Chapter 8

Michael Kidner : The big bang, chaos and the butterfly

Introductory

Toulouse-Lautrec started painting as a teenager in the 1870s. Michael Kidner took it up as an adult in the 1950's. The former was involved in the early days of the Modernist paradigm shift, the latter arrived on the scene when the artistic community had been exploring its multifaceted possibilities for over eighty years. Various issues had emerged and needed further clarification, not least the problem of the habitual nature of skill. The dangers of allowing habits of thinking and doing to dominate artistic production were early recognised and a variety of attempts had been made to escape their intrinsically conservative influence. However Michael Kidner (born 1917) felt that these had never altogether succeeded and embarked upon yet another attempt to find a way of breaking free from them. After early experiments with possibilities pioneered by others, he joined a group of artists who pinned their faith the use of "systems" to force them into territories that lay beyond the limits of their own imaginations. From this common starting point, Michael was to go his own individual way. In doing so he gives us a clearer example than is usually available of the forces of creativity at work. However, no matter how hard he tried, he found that the systems approach for all the riches it helped him to discover, was only a part of a far more complex situation.

This chapter brings together various strands that have deeply influenced Michael Kidner throughout his working life. They concern both his artistic roots and, quite as importantly, his beliefs concerning the nature of the world in which we live. The idea is to give a flavour of the intellectual and emotional context of his work by writing about a selection of the kind of ideas that tend to be swilling around in his mind as he works.[1]

1 The chapter first appeared in a monograph of Michael published by Flowers East gallery on the occasion of a ninetieth anniversary exhibition of Michael's works held there in July 2007.

Background

As a young artist, Michael had a number of defining experiences. First was an early engagement with Cézanne that took the form of yearly painting trips to the South of France. The second was studying under Andre Llotte who introduced him to *Cubism*. The third was the explosion of the *American Abstract Expressionists* onto the *London* scene in the late 1950s. While rejecting some of their main ideas, Michael was permanently influenced both by the scale of their work and by what he terms their "*propositional approach*". The fourth defining experience was a course run by Harry Thubron and Victor Passmore in 1959. This introduced him to Bauhaus-derived ideas about colour, which were to influence him profoundly. They not only triggered the breakthrough into a completely new approach to painting that followed soon after, but also imbued him with feelings about colour that were often in conflict with other considerations. So many times I have heard him regret that the imperatives of his systems-based ideas have distanced him from the colour on the flat surface he has always yearned to work with.

Michael was born into a culture which felt secure in its Christian beliefs. In adult life he saw evidence coming from science as definitively undermining this security and forcing him to face up to a dynamic world full of uncertainty. Throughout his working life he has been seeking to unearth a new basis for spiritual comfort and he has felt it necessary to look for this in the knowledge that science provides. Not being a scientist he had little alternative but to turn to popular science. Four books that reached a wide audience and that have had an important influence on Michael's work are: *Number, the language of Science*, by Tobias Dantzig, *A Short History of Time*, by Stephen Hawking, *Chaos - Making a New Science*, by James Gleick, and *The Emperor's new Mind*, by Roger Penrose. The ideas in all four books became part of his mental furniture and profoundly influenced the evolution of his work. Perhaps the most important were the first and last of them: Dantzig introduced Michael to the wonders and the potential of Mathematics, and Penrose set him up for the flowering of his work that has taken place over the last twenty years. However in this chapter, we will deal mainly with the last three, for the Dantzig book did not provide ideas that directly provided the basis for paintings. Rather, it gave Michael a sense of the possibilities of mathematics that underpins all his systems-based work.

To get a flavour of why Hawking's ideas interested Michael, a good starting place is a clear but moon-less night. Large numbers of tiny points of light can be

seen in the sky, even with the naked eye. With a pair of binoculars or an optical telescope, the number of these can be increased enormously and, by using radio telescopes and other means of picking up signals from outer space, the number of heavenly bodies which can be detected is apparently limitless. Within this complexity, we are likely to find ourselves trying to find order. If we are restricted to using a combination of the naked eye and our imagination it is only possible to find the somewhat artificial groupings such as the constellations, but there is no order to be found that makes unambiguous sense. Perhaps counter-intuitively, the greater complexity, provided by the sophisticated instruments, simplifies our task. The reason is that it provides additional information. One way that this can be given added meaning can be explained in terms of the "*Doppler Effect*" which is familiar to all who have listened to a train approaching at speed and, then, disappearing into the distance. From the changing pitch of sound it is possible to hear whether the locomotive is coming or going and at what sort of speed. In a similar way, scientists can calculate the changing relationships between planet Earth and the stars, using shifts in wave-length combinations of light and other forms of electromagnetic energy. Accordingly, the course of stars hurtling through space can be charted.

It was the process of mapping the movement of the stars in this way that was to reveal order, for it turned out that they were all moving away from the same point in space and time. It was, therefore, thought appropriate to designate this point as "*the origin of the universe*". Furthermore, the stars were found to have been moving at speeds which showed that they must have been propelled by an event of almost inconceivable magnitude: a very BIG BANG indeed!

Before pursuing the Big Bang and relating it to Michael Kidner's ideas, it is worth bringing to mind another complex array of points of light, one which plays a part in all painting and drawing. This is quite as chaotic as the array of stars in the night sky, but does not seem so, thanks to the evolutionary processes that have formed our eyes and brains. It is the ever changing pattern of light-born energies that enters our eyes whenever we use them which is the basis of the ordered visual world that is such an intimate part of our daily experience. There are some 120 million receptors at the back of each of our two eyes and, in all probability, each one is being stimulated to a different degree to all the others. The result is a highly complex pattern of activity which, over time, is made yet more complex by two factors. Not only is the light coming into the eyes in a constant state of change, but also the eyes themselves are never still. Indeed, if there was

not the evidence of our everyday visual experience to contradict the possibility, we might be forgiven for thinking that making sense out of this chaos would be quite impossible. However, just as the star gazers have sophisticated instruments to help them find order in chaos, so have our eyes and brains. By 'computing' relationships provided by the four different receptor-types found in the retina, the eye-brain can make sense of them and enable us to 'see' an ordered world. Thus, the different receptor-types have a function analogous to the various kinds of astronomers instruments: by providing different modalities of information, they make it possible for us to experience colour, texture, space, light and, indeed, the whole objective world. Once again, complicating simplifies and order is abstracted from chaos.

Returning to the Big Bang, not this time to how it was discovered, but to its proven capacity for creativity and how this relates to Michael Kidner's work. There can be no question that, if the Big Bang created our still-expanding universe, it was very creative indeed, for it must have been responsible for everything in it, every grain of sand, every speck of dust, every leaf, every creature, every movement, every idea, indeed, every painting… The variety of structures for which it has been responsible is beyond imagination. In short, it can be described as the ultimate creative event and taken as a limiting case of creative potential.

It is extremely difficult to imagine the time just after the Big Bang occurred, when none of the multiplicity of structures that we see around us in our every day life existed. The only event we know about that can give us even the faintest inkling of the power of the universe-generating event is a nuclear explosion. Even in such a relatively small event, the atoms are disintegrated. Scientists contemplating the awesome magnitude of the Big Bang must have quickly realised that anything existing at its moment of inception, must have been matter in its most basic and least integrated state and, therefore, something which could be described as "*the irreducible building blocks*" of our universe.

This realisation gave rise to a veritable gold rush amongst physicists seeking to find the composition of these building blocks: to discover the secret of matter. And they knew where to look: the seeding point of the Big Bang. Of course, the journey had to be one of the imagination, aided by mathematics and, insights could not be checked on site, only in simulators. Nevertheless, the physicists themselves now seem confident that they have travelled to within an ace of the centre and well within the first second of recordable time. Maybe the final step

has some surprises up its sleeve but, up to now, all the evidence points to a very small number of relatively simple building blocks. Indeed, the word "*blocks*" itself seems a bit too substantial, "*forces*" or "*energies*" would seem to be more appropriate.

In any case, the precise description need not concern us here. It is the simplicity of their properties and the smallness of their numbers which is interesting when compared with the astonishing fruitfulness of interactions between them. Their properties limited the ways in which they could interact, as did the conditions that existed as they exploded outwards into the bitterly cold void. The limits constrained the way the forces could combine into more complex structures and, in this way, they determined the composition of the universe. Each new form had its own unique properties and these, in turn, constrained how it could combine with other structures. There was an inevitability in the process of creation, right up to the formation of life and beyond (though scientists never tire of telling us how unrecognizable things might have been if conditions had been only the slightest bit different).

Figure 1: Three Primaries, 1967

These kinds of ideas would have given Michael Kidner much support when, in the 1960's, his work started to become more and more "*systematic*". At this time, he began to explore colour and shape in an almost scientific way. *Figure 1* shows an example of a painting that emerged from this approach, which he characterised as the "*serial idea*". He explained: "*The serial idea arose because I wanted to distinguish shape and colour. To this end, I used three colours and four shapes. No shape can be identified by a particular colour. The colour yellow, for example, covers all possible shapes*." His programme is very simple but it ensures that the gamut of variations in the relations between colour and shape is extremely varied, while the use of repetition between the three colours means that the effect of shape can be as fully appreciated as possible.

Before going further, it is important to make clear that this painting is not about colour aesthetics. Rather colour is used in a purely denotative manner. In choosing which paints he would use Michael was not in any way concerned with aesthetic appeal. To have been so would have created a seductive diversion from the real subject of the painting.

The serial idea soon crystallised into the *Systems* approach, for Michael found that the requirements of the series systematically forced him to produce paintings of an unexpected and exciting kind. He (along with other *Systems* painters) had found what he saw as a *key to creativity*. He realised that with very simple elements (building blocks) and very simple rules of combination, complex effects and unimaginable images could be produced.

Michael was lured on in three ways. First, he was aware of many examples from the natural, artistic and scientific worlds of simple systems that had produced complex and often intriguing results. Second, he realised that systematic procedures offered the possibility of "*recoverability*": If a system seemed to be showing promise before, ultimately, "*failing*", it would be possible to recover the promising stage and rebuild on that. Third, because the building blocks and the rules were so simple, it should be easy to follow the process of construction step by step. Thus, he believed that the paintings would be "*readable*".

It was this third proposition that was to lead, in time, to James Gleick's book on "*Chaos*". What Michael had failed to take fully enough into account was that the whole is bound to be different from the sum of its parts. There doesn't have to be any "*meaningful*" connection between the two. Whether or not the wholes make sense is independent of the readability of the relationships between the elements from which they are made. Indeed, the Systems painters own logic

is based on its potential to lead them beyond their preconceptions. They were expressly looking for something unpredictable that would be being experienced and given sense for the first time. In other words, they were trying to create works that, at least when first encountered, would be without perceived order.

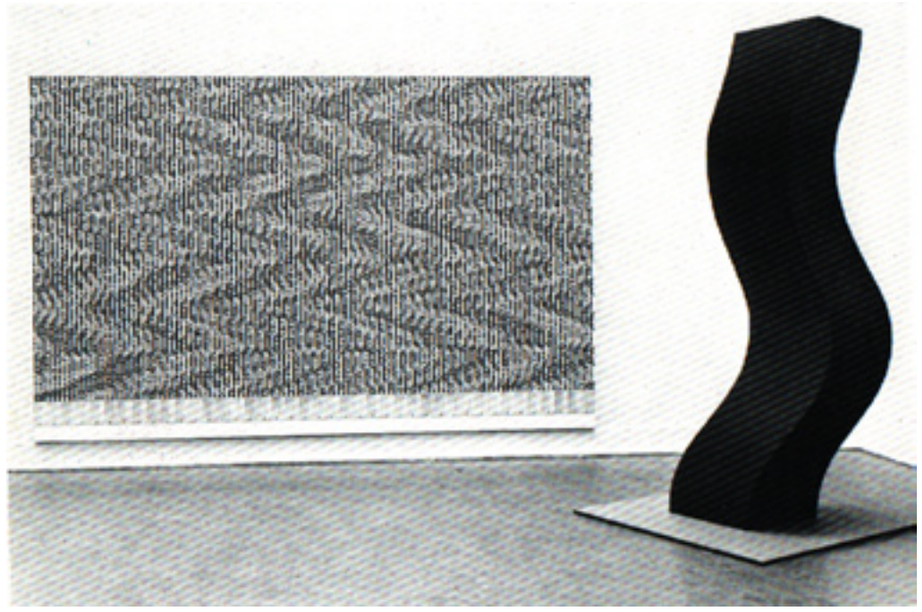

Figure 2 : 'Column no 2 in front of its own image,' 1972-3 (213cm. x 320cm.)

Before going more deeply into the subject of chaos and introducing the butterfly, let us look at a few more paintings. When I first saw the one reproduced in *Figure 2* in the Hayward Gallery, London, I was bowled over. It is very large and, from a normal, fairly close viewing distance, it has very powerful optical effects. In this sense it is a fine example of "*Op Art*". However, compared with other works so described it is uncharacteristically rich in its variety of shape and texture. In contrast, if we step back a few paces and look at the pattern as a whole, we may, like Michael find it a little disappointing. It lacks a sense of development and, at least to some, may even seem a little boring.

The painting also helps clarify the issues just discussed concerning readability. Neither success as an particularly rich and impact-full example of Op Art

nor its relative failure as a pattern have anything to do with whether or not we can follow the logic of the system which generated it.

As an aside, the painting provides an interesting example of how difficult it is to distinguish between "*abstraction*" and "*construction*". At the bottom of it there is a line of 41 photographs, each representing a different view of the three-dimensional column which stands in front of the painting. The pattern is essentially a notation of these forty-one views and is, therefore, an "*abstraction*" of a man-made object. In this sense very similar to *Cubist* abstractions of still lives (though much more rigorously carried out). It is a nice point whether the use of the formal notation used to represent the different curvatures, in the place of a freehand, representational notation, can be said to place this work into a different category. Perhaps, the original idea for this painting was influenced by what Michael had absorbed from his cubist teacher Andre Lhotte.

Figures 3 and 4 represent works done a decade later, after years devoted to making painstaking studies of possibilities inherent in the kind of systems used in them. In these Michael was searching for more open-ended and, therefore, less easily comprehended patterns. So, it is not surprising that both works show stages in a progress from "*order*" in the direction of "*chaos*". In *Figure 3*, the process is gradual, in *Figure 4*, it is dramatic.

A striking aspect of both works is what can be described as their "*expressive*" qualities. *Figure 3*, which is large enough to fill a wall, seems thoughtful, even meditative. It can be felt as salutary and constructive in spirit, stretching towards new and hopeful possibilities. I found it reminiscent of the Matisse's chapel at Vence. The other, seems explosive and destructive, with order being blasted apart. Its production coincided with the untimely death of Michael's only son and it is no wonder that it was perceived as an appropriate symbol for that tragic event and the disintegration of the order in the Kidner's lives. The coloured bands at the top are a not very "*systematic*" attempt by Michael to counterbalance the cry of pain.

Both these works are the antithesis of cold and calculating and well represent the compassionate and poetic man who made them. They show that "*systems*" can generate feelings and that, as other and earlier expressionists, such as Kandinsky, have properly assumed, "*expression*" can be "*constructed*".

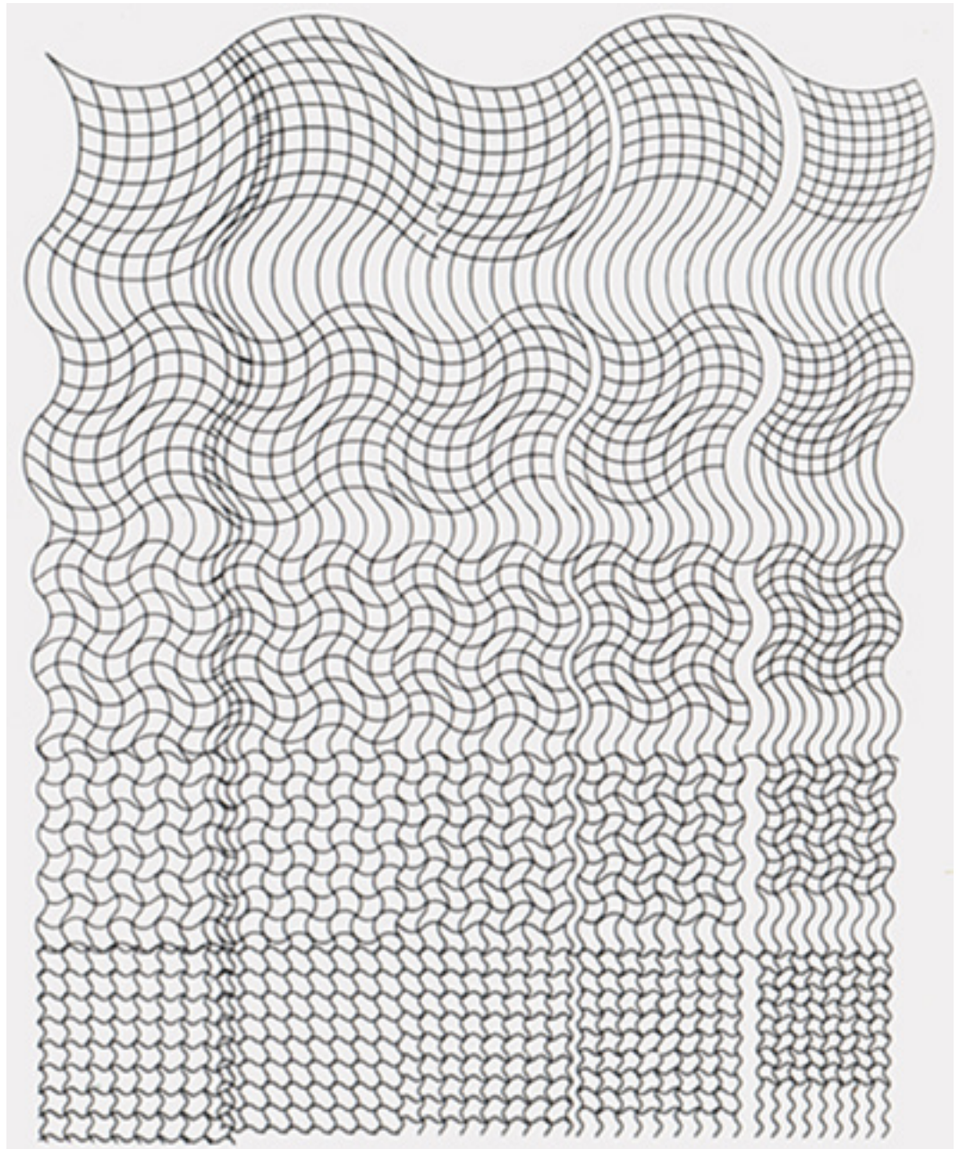

Figure 3 : 'Extendible working drawing, 1982-3

Figure 4: Requiem, 1982-3

Clearly the works from the early 1980s had arrived at a new level of inventiveness and exciting potential. It seemed as if Michael had unearthed a rich vein that he could spend the next years exploring. But, he was still not satisfied. He wanted something more of his systems. It was here that, first, chaos theory and, then, Penrose tiling were to come to his aid.

In the popular mind chaos theory is inextricably linked with the so called "*butterfly effect*" discovered by a frustrated weather forecaster. No matter how hard they tried, he and his colleagues kept getting their forecasts wrong, sometimes disastrously so. It didn't seem to matter how much information they gathered, from how many sources, over how many years, their more and more sophisticated predictive models never seemed quite reliable enough. The unexpected would keep cropping up.

Then our frustrated forecaster had the bright idea of turning the problem on its head. He decide to look at the *limiting case* of the smallest possible meteorological event he could imagine and working out, given the most favourable confluence of circumstances, how great might be its consequences. The event he chose was the fluttering of a butterfly's wings and the consequence he found was a hurricane! What he proved was not that butterflies are likely to be responsible for a hurricanes, but that it is altogether possible that its activity could play a critical role in causing it. This finding gave many people, by no means only weather forecasters, cause for much thought.

It was soon realised that one of the implications of the *butterfly effect* was that ordered-abstraction might never provide the "*whole truth*". Or, to put the same thing in different words, people were forced to consider the possibility that order may always mask creative chaos. If so, it looked as if chaos might be an extremely rich mine of alternative manifestations of order. Clearly this was a very exciting idea and in no time at all, another section of the scientific community was hell bent on another gold rush.

There were two ways of looking at the situation, either 'top-down' or 'bottom-up'. Top-down, you could do what the weather forecasters had always done. You could look at the weather patterns and try to make sense of them. You could produce better and better abstractions from the available information, to produce better and better predictive models. However, the problem remains that none of them quite work. The method will take you a long way, but not all the way. You can never make a completely watertight order out of the chaos of nature, that is to say the chaos whose origins lie in the *Big Bang*. Rather, there are an almost limitless number of different orders in it, though none can permanently meet your needs.

In short, chaos can be equated with the stain on the wall in which Leonardo da Vinci (or you or I) could see alternative "*faces*" and "*figures*". It is like the block of marble in which Michelangelo believed all conceivable forms existed, if only his imagination was up to finding them. The main difference between Leonardo's stain and Michelangelo's rock was that the stain nudged the imagination, while the rock left the artist with all the work to do. The same comparison could be made between observation of nature and confrontation with the blank canvas. Nature spurs the imagination while the blank canvas offers no helping hand, providing us with a minimum of creativity-stimulating limitations. But all, stain, block, nature and the blank canvas, are chaotic in the sense that in none of them does order reign inviolable.

Bottom-up is the "*great oaks from small acorns grow*" perspective. In the case of the weather patterns, the acorn could be either the flapping of the butterfly's wings or the primeval "*seed*" of all things, the Big Bang itself. Though it is difficult to think of the latter as a "*small*" event, it is certainly one which has been dwarfed by its own consequences.

The idea was that it might be possible to invent other simple elements, combining according to simple rules, to create unlimited manifestations of ordered chaos. There was every inducement for mathematicians to get their thinking caps

on and what they thought up was *fractals*, an idea not dissimilar to the systems idea of Michael Kidner: Just take a simple structure and let it grow by a process of continuous replication of its own image. The possibilities are endless and the idea was taken up enthusiastically by people in the image-generation industry interested in generating images by means of computers. Regular structures, like snowflakes, are easy to make in this way. More irregular ones, like trees, not only need a few more limits to be imposed but also require a few built-in deviations: A few blips in the system to allow for nature's diversity.

What would Michael Kidner make of all this? Would we find him putting blips into his systems? Or, would he search for systems that would create more complex and thereby less repetitive patterns?

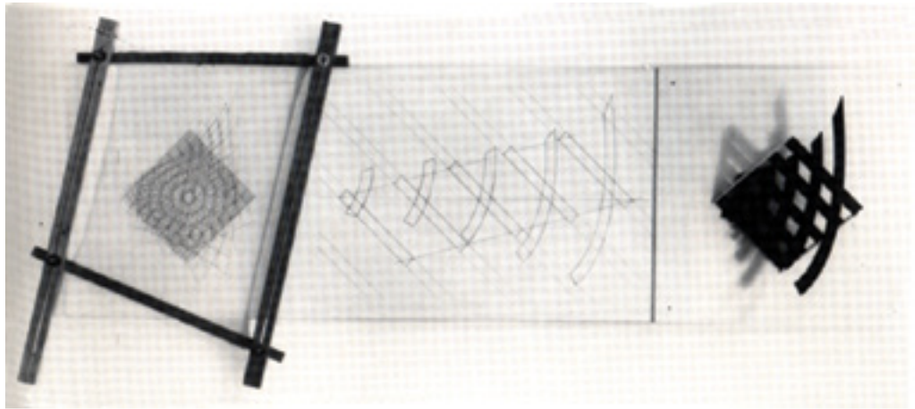

Figure 5: Ink, paper, crayon, wood and stretch elastic construction, 1980, 59in x 40in

The answer was to be that he would explore both avenues, the first through constructions and the second through paintings. With respect to the former he was to develop the three-dimensional aspect of his work (not given enough emphasis in this article), in which he used the elasticity of elastic, rather than his own movement or logical principles, to generate systematic distortions. An example of this approach is given in *Figure 5*, which shows a purpose-designed apparatus in the process of generating or, as Michael liked to conceive it, *computing* a series of curves and shapes. It also illustrates how this line of enquiry, naturally led Michael away from painting into construction.

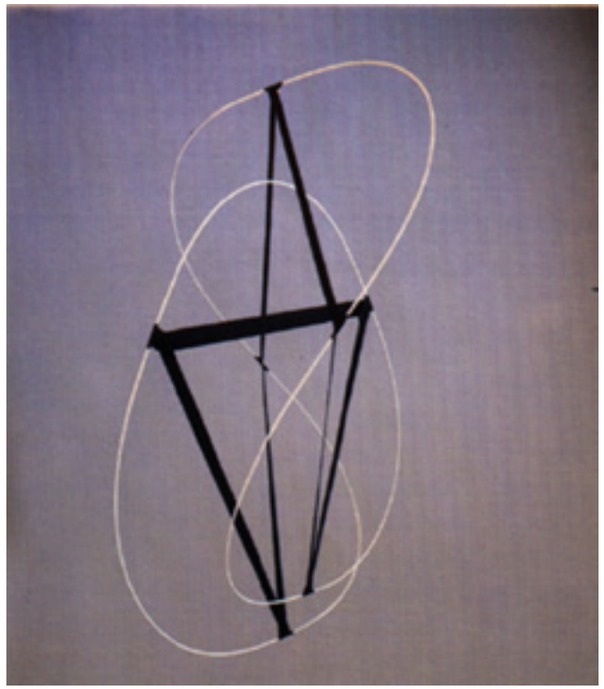

Figure 6: seven chords, 1990, elastic and fibreglass, 54 in x 50in x 52 in

In 'Seven chords' (*Figure 6*), a hoop, made of a fibreglass rod and held in a fixed position, was put under tension, using strips of elastic of a certain elasticity, of a predetermined length and calculated points of attachment. The hoop was then set free and allowed to "*flip*" into its own form. Seen as an orderly set of forces creating temporary chaos, before settling into an unpredictable and unique resolution, this work (and others produced in a similar spirit) can very easily be understood as attempts to exploit the idea of blips in the system.

Finally, we come to the importance of Penrose's book. As Shakespeare wrote, "*the ripeness is all*". Michael's mind was fully prepared for seeing significance in Penrose tiling. Here was a form of pattern-making that never quite repeated and consequently offered a virtually limitless number of variations and possibilities. At the same time solving the problem of repetition it allowed Michael to come back to colour, the early love from which the requirements of his systems-based ideas has so often unwillingly distanced him. Finally, with their unavoidable ref-

erence to the tiles in Islamic temples, the non-repeating patterns allowed him to contemplate the idea of a secular temple, in which creative uncertainty replaces the straitjacket of predetermined order. He had at last found his heaven and he has been making much of it ever since.

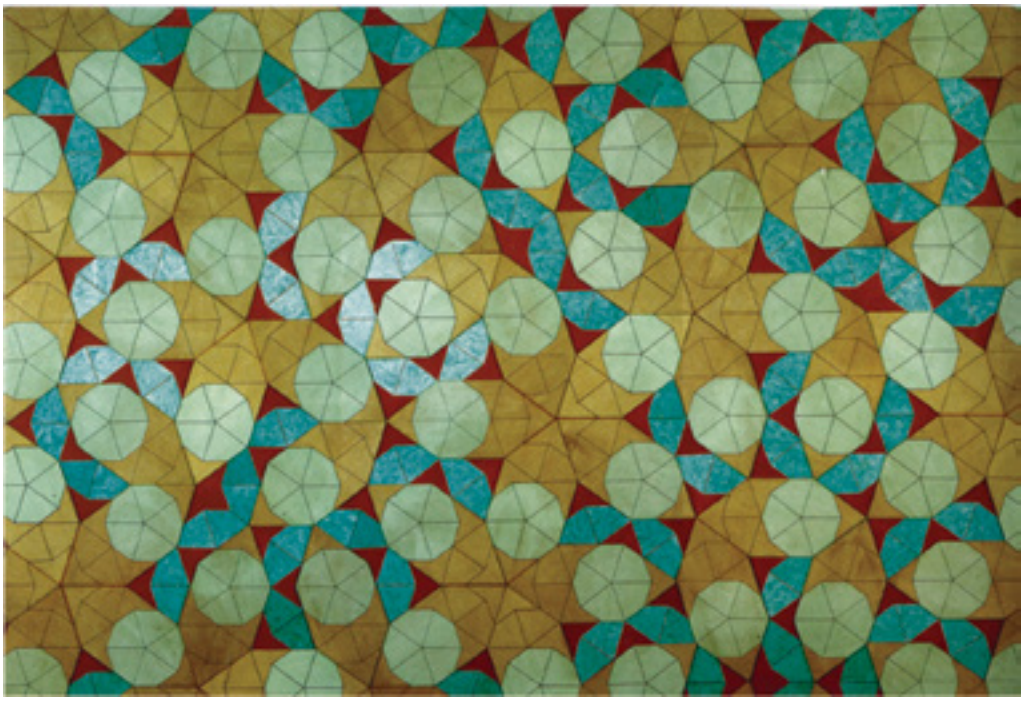

Figure 7: Lily pond (Penrose Tiling), 244cm X 366cm, 1999.

Implications

In this chapter we have not only introduced some of the possibilities being explored by one particular recent Modernist Artist, but also talked about a number of general ideas that relate to the creative process. The next chapters contain a general overview of Modernism in painting and how the ideas developed within the movement constrained the thoughts and practices of the artists who espoused them and in so doing stimulated and, indeed, enabled their creativity.