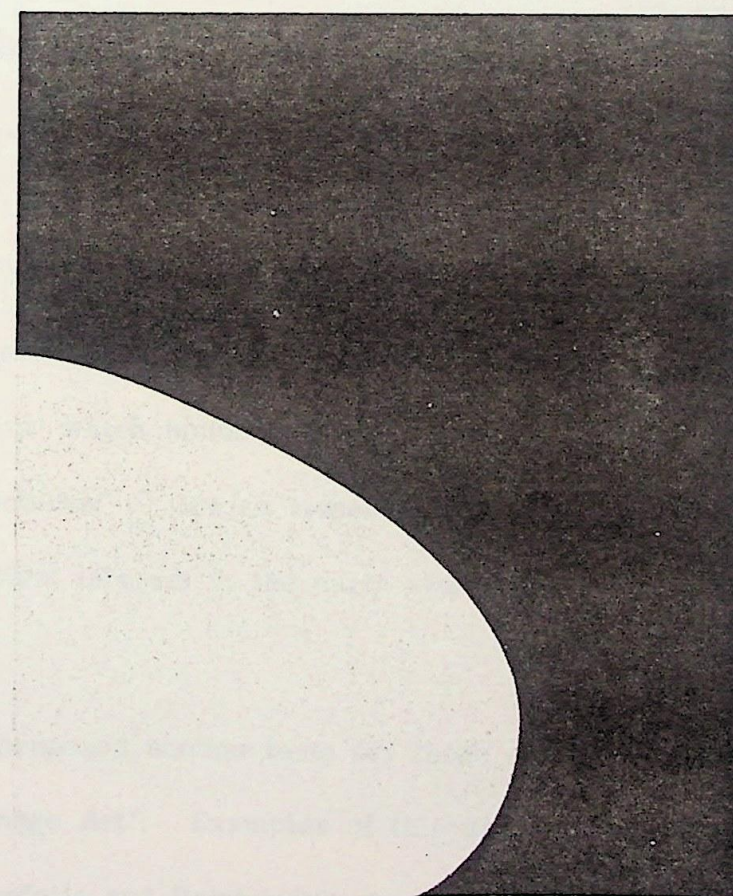
of the artists in mid-century New York and it is important that his presence and influence should be acknowledged.

Alternatives to Abstract Expressionism were not easily come by and had to be formulated by artists through experimentation. During this period the names of certain artists repeatedly crop up as being the ones who were experimenting changing, and trying out new things in an effort to find a new art form. Artists such as Leon Smith, Ellsworth Kelly, Ad Reinhardt, Johns, Stella, Rauchenburg, Liberman, Noland and many others but enough have been mentioned to show the artists awareness of the need for change and that a shift in sensibilities and artistic ideas had occurred.

Many new terms evolved during this period. To the first phase of non-expressionist New York painting the term Hard Edge was applied. This term was an invention of the critic Jules Langsner who intended it to refer to geometric art in general because of the ambiguity of the term 'geometric' (1). This art was also seen as an unexpected reconciliation of geometric art as structural precision and recent american painting as colorist intensity. L. Alloway, on the other hand, sees this form of art as combining, economy of form, neatness of surface with fullness of colour, 'without continually raising memories of earlier geometric art'. (2) There are some basic differences between 'Hard Edge' and 'Geometric'. The basic geometric forms such as cone, cylinder and sphere have persisted in much twentieth century painting. Even where they have not been purely represented abstract artists have tended towards a compilation of seperable elements. Whereas, in 'Hard Edge' forms are few and the surface immaculate. The whole picture becomes the unit, forms extend the length of the painting or are restricted to two or three tones. The result of this sparseness



18. Leon Polk Smith: *Black-Gray* (1955). Oil on canvas, tondo, 24" diameter.



19. Leon Polk Smith: *Correspondence, Red-Black* (1962). Oil on canvas, 33" x 27".

is that the spatial effect of figures on a field is avoided. This wholistic organization is the difference between the new form of art and earlier geometric art.

A series of exhibitions, both group shows and one man, made possible public recognition of this new sensibility. I include an abbreviated list here of some of these exhibitions in order to show the quantity of work produced and the immense interest in this new art form.

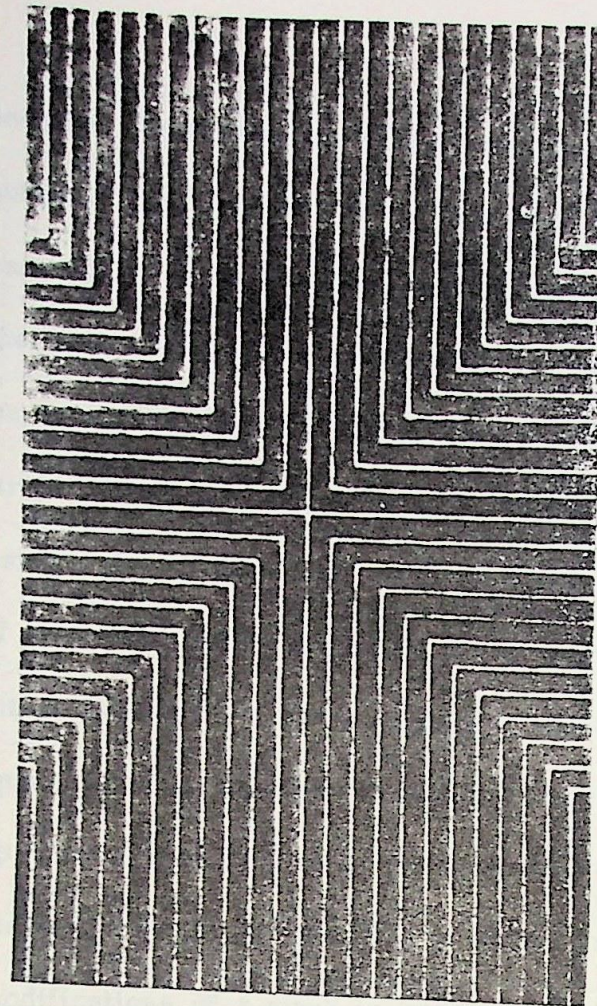
'Towards a New Abstraction'- Jewish Museum-(1963)

'Post Painterly Abstraction'-Los Angeles County Museum-(1964)

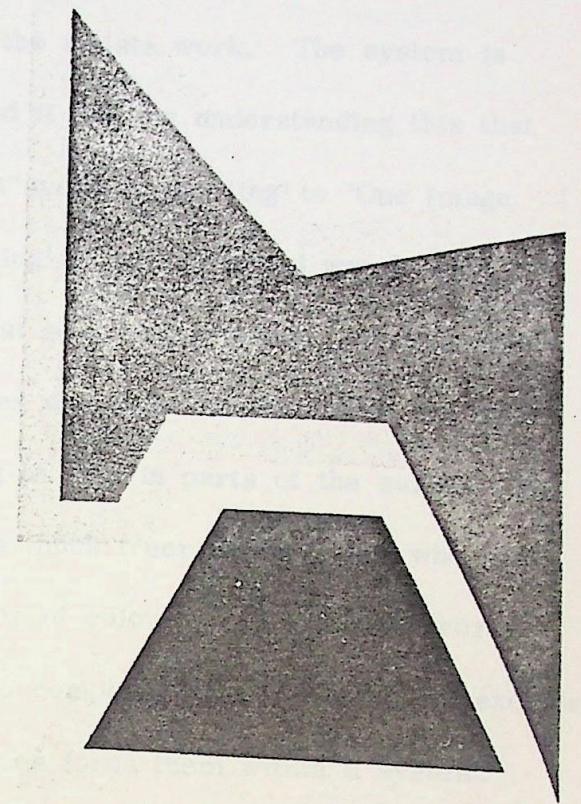
Also in 1964 the Hudson River Museum put on an exhibition of eight young artists including among them Robert Barry and Robert Huot, L. Alloway quotes E. C. Goossen who described the group characteristics as follows.....

"None of them employs illusionism, realism, or anything which could possibly be described as symbolism....." and stressed that the artists were concerned with conceptual order. (3) In 1964 Noland occupied half the U.S. pavilion in the Venice Biennale and in 1965 had a very large exhibition in the Jewish Museum. Also in 1965 the Washington Gallery of Modern Art had an exhibition 'The Washington Colour Painters' which included work by Noland, Downing and Mehring. 1966, 'Primary Structures' - Jewish Museum. This list of exhibitions shows that both public and critical interest in the early sixties had left Abstract Expressionism.

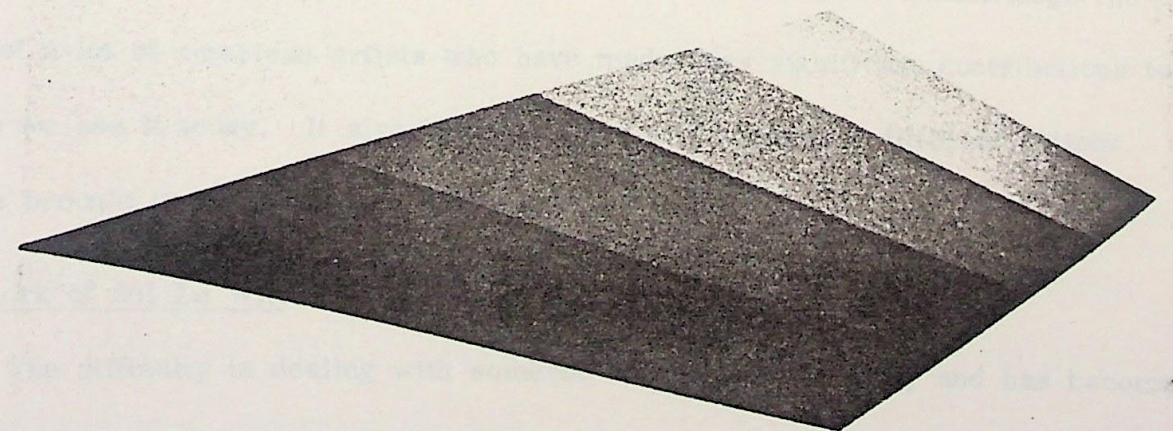
Lawrence Alloway has proposed another term for these artists who use repeated configuration, 'One Image Art'. Examples of this are Noland's chevrons Downing's grids, Feeleys quatrefoils and Reinhardt's crosses. The artist who uses a given form begins each painting further along into the process. The form



20. Frank Stella: *"Die Fahne hoch"* (1959). Enamel on canvas, 121½"×73". Collection of Mr. and Mrs. Eugene M. Schwartz, New York.



21. Frank Stella: *Wolfeboro, II* (1966). Fluorescent alkyd and epoxy paint on canvas, 136"×100".



22. Kenneth Noland: *Brown Stretch* (1966). Acrylic on canvas, 84"×88".

becomes meaningful because of repetition and extension. The recurrent image is subjected to transformation. The run of the image constitutes the system and can only be seen in full by seeing enough of the artists work. The system is the means by which we approach the work and it only by understanding this that we can understand the application of the term "systemic painting" to 'One Image Art'. Alloway uses the term 'systemic painting' in a very broad way in his essay. (4) It refers to paintings which consist of a single colour, or to groups of such paintings. Paintings based on modules are also included, with the grid either contained in the rectangle or expanding to take in parts of the surrounding space. It also includes artists who work in a much freer manner, but who end up with a wholistic area, or a reduced number of colours. In all these works the end state of the painting is known prior to completion but this does not exclude modifications of a work in progress, but it does focus them within a system. Errors occur off the canvas and the predictive powers of the artist are strongly at work from ideas and early sketches, to the making of exactly scaled and shaped canvases. (A lot of these artists are helped by assistants, and this idea will be gone into more when I deal with the work of Sol Le Witt.) I realise that this is brief and very general but it is included in an effort to acknowledge the work of a lot of american artists who have made very significant contributions to art as we see it today. It also helps to show how seemingly different artists can be brought under a common heading.

The work of Sol Le Witt.

The difficulty in dealing with someone whose work is vast, and has become so widely appreciated as Le Witt's is literally knowing where to start. His contributions to art and art thinking, are so numerous that it is hard to decide

which aspect will best illustrate his talent, knowledge and understanding of art as it stands today. A lot has been written about, and by him and one begins to wonder if in fact there is anything else to say. I wish to try to present his work as another aspect of the use of systems, and show within this context some of his contributions and how his approach to work differs from other artists working in the field. Some of Lewitt's ideas would be considered very questionable by those who prefer to think of art as being the artists self-expression, and would place emphasis on the artists involvement and execution of his own work. Lewitt, as will be shown, is capable of dealing with and justifying his own procedures.

I propose to deal with some pieces of his work in order to see how the end product is arrived at through various states, from the initial conception or idea. I also wish to deal with some of his writings as I would see these as being very articulate explanations and justifications of his own procedures.

S. Larsen quotes Sol Lewitts Statements on conceptual art as guidelines for an art of systems, This interests me immensely, but I would also see them as the declarations of a man who wishes to be clearly understood and is concerned with all different aspects of art and artistic ideas.

Lewitt has used the square and cube as basic units for some time. These, simplest of geometric forms are the primary ingredients for work both in two and three dimensions. Like his structures, his drawings are composed according to a simple rule and use basic elements. Four basic kinds of straight lines, Vertical, Horizontal, and two Diagonals. In colour work he again returns to basics using three primaries plus black.

Throughout his career we can see Lewitt's continually shifting interest from the two dimensional to the three dimensional. In his earlier work Lewitt was concerned with container-like volumes. He experimented in two opposite directions, enclosing something very big, he proposed building a box round the Empire State Building, and letting something small be enclosed, he buried one of his small cubes. Later he discovered that when his 'orders' or 'concepts' had been executed they were inevitably enclosing space. His later wall drawings reflect these same concerns. When actually realized they become much more complex than the initial order. Lines and volumes interact and enclosing and enclosed are combined as well as revealed and hidden. From 1962 he made structures. These could not be considered either painting or reliefs but both. The shapes on the 2D surface were projected into relief. He worked with the picture plane in three dimensions by building out from it. The ratio 8:5:1 was always used and materials and colour worked out before hand. By 1965 when he finished he was painting the structures white instead of black as they became or were seen as more a part of the white wall.

From 1966 he has been working with serial forms. These serial compositions are multipart pieces with regulated changes. The difference between the parts are the subject of the compositions. The entire work would contain sub-divisions that could be interdependant but could comprise the whole. Again he uses the cube and square because they are universally recognized standards. They are the least emotive ;ie; implying no emotion but are simply themselves. A more complex form would be too interesting in itself and would obstruct the meaning of the whole. He also uses the grid as a basic ingredient in these works. Usually the grid and cube would have the same ratio of line (matter) to internal space so that the three-dimensional objects grow out of the two-dimensional grid.

Lewitt feels that even though the individual elements from which works of art are built, are in themselves empty and meaningless, one can make or render them meaningful by making them integers or parts of a logical system.

For eg; a cube on its own means little but when it is incorporated into a system or sequence it takes on further significance. Three types of 15" cubes were the basic components in his sculpture in Dwan Gallery, Los Angeles.

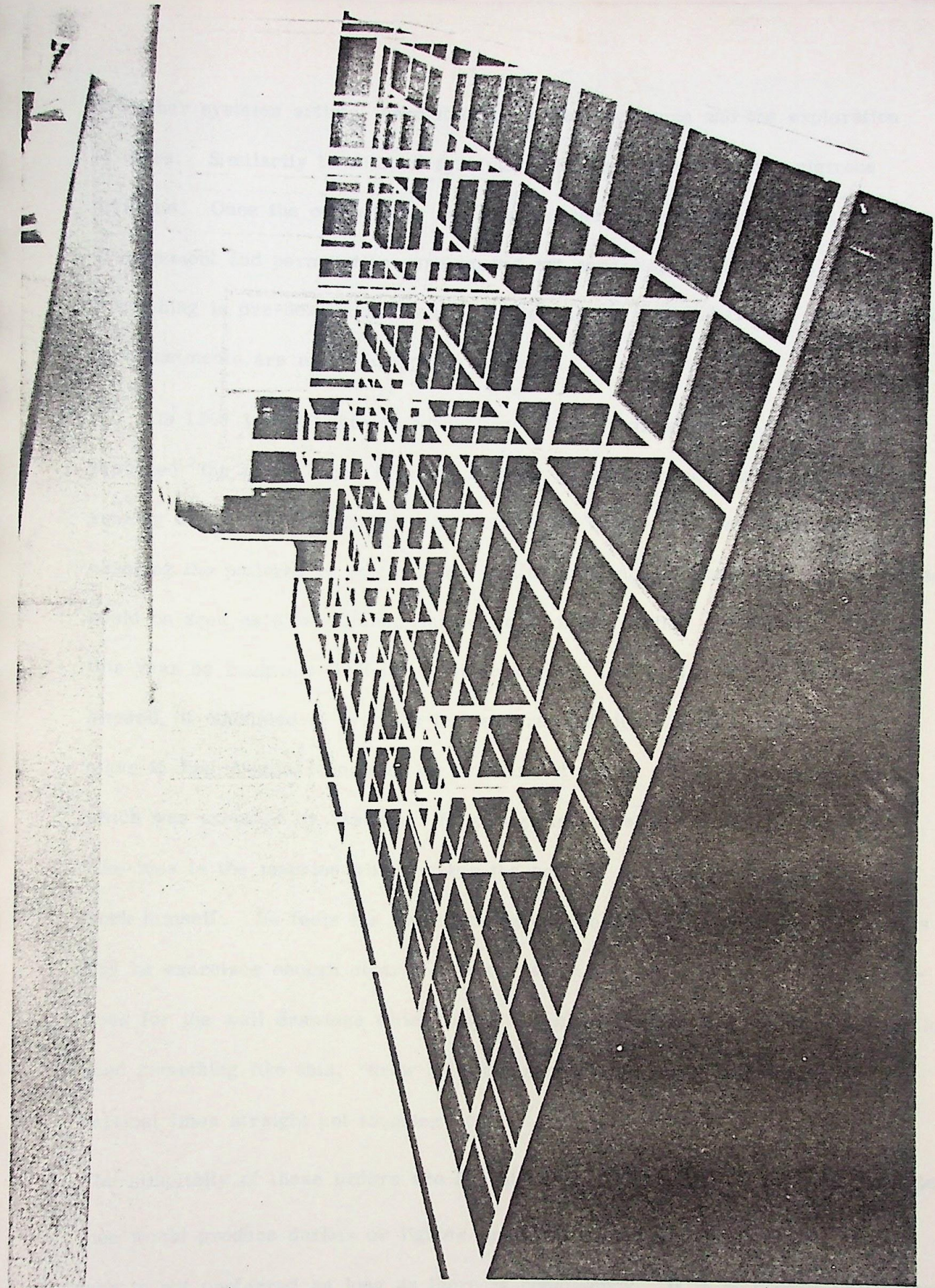
1. Closed.
2. Open on two opposite sides.
3. Open on one side only.

These three types were considered as representing the only three topologically distinct variations which a cube can have. They were stacked three high.

The permutations, or variables of combination within the system were determined by two things.

- A. The possible orientations.
- B. The possible placement of each kind of cube within any one stack.

The stacks were arranged in eight rows, each successive row setting out the possible solutions in a fixed order of permutation. That is, the first row establishes all possible permutations when each stack contains only one of the three kinds of cubes. (Within this and following rows variations in orientation precede variation in placement) The second row establishes all instances when the first type of cube is the predominant member of the stack. Likewise 3rd and 4th rows for 2nd and 3rd types. The integrity of each row's completeness as a sub-set within the overall system is maintained by mounting each row on a continuous strip running along the floor of the gallery. The strip only functions as a means of connection between the groups. It has no other function within the logic of the system. In this we can see the interests common to Lewitt

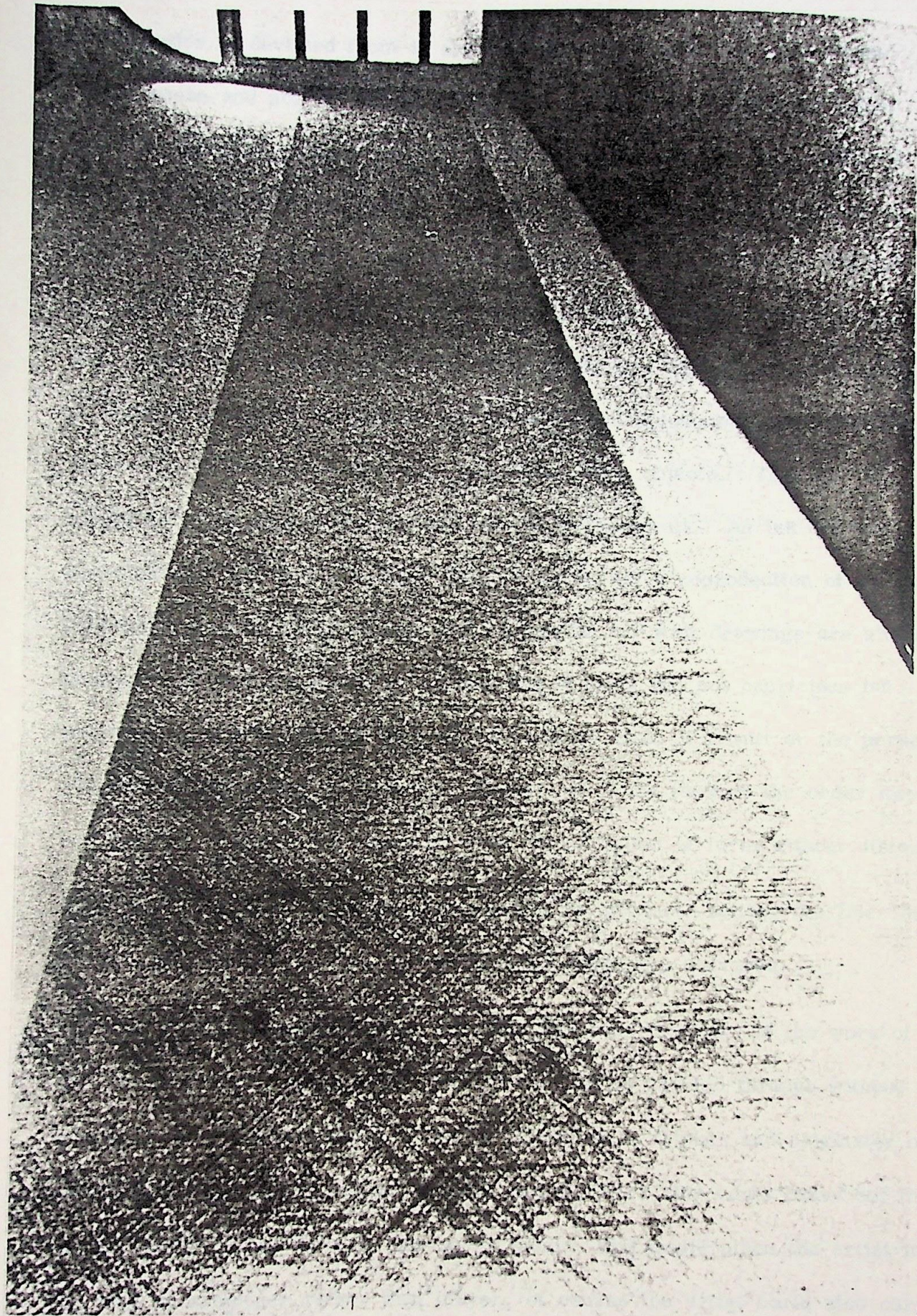


No. 23. Sculpture Series "A" 1967. Installation Dwan Gallery, Los Angeles.

and other systems artists, permutations, order, sequence and the exploration of these. Similarly to a lot of systems artists he works within a rigorous discipline. Once the components are selected and the system laid down, the arrangement and permutations are worked out according to that set of rules. Everything is pre-determined and the system is not deviated from. No mistakes or adjustments are made during the execution.

In 1968 Lewitt began to concentrate more on drawing. In this year he produced "the xerox book" in which he took sixteen squares made up of lines running in different directions. He worked out twenty four permutations, changing the patterns of vertical, horizontal and diagonal lines each time. These could be seen as a two dimensional version of his earlier sculptures. Also in this year he made his first two wall drawings. One in New York, executed by himself, it consisted of two four feet squares put directly onto plaster. The other in Los Angeles consisted of two tiers of twenty four, four foot squares which was executed by assistants following his verbal instructions. As it is "the idea is the machine which makes the art" (1) he does not execute all the work himself. He feels his ideas can be transmitted through orders and in this way he exercises enough control over the work even when absent. The instructions for the wall drawings which Lewitt or other draughtsmen would follow would read something like this, "draw 10,000 straight lines three inches long or vertical lines straight not touching" (2)

The simplicity of these orders are essential to his intentions. Different draughtsmen would produce darker or lighter lines and closer or further apart. One type is not preferred as long as there is consistency. It is of utmost importance that the integrity of the initial order must be respected and that no new decisions are taken in the course of realization. Lewitt considers this of vital importance.



No. 24.

解. Sol LeWitt: *Wall Drawing* (1969). Pencil on plaster, approximately 40" x 410". Draftsman: Hans Herrmann. Konrad Fischer Gallery, Düsseldorf.

If the order is deviated from in any way then it becomes the work of the draughtsman and not the artist. These earlier drawings were done rather lightly using hard graphite so that the lines became as much as possible a part of the wall surface visually. In later drawings the superimposition of line and colour provide progressive gradations of tone and colour. He had started off by using part of the wall then gradually all, first using hard pencil then crayon but he always wanted the line to be as a visual part of the wall, to maintain the plane of the wall and to be as two dimensional as possible. These wall drawings are seen as ideas rather than objects. They can be moved by being painted out and redrawn on another wall. An ink drawing accompanies each wall drawing. This is a plan not a reproduction of the wall drawing. Each is equally important. The plan for wall drawings are always presented so that the viewer will know that changes are not capricious but systematic. "When changes happen it is not the fault of Lewitt or the person who 'blindly' executes the drawing. Rather, it is the fault of the order itself for it cannot go from the realm of ideas to the realm of form without distortion". (3)

As Lewitt says himself the process changes the product, neither the lines or words are ideas but are the means by which ideas are conveyed.

The original conception of the artist (perhaps intuition) of the work of art was of primary importance; the work would be carried through without deviation. This proposes the notion of the artist as thinker and originator of ideas rather than a craftsman, others, perhaps were able could carry out the artists design if one uses an analogy to music, this would place the artist in the role of composer rather than player, of course the artist could also carry out the idea. (4)

As early as 1967 Lewitt referred to his work as being conceptual art meaning that all the planning and decisions are made beforehand and the execution is a perfunctory affair. The idea that all planning and procedures are pre-determined is inherent to a lot of systems art. Any mistakes or adjustments or decisions to be made are done before the execution of the final work. With Lewitt this is even more crucial as most of his work is executed by others. In his statements on conceptual art this position he has taken is clarified. I have listed them here as I consider them to be very supportive to his art explaining and clarifying his attitudes to work eg; of which I have already gone through. They also provide evidence of his efforts to clarify and understand the terms he works under and artistic ideas in general. I have taken the liberty of numbering them in order to make reference easier. (5)

(In listing these statements I do not wish them to be seen as part of the content of this but rather as an illustration which can be referred to).

These statements give an insight into Lewitt's extensive knowledge and understanding and why and how he can choose to work in the way he does. They show his ability to back up and justify these procedures. "These statements are not art" as he pays himself, but they relate directly to it and help clarify its position. There is no superficiality or shallowness involved here, of being involved in an art form which is fashionable. Rather there is an in-depth study of the validity of this form of art and evidence of his own beliefs in it, and understanding of it. They have been thought out logically and as one reads gives the impression that the next will clarify even more the one being read. They deal with all aspects of conceptual art and as the links are evident, with an art of systems. The problems which have arisen, or may arise from initial conception, through execution to finished product and then to the viewers perception

SOL LE WITT - STATEMENTS ON CONCEPTUAL ART.

1. The concept and idea are different. The former implies a general direction. The latter is the component. Ideas impliment the concept.
2. A work of art may be understood as a conductor from the artists mind to the viewers. But it may never reach the viewer, or it may never leave the artists mind.
3. The words of one artist to another may induce a chain of ideas if they share the same concept.
4. All ideas are art if they are concerned with art and fall within the conventions of art.
5. Perception of ideas lead to new ideas.
6. One artist may mispercieve (understand it differently from the artist) a work of art, but still be set off on his own chain of thought by that misconstruing.
7. Perception is subjective.
8. The artist may not understand his own art. His perception is neither better nor worse than that of others.
9. The concept of the work of art may involve the matter of the piece or the process in which it is made.
10. Once the idea of the piece is established in the artists mind and the final form decided, the process is carried out blindly. There are many side effects which the artist cannot imagine. These may be used as ideas for new works.
11. The process is mechanical and should not be tampered with. It should run its course.
12. If an artist uses the same form in a group of works and changes the materials one would assume that the artists concept involved the material.
13. It is difficult to bungle a good idea.

(These statements comment on art but are not art).

No. 25.

of this work on various levels. In my opinion they display a thorough investigation of these and display a deep understanding on the part of Lewitt.

I hope that this has succeeded in showing Lewitt's versatility as an artist, and as one who wishes to explore all possible means. In this and in other basic ways he can be compared to the other artists I have dealt with. All have the wish to explore all possibilities to the fullest extent. Other common ground is the obvious interest in order, sequence, permutation etc., and the exploration of these phenomena in their works. The will to keep options open by working in two and three dimensions exploring their relationships using opposites, positive-negative, adding and subtracting. He works as rigoursly with his systems as do any of the English systems group but, however, not within the same context. His work must be seen in the context of his own cultural background, America, where emphasis is laid on different things. His art in many senses has come out of a very different set of events to that of English artists and for different reasons. (The fact that Lewitt does not execute his own work may be seen as a superficial difference - it is irrelevant as he sees himself in the role of artists as thinker, other artists may wish to do this but do not have the facility).

There is no real need for me to draw any more comparissons here. The quality and quantity of Lewitts works and writings stand as explanation and justification enough of his procedures. The writings although not considered art in themselves are solidly supportive of it. He has explained himself clearly. He goes beyond surface levels with a deep commitement to understanding and promotion of the understanding of art. For this he must be respected.

Section 1.

1. L. Alloway, TOPICS IN AMERICAN ART SINCE 1945. (Systemic Painting page 79.)
2. Ibid.
3. Ibid, page 82.
4. Ibid, page 89.

Sol Le Witt

1. L. Alloway, TOPICS IN AMERICAN ART SINCE 1945. Page 96 (Sol Le Witt)
2. Ibid.
3. Sol Le Witt, Museum Of Modern Art.
4. Ibid.
5. See Statements on Conceptual Art.

CONCLUSION

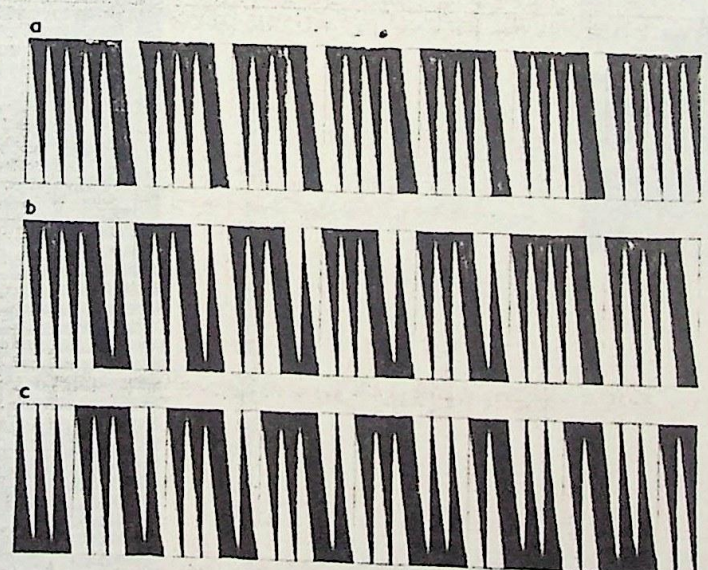
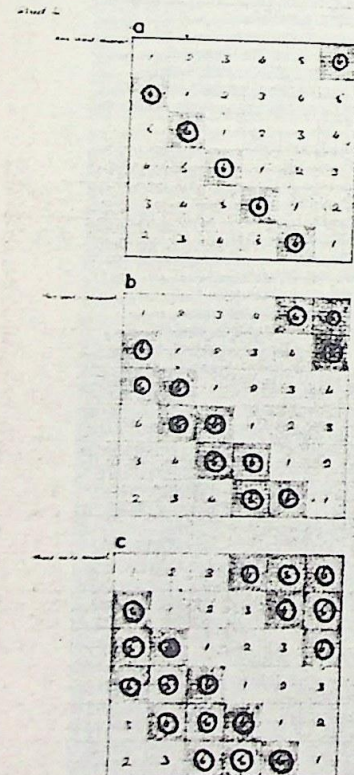
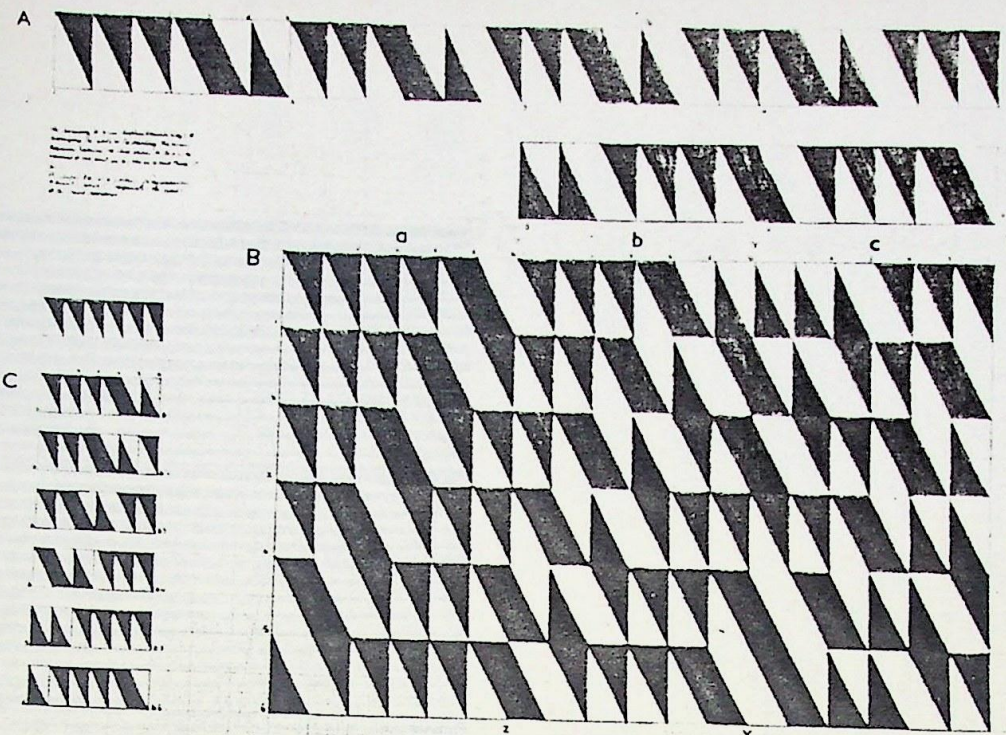
I think I have discussed the work of enough artists to show the versatility of the use of systems, how this interest evolved and how systems will continue to be used for some time to come. There is difficulty in trying to conclude some thing which is still current. Art is an on-going process and, therefore, it is usually when a movement has run its course that conclusions are arrived at as to what its values, influences, etc., were. It is probably more important to try to assimilate the effects or significance ideas have when they are current, because it is then when they have the most vitality and interest.

The artists I have chosen, have shown themselves to be dedicated to their work. There are no half-measures, no second-bests but only a common commitment to the exploration of ideas to their fullest possibilities. What is of great importance also is the affiliations they wish to have with things normally considered to be outside their field of practice. Not only with the other arts, poetry, literature music, etc., but also with the sciences. In today's technological world these are very necessary affiliations and interests to have and only make for more credibility. Technology has advanced the possibilities for exploration in all fields today. Art must continue to move and advance with these new developments. It must not

ignore them but use them to their fullest advantage otherwise it will stagnate and have little relevance for todays society. If it is to make any contribution it must add to or at least reflect these new developments. It must not be isolated but be an active force within these other movements. Constructivism in the early machine age was deeply in touch with what was going on socially and politically and that is why it still has such potency today.

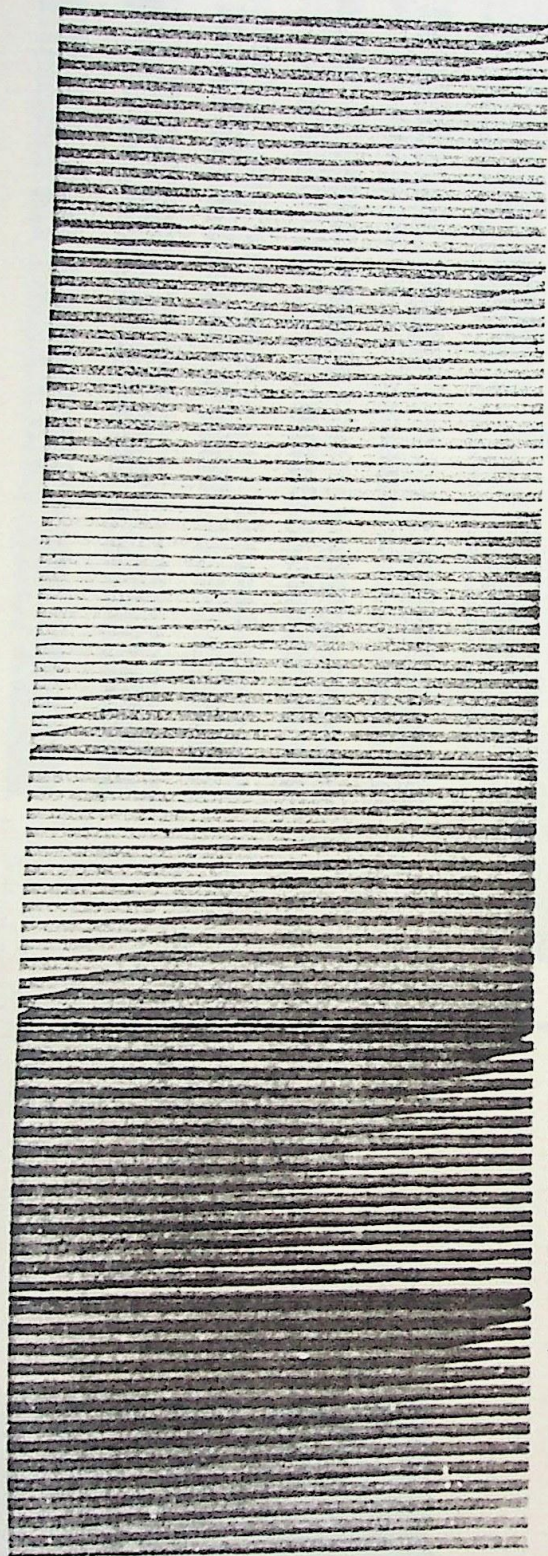
However, this does not mean the personality or indivuality of the artist is at stake. On the contrary the individual approach can only add to our information, for it is the individual approach which gives infinite variety to ideas, and this is where originality occurs. Art should not be lost in the impersonality of high technology but should see its way to using this as a tool for the advancement of art ideas and as a way of broadening arts horizons. These artists may not be as forceful as I have made out, or they may not have all the necessary requirements. They do, at least, show awareness for the need of an art which can advance within the context of the twentieth century. The need for interaction between different sources of information and interests. The significance of the individual approach or the significance of art will not be lost if it shows concern and interest with things which are relevant in todays world.

THE END

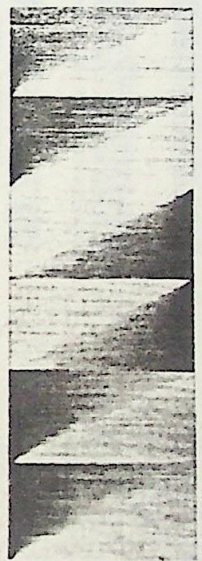


No. 26. Drawing , Three sets, eighteen variations, Richard Allen.

No. 27. Drawing, Unit inversions, Richard Allen.



No. 28. Painting to Scale , R. Allen

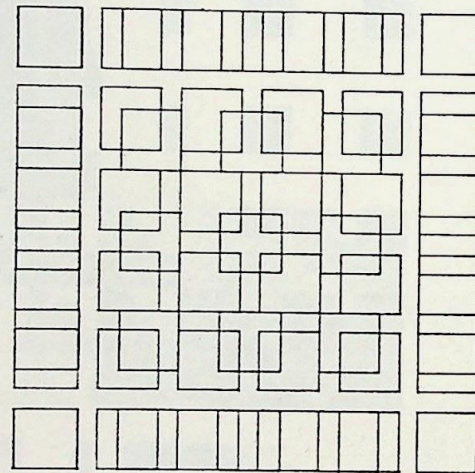


No. 29. b/345612 , R. Allen



No. 30. Column in front of its own image 1971, M. Kidner.

2. Grid
3.1.3.1...
3.2.3.2...



repeated identical squares, each with different intervals:

for instance: A. 3.1.3.1.3.1...
superimposed on: B. 3.2.3.2.3.2... (fig. 3)

Sequence B gradually draws away from sequence A. Which can also be seen in terms of number relations:

A	0	3	4	7	8	11	15	16	19	20
B1	0	3	5	8	10	13	15	18		

The networks in the geometric version rapidly get too far apart to be useful; they either have to be treated as finite, or extended by means of symmetries. Numerically, there is a return to the identity of the origin, though

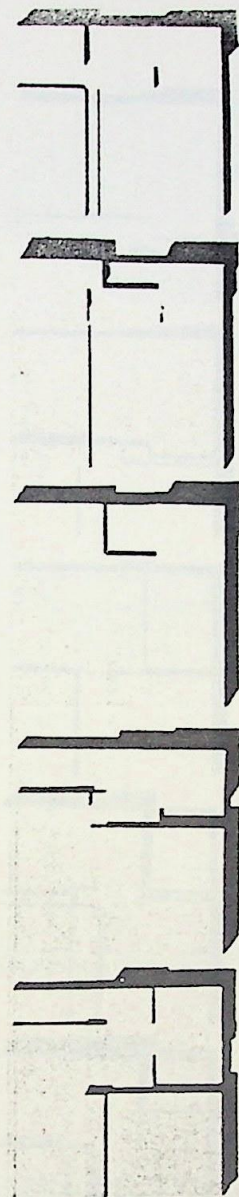
A has completed five cycles: (3,1) . (3,1) .
or: 4 . 4 . 4 . 4 . 4 . 4
and B, four cycles : (3,2) . (3,2) .
or: 5 . 5 . 5 . 5 . 5 .

that is, A has taken five steps of four to reach 20. It could return in the same way; in fact it could oscillate. So could B, at a different rate.

So, the geometric displacement is transferred to a purely numerical one, and out of this development arises the notion

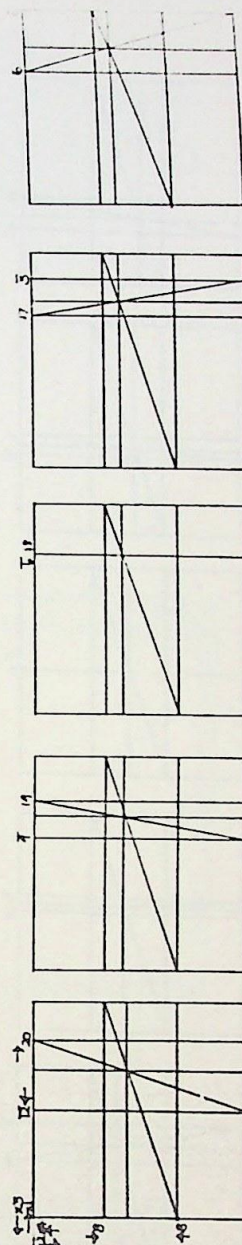
The structure of 'Relief 1, 1972' (fig. 1, p. 49) underwent such an evolution. Its origins lie in an interest in gradual displacements; the first grid of this nature (fig. 2) consisted of two networks of

4. Jean Spencer, maquette for Relief 1 1972

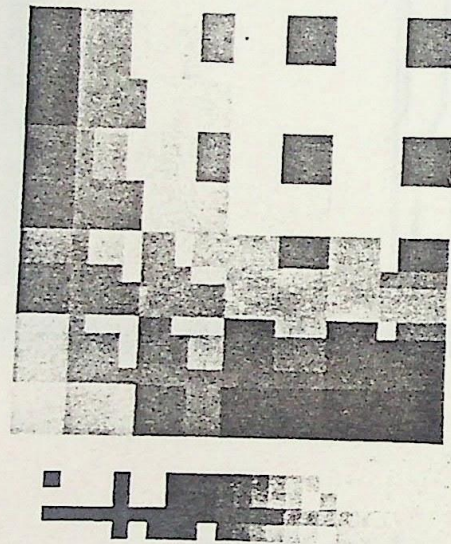


Graham Bishop,
Corry Bevington

5. Jean Spencer, drawing for Relief 1 1972

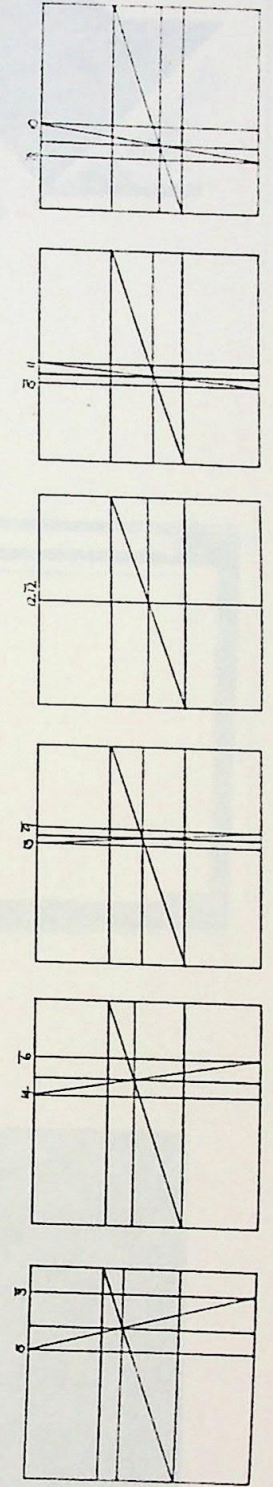
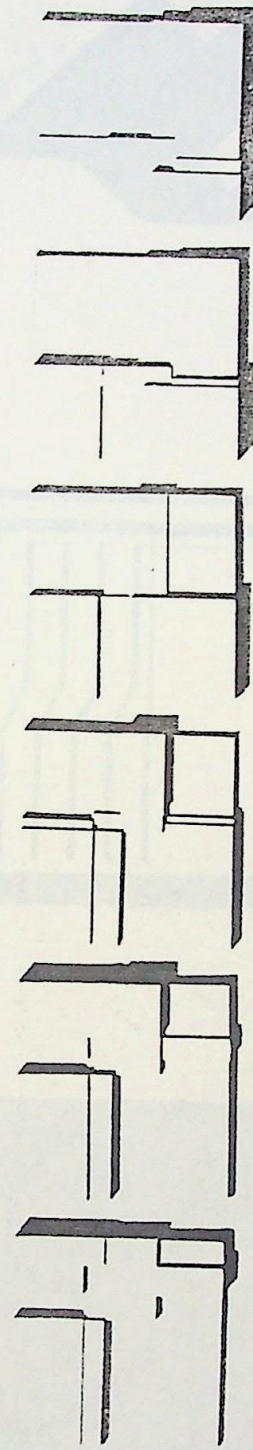


3. Jean Spence, gouache April 1970



Graham Bishop, Corry Bevington

of 'instance', or separate identical units containing moments isolated from a continuous pattern of movement. The pattern is formed by points oscillating at different rates across the units.

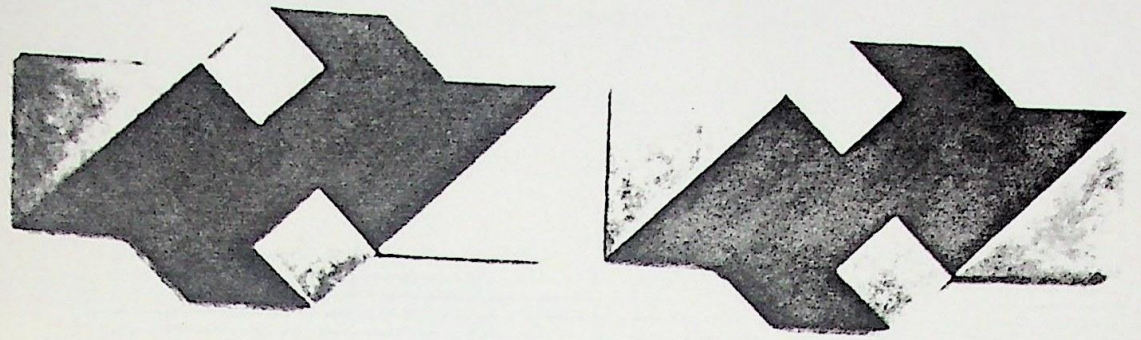


horizontally and vertically, the individual units contain all information relating to the structure at any particular moment. Sequences of units reveal linear change, and from the total grid new patterns emerge—displacements, coincidences, repetitions, rhythms (fig. 4).

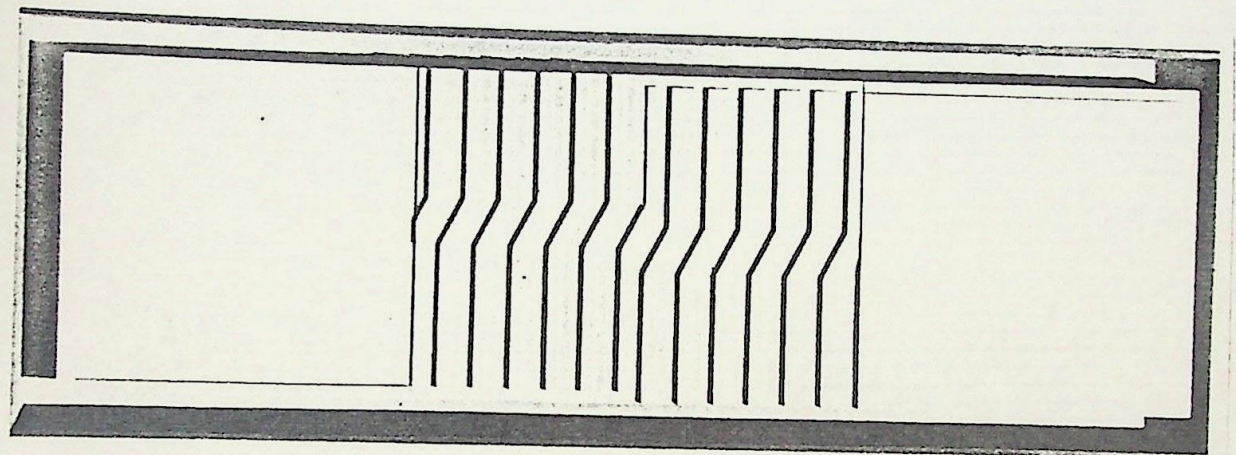
From these primary structures secondary structures can be extracted. For instance, the point of intersection of the diagonal joining the horizontal divisions and that joining the vertical divisions. The movement of this point is a function of the composite movement of the four primary points, and, as such, it loci, traced over the whole grid, are of a very different nature from that of the simple numerical movements (fig. 5).

The actual data that emerges in the final form of the painting or relief aims at clarity and economy, an explicit statement of the sense (not essence) rather than the entire mechanics of the system.

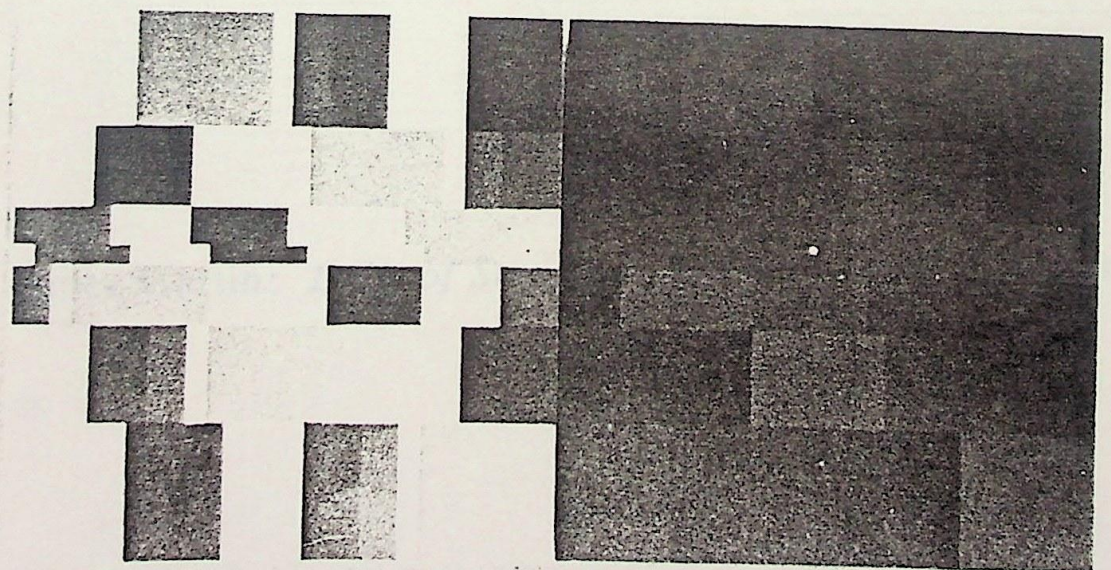
The organization of the values of the elements (height of relief, tone, hue, etc.) may be directly related to the actual proportional values of the elements (this can be very complex where the secondary structure is involved), or can be generated independently by a parallel system. For instance, a central element is constant (rather as the size of the unit is constant) and all other elements change within defined limits, relative to this constant. In order to retain the readability of the linear structure, no element is ever equal either to the constant, or to its adjacent elements.



No. 32.



No. 33.



No. 34

26. Agnes Martin: *Drift of Summer* (1965). Acrylic on canvas,
50" x 50",

No. 35

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