

CHANCE PROCEDURES IN THE PRODUCTION OF EXPERIMENTAL DRAWINGS

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1. Abstract

Chance Procedures in the Production of Experimental Drawings

This research tests the influence of chance in a series of experimental drawings, created using ink frozen in ice, and used engine oil with or without the addition of ink. The experiments are underpinned by CS Peirce's theory that there are two forms of chance: absolute chance, which includes anticipated elements, and ordinary chance in which there are no expectations and where nothing is anticipated. The relationship between chance and intentionality is examined.

The organic images are created using a combination of both artistic and measured processes, by the random placement of ink/ice blocks, and used engine oil with and without ink, on cartridge paper. The corporeality of the images is determined by the impact of gravity, vibration and fluidity of the liquid on the materials and surroundings. Materiality and process are tried and evaluated when the liquids spread across the paper. Absolute and ordinary chance are not interchangeable or fixed, but exist as fluid elements influenced by time. The unpredictable results from controlled production demonstrate intentionality, randomness and failure.

Chance and intentionality confirm something abstract through a *noetic* process, as the perception of an object rather than the object itself. The *horizon* reveals differences between real and perceived images and is tested using Husserl and Merleau-Ponty's ideas of phenomenological reduction.

A further idea of chance draws on John Cage's practice of *I Ching* by asking questions, using hexagrams to determine actions and developing chance beyond the unexpected random events, observed in Peirce's 'ordinary chance'. Similarities and differences in the works evidenced in the practice and those of Cage are tested and compared in relationship to the project. Cage's musical ideas are translated into the visual works of the research practice with specific reference to experimentation, tonality, space and time and their use in the experimental drawings.

Relationships between chance, intentionality and unpredictability, plus the unification of theory and practice, are developed and used. Its usefulness to other artists and their studies together with future developments for the research identified. Both absolute and ordinary chance in the process, present in creating work, demonstrate how chance can commence as one form and cross over into the other. In terms of contribution to knowledge, a defining feature of the experimental drawings is this crossing over from ordinary to absolute and back to ordinary chance to produce unpredictable random images. It identifies the influences of chance and intentionality in the programme, which is found in experimental art practice over the generations, and yet is not widely researched.

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3. Glossary of Terms

Throughout the project a number of key concepts and words are defined and explained in the relevant chapters. These are absolute chance; ordinary chance; the *I Ching*; intentionality; *noesis*; *noema*; *horizon*; consciousness; the real; the perceived; perception; experimental drawing; mark-making; experimentation; randomness; inexplicability; the absurd and failure. These are listed below in the sequence in which they appear in the thesis.

Chance: as suggested by Aristotle, is unpredictable happenings and accidents.

Absolute chance: the idea of CS Peirce, who posited that chance does not consist simply of unpredictable happenings, but contains an element of the predictable. This is relevant to scientific research, especially with regard to genetics, in which there is a degree of anticipated happenings.

Ordinary chance: Peirce's alternative theory that chance is totally unpredictable with no element of anticipated or expected results. This conceptual proposition is the nexus of my research.

***I Ching*:** an ancient Chinese divination system, used by Confucius which is determined using a set of rules found in the *I Ching Book of Changes*. These assist in the interpretation of sixty four hexagrams that are produced by throwing three sticks or coins in the air and letting them fall to the ground in order to answer pre-formulated questions. John Cage used the system extensively in his music and visual art forms, as a method of generating non-intentional events and sounds.

Intentionality: a philosophical concept linked to perception that has been widely discussed by theorists including Edmund Husserl and Maurice Merleau-Ponty who are referenced in this thesis. Intentionality involves a number of elements, of which the following three are the most relevant to the research.

***Noesis*:** the thought or consciousness of an idea rather than of a concrete object. This is highly relevant to my practice, and exists in conjunction with...

***Noema*:** the consciousness or thought of an object.

***Horizon*:** the difference between the real and the perceived image. It exists in conjunction with the *noesis* and the *noema*, without which the *horizon* of the work cannot be determined.

Consciousness: a philosophical term relating to the awareness of an object or idea referencing a work of art.

The real object: the actual object or mark of the object. The term is used as part of the explanation of mark-making; it is part of the intentionality referencing the *noema* of an object, and part of the idea of the *horizon*.

The perceived object: the consciousness or thought of an object, not in practice a specific object. In this thesis it is referenced as an element of the *noesis* which with the *noema* makes up the *horizon*.

Perception: what the viewer sees rather than looks at. Of concern to Merleau-Ponty and Husserl, it plays an important part in the experimental drawings.

Absurd: refers directly to Eva Hesse and Marcel Duchamp. Duchamp was initially a cartoonist and included elements of humour in much of his work. Hesse tried to copy this in her practice, though on reflection she felt that much of her work was absurd; it does not so much contain humour as verges on the ridiculous.

Experimental drawing: a term used to explain my non-figurative, chance-driven abstract works in which traditional materials such as ink and paper are used to create random images that were influenced by external forces.

Mark-making: the original concept behind drawing and visual art practice. The types of mark, materials and surfaces used are many and varied.

Randomness: a term that references mathematical challenges focusing on averaging. In the context of this project it refers to unpredictable images not influenced by the hand of the artist, and is linked to chance.

Inexplicability: linked to randomness and chance, this describes the images created as part of the concept of ordinary chance proposed by Peirce.

Experimentation: used by Cage in his music and visual works and key to my practice. It has also been used in both a scientific and artistic sense in the creation of the experimental drawings.

Failure: in terms of art, failure differs from other contexts in that it is part of experimentation and an integral part of the creative process. It is a means of re-looking at the work and of assessment which often results in dynamic and fluid works generating a greater sense of energy in the visual results.

Note: this Glossary is not exhaustive, but is intended as a brief guide to the meaning of the terms. Other terms will be explained as the thesis develops.

4. Preface

At the age of 59, after a successful career in international business and export in the oil and healthcare industries, I returned to full-time academic study. Over 40 years, I had acquired a passion for visual art, and I wanted to develop it. My career had been based on scientific and experimental activities channelled into marketing; I felt that it was important to use this knowledge in my method of working, thus combining science and art in a system of process art. After progressing from BA to MA studies I realised that I did not want my studies to end. I wanted to know more, and the idea for this project was conceived.

My initial idea was to extend the focus of my MA, which addressed reconsiderations of Minimalism by contemporary artists and a desire to challenge viewers' perceptions. My early works were large-scale, monochrome, geometric designs and shapes, in which the walls and floor became an integral part of the work and viewers were invited to engage with the works by walking into them. An important factor had underpinned my reconsiderations of Minimalism: chance. I realised that it would be logical to consider chance as a new starting point for my research. This was relevant because the majority of artists, whether consciously or unconsciously, use and include chance in their practices. It was then necessary to consider the following questions:

- When did the notion of chance become important in artistic practice?
- How could I show chance in my practice?
- What other features or elements are related to chance?

The concept of chance might be said to begin with the ideas expressed in the Chinese system of divination, the *I Ching*, followed by the work of Ancient Greek philosophers. Of these, I chose the ideas of Aristotle to help support the theories in the research. Aristotle suggested that chance could be seen as a series of accidents or unpredictable happenings. The *I Ching*, however, is far more than a mere series of illustrations to explain chance developments: it is a way of life.

The problem of demonstrating chance in my artistic practice led me to the ideas of CS Peirce. He suggested that chance existed in two formats: ordinary chance in which nothing is anticipated or expected, and absolute chance which includes the

expected in the final results. In order to explore this I needed a medium that was flexible, yet able to be responsive to external forces. I felt it had to be a liquid.

Ink seemed to be a medium that allowed the possibility of researching both absolute and ordinary chance.

Other elements that exist in conjunction with chance include intentionality, using the ideas of the philosophers Edmund Husserl and Maurice Merleau-Ponty. Each considers intentionality and perception of the work; the influence of these concepts on the viewer, and experimentation in artistic practice.

My research showed that Peirce's ideas of chance are dynamic, and that there is evidence of fluidity in chance. An element of the research and thesis is fluidity. The results show that absolute chance and ordinary chance can and do cross over in the creation of the work, giving rise to new ideas on the relevance of chance. The concept of the programme had therefore been determined.

5. Acknowledgements

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My sincere thanks are due to the team in the Research Office at UCA Farnham: Mary O'Hagan, Sian Bennett and Elizabeth Baxter, for their support and encouragement during my studies. Their help and kindness has been invaluable.

There is an additional raft of academic staff who have advised, critiqued and encouraged my work during my research programme, amongst those and in no particular order are Professor Hocine Bougdah, Professor Victoria Kelly, Dr Terry Perk, Dr Dominc Rahtz, Professor Kerstin Mey, Professor George Barber and many others not listed here. I would like to thank them all.

I would also like to thank Emma Braso, the Cultural Programme Curator at UCA Canterbury and Rochester for her enthusiasm and energy in supporting some of my exhibitions, especially the *les insuccès Exhibition* in the *Herbert Read Gallery*, UCA Canterbury in 2016.

Finally, and not least, I would like to thank my wife Pam who has suffered me, and with me, during the periods of doubt and despair which are inevitably the unknown components of researching a PhD programme.

6. Author's Declaration

I declare that the research contained in this thesis, unless formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

A handwritten signature in black ink, appearing to read 'M. Shi', is positioned above the 'Signed:' label.

Signed:

Date: 9th January 2019

7. Introduction

In this introduction I shall set out some of the theoretical issues before describing the contents of the individual chapters. The research project is founded on methods of experimental drawing, as a basis for engaging with the concepts of chance and intentionality in my artistic practice. The decision to select experimental drawing as a means of determining these concepts was made because the range of images produced is potentially infinitely variable which, though not peculiar to this project, is evidenced by the chance-generated images, thus enabling chance to be explored fully while the intentionality underpinning the works remains relatively constant.

These ideas also enable consideration of the perception of what the viewer actually sees in the chance-driven images, thus giving rise to the perceptions behind the intentionality in the work, and the interpretations and observations of the differences between the real and the perceived abstract images created.

The experimental drawings are produced using a range of processes from freezing measured quantities of ink and water, to mixing used engine oil with, or without, the addition of ink. An objective of the process is to transfer the reliance on the explicable in chance found during the early stages of the process, to a situation in which the randomness of the results is unpredictable and human intervention is minimised. In order to develop this evaluation the programme will seek to answer the following questions that reference the experimental drawings:

- In experimental drawing, what is the relationship of chance to intentionality in the work?
- How does chance impact on the character and meaning of experimental drawing in this project?

I shall examine the concepts of chance and intentionality in relation to each other. While these concepts are separate, they exist in a form of synergy in the works of art. For more than two millennia chance, in its different guises, has occupied a position of inquiry. In his works on physics, Aristotle refers to it as a 'coincidental cause' (Aristotle, 2008: 46). The relationship of chance to mathematical and cosmological events has been discussed as the subject of quantitative analysis. This field of research is not relevant to the project, but qualitative research is. It is

subject to self-analysis and the development of ideas, concepts and explanations, while acknowledging the wider picture and accepting the limitations of its non-quantifiable position. Chance will be defined and its presence observed in preparation for an examination of its relevance and importance to artistic practice in the following chapters.

In terms of the specific problem on which this project is based, this research will consider the output of the case study artist John Cage, focusing on works from the mid-1900s onwards that are still relevant today. The artists Marcel Duchamp, Hans (Jean) Arp and Eva Hesse will briefly be considered in order to assist in the evaluation of both chance and intentionality. This will be further developed by examining two forms of chance and its use by these artists, plus Cage's use of the *I Ching*. Each of the artists has used chance in their individual way. The two systems of chance will be evaluated throughout the thesis; chance as theorised by CS Peirce, existing as 'ordinary' and 'absolute' chance (Houser and Kloesel 1992: 219). Peirce's notion of chance is determined by the unpredictable events found in ordinary chance, as well as in chance with expected results or absolute chance. He claims that chance can and will change everything over time. This concept will be tested in the chapter *Case Study Artist – the influence of John Cage on 'chance' as an element in the project*. This chapter will be referred to as *Case Study Artist* throughout the thesis and *My Own Practice* chapters. Peirce's concepts of chance have a direct relevance to Duchamp, Arp and Hesse. Cage's practices – music, visual arts and writings on chance – were defined by use of the *I Ching*, and he adopted its influences as a key feature of his lifestyle. Peirce's notion of chance and the *I Ching* will be explained and discussed in detail throughout the thesis, beginning in the *Contextual Review*.

Intentionality in the project will be defined and discussed in light of the writings of Edmund Husserl. He established the concept of intentionality in philosophical and phenomenological terms, each being related to perception. These ideas were continued and developed by Maurice Merleau-Ponty. The ways in which these relate to the practices will be the subject of the *Contextual Review*, *Case Study Artist* and *My Own Practice* chapters. In 1936, Husserl said: 'From what rests on the surface one is led into the depths' (Welton 1999: ix). This statement sums up the idea of perception and of seeing a work, rather than merely looking. In the context of this programme it is particularly relevant because what is there is not

only what is visible. There are elements in the practice which have led to the production of the final abstract images available to the viewer. The consciousness of perception of these abstract images or the *noesis*, and the differences between the real and perceived or the *horizon* will form the basis of discussions in the three chapters identified above. The research focuses on the relevance of intentionality in the experimental drawings and the ways in which chance is used to aid its creation. It is important to demonstrate whether, without the involvement of chance, there would still be intentionality in the works, and the answer seems to be that there would. Its strength might be different because the abstract images would have been created differently, resulting in another project involving the inclusion of human intervention. The final images might not be seen as random, without human bias and control, but as something else. The essence of this programme is to witness what takes place after completion of the precisely controlled preparations, when chance in the form of ordinary chance takes over to produce the experimental drawings. The importance of these developments will be identified in the following chapters and its relevance to the practice of the project discussed.

The thesis comprises chapters which while being individually complete units, follow on from each other to progress the reader through the project to its conclusion.

In the first, *Methodology*, I shall identify the purpose of the research and set the framework and rules that will apply throughout the programme. It will be shown that the research is based on qualitative rather than quantitative principles, and potential limitations in the research process will be highlighted. The case study artist used to support and develop the practice will be discussed, and elements that are the foundation of the experimental drawings will be defined. The methods and materials used to create the works will be specified, and controls and measuring devices supporting the practice identified. Key theorists will be discussed and their use of chance and its significance will be outlined in the context of the project. The requirement for experimentation as an element in the creation of the experimental drawings will be noted, and the concept that the methodology is a key element that guides the whole project discussed. The ways in which this is manifested throughout the programme will be seen in the chapters that follow.

In the second chapter, the *Contextual Review*, artists who influenced the practice, some of whom were also writers, will be evaluated and discussed. This chapter will therefore also include the Literature Review. The origins of chance will briefly be traced from Aristotle to CS Peirce, who will be identified as a key influence on the project and on the practice of the case study artist. One section will focus on Peirce's two concepts of chance, which will be discussed in terms of the rôle of chance in their practices, as a precursor to the chapter *Case Study Artist – the influence of John Cage on 'chance' as an element in the project* and known as *Case Study Artist* throughout the thesis. The differences between ordinary and absolute chance will be defined, the value of ordinary chance to the project identified and the mathematical averaging-out process of absolute chance explained using a probability curve.

Chance is an integral element in the practice of the case study artist. While chance throughout the research is used in different ways, there is a commonality about the importance of chance in artistic practice. Its influence on the works of Hesse, Duchamp and Arp will briefly be considered. Briony Fer's discussion of features present in Arp's collages and Hesse's sculptures will be used to identify the degree of importance that chance plays in their practices. Cage uses the *I Ching* as his means of determining chance procedures, and the ways in which it relates to his practice and eventually his life will be identified. His method of using the *I Ching* will be discussed, together with its relevance to the development of his art. The rôle of intentionality and its relevance to chance will be evaluated and explained. Husserl will be identified as an integral theorist in the consideration of intentionality in artistic practice. The terms *noesis*, *noema* and *horizon* will be defined, as will be the ways in which they relate to each other and the practices. This feature will be discussed in the following two chapters and their relative importance for the individual practices and the project as a whole developed. Finally the concept of failure will be introduced as a prelude to more in-depth consideration later in the thesis.

In the third chapter, *Case Study Artist*, the focus will be on the works of Cage. Marcel Duchamp, Hans (Jean) Arp and Eva Hesse will briefly be discussed and their similarities and differences compared and contrasted. The chapter will outline the basis of these artists' practices in readiness for comparison with my practice in the following chapter. The ways in which each artist came to include the element

of chance in their work will be outlined. Each has different practices, collectively spreading over a period of approximately a century, but there are major areas of similarity. The first of these is the need for experimentation. Cage included fire in the process, while Duchamp and Arp allowed materials to fall to the floor. Hesse used materials not commonly found in sculptural work, and also combined two- and three-dimensional techniques in the same work. A second area of similarity is the non-figurative aspect of their works. Cage, Duchamp, Arp, and Hesse all produced abstract works; all but Hesse deliberately avoided human bias. The impact of repetition in the works of these artists, whether in the form of line, the number of examples created, the content within the work or the number of processes in its creation, will be highlighted. In the works of Duchamp, and Hesse a sense of the absurd or humour is also present. These effects will be identified, compared and contrasted. Finally, the artists' use of 'soft' materials will be identified and what these bring to their works will be compared.

In the next chapter, *My Own Practice*, the progressive use of chance and the development of the experimental drawings will be discussed, in order to show the continuous influence of chance throughout the work and identify its importance to the creative process and the practice as a whole. The element of experimentation is developed from ink/ice blocks with random shapes in which the ink breaks down into its component colours, to experiments with used engine oil, then oil plus ink. The external forces that influence the creation of the images result from vibrations through the studio floor caused by passing heavy vehicles, which impact on the fluids on the cartridge paper. The choice of dissimilar liquids will be explained, as well as the rationale for their use. The relevance of chance and intentionality in the experimental drawings will be explained using the development of the processes. The ways in which they relate to and answer the research questions, and their contribution to knowledge, will be identified.

Details of an exhibition in the *Herbert Read Gallery* at UCA Canterbury will be included, together with images of student participation in the practice observed.

Failure in the experimental drawings, and what this means in terms of artistic practice will be discussed, developed and compared with other types of failure. The fact that the research programme is dynamic will be stressed, as will the fact that additional areas for research are being considered for future development.

The *Conclusion* will bring together all aspects of the programme, identifying the answers to the research questions, the contribution to knowledge, the limitations of both the practice and the supporting theory, and highlighting new directions in which the practice might travel. It will remind the viewer that the research is dynamic and chance-driven. It is subject to conscious thoughts about the abstract images, in which the real and the perceived are present in the *horizon* of the works. This influences the perception of the viewer and their interpretation of the random images created in the latter stages of a process devoid of human bias. The resulting works, regardless of the final images, cannot be failures. They are clearly experimental drawings; a combination of failure and experimentation in which the final outcome is a place between intentionality and realisation.

8. Methodology

The project is based on artistic practice involving an experimental approach to drawing, underpinned by elements of scientific and controlled processes to create the works. The experimental drawings are the nexus of the project, highlighting the ways in which methods are used to explore the research questions and the foundations of the programme and thereby supporting its conclusions. The research questions, as previously stated, are:

- In experimental drawing, what is the relationship of chance, in its ordinary rather than its absolute sense (Houser and Kloesel 1992: 219), to intentionality in the work?
- How does chance impact on the character and meaning of experimental drawing in this project?

In this project, two principles are used to consider chance. The first is based on the ideas of Charles Spencer Peirce, which impact on the outcome of the work and are referenced by the perception and consciousness of the viewer, and what is actually seen. Initially there are no anticipated or predetermined results in the experimental drawings. Chance is defined as ‘ordinary chance’, according to Peirce’s view that there is nothing explicable about chance and that ‘chance can and will change everything, sometime or other’ (Houser and Kloesel 1992: 219–220). Peirce distinguishes this from ‘absolute chance’ in which there is a degree of the explicable (Houser and Kloesel 1992: 219–220). The second consideration of chance is located in John Cage’s use of the *I Ching* to determine choices about the formal and final performative outcomes of his music, choreography, written and visual art forms.

My own practice has referenced Peirce’s definition of chance, in both ‘ordinary’ and ‘absolute’ forms. Though obtained by a different method, Cage’s results are relevant because they offer a further perspective on the development of artistic practice using chance. The *I Ching* method of determining chance requires a degree of discipline not observed in the ideas of Peirce. An additional principle in the practice concerns the controls used in the processes supporting the work and the systematic use of techniques implemented in order to produce the results. Process is a key term, because this study is driven by the process used to determine the chance outcomes evidenced in the random images produced.

The theoretical aspect of the methodology is based on qualitative research using secondary sources in the form of books, journals and commentaries. Practice elements, while also using secondary sources, include subjective research from gallery visits, interviews of the artists by critical reviewers and the creation of experimental drawings. Throughout the research methodology, care is taken to avoid drawing conclusions beyond what has occurred as part of the practice. It is, however, important to search for themes and recurring events in the process. Events which may be unexpected must also be acknowledged, because they may be a factor in determining the element and type of chance in the work and thus have a value and relevance to the project.

The experimental drawings influencing the project are made up of several elements that individually are methods of creation in the methodological process. These are considered in the various chapters describing the programme.

The first element is mark-making, a term that encompasses all images produced in the project. The marks are made from mixtures of ink and ice, used engine oil and used engine oil with ink. The drawings are created by using melting ice cubes and applying oil mixtures to the papers with a teaspoon. The oil mixtures are relevant because their properties of flow and reaction to external forces are similar to those shown by the ink/ice mixtures. The next element is the *intentionality* or thought of something in the work. It includes the *horizon* in the work, which is the difference between the real and perceived images (Welton 1999: 111) and may be summed up as the conscious experience of the viewer. Following on from, and closely linked to chance, are the elements involved in the resulting images. These are described as random with a degree of unpredictability; they are devoid of direct human control in their creation and produce results that are infinitely variable. The final element is failure. This is a feature in all experimental processes, but in artistic terms it is different and will be discussed in *My Own Practice* chapter.

Research in this project, however, involves qualitative research which is based on interpretation. Qualitative research is problematic because it is subjective and refers to experiences; it may be defined as being 'grounded in a philosophical position' (Mason 2011: 3). Interpretations vary and factors including personal experiences and references impact on the viewers' analysis. In doing so it recognises the perceptions of the viewer rather than simply the facts. This is evidenced in the comments about the experimental drawings in *My Own Practice*

chapter. There is no trending because it has no relevance, yet it requires an understanding of nuanced data and a holistic consideration of the works.

In order to do this, it is necessary to examine the importance of intentionality in the research questions. As discussed, intentionality is the second key subject in the programme, next to and integrated with chance. It contains both a subject and object characteristic. It includes the concepts of *noema*, or the object of perception, and *noesis*, or the thought of perception (Welton 1999: 86–91). In determining the course of action for the research it is vital to consider the phenomenology of perception that supports the practice. This is discussed in detail in later chapters, but it is significant to identify here. Without these two concepts, which although separate exist together, the *horizon* in the work cannot be determined and the differences between the real and the perceived images cannot be examined.

Process is based on precise controls and measurements referencing a scientific approach in the programme and used in the production of the works. Fluids and temporarily frozen liquids are an integral part of the experimental development. Measurement of the fluid quantities is undertaken using surgical syringes and dropper pens; experiments are carried out to determine the most appropriate ratios of ink to water and various grades and qualities of paper are analysed to determine their uniformity. The size of the moulds used must be consistent, in order to ensure conformity of scale. A key element of the practice was to maintain uniformity in the process at all times, thus allowing the variations produced by chance to be observed in the work. A major influence in the experimental drawing process was the use of a flat working surface, in this case the floor. This maximises the effect of external forces such as vibrations that are experienced in the studio: these impact on the process and assist in the creation of the resultant random and unpredictable images. The process controls the method of production up to the stage immediately before the creation of the random images, when chance becomes involved. The process is repeatable and constant as evidenced in scientific experimentation, though the final results are controlled by chance and unrepeatable.

The drawings on the small A4 sheets are produced by the addition of 1–9 drops of ink to 9ml of water in groups of nine ink/ice blocks formed using a domestic ice mould while the 1.5m x 10m Fabriano Roll uses 1–10 drops of ink in 10ml of water

in groups of ten. For the A1 sheets of cartridge paper 36 drops of ink are added to 60ml of water in individual units. In each case the mixtures are not stirred but the ink, being heavier, sinks to the bottom. When the blocks of frozen mixture are placed on the paper, the ink side is in contact with the paper and as the ice above the ink melts, it spreads the ink across the paper. This enables the organic shapes to be created because of the vibrations through the floor. An additional feature of the process is that the ink is broken down into its component colours; the intensity and concentration of the colours on the pages is linked to the proportion of ink used to form the ice cubes. The range of colours, for example blue, brown, red, gold and yellow remains constant, but the individual shapes produced do not. This result exemplifies the involvement and importance of chance in the experimental drawings.

The philosophical influences are subject to chance, qualitative research, subjective analysis and first-person enquiry. The thesis includes a *Contextual Review*, in which selected writers and thinkers involved with the use of chance are discussed. The main reason for this is an attempt to understand the relevance of chance in the artistic process of the project. The artist or writer views chance from a different perspective, as with Pierce, who suggests that 'ordinary' chance is random with little evidence that it will include predictable elements, while in 'absolute' chance a degree of the explicable may be present. In each case, it is suggested that chance can and will change events (Houser and Kloesel 1992: 219–20). For Cage, chance is experienced in the random answers to the carefully-crafted questions asked in the initial part of the process and the interpretation of the hexagrams integral to the divining process, using a numerical analysis of the ratios of coins, sticks or the specific computer programme that determines which hexagram to focus on.

Ordinary chance is a feature of the experimental drawing in the programme, but it might also be argued that absolute chance is an influence on the process, because of the anticipation of perceived images created in the drawings on the studio floor by external forces. This opinion is possible because of the evidence seen after the first results are obtained, indicating a degree of the explicable as the ink will break down into its component colours. Despite the precision and controls in the process, the final results are random with unpredictable shapes. These final images, however, are undoubtedly influenced by ordinary chance.

I have studied the works of the Case Study artist, John Cage, identified in the introduction using edited primary sources together with secondary sources. This is discussed in the chapter *Case Study Artist*.

During the process the controls became a predictable feature, with a reference to absolute chance, because of the familiarity of the techniques; the results incorporate a degree of the expected. This, however, reverts to ordinary chance as the experimental drawings develop and the images created exhibit randomness and unpredictability.

The final element in the methodology is the organisation of, and participation in exhibitions, of my practice. Over time the practice has developed and the range of works has evolved. The opportunities to exhibit have widened and involve the element of chance. An exhibition of the works was held in the *Herbert Read Gallery*, UCA Canterbury in November 2016. This was not a retrospective exhibition, but identified the changes in the work and the influence of chance in the practice. A feature of the practice was the element of participation by other post-graduate scholars in a piece of work. The outcomes explored the interpretation of chance from other perspectives, engaging with both Peirce's concepts and Cage's *I Ching* questions. A further solo exhibition in the *Cambridge Museum* took place in early 2017.

The experimental drawings will identify the influences of chance and intentionality in the programme. This will answer the research questions and support the contribution to knowledge.

9. Contextual Review

Two key elements are considered in this chapter: the notion of chance and its effect on the practice-based project referred to as the work, and the intentionality which is observed in the random images.

The project is supported by consideration of the theories of CS Peirce and John Cage. Each considers chance from a different perspective; these differences are discussed and compared while referencing my work. In terms of the intentionality of the work the main theorists are Edmund Husserl and Maurice Merleau-Ponty. Both consider intentionality from the position of phenomenology and consciousness, also identified as 'operative intentionality...being apparent in our evaluations and in landscapes we see' (Smith 2010: xix–xx). Other writers and artists will be referenced when relevant. As the thesis develops further elements will be highlighted for example, mark-making, randomness and failure, and their significance in terms of the process evaluated.

In this chapter, the focus is on chance and intentionality as they relate to the two research questions that direct the project identified in the introduction. In considering chance, reference must be made to the historical situations. I begin by comparing the philosophies of determinism and indeterminism, which the Ancient Greeks considered to be the precursors of chance. Determinism is the belief that all events are determined by causes that are external to the will. Indeterminism is the belief that certain events are not caused by previous events or happenings, and are thus related to both free will and chance. The Ancient Greek philosophers were divided over the existence of free will, but traditional historians claim that the philosopher, Leucippus (5th century BCE), is the founder of atomism, though little remains of his work. This is the notion that everything in the universe consists of two elements: the immutable, indestructible 'atoms' and the 'void' in which they combine. Leucippus says that nothing happens randomly, but he also seems to consider the possibility of chance:

the cosmos became like a spherical form...the atoms being submitted to a causal and unpredictable movement, quickly and incessantly' (Kranz 1952: 24).

For Aristotle (c.384BCE–c.322BCE) causality – the principle that there is a cause of everything that happens – centres on four main ‘causes’: material; efficient; formal and final. He later discussed the possibility of a fifth cause: the accidental. US philosopher RJ Hankinson suggests that Aristotle was the first major philosopher to argue convincingly that some events were caused by nothing but chance and that, on conceptual grounds, chance events are unusual and lacking in explanatory features (Hankinson 2009: 223). Aristotle considered chance to be a cause created by accidental means.

Epicurus argued that atoms moving through a void might occasionally ‘swerve’ from their determined paths, thereby creating new causes which became chances, thus enabling people to be more responsible for their actions. He attributed these ‘swerves’ to the arbitrary intervention of gods rather than a movement away from determinism:

In few instances does chance intrude upon the wise man, but reason has administered his greatest and most important affairs, and will continue to do so throughout his whole life. (Epicurus: *Principle Doctrines* no.16 trans. E O’Connor 1993: 71)

These philosophers viewed chance from a cosmological perspective. This was still the prevailing view in 1729 when Jean Meslier claimed that ‘matter has then the power to move itself, and nature, in order to act, does not need a motor’ (Knoop 2013: 57). Meslier also said:

Men may use the word "chance" to cover their ignorance of the true causes; nevertheless, although they may ignore them, these causes act, but by certain laws. There is no effect without a cause. (Knoop 2013: 59)

Both Meslier and another French priest, physician and philosopher, Julien Offray de la Mettrie, considered chance from a religious rather than a cosmological perspective. Offray said: ‘then chance has thrown us into life’ (Offray 1750). It was not until 100 years later that Antoine-Augustin Cournot looked at chance from a different perspective, suggesting a series of non-linear causes:

it is not because of rarity that the chance is actual. On the contrary, it is because of chance they produce many possible others (Cournot 1851: 32)

This seems to be the beginning of looking at chance as an inexplicable range of events. Cournot had moved away from the previous astronomical and religious ideals which had influenced philosophers.

In the 1890s US philosopher CS Peirce further examined the concept of chance, and it is on his work that this project focuses. Peirce's views are relevant to the experimental drawings and creative processes used in the creation of the images and will be discussed throughout the thesis. In *Tychism* (Houser and Kloesel 1992: xxii), Peirce considers 'absolute chance' which, he believes, is a real factor influencing the universe. He does not deny that laws govern the universe, but suggests that in a situation where there is an apparent lack of order it is in itself an order; that there are both regularities and irregularities which coexist. In a series of lectures and letters Peirce suggests that there are two types of chance, the first, 'absolute chance' contains everything that is explicable even though it is present as part of chance. This position is almost impossible to achieve since many chance events cannot be explained. He calls this second type of unpredictable events 'ordinary chance', claiming that this can change anything, producing inexplicable results (Houser and Kloesel 1992: 219–220). As part of these considerations Peirce discussed spontaneity which, he cited, led to 'the chance-spontaneity hypothesis' (Wiener 1958: 177). He claimed that he could reason this with mathematical accuracy, observing facts to produce a degree of consistency and considerable detail, although the methods were unique. He said this was a philosophy peculiar to himself, and he did not advocate its use by other mathematicians (Wiener 1958: 177).

Peirce's view is relevant to the works of Cage, even though Cage used Zen and the *I Ching* to determine his works, and the experimental drawings of this project. It is clear that in the process of creating them, the more images produced the greater the potential range of variation in the random images. Each of the images is unique, which adds a sense of continuity and expansiveness in the work. This is different from the notion of chance associated with throwing dice, when the greater the number of throws the more even the results become, because the results are being averaged out and the possibility of specific numbers appearing over a period of time is relatively even. This could be classed as mathematical chance because of the manner in which it is influenced (Houser and Kloesel 1992: 220–221).

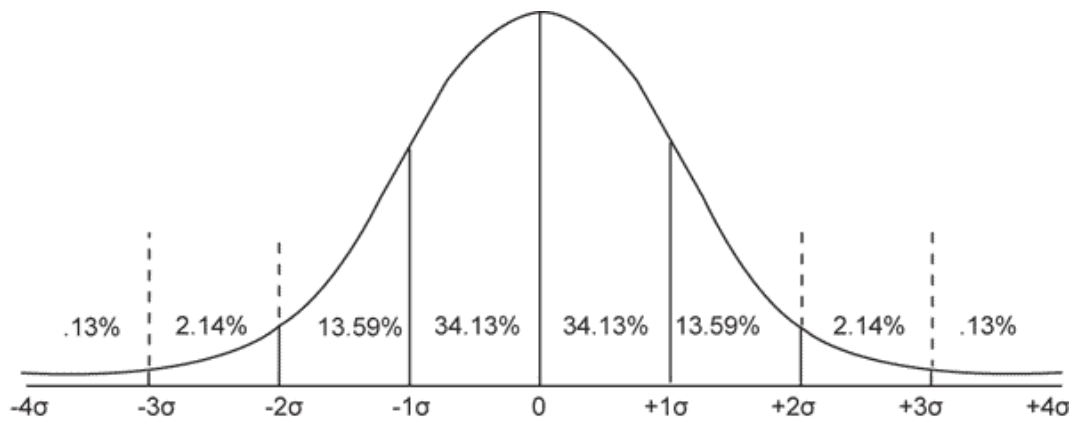


fig. 1 Standard Deviation Curve

These ideas can be checked using a standard deviation curve (fig 1, above). The curve is seen to flatten out the more the dice are thrown, but the percentages of the numbers in the results are a constant. In order to determine the outcome, it would have to be used for each number in turn. Because of the anticipated probabilities, this seems to support Peirce's ideas on absolute chance, which he favoured, as opposed to ordinary chance. This is unlikely to be of value in the process of experimental drawing, because research indicates that Peirce does not appear to have considered the possibility that absolute and ordinary chance can be part of a flexible and moveable process. The evidence observed in the experimental drawings identifies that this is not only possible but also probable. It does indicate that chance moves outside the mathematical boundaries, and the idea behind the experimental drawings shows that the range of chance images created is infinite and the objective is not an attempt to average out the images produced, thereby reducing the final quantity, but to identify their diversity. This fact is discussed further in *My Own Practice* chapter.

It is important to examine both what Peirce means by chance, and the difference between 'ordinary chance' and 'absolute chance'. In his essay *The Doctrine of Necessity* Peirce provides several examples of chance but does not define it. He does conduct three arguments with a fictitious 'necessitarian', positing that 'all specification goes back to the beginning of things' (Wiener 1958: 177). The first argument is that 'chance is a thing absolutely unintelligible' (Weiner 1958: 177), though he then suggests that this is not his view and that he considers it to be lacking in wisdom. He claims that everything comes about in one way or another and cannot be 'unaccountable' but is rather the result of some spontaneous activity.

The second argument posits that there are 'no observed phenomena which the hypothesis of chance could aid in explaining', (Weiner 1958: 178) which he contradicts by referencing the phenomenon of growth and diversification. For Peirce, the 'necessitarian' insists on the regularity of the universe and the relationships between the laws of nature which need a reason to be explained. In the third argument, Peirce suggests that the 'necessitarian' would probably insist that 'chance is not a *vera causa* or true cause, and does not exist in the universe' (Weiner 1958: 178). He counteracts this by referring to the variety in the universe and the existence of diversification, yet admits that chance cannot be formulated nor exist as a rigid rule (Wiener 1958: 179).

These arguments do not define chance, or help to differentiate between ordinary and absolute chance. If absolute chance is to be seen as explicable, it is difficult to define it as chance. Ordinary chance, however, is relevant to the practice and the experimental drawings. Whether events occurring by chance are influenced by the materiality of the elements in the process, or by the factors affecting the site where the works are made, the results are random and unpredictable.

A further consideration is Peirce's view that chance can change anything and that nothing in life can be guaranteed except death. It is certain that humans will die, but the exact time or point in life at which this will occur is subject to chance. No known law in the universe can counteract this (Houser and Kloesel 1992: 221) despite developments in modern medicine and science¹. The concept of ordinary chance is pertinent to the practice because, when the works are being created, the chance influence of vibrations in the studio caused by external influences, makes the mixtures flow across the paper in random and unexpected ways. This apparent happening is referenced in the doctrines of Aristotle's accidental causes principle, as discussed earlier, and the belief that new discoveries are the result of accidents. The impact of external influences is not accidental but can to an extent be predicted, while the precise form of the final images is unpredictable and suggests the occurrence of an accidental cause or ordinary chance.

This is not the type of chance that Peirce had in mind. He claims that in practice, there is no difference in outcome between absolute and ordinary chance. The

¹ Current work in the field of genetics indicates that death may become predictable, probably as absolute chance, but this is still a distant aspiration of scientists. If this proves to be the case, which is doubtful, there is no indication that the precise moment of death will be predictable.

explicability of absolute chance is not specific, but is more general and without determinates and limits. If everything is 'subject to change and subject to chance then everything that can happen will happen sooner or later' (Houser and Kloesel 1992: 220). It is determined in general terms by the number of influences experienced by chance (Houser and Kloesel 1992: 220). Peirce examines this claim with reference to dice and the wear and tear that will occur over time, depending on the frequency of use. He considers the results from the chance that numbers will appear, but chance will happen in various ways resulting in one conclusion at one time and a different conclusion at another. Over time it is probable that changes will produce other changes because of the effect of previous change.

Chance can therefore be said to be a state of 'indeterminacy rather than of unintelligibility...chance is freedom' (Houser and Kloesel 1992: 222). What is meant by the term freedom is not clear; it may be that because of the unpredictability of chance the restrictions of the laws of nature are limited. Peirce says that chance will, over time, destroy the weak and increase the strength of the remaining objects. Darwin considered this proposition in his work *On the Origin of Species by Means of Natural Selection* (Darwin 1895: 162). This is a more mathematical consideration of chance, as seen in the dominance of some genes on the pairs of chromosomes from which individual species are created, which is related to absolute chance:

to question the exact truth of axioms...the developments of this general idea in the realms of mathematics and philosophy is...likely to teach us more (Houser and Kloesel 1992: 251)

This view reinforces the concept of absolute chance, with its emphasis on the inclusion of the explicable, suggesting that the evidence of the inexplicable is not a consideration in this process, and that ordinary chance is not a valid influence.

While Peirce considered chance from causal perspectives, albeit with a mathematical bias, the ancient Chinese saw it as a one-off moment of observed events, considered in detail that included time and surrounding events. This view was one of synchronicity based on the prevailing moment rather than statistical truth. This approach to chance, the *I Ching* philosophy, is diametrically opposite to Peirce's 'absolute' chance and mathematical averaging. In addition, the benefits of

the *I Ching* are achieved by self-knowledge. It is, however, particularly relevant to those individuals who reflect on 'what will happen to them' (Wilhelm 2003 xxxiii) and how their reflections impact on artistic practice. This will be discussed in detail in the *Case Study Artist* and *My Own Practice* chapters.

It is important to examine how Peirce's theories concerning chance and change and the *I Ching* relate to the research questions of the thesis. It is also relevant to consider intentionality and how it references the impact of chance on the practice. The definition of intentionality is important: looking at both chance and intentionality it is evident that while different, they occupy adjacent and crucial positions in the development of the practice. Chance, as understood in this thesis, relates to the unpredictable and random occurrences found in works of art. These are not planned, but simply happen as a consequence of accidental causes. Intentionality can be present when the works are not subject to chance, but in this project it relates to the thought or perception of something associated with the work. Intentionality may be defined as 'the quality or fact of being intentional or of being directed at an object, as a supposed quality of every act of consciousness' (Shorter Oxford English Dictionary 2007: 1405). The notion that art without intentionality is not art is discussed in an article by Levinson, in the *Journal of Aesthetics and Art Criticism*, Vol 48, No.2 (Kolak Spring 1990: 160).

Levinson's view, an object is not art until someone's art-intent makes it so. Once the art intending happens there may be justification in regarding the objects as art. (Kolak 1990: 160)

In this instance the *someone* conferring the art-intent is the viewer, rather than the creator, thus confirming it as art. Until the intent is confirmed it is not art.

Edmund Husserl outlines notions of chance and variability that seem in accord with those of Peirce. Husserl looks at the subject as 'viewed from the perspective of consciousness...not as it is in itself' (Giorgi 2009: 93). It could therefore be said that the thought rather than the object is important. With reference to the perception and seeing of the viewer confronted by works of art, Husserl said:

For every other psychic process: the judging, valuing, striving consciousness is not an empty (sic) having knowledge of the specific judgements, values, goals and means. Rather, these constitute themselves with fixed essential forms corresponding to each process, in a flowing

intentionality. For psychology, the universal task presents itself to investigate systematically the elementary intentionalities and from out of these unfold the typical forms of intentional processes, their possible variants, their syntheses to new forms, their structural composition and from this advance towards a descriptive knowledge of the totality of mental process. (Welton 1999: 324).

This view reflects the process of change found in the experimental drawing of the practice and is relevant to the variations and new forms found in the work. It identifies the need to investigate the process involved in creating the work, together with the features found in it and the intentionality of the artist in its production. Also relevant are the conscious experiences involved in the phenomenological elements present. Husserl further states:

What forms the materials into intentional experiences and brings in the specific element of intentionality is the same as that which gives it specific meaning to our use of the term “consciousness”, in accordance with which consciousness points *eo ipso* to something of which it is the consciousness. (Boyce Gibson 2012: 174)

It could be argued that this is a cornerstone of intentionality which leads to the *noesis* and *noema* of the work. During the considerations of phenomenology a number of problems are evident, as discussed in Husserl's 1913 book *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie, Erstes Buch: Allgemeine Einführung in die reine Phänomenologie*. The most universal problem, however, was that ‘Intentionality is the name of the problem encompassed by the whole of phenomenology’ (Kersten 1983: 349). This view, while not specifically referencing art, identifies a problem that adds a further dimension to Merleau-Ponty's ideas on seeing. It does this by highlighting the problems with phenomenology in the discussions about perception in artistic practice concerning the intentionality of the artist. This view is also identified by Levinson. While the act of consciousness associated with the intentionality of the work is identified, the variants associated with chance are not. In the practice associated with this project there are conceptual elements in the mental processes associated with the work; it is important to ensure that these are not lost in its production. These images take on an almost-organic form with an infinite number of variations. The corporeality evident in the images, whilst part of the intentionality, is an example of the transition to the new abstract forms present in the work, from the original rigid shapes of the ice blocks.

Chance is an integral part of the creative process and how it is manifested is different for each artist. It is therefore important to consider whether chance is accidental or can be predicted in, for example, the experimental drawings because of previous knowledge of what happens when the studio floor is subjected to external forces in the form of vibrations. This question will be considered further in *My Own Practice* chapter.

Another aspect of chance concerns the unexpected, almost accidental events that may influence the work. These arise because of unpredictable external forces on the work and its surroundings, which may be observed during the creation of a work at the moment in the process when a decision has to be made about a potentially unpredictable development. The consequences of the decision influence the direction taken and often include the element of chance.

It is necessary further to consider the importance of intentionality. The way in which it is evidenced in the work must be considered, as must the question whether a work that has no intentionality can be seen as a work of art. This was addressed by Kolak in his comments on Levinson's views of art-intent (Kolak 1990: 160). The rôle of intentionality is difficult to determine, and the arguments discussed do not really clarify the situation. Intentionality is specific to the artist and will be discussed in both the *Case Study Artist* and *My Own Practice* chapters. While chance may be identified as a form of escapism from the rigidity of art together with the thought of something other than the object itself, it too has a depth of complexity which invites issues in the defining process.

Another approach to chance can be seen in the writings and work of Cage. In 1952 when Cage was at Columbia University he became involved in Zen Buddhism, which had a profound influence on his work and life. Cage sought to remove the destructive elements of will, ego and desire from his life and to adopt an approach of humility rather than control. To Cage, ego was a barrier to experience and a restriction of a humble approach (Kostelanetz 2003: 14). Chance was important to Cage, who sought to be open to the unknowable and unpredictable in his art, writings and music (Kostelanetz 2003: 17). His approach to chance was via the *I Ching*, which explores life by answering questions put to it.

These questions must be considered carefully, and are not always answered directly; the answers may seem to be for a different question, or may not be what the asker expects. *I Ching* is far more than a means of determining outcomes or artistic practice by interpreting hexagrams. It also invokes a method of regarding life and the world. It considers 'suprahuman intelligence' making use of the 'three mediums of expression – men, animals and plants' (Wilhelm 2003: 263). And there was more:

Chance came to be utilised as a fourth medium; the very absence of an immediate meaning in chance permitted a deeper meaning to come to expression in it. The oracle was the outcome of this use of chance (Wilhelm 2003: 263).

Chance was certainly an idea in the *I Ching* system of divination, but does not appear to be similar to the 'accidental cause' chance element identified by Aristotle. It is far more, originating before Confucius, who is believed to have used it. The view of chance identified in the *I Ching Book of Changes* indicates that it 'is founded on the plant oracle as manipulated by men with mediumistic powers' (Wilhelm 2003: 263). For Aristotle, however, the causes are not expressed in terms of a medium but are accidental.

At this point it is possible to make a comparison between Peirce and Cage, because Peirce's ideas were based on the ideas of Aristotle, and Confucius on those of the *I Ching*. Peirce developed the ideas of Aristotle to produce his own theories on 'absolute' and 'ordinary' chance, but there is no evidence that Cage developed the Confucian ideas of the *I Ching*. In the 1970s, Cage joined forces with composer Legaren (Jerry) A Hiller Jr. to develop a computer program which made the *I Ching* easier to use. The program facilitated the production of 'microtimbral variations' relating to the *I Ching* chart. This resulted in the ability to 'substitute the manual tossing of coins' to 'obtain numbers one to sixty four numbers of the hexagrams' (Kostelanetz 2003: 80).

Cage used the *I Ching* to help him determine the outcome of his printed work and more relevantly his music and poetry. He used it when he was troubled, as though 'it were a book of wisdom, which it is... What do you have to say about this? And then listen to what it says' (Kostelanetz 2003: 18). Cage said:

I use chance instead of operating according to my likes and dislikes. I use my work to change myself and I accept what the chance operations say. The *I Ching* says that if you don't

accept the chance operations you have no right to use them. Which is very clear, so that's what I do.' (Kostelanetz 2003: 226).

The *I Ching* is simple to consult but interpreting the results is complex. The system is based on the hexagram, a figure composed of six stacked horizontal lines in a configuration determined by tossing coins or sticks. The *I Ching Book of Changes* offers guidance on how to interpret 64 different hexagrams. The system is based on chance which affects change; it essentially removes the intention from the work. It also removes individual personality, likes, dislikes and tastes so the resulting change is more akin to an act of nature. As intention and intentionality are important elements in the creation of works of art, the value to the artist of removing them must be questioned.

Cage began to use the *I Ching* to compose music, constructing his compositions note by note by throwing coins or using a computer simulation of the process. From the 1960s, star maps such as the *Atlas Australes* became an influence on works such as the *Etudes Australes* (1974-75). Richard Kostelanetz discussed this in *Conversations with Cage* (Kostelanetz 2003: 91). Cage's use of chance is different to that observed in the work of other artists. His use of *I Ching* and chance became a key element of his practice:

despite having been invoked regularly by art historians for almost half a century, Cage's ideas about chance have remained surprisingly little explored within the discipline. Indeed, with rare exception, art historians tend to downplay Cage's exploration of chance as a revival of pre-war Dadaism... (Joseph 2016: 133).

Whereas, Peirce's idea of ordinary chance is a direct and unconsidered process, unlike Cage's use of *I Ching* which is considered and requires thought, analysis and careful adherence to the outcomes. His use of the *I Ching* did not remove him from the decision-making process; it enabled him to take other decisions which helped him to work out which questions to ask.

Cage collaborated with many artists on a range of projects covering music, written and visual art. After Duchamp's death he worked with Calvin Sumsion on the creation of lithographs *Not Wanting to Say Anything About Marcel* (1969). In 1978, printmaker Kathan Brown invited him to join her making new work at San Francisco's *Crown Point Press*. He visited over a number of years and produced

large quantities of work. He used the *I Ching* to help him mix various inks, and for the first print run of one set of experiments he mixed 46 colours, printer Lilah Toland felt that this was excessive but later saw the humour in it. Also at *Crown Point Press* while working with Toland he learned to etch.

As a consequence of experimentation in his practice Cage later added the element of fire to his work, and produced a series of smoke and flame-burnt images. These bear clear evidence of chance, as a deliberate intervention rather than the result of serendipity. Toland and Brown cite examples of chance incidents during Cage's time at *Crown Point Press*, especially one when he felt that he had messed up on one of these smoke- and flame-burnt etchings.



fig. 2 John Cage: *Eninka No 28* (1986)

After some help from Toland, the etching, *Eninka # 28* (1986), fig 2, above, became, according to Cage, 'one of his most beautiful'. This was an example of 'failure' in art which, on reflection, is considered a success (Le Feuvre 2010: 12).

In considering the intentionality of these actions, it is important to ask whether this was an additional act of intentionality or a development of the creative process. It is also important to ask whether this was a reflection of the consciousness of something, or a planned new object. These and other questions will be considered further in the *Case Study Artist* chapter, of which Cage's practice is the nexus. The experimental content of Cage's music will be discussed and extrapolated with reference to his visual art. The challenge of Cage's music will also be referenced in *My Own Practice* chapter.

Cage's use of the *I Ching* must be examined in terms of its relevance to the project and the ways in which it can be used to answer the research questions. Chance was a key element in Cage's practice, but his use of the *I Ching* made it a mathematical process. This is more usually a feature of works that do not rely on unpredictable chance, such as Darwin's investigation of the development of species. In this, chance is based on a fixed series of items in the form of genes. These are found in pairs located on chromosomes with dominant and recessive features, combinations of which create the characteristics of individuals. Over time, stronger features become dominant and help the evolution of the species, which might be considered a mathematical process.

This type of mathematical process was also the basis of systems art which followed simple and standardised forms, often repeated and geometric in format. These methods of creation were widely used by artists in the UK during the 1960s, and to some extent in Cage's *I Ching*-influenced works. Kenneth Martin was a Constructivist and System Artist whose paintings and collages exemplified this genre of art but also bordered minimalism. An example is *Chance, Order, Change 6* (1978-79), now in the Tate Collection. The work was produced by marking the drawing with points, in a similar way to Cage's music scores on graph paper. Then, by moving around the rectangle in a clockwise direction, lines were created by taking numbers, at random and two at a time, from a bag. Martin chose eight pairs of numbers for this work, then created the change in the work by rotating the drawing through 90 degrees and repeating the process. This he repeated twice more, before transferring the work to canvas (Gale 1997: Tate catalogue). As the title suggests, Martin combined the use of chance, order and change; while elements of the process reference the *I Ching* and Peirce's notion of ordinary

chance the results were mathematical, suggesting that absolute chance was also involved.

Cage's use of chance focused on the elimination of intentionality. In the project, however, intentionality is a major element, its aim is to produce a range of images that are both organic and corporeal, even though they are produced in a chance way. A basic consideration in my practice is the use of chance and intentionality, which are supported by the writings of Peirce, Husserl and Merleau-Ponty. My use of chance is primarily as outlined by Peirce, but the random results are as defined by Husserl's ideas of *noesis* and *noema*. The intentionality in a work requires both *noesis* and *noema*, like two sides of the same coin, in order to determine the *horizon* in the work.

Cage's intention was to remove the possibility of taste from his works (Kostelantz 2003: 226) and is a consideration made during the process of creating the experimental drawings. It was not, however, a conscious act on the scale of Cage's ideals, because in his life and works he was greatly influenced by his Zen Buddhist beliefs. These prompted him to seek freedom from the influences of human desire and hands (Kostelantz 2003: 29). It seems clear that eliminating intentionality and the impact of the human hand by transferring control to the responses gathered from use of *I Ching* lent Cage's work a dimension that differs from the unpredictable chance found in my practice. His works showed a more calculated reliance on chance and change, directed by the questions put to and the responses received from the *I Ching*. Despite this difference, the impact of chance on Cage's work is marked, and the addition of flames and the effect of burning the work do produce a set of random and unpredictable images.

The works were created by burning materials on the printing benches in the print room then smothering them with wet paper. This can be seen in *Every Day is a Good Day, the Visual Art of John Cage* (Malbert 2010: 26). The results are nearer to the effect of ordinary chance as seen in my own practice. This is outside the realm of Peirce's concept of absolute chance, because the results are inexplicable: increasing the number of images serves to widen the range of options, as seen in the experimental drawings.

It is important to examine whether, by his use of *I Ching*, Cage frees his work from the restrictions of taste, likes, dislikes and the expected results seen in absolute

chance, and what this might mean. To some extent he frees up the work by adding the element of fire, thus taking his work into the realms of ordinary chance. It loses the rigidity imposed on it by the *I Ching* elements of chance and its reliance on hexagrams which, though random, resemble Peirce's ideas on absolute chance and the explicability associated with it. The results and shapes produced due to the burning process are, however, unpredictable, even though they may be subject to a degree of anticipation.

Another consideration is the chance results found in Cage's music. As an example, every time 4'33" is 'played' it is completely different, because the noises in the concert hall and the coughing and shuffling of the audiences are unique, unpredictable and incapable of exact reproduction. This demonstrates ordinary chance, without the issues and influences of absolute chance.

In addition to chance, intentionality plays a key rôle in the development of the programme. The way in which it relates to the practice is explored in *My Own Practice* but the ideas of Husserl help greatly in understanding its relevance. Intentionality has a foundation in consciousness and shares its roots with perception and phenomenological doctrines (Welton 1999: 86). It is about something concerning a thought and an object, it encapsulates both concept and object properties. For Husserl intentionality has the components *noesis*, *noema* and *horizon*. *Noesis* and *noema* are interdependent, existing in synergy with each other but with individual meanings and relevance. *Noesis* refers to the consciousness of something or an object, while *noema* is the perception of the same something or object. They coexist and reference the same something (Welton 1999: 87–89). For example perception, an element in intentionality, has its *noema* which in simplistic terms is its perceptual sense (Welton 1999: 88). Sense in this case is the mental process by the viewer of perceiving something and is also discussed by Merleau-Ponty below. The phenomenological elements of the perception process cannot be avoided if one wishes to experience the full phenomenological purity of the sense of the something in which *noesis* and *noema* are combined for the made judgement (Welton 1999: 92). This is discussed in the following chapters, *Case Study Artist* and *My Own Practice*.

An essence of this programme is that the practice is grounded in process. Husserl says:

every subjective process has a process horizon which changes with the alteration of the nexus of consciousness to which the process belongs (Welton 1999: 109).

This can be explained as the subject of what is perceived rather than seen as the real object. The *horizon* may be described as the difference between the real and perceived elements of an object, as though the consciousness has been stimulated by the process of perception. It is an essential element in the intentionality of a work of art;

horizon belongs to every intentionality and thus prescribes for phenomenological analysis new methods which are present in consciousness and object, wherever intending and sense, real and ideal actuality, possibility (Welton 1999: 111).

For Merleau-Ponty perception was an important element and manifest as the moment when I 'experience my existence – at the ultimate extremity of reflection...as a consciousness among consciousness' (Smith 2010: xiii- xiv). Intentionality was a key element of phenomenology and 'the way that objects are presented in perception and consciousness' (Davis 2005: 6). He also believed that 'perception is inseparable from consciousness' (Smith 2010: 436). These concepts interrogate the meaning of consciousness and perception. Neither can be seen as physical objects, but the consequence of their presence or importance can be observed. Yet even after 'half a century after the first works of Husserl...the question about what is phenomenology remains unanswered' (Smith 2010: vii). He suggests that intentionality can be classed as 'bodily' intentionality giving meaning to objects from our 'experience, from our past and future referencing human possibilities and situations' (Davis 2005: 10). 'Consciousness is in the first place not a matter as "I think that" but of "I can"'. (Smith 2010: 159). It takes consciousness into the realms of intentionality from the thought of something to the physical object. As a precursor to his work on intentionality Merleau-Ponty engaged in the study of perception and even though he believed that it was of great importance to see, perception was more than seeing. It was grounded in sensation, based on *sentir*, to him it was 'the experience of an undifferentiated, instantaneous, punctual impact' (Smith 2010: 3). In his essay *L'oeil et l'esprit* he discusses the process of seeing further, and suggests while he is looking at something he can see it. This is a difference between Merleau-Ponty and the average viewers in art galleries because they would look, but he sees, this idea will be discussed further in *My Own Practice* chapter.

He suggests:

everything I see is in principle within my reach, at least within reach of my sight, and is marked upon the map of “I can” (Edie 1964: 162).

Failure is an important consideration. In *Experimental Painting* Stephen Bann considers a number of essays on historical painting and painters. One is Frank Stella, who moved away from external restrictions to encompass experimentation in his artistic practice and importantly produced his works ‘almost exclusively in series’ (Bann 1970: 64), an example of which is the *Harran II* (1967) series, in the manner of Cage. Stella felt that the classical approach to painting was alien to his method of working: ‘he sought unpredictability’ (Bann 1970: 64). The nearest comparison to Stella is not found in ‘the various types of pictorial experiment, but in the literary and linguistic model offered by Roland Barthes’ (Bann 1970: 113). According to Bann, Barthes was a public experimenter. To explain this idea further and Barthes’s reliance on theme and variations, which are evidenced as ‘new ranges of meaning when removed from the strictly temporal sequence which it implies’ (Bann 1970: 113) Bann said:

the idea of variation may seem too limited to do justice to the individuality of the works considered singly (Bann 1970: 113).

This is a reference to the fact that most of Stella’s works are series, see above, and experiments as seen in the experimental drawings of this project. They are not considerations of chance, but of intentionality in the ideas about his practice.

The concept of failure is also considered in the context of artistic practice. Curator and writer Lisa Le Feuvre, the editor of *Failure* (2010), discusses this in her reviews of a number of essays on contemporary artists. In one, Marcus Verhagen looks at Martin Kippenberger, who casts himself as a failed artist but in reality could paint with skill and fluency, described in the essay (*There’s No Success Like Failure: Martin Kippenberger, 2006: 43*). Kippenberger was a humorously vicious observer of the post-war social rituals in Germany, ‘particularly the outlook and aspirations of the lower middle class...a huge close-up of pens clipped to the outside pocket of a suit was shorthand for the application and competence of the clerk or middle manager... the suit was a cheap one suggesting the clerk’s work was poorly paid’ (Le Feuvre 2010: 44-45). Yet this class of person was targeted by advertisements of the Ford Capri coupé car.

Nobody who was successful and rich would be inclined to buy such a car in the Germany of the 1970s. 'It was an image that had failure written all over it' (Le Feuvre 2010: 45). Kippenberger sought to project this concept of failure onto his work with a sense of humour. For him:

owning a (Ford) Capri, the budget sporty car of the 1970s, was the dream of the lower social classes (Le Feuvre 2010: 45).

Kippenberger and his stated ambition of owning the dream populist car, the Ford Capri, as seen in *Capri by Night* 1980, unwittingly enhanced in the minds of the general public by skilful and successful advertising, ensures that his social position is an aspiration of achieving the level of the bourgeoisie rather than the acceptance of his rôle as a successful artist. In view of Le Feuvre's comment on failure, 'in the realm of art, failure has a different currency' (Le Feuvre 2010: 12) which is encompassed in the artist's search for unrealisable perfection, failure is an unavoidable conclusion in artistic practice (Le Feuvre 2010: 12).

Another example is *Cheerful and Heroic Failure* (2004) in which Bazon Brock discusses failure in terms of scientific hypotheses and experimentation, relating failure to artistic experimentation which eventually proves its worth in 'radical failure' leading to success (Le Feuvre 2010: 181–182). For Le Feuvre failure is, in practice, experimentation and occupies the 'space between intention and realisation' (Le Feuvre 2010: 12). Yet experimentation is a key element in artistic practice today and by extrapolation experimentation is failure, thus it is possible to conclude that failure is also a key element in current artistic practice.

In summary, as identified above, the concept of chance is complex. It has been considered from three perspectives. The first used the early thoughts of Peirce which consider the mathematical and astronomical aspects of absolute chance. This is a development from the earliest ideas of the ancient Greeks who reviewed chance from the aspect of astronomical ideals. It is interesting that without the benefits of technology they achieved an impressive level of accuracy. Despite Peirce's reliance on the identification of two types of chance, absolute chance does not cover the inexplicability of ordinary chance. Absolute chance as seen in throws of the dice only serve to negate the effects of chance by producing an averaged out result. Ordinary chance is closer, but is still not entirely relevant because it does not take the idea of chance far enough and appears not to include

accidental cause. It falls short because of the lack of consideration of the minute details which make each image unique.

Some of Cage's interpretations of chance are difficult to rationalise in terms of this project. His visual works adhere most closely to Peirce's notion of 'absolute chance', but as discussed, they appear to have lost their spontaneity. Cage's desire to eliminate the idea of intention or intentionality might be seen as too far removed from the concept of unpredictable chance to be relevant to the project. When, however, Cage added the intervention of setting fire to the finished print works this was evidence of the intentionality of chance. In this respect, his later ideas on printing, together with those on the generation of music, seem relevant to the spirit of the programme.

The above artists and writers have held different views on chance but have not individually fully explained its rationale. Even collectively their ideas are not sufficient to provide an answer. This idea will be put to the test in *My Own Practice* chapter in which the experimental drawing is compared with the works of other artists and their uses of chance. It is hoped that this will clarify both the results and the purpose of the influence of chance in resolving the issues raised by the two research questions. As part of this examination, the relevance of intentionality in the artistic process can be explored and the relative impact of both elements compared and contrasted.

Chance and intentionality are key features in the work of many artists. For Cage, however, intentionality is something he was determined to exclude from his practice, probably as a consequence of his Zen Buddhist beliefs. The effect of the lack of intentionality in Cage's visual artwork must be considered. His refusal to engage with intentionality was probably due to his desire founded in Buddhist principles to maintain a humble approach to his work and ensure that it was devoid of ego and taste. By denying the existence of ego in his work, his action accentuated his sense of ego, which is in stark contrast to his beliefs. It might be argued that Cage was egotistical in his approach to artistic practice and his way of life. Examples of this can be seen in his musical compositions which will be discussed in the next chapter.

Finally, experimentation and failure are briefly considered by using a range of essays in Lisa Le Feuvre's *Failure*, written by artists about artists. Failure is an

element experienced by many artists in their practices, without it works of art would lose their spontaneity and often their dynamism. They are linked in artistic practice because failure in art is not essentially failure but is the 'gap between realisation and expectation', which is in effect 'experimentation', a key element in artistic practice (Le Feuvre 2010: 12).

10. Case Study Artist – the influence of John Cage on ‘chance’ as an element in the project

This chapter will focus on artists who have had a direct influence on my practice. It is important to consider both the similarities and differences which determine the outcome of this project. The principle artist is John Cage, his music, visual art and his specific use of chance procedures, specifically *I Ching*, which determines his reliance on sound and time in some of his work. This is different from my work which is also based on chance, but from another source, CS Peirce, and focuses on liquids and temperature, but still features time as a component in the creative process. The ideas discussed in this chapter will be applied and related to those found in the next chapter *My Own Practice* where they are analysed and their relevance to the project identified. Additionally the importance of gravity and external forces which influence my artistic practice will be discussed. The element of gravity is observed predominantly in allowing materials to be dropped, or to fall, onto the paper or canvas used in creating the images, whereas external forces are those applied to the materials during the creative processes.

Many artists have been influenced extensively by chance and how it can be used in developing their practices. This applies whether their fields have focused on visual, musical, three dimensional, written, performance, dance or digital arts. How the influence of chance manifests itself in their works has to a great degree been subject to the individuals and their different methods of working. I have chosen to focus on Cage because of his relevance, his adherence to the use of chance method of working and to the variations in the different types of artistic practice which have had a bearing on my own work. Other artists will be included and discussed briefly as and when their practices become appropriate.

John Cage

Most of Cage's work and life have been defined by his musical compositions and performances, yet his music is polemical, challenging both to the listener and other musicians.

Despite Cage's travels across the globe during his creative lifetime there are two periods which are significant in his artistic development. The first was in the late

1940s and early 1950s when he spent time at the Black Mountain College² in North Carolina, with his colleague and partner Merce Cunningham. It was an experimental school established in 1933 by John Andrew Rice where the students set their own syllabus and graduated when they were ready, without the necessity of examinations. The eclectic mix of artists who studied, taught and performed there from musicians, visual artists, poets, writers, dancers and photographers and the aleatory practices of their music and performances were positive influences on Cage's work. During his several visits to Black Mountain College, Cage composed *4'33"* (1952), and organised and performed the first "happening" at the college, *Theater Piece No 1* (1952).

The second period of influence was from 1978 until 1992, when Cage visited Crown Point Press, San Francisco, on several occasions. While there he studied, learned and practiced a variety of print-making techniques. The majority of examples of Cage's visual works discussed in this chapter were created at Crown Point. While it was calmer, it did not indicate that Cage was any less experimental in his practice and this is visible in the results of his visual art³ seen below.

There is an initial similarity between Cage's works and my own practice in that we are both engaged in experimental processes, from Cage's perspective the visual work references his experimental music, whereas my earlier scientific background influenced the artistic practice of my later life.

Cage's music presents its own issues when translating sound into visual art. It is based on space and time, but despite the difficulties, the specific method of scoring it is helpful to this process. This is evidenced in his compositions using astral maps and *I Ching* focused graphs. As seen in fig 3, page 47 below:

² The relevance of the Black Mountain College to Cage's work is very pertinent. Its unique curriculum and format fitted Cage's ideas well. It was a movement supporting the avant-garde and experimental artists. Opening in 1933 after the Nazis had shut down the Bauhaus many of the school's faculty left Germany for the USA. Josef Albers arrived at Black Mountain College and took over the art programme while his wife Annie Albers taught textile design and weaving. It closed in 1957 because of financial issues.

³ His visual works are detailed and described in *Every Day is a Good Day: The Visual Art of John Cage* (2010), the introduction written by Roger Malbert and before this, a work by Kathan Brown *John Cage Visual Art: to Sober and Quiet the Mind* (2000).

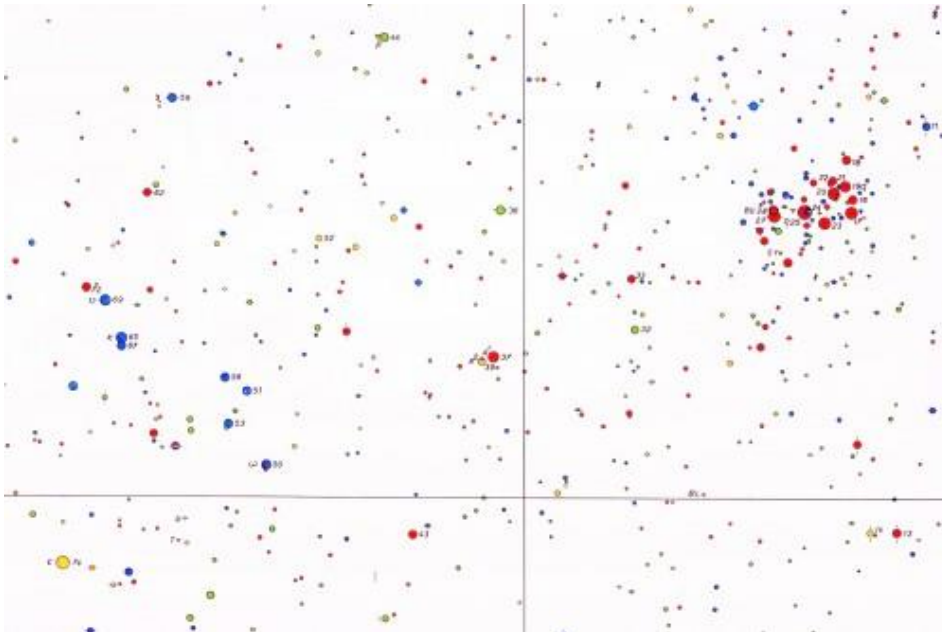


fig. 3 Astral Map (1958)

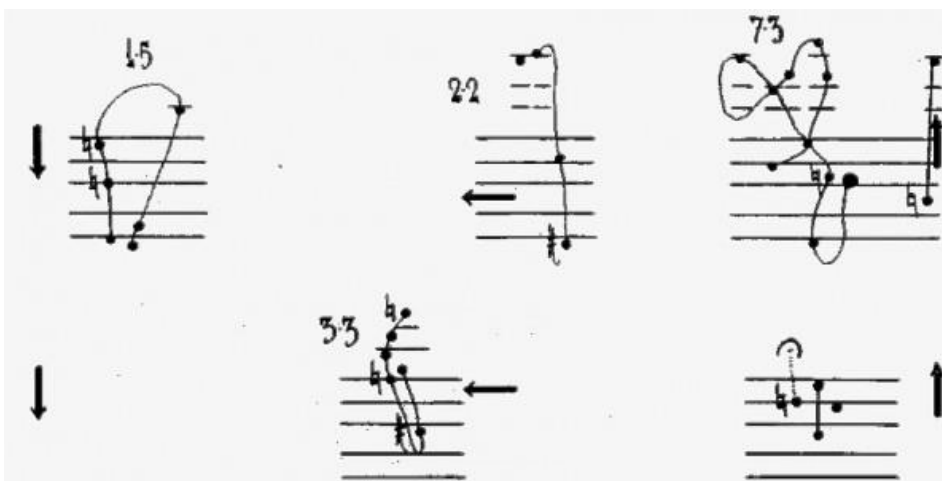


fig. 4 Excerpt from the violin part of Cage's *Atlas Eclipticalis* (1958)

The above two pages are taken from the Czech astronomer Antonin Becvar's *Atlas Eclipticalis* (1958): it was a star chart of the southern sky, which Cage used by putting stripes of transparent film on the page to identify a group of stars. The stars were shown in different colours and by choosing a colour Cage replaced the star with a note. Cage used this process with *Etudes Australes* (1974-1975) for piano, *Etudes Boréales* (1978) for piano or cello and *Freeman Etudes* (1977-1980, 1989-1990) for violin. The irregular rounded shapes, seen above, identified by Cage in this example, as the violin part of the stars were grouped from the *Atlas Eclipticalis* from which the score was generated, are referenced in the

experimental drawings of my practice, seen in the next chapter, especially those drawings using oil and ink.

Cage's departure from the traditional use of staves to write his music provides a gateway to visual art. The translation of music to visual art can be problematic and at best complex, but the remaining shapes and symbols, without the staves, can be classed as drawings, as seen in fig. 5 page 49 below. They are referenced in the chance developments of my experimental drawings. They encompass the use of space and time, the basis for Cage's music and a potential cornerstone in the creation of some pieces of visual art. There is a common factor which is observed in the reflection of the element of chance present in them, it is also discussed in the next chapter. The final images using ink and ice, oil, oil and ink seen in the next chapter have been obtained in a chance manner, but not linked into the astral maps. Yet, there is a visual likeness to an astral map in the images seen which include the element of oil with added ink. This is observed in the shapes of the random images in my experimental drawings and the relationship to the scientific elements used in the creative process, in a similar way that Cage almost scientifically removed the staves, identified and grouped the stars into the above shapes and then applied these selections to create his scores. The grouped shapes of Cage bear a direct comparison with the gravitational produced shapes in the experimental drawings, where the boundaries are not hand drawn but created by chance under the influence of external forces and gravity. In this case it commences as absolute chance, because there is an expectation that they will occur, but becomes ordinary chance when the final resulting images are created. Throughout the process Cage was directing the performance involved in his composing by a dedicated and disciplined use of *I Ching*. Therefore, while the basis of *I Ching* and ordinary chance are quite distinct there is a similarity in the end results.

Williams Mix (1952), fig. 5 page 49 below, composed during his time at Black Mountain College is an example of the above process. It references a composition using eight tape recorders in which the tapes are edited and spliced together to create the final composition and in this process Cage engaged with a group of his fellow artists. This can be referenced during the group activity in the experimental drawings exhibition of *My Own Practice* in which post graduate students were invited to explore their interpretations of chance seen in the next chapter.

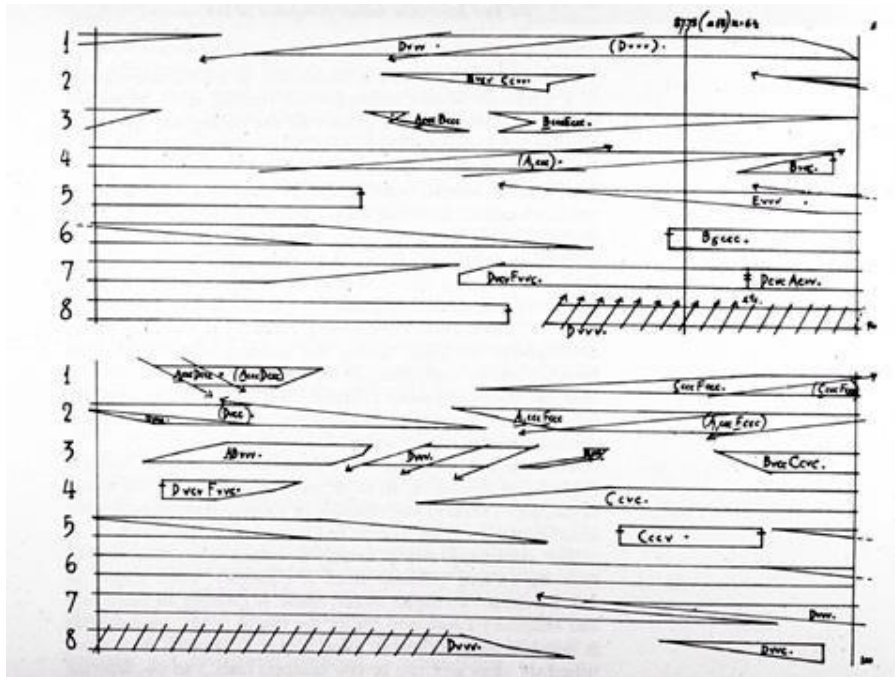


fig. 5 John Cage: *Williams Mix* (1952)

The drawing *Williams Mix*, fig. 5 above, is from a series of 192 pages of realisations of the score for a composition for tape recorders. There are eight lines which identify the plan for cutting and splicing the tapes. This plan was determined using *I Ching*⁴ to determine the sequence.

Additionally, percussion was a constant feature in Cage's music and the influence of the staccato sounds can be compared to the use of dots and marks in drawing, especially in experimental drawings of this project. This is found and featured in Cage's *Sixteen Dances* (1951), composed for Merce Cunningham and his dance company. The score of *Sixteen Dances* was composed of nine 'emotions' interspaced with seven 'interludes' in which the emotions are traced from anger, humour, sorrow, heroic, odious, wondrous, fear, erotic through to tranquillity. It was composed for piano and a small orchestra, punctuated by a series of carefully composed percussion interruptions. The differences in the emotions listed above add constraints and tonal influences to the music and can be referenced to tones and depth of colour together with gravity present in visual art. Additionally, the staccato in the music references the influence of gravity and fluidity found in my

⁴ The *I Ching* is an ancient Chinese method of divination that has been used in art, literature, psychoanalysis and religion to provide inspiration and understanding of Eastern philosophy. It is a complex system based on numbers and hexagrams that is used by casting coins or virtual coins. The user asks questions and consults a series of accompanying texts to determine the answer. The responses are unpredictable and do not always provide the anticipated response, but followers must accept it unhesitatingly. A full exposition of the system can be found in *I Ching or a book of changes* (trans. Richard Wilhelm, Penguin books (2003).

practice. These translations from music to visual art are discussed in the next chapter *My Own Practice* in which the relationships present in the experimental drawings are compared and contrasted with Cage's music.

Cage also used repetition in some of his early music compositions. When he was a student, Schoenberg, his teacher and musical mentor, suggested that variations in music made the same impact as repetitions (Kostelanetz 2003: 237), but they were a useful method of creating continuity and perhaps a more satisfactory outcome. Cage's 1935 works *Two Pieces for Piano* and *Metamorphosis* each contained repetitions, but after 1938 he decided to abandon this practice as far as music was concerned.

In terms of his visual works, however, it might be suggested that repetition is inherent in a series based on the same photographic image or the same objects, drawn round many times. This was a regular feature of Cage's visual art from 1978 until 1992. While both his music and visual practice were influenced by chance, Cage's work as a musician and then visual artist offers a great deal to the discussion and debate on chance supporting this project. For Cage the chance destiny from *I Ching* ruled both work and life. Cage's earlier works have been discussed in the *Contextual Review*, while this section considers work from 1978 until his death in 1992.

Following the death of his chess partner and eventual friend Duchamp in 1969, Cage began a collaboration with the artist Calvin Sumsion to gather a range of 'chance determined words, cut so that every word showed signs of deterioration' (Brown and Luckett 2010: 78). The result was *Not Wanting to Say Anything About Marcel* (1969), fig. 6 page 51 below, in a series of eight *Plexigrams* or lithographs. Despite their apparent randomness there was a degree of precision about creating the work which focused on the 'deterioration' which was observed in the chance effects of using the *I Ching* to determine the choice of colours and the positioning of the letters in the work.

While it is not certain that it was a deliberate consideration, this process seems to reference both Arp's use of decaying collages torn up to create the new *Papiers déchirés* (1930), which he followed by a period of reflection on mortality, and LeWitt's creation of the first of his series of non-straight and broken lines following the death of Hesse.

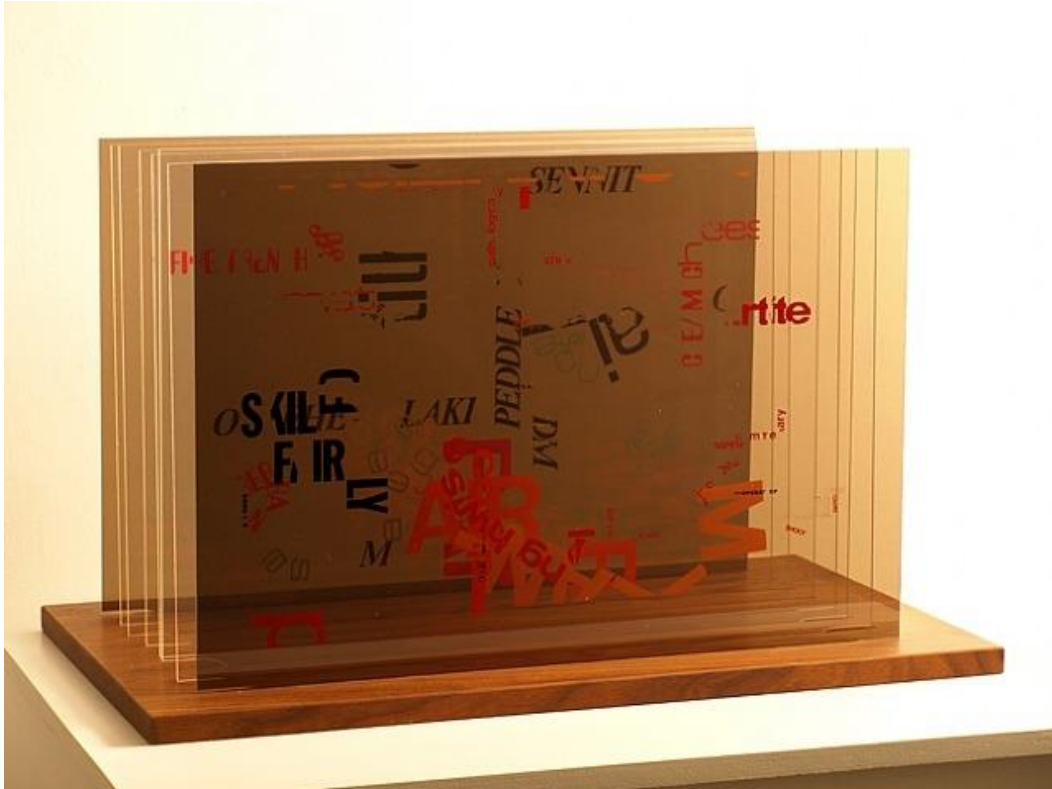


fig. 6 John Cage: *Not Wanting to Say Anything About Marcel* (1969)

In this work *Not Wanting to Say Anything About Marcel* (1969), the words appeared to be deconstructed, because they were seemingly made up of parts of words, as seen in the damaged street name signs in New York. Additionally, the placement of the words and part of the words on the lithograph was deliberate. This precise positioning was determined using the *I Ching* process in a grid-shaped matrix. This technique of using a grid was initially used by Cage in the creation of his musical scores to speed up the composing procedures. The process seems to allow a degree of randomness and referenced Duchamp's amusement at the partial words on the signs. It may be compared to Arp's random placing of precisely cut paper pieces in his early collages, even though the pieces had been allowed, under the influence of gravity⁵, to fall to the floor before being glued down. Arp refers to the period when he destroyed any collages that did not meet his standards of precision as his search for 'unattainable perfection...the tiniest crack in a bit of paper often led me to destroy the whole collage' (Fer 2008: 67). Both Cage and Arp have engaged with precision in their works. Arp's were

⁵ The influence of gravity and external forces can be seen in the experimental drawings of this project and which are discussed in the next chapter.

made up of precise shapes fixed to a base in a chance manner, reflecting the order in which they fell to the floor; while Cage's 'collages' were based on the random placement of letters on 'Plexiglass' plates using the disciplined yet chance instructions derived from his use of *I Ching*. Cage sought to introduce a degree of humour in *Not Wanting to Say Anything About Marcel*, because Duchamp was amused by street signs that had missing letters. Cage engaged with this idea and created collages from parts of words that Sumsion added to the 'Plexiglass' sheets. Some of the images were of letters and parts of words in a single colour, other images were in a range of colours. The work gives the impression that many words were used, thereby implying that much was written about Duchamp. In fact, little was said.

The influence of chance, albeit divined by the use of *I Ching*, also reflects the discipline found in Cage's musical practice, which may seem to be a collection of random sounds but are generated and notated with precision. Cage wanted to eradicate any possibility of personal interpretation by the musicians he engaged, and expected them to follow his scores rigorously, with the same precision he had used when composing them. In his later music Cage involves the use of the visual in his practice, such as *Ryoanji* (below). It is based on a Japanese garden in which:

the parts for oboe, voice, flute, contrabass and trombone are developed from his stone drawings and etchings of the rocks from the garden... The musical curves are derived from the rock contours' (Pritchett 1996: 189).

He also suggests that 'the sand in the garden represents empty space.' (Pritchett 1996: 191) which is found in both the music and the drawings. The *Ryoanji* series of drawings will be discussed later in this chapter. Cage initially composed using charts, but found this time-consuming and constantly sought faster and simpler methods. In an early experiment, *Music for Carillon No. 1*, fig. 7, page 53 below, he plotted points for a template by folding graph paper and making holes at the intersections of the folds. He superimposed the template on another score and drew through the holes, allowing it to be converted to a traditional musical score. The vertical axis of the graph was divided by the number of notes required. It was based on twelve notes. The horizontal axis represented time. There was no finite limitation only the duration of the work. Despite his use of *I Ching* and the potential elements of chance, this process was highly disciplined.

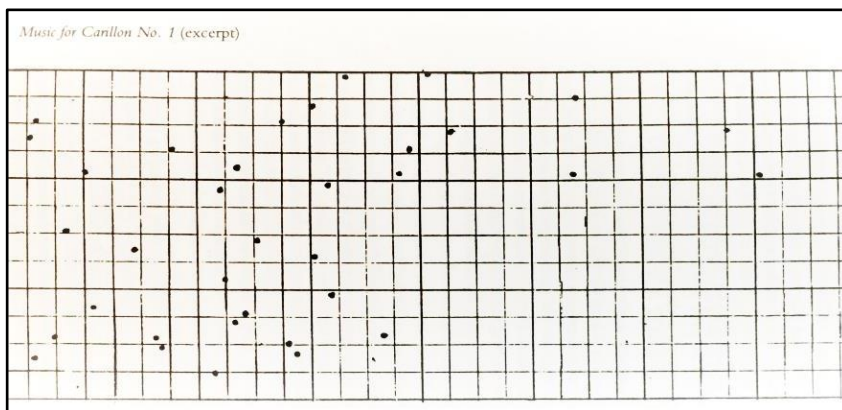


fig. 7 John Cage: *Music for Carillon No 1* (1952)

Cage deployed the principles of *I Ching* to select randomly from the range of possibilities (Pritchett 1996: 92–95). This meticulous planning led to a system that Cage eventually used for a range of scores, including works for piano.

In 1978 Cage began a greater involvement with visual art, producing a series of prints from the journal of Henry Thoreau, which corresponded to Cage's time at Crown Point Press, identified above. They related to a music score for the *New York Symphony Orchestra*, but were for the benefit of the conductor: it was a score 'without parts' (Brown and Lockett 2010: 82). Though it was presented clearly to the conductor, the project involved chance because orchestra members had no score. Cage also engaged with organic materials because of the subject matter. Chance played an important role in the creation of *Score Without Parts (40 Drawings by Thoreau): Twelve Haiku* (example below).

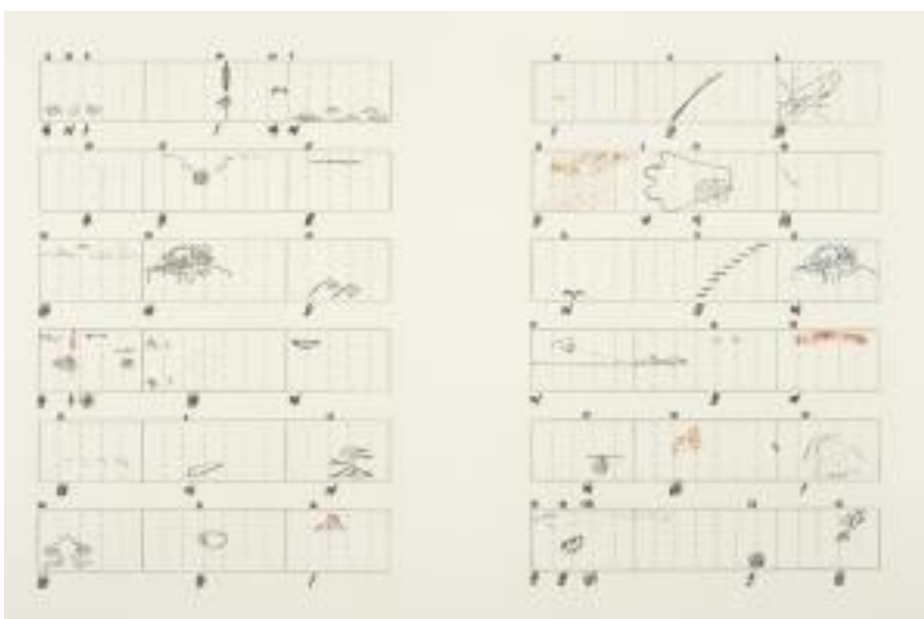


fig. 8 John Cage: *Score without Parts (40 Drawings by Thoreau): Twelve Haiku* (1978)

The consideration of chance in this work relates to the method: chance procedures were used to orchestrate the use and order of drawings which determine the 'attacks by each player in the structural unit' (Pritchett 1996: 132). Thoreau's drawings are used to 'derive a melodic line' (Pritchett 1996: 132) and the melody is coupled with the sounds of nature in the woods at Stony Point, which includes birds such as woodlarks (Pritchett 1996: 133). The selection of the sequence of the drawings was determined by chance using *I Ching*. Cage did not present the drawings used for the initial work in the same order for future works; a new sequence was used for future occasions. The drawings combined photo etching, freehand and intaglio processes using many colours and importantly, chance. 'Each impression has 18 unique colours and one of the drawings...by chance appears twice' (Brown and Lockett 2010: 82).

In another series of images from Thoreau's Journal, seen below, were the *17 Drawings by Thoreau* (1978), an example is fig. 9 below, again created using tracing, drawing and photo-etching. Additionally a printer was used in the dark room to enlarge the objects in the drawings to chance-driven dimensions (Brown and Lockett 2010: 82) before being added to the visual work. These chance elements were divined using *I Ching*, each of the individual drawings was arranged randomly on the page and the colours selected by chance. Cage based the above series on the Thoreau drawings together with *Signals* (1978) (Pritchett 1993: 184).



fig. 9 John Cage: *17 Drawings by Thoreau* (1978)

Another example of chance in Cage's work is *Seven Day Diary (Not Knowing)* (1978), in which he created a new image every day for six days, and then removed an image on day seven. The choice of which drawing to be removed was determined, as with all his decisions, by using *I Ching*. This is a different use of chance from some of the arm's length procedures utilised in the above works, an example of which is seen in *Not Wanting to Say Anything About Marcel*, (fig.6) on page 51 seen above.

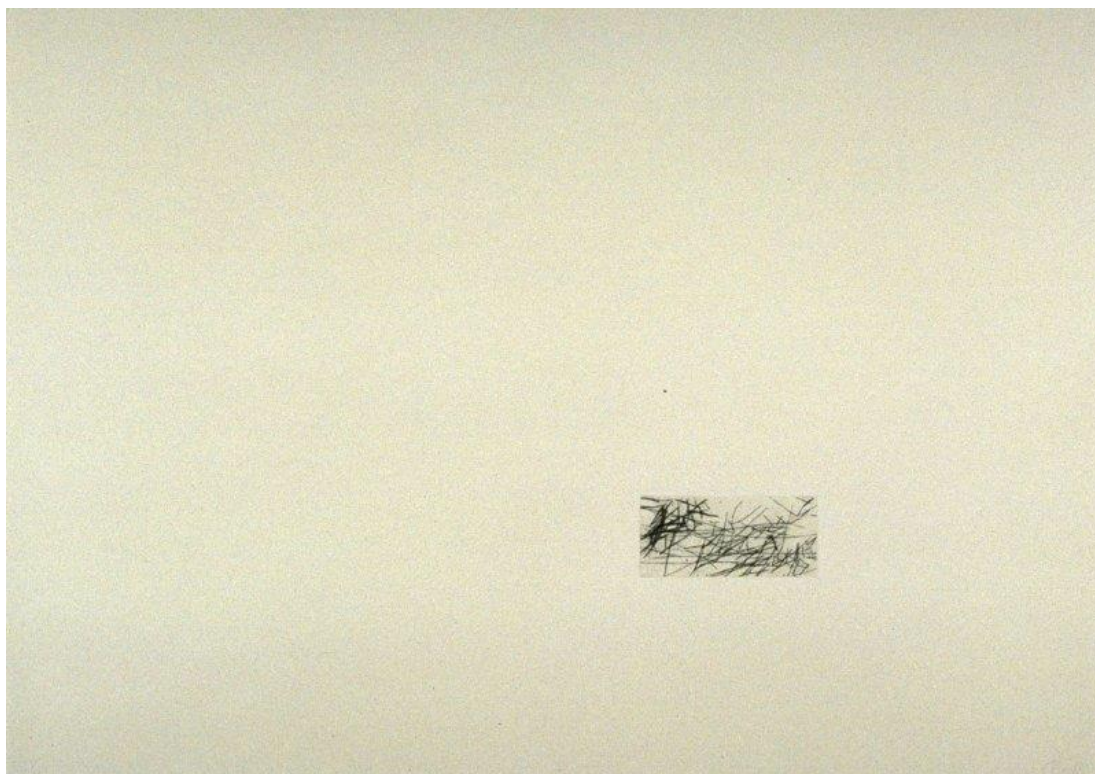


fig. 10 John Cage: *Seven Day Diary (Not Knowing)* (1978) Artist's Proof

In the *Seven Day Diary (Not Knowing)* fig 10 above, Cage drew with his eyes closed and the plate and paper, sizes and locations of the plates were chosen by chance. *Day 1* Artist's Proof is an example of hard ground etching and dry-point. It is interesting to note that even though this small series was created over seven days and drawn with his eyes closed the layout of the paper was in a horizontal position. A question that can be asked is does it reference the time element included in Cage's music or did it happen by chance? The influence of *I Ching* would suggest that it was not completely by chance, as in ordinary chance found in Peirce's ideas of chance. Yet it could reference absolute chance, where there is an element of the expected present.

Thoreau's drawings were a major influence on Cage's work from 1978–1982, and extended to the titles of some later works, such as when he combined the first two letters of 'décor' with the last four of Thoreau to form *Déreau* (Brown and Lockett 2010: 92). This series of 38 etchings uses aquatint, photo-etching, engraving and dry-point. Horizontal lines in this series are evident for the first time and are present as the brown line at the bottom of the example below. These works were based on photographs of images from Thoreau's *Journal*, drawn on plates using dry-point. The resulting prints provided a continuity for each of the works; the variations were created by using different colours for individual prints, from a limited palette of earth colours plus elements of red, blue, black and yellow (Brown and Lockett 2010: 92). The choice of colours was determined by *I Ching*, for example, number 25 focuses on yellow. Blue is included in the palette of *Déreau # 11*, (1982) fig. 11 below. These works appear to be more complex than some of Cage's other works and even though the palette of colours is limited to a base of five, it provides a visual example of the emotions which are the basis of *The Sixteen Dances* discussed below.



fig. 11 John Cage: *Déreau # 11* (1982)

In the *Déreau* series Cage was concerned with controlling chaos. In photographing the original images from Thoreau's *Journal*, Cage starts from a position of control, then allows chance to influence the direction of the works. A similar ethos can be seen in the rucking-up of the backing paper in Arp's *Papiers déchirés*. Cage was also influenced by the work of Duchamp, especially *3 stoppages étalon*, in which the chance results were obtained by dropping pieces of string onto canvas. It is possible to compare the action of allowing the string to fall with Arp's methods of producing his collages.

Following on from this series of experimental and chance works, Cage created *HV*, a series of 36 works in which not only the selection of materials for the drawings but also the design was determined by *I Ching*. The *HV* is quite simple and stands for horizontal and vertical, referencing the process used in creating *Music for Carillon No 1*, (1952) fig. 7 page 53, and the space or time and notes respectively, as observed in the above graphical image. The materials used included felt, foam, batting and jute. An example from this series is *HV No 2* (1983), fig 12 below. The colours are applied using ink rollers onto the soft materials. The pressure and number of passes were determined by *I Ching*. It is possible to see how to translate his music into the *HV* series by observing the density of the colours and the apparent horizontal format of the drawings. This references musical scores crossing the paper. The density of the colour references the tonality of the music and the regularity or irregularity of the lines and the proximity to each other indicates the speed of the music thereby influencing the emotions in the sounds.



fig. 12 John Cage: *HV No 2* (1983)

This is also evident in the experimental drawing of this project which will be explained in the next chapter, *My Own Practice*.

In addition to chance, experimentation is clearly evident in Cage's selection of subject matter, colour palette, the use of fire, burnt paper, smoked paper and plates and stones to create the Japanese-influenced works. Japan inspired a range of Cage's works, and the influence of the philosophical elements of Zen Buddhism was also added into the equation. Cage had visited the rock garden in the Ryoanji temple in Kyoto in 1962. This eventually inspired the creation of the works known as *R Where R = Ryoanji* from 1983 until 1992.



fig. 13 Rock Garden Zen Temple, Ryoanji Kyoto (Japan)

The Ryoanji garden comprises 15 stones arranged in five islands on a bed of gravel. Cage chose 15 stones and drew round them, determining the location of each via *I Ching*. As the garden in Ryoanji is a fixed and relatively narrow shape Cage observed the same discipline and did not let any of the stones fall outside the boundaries set by the plate. For *Where R=Ryoanji: R² 2*, (1983) fig. 14, page 59 below, Cage drew round each of the 15 stones 15 times (15 x 15 or 15 squared) to create 225 images in the overall work. As the series progressed the number of images in the work increased, so that in *Where R=Ryoanji: R³ 3*, (1983) fig.15, page 59 below, there were 3,375 images within the work (15 x 15 x 15 or 15 to the

power of three). There is a greater density of lines in the print, yet the boundaries are maintained in harmony with the original garden.



fig. 14 John Cage: *Where R=Ryoanji:R²2* (1983)

Cage continued with this series until 1992 during which time he moved from dry-point to pencils of various qualities, still controlling the outcomes using *I Ching*.

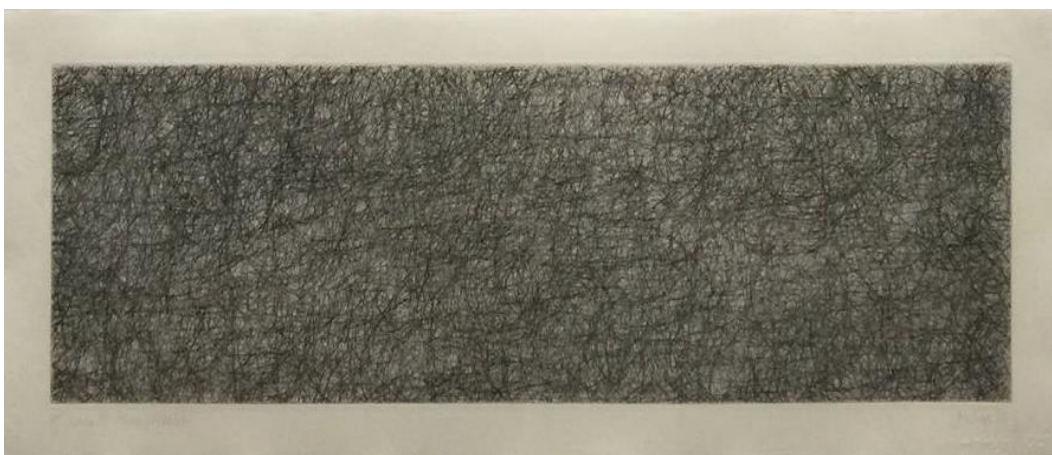


fig. 15 John Cage: *Where R=Ryoanji: R³3* (1983)

These drawings are in the horizontal plane which is the same as the above photograph of the temple garden. It is possible to extrapolate the tonal features of the *Ryoanji* series with those found in Cage's music especially the *Sixteen Dances*.

There was a change in the practice of Cage's work from the mid-1980s and it was the inclusion of fire and smoke. This change was a significant influence on Cage's practice from 1985 until 1992 and is arguably as important as his stones drawings. It was the point at which Cage used chance as a definite element in his practice rather than the chance influence of *I Ching*. While it was a deliberate choice the outcomes were more in line with ordinary chance seen in the experimental

drawings of this project, which reference Peirce, and also the accidental happenings as described by Aristotle in his analysis of the 'causes'. The first such work was the *Fire* series of 16 images, fig 16 below. This process represented the experimental stage in his practice rather than a reliance on the *I Ching* inspired drawings. Cage built a fire on the bed of the Crown Press printing press, using a number of newsprint sheets determined by *I Ching*, then extinguished it using damp paper as it rolled through the press. He then added scorch marks using his own pre-heated Japanese metal teapots (Brown and Lockett 2010: 108).



fig. 16 John Cage: *Fire no 6* (1985)

While using fire Cage changes the orientation of the paper from horizontal to vertical, a move from time and space to notes, again referencing *Music for Carillon*, where the vertical plane referenced the notes based on a scale of twelve and the horizontal the time interval between the notes. The resultant images included an element of the unpredictable which reference the sounds experienced from Cage's works with prepared pianos in which objects such as nails, screws and other objects were placed on and between the strings of a grand piano.

The sounds were changed as it was played producing ones more relevant to staccato percussion instruments, for example the striking of a metal cylinder or can, rather than a concert piano, even though the piano is a percussion instrument. This can be heard in *Bacchanale* (1940).

A further example of the unpredictability in his music is present in *4'33"* which is a work originally scored for piano. No notes are played, but the sounds come from the audience coughing and shuffling, and from the noises of the building: each time it is performed it is different and the results are unique. In practice these works are performances as seen in the 'happenings' identified earlier when Cage was at Black Mountain College. This element of performance was also experienced during a major exhibition of my work *les insuccès* in November 2016. It occurred when a group of post graduate students were invited to participate in the creation of one of my works, which will be discussed further in the next chapter *My Own Practice*. I can relate this last work to the influence of external forces found in my experimental drawings.

In 1990 Cage moved on from using fire and he combined both stones and smoked paper in a series *River Rocks and Smoke*.



fig. 17 John Cage: *River Rocks and Smoke 4/11/90 No 1* (1990)

The stones are different from those used in the *R=Ryoanji* series and came from the New River close to Mountain Lake. Fig. 17 above, is one of the last paintings

he produced at the Crown Point Press. It combines smoked paper with paint washes and drawing round rocks. There is a lightness about the work and a reliance on the direction of *I Ching* in the processes.

Cage was a great experimenter, as evidenced by his use of a wide range of materials, techniques, pigments, sizes of paper and copper plate, the inclusion of fire in printed images and his quest for new techniques in his visual art practice. Yet in addition to experimentation he was very precise and disciplined. Cage's love of precision can be seen in music such as *The Sixteen Dances* and the *Freeman Etudes* which became progressively more complex. The series culminated in *Etude 18* with its huge array of notes, which many performers were unable to play. Violinist Irvine Arditti attempted the piece by playing as many of the notes as he could, but the performance had to be speeded up and different from Cage's original concept.

As part of his experimentation programme, Cage incorporated the concepts used in his music into his visual work. It might be said that that he began his programme of experimentation in his musical practice. An example is his radical approach to writing musical scores: using distance between the notes to signify the length of time allocated to each. Additionally, it can be observed throughout his practice that Cage's work destroyed the old format while searching for something new. This can be seen in the musical score image *Score Without Parts (40 Drawings by Thoreau)*. The results were the same, but the score looked different. It was also a feature of Duchamp's work starting with the *3 stoppages à l'aton*.

Cage extended these ideas to his writing, as when in his poetry he introduced a form of parasitic construction into the text, seen as an additional text running through the host text. This is found in his essay *25 Mesotics Re and Not Re Mark Tobey* (Cage 1998: 184).

'it was iMpossible
to do Anything
the dooR
was lockEd

In conclusion, Cage followed similar principles during his working processes and life. Whether in music, written work or visual art, he followed the basic premises of

discipline; a faithfulness to the principles of *I Ching* and an energetic work ethic. It is possible to draw some comparison with Cage in that, for example, he takes *Where R=Ryoanji: R²2* (1983), and draws round stones, as is also observed with Duchamp who drew round the shapes seen in the *3 stoppages étalon* of the threads that had fallen to the ground under gravity to form the wooden sections prior to placing them in their box.

Marcel Duchamp

Marcel Duchamp was a major influence on Cage. Yet for Duchamp it was the focus on abstract sculptures, for example, *3 stoppages étalon* (1913), which seem to have been prompted by his desire for artistic freedom and determined his career. Duchamp is said to have created *3 stoppages étalon*, fig. 18 below, by dropping three metre-long threads from a height of a metre on to canvas strips, this is another use of gravity in producing chance influenced work. He glued the threads to the strips as they had fallen, then to a glass panel. He also cut the edges of three wooden rules to the same shapes as the mounted threads. The strips and rules were displayed in, and next to, a wooden box. The work reflects a humorous take on the scientific process, referencing his early career as a cartoonist, because it subverts the notion of measuring a metre using a straight line. The case is thought to have been a croquet box, though it has been suggested that it was inspired by boxes used for technical drawing instruments (Ades et al 1999: 79).



fig. 18 Marcel Duchamp: *3 stoppages étalon* (1913)

Duchamp felt that *3 stoppages étalon*⁶ was the starting point for his change in direction away from 'retinal art'. Although Duchamp is briefly cited here with reference to chance, his main contribution to art was as a conceptual artist of which he was a key exponent.

There is, however, no debate surrounding Duchamp's assertion that the work was a starting point for the discussion on chance, a key element of this project. He said:

(3 stoppages)...was really when I tapped the mainstream of my future. In itself it was not an important work of art, but for me it opened the way – the way to escape from those traditional methods of expression long associated with art. I didn't realise at the time exactly what I had stumbled upon.'(Kuh 2000: 81).

In an interview with Katherine Kuh, Duchamp described traditional figurative art as merely 'retinal art' (Kuh 2000: 89), meaning that it was simply pleasing to the eye. He wanted more: his interest was in what lay behind the work and the concepts contained within, rather than the superficial image. It wasn't a sculpture and it wasn't a painting. It was a box containing an 'idea' (Mink 2004: 44). It might be posited that Duchamp sought to explore the intentionality of the artist in producing the work. Yet chance in the context of Duchamp's work might be described as

⁶ A great deal of academic debate surrounds additional influences in the creation of the work. It is said that it was:

"a joke about the meter" and the work exposes the metric system, an originally French set of standards⁶ now used throughout the world, as an intellectual construct rather than a universal absolute' (*MoMA Catalogue* eds. HS Bee & C Heliczer 2005: 91).

Duchamp also claimed that it was an experiment inspired by a sign advertising 'stoppage' or invisible mending. Others, including artist William Anastasi and critic Arturo Schwartz, tried unsuccessfully to replicate the experiment. It is claimed that Duchamp actually used threads far longer than a metre, then sewed them to the fabric base in a technique resembling invisible mending. This seems plausible because there are holes in the base fabric and the ends of the thread have not frayed and can be seen to spread across the back of the work. If the thread was sewn, it might be said that the shapes are capable of replication (Shearer & Gould 1999: vol1/issue1).

In 1791, the French revolutionary government heralded the metre as a new and liberating device based on the size of the earth (defined as 1/10,000,000 of the quadrant of its circumference measured from the North Pole through Paris to the Equator), and therefore a constant, unvarying, and capable of serving all people as an absolute standard. The standard metre rule, made from 90% platinum and 10% iridium, is held in the International Office for Weights and Measures in Sèvres. See 'Hidden in Plain Sight: Duchamp's *3 Standard Stoppages*, More Truly a "Stoppage" (An Invisible Mending) Than We Ever Realised' (RR Shearer & SJ Gould 1999: in *Tout-fait* issue1/vol1 Dec 1999, http://www.toutfat.com/issues/issue_1/News/stoppages.html accessed 27 March 2017)

'accidental happenings'. When Duchamp was asked about the impact of the accidental on his work he said:

my first accidental experience (what we commonly call chance) happened with the *Three Stoppages*, and, as I said before, was a great experience. The idea of letting a piece of thread fall on a canvas was accidental, but from this accident came a carefully planned work...many of my highly organised works were initially suggested by such encounters. (Kuh 2000: 92).

Aristotle believed that 'causes' especially the fifth cause which was chance could be described as 'accidental'. In the *Contextual Review* the origins and history of chance are discussed, a similar ethos can be found in the works of Arp and Cage. The essence of the programme and the main point under consideration is the relevance of chance. Duchamp used chance happenings instead of working to his likes and dislikes (Kostelanetz 2003: 234). Chance was a random result of his desire to escape from even the idea of creating a painting, because following what had already been done was too easy. He sought to invent rather than merely express himself (Kuh 2000: 83) so his acceptance of chance was a manifestation of what came along in his practice – in reality a happening⁷. Chance changes circumstances, ideas, techniques and ourselves, which is interesting when considering the creation of works of art and artistic practice. Works created according to carefully-laid plans and rules may lose the elements of spontaneity and unpredictability in the results. This can best be seen as chance in or affecting a work of art.

Hans (Jean) Arp

As discussed for Cage and Duchamp, chance procedures for Arp were an integral part of the process that supported the production of the random results found in his collages. It applied equally to his early collages from the mid-1910s and those created in the 1930s. Arp's use of chance could be described as ordinary chance in line with Peirce (Houser and Kloesel 1992: 219). Despite the fact that the work relies on both gravity and chance, the example, fig. 19, page 66 below demonstrates the care taken to prepare the pieces of paper in his earlier work. In this work the precise and sharp edges of the paper shapes are clearly visible. Any that were not considered to be perfect were destroyed.

⁷ This can be considered as referencing Cage's 'happenings' at Black Mountain College.

The relevance of both chance and gravity in this project is important. It was a feature of the work of both Duchamp and Arp, and in the next chapter the question of how they reference each other will be discussed. In addition to gravity the influence of external forces will be discussed. These are a vital element in the creation of the experimental drawings.



fig. 19 Hans Arp: *Elementary Construction (According to the Laws of Chance)* (1916)

Arp's later collages were more fluid and less controlled, because torn paper is less regimented and precise than the cut paper. They were created by tearing up pieces from earlier collages which had deteriorated during storage. For Arp they were references to mortality and decay invoked by the reuse of the previous materials and it lent them a greater significance. At this stage in his practice, Arp was involved in the concepts of mortality and decay, reputedly because of a combination of the death of his mother and the decay of his early collages. This idea has not been an uncommon event in artistic practice, Duchamp was influenced by mortality in the process of creating *The Bride Stripped Bare by Her Bachelors, Even: Large Glass* (1915-1923).

Eva Hesse was concerned about mortality because of her poor health. For Cage however, his change of diet in his earlier career enabled him to avoid much of this anxiety.

In these later collages the lack of the previous precision is obvious; even the mounting paper was not aligned. In the example below torn paper, Indian ink and graphite are combined.



fig. 20 Hans Arp: *Composition* (1937)

During the 1930s Arp developed the ideas of collage further, creating a range of works under the banner of 'constellations' which were made from a limited number, often seven, of random wooden shapes and painted in black and white. The 'constellations' were related to both his visual and his written works. In this sense Arp and Cage both engaged in experimental writing and visual practice. In the written format Arp fixed on a limited range of words and experimented with various ways of combining them in different combinations according to chance. The act of restricting the number of words was intended not as a limitation, but as recognition of the almost limitless possibilities open to him. An example of Arp's written work is the first verse of a poem:

Strasbourg Configuration (1931):

'i was born in nature. i was born in strasbourg. i was born in a cloud. i was born in a robe.
i have four natures. i have two things. i have five senses. sense and non-sense. nature is senseless. make way for nature. nature is a white eagle. make dada-way for dada-nature.
i model out a book with five buttons. artis-tree of sculpture is a dark stupidity...' (Jean 1974: 47)

In addition to experimental writing both Cage and Arp used chance in their work. For Cage chance was based on *I Ching*, while Arp's use of chance was more akin to the ideas of Peirce. In the case of Duchamp, his use of chance was evidenced when he chose to let fixed-length threads, one metre long, fall to the floor and the chance shape of the images produced became the basis of the *3 stoppages étalon*. Arp facilitated his collages by allowing pieces of paper to fall to the floor before sticking them onto backing paper. Many different artists have used gravity in their works, and as seen in the experimental drawings it can emphasize the element of chance. This will also be discussed in the next chapter because of its importance to the project.

Eva Hesse

Eva Hesse used natural materials in her works, and similar to both Duchamp and Arp relied on the inclusion of elements of chance within them. Her work hovered between the Abstract Expressionism of her early university work and the influences of Minimalism. It was, however, softer than the rigidity of Minimalism, but still had a degree of starkness. Hesse experimented with soft materials such as latex, rope, string, wire and later fibreglass and plastic. She was interested in how the materials took on organic forms, which she used to create 'eccentric' freestanding sculptures (Art Story 2015: npn).

As she began to experiment with minimalist sculpture, the first work that indicated the transition from painting to sculpture was *Hang Up* (1966), fig. 21, page 69 below, which was made from acrylic, cloth, wood, cord and steel. Much as *3 stoppages étalon* had affected the development of Duchamp's practice, *Hang Up* represented a major movement in Hesse's future as an artist.

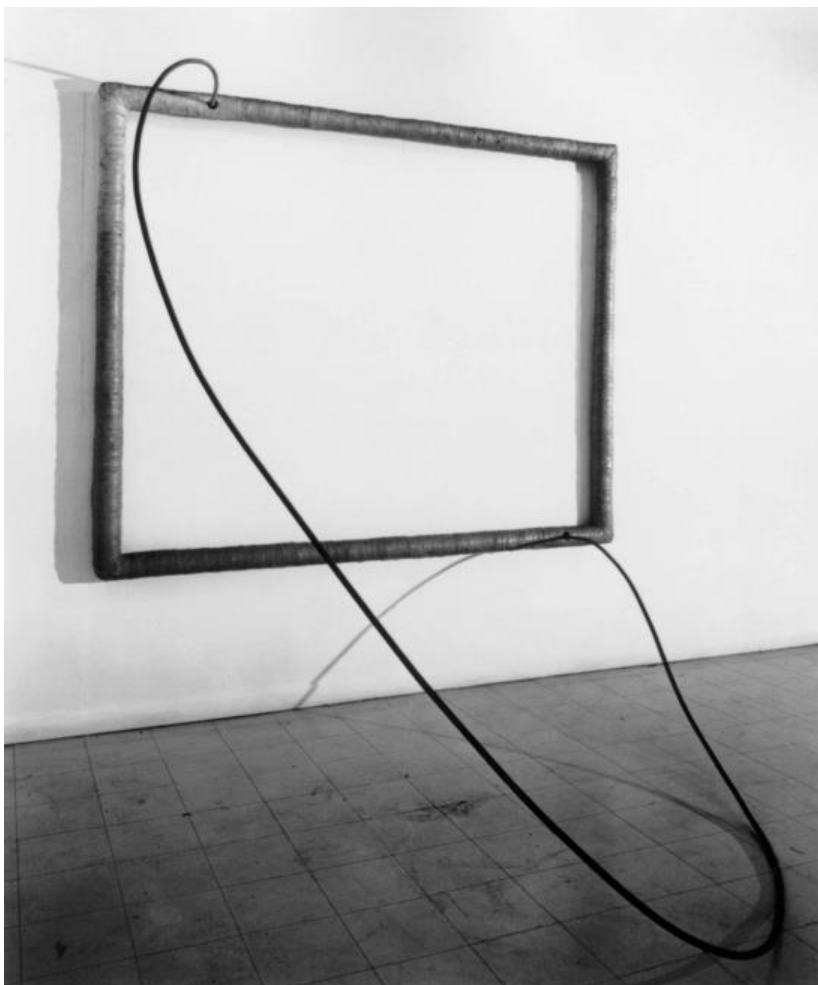


fig. 21 Eva Hesse: *Hang Up* (1966)

It also represented her move from abstract expressionism to minimalism and combines both painting and sculpture. In an interview with Cindy Nemser, Hesse said *Hang Up* was:

a dumb name...it's unfortunate, but I can't change it...it was the fifth piece I did and the most important statement I made...it was the first time where my idea of absurdity came through (Nixon 2002: 7).

Hesse discusses the size of *Hang Up* and the importance of working with materials and focusing on this element. *Hang Up* is a large work, measuring 6 x 7 feet. The frame is designed to be wall-mounted and a metal rod protrudes almost 10 feet from the top, bending to return to the lower edge. The frame holds nothing, yet is finely graded and painted. Hesse thought the whole work was surreal, strange and absurd (Nixon 2002: 7). This may be true, but it is a serious work that brings the concepts of painting and sculpture into a single oeuvre. Its importance to Hesse is readily comparable with that of *3 stoppages étalon* for Duchamp. It is, however, possible that Hesse was hanging on to the vestiges of her earlier

paintings to create a work that appears to bridge the gap between painting and sculpture. She says she wants to avoid the concept of play, because she knows what she is doing and what she wants from the work. This is different to the idea held by Duchamp in which he introduced a sense of humour into his practice, amongst other concepts, as seen in *3 Stoppages étalon*. Throughout her career, Hesse had concerns with the absurdity of her work, yet she sought to make works that were loose and random, with a certain element of chance and repetition.

Hang Up was one of the first pieces to emphasize the elements of absurdity and extreme feelings in Hesse's work (Nixon 2002: 7). She believes that it is one of her most important works because 'it was close to what I feel I achieve now in my best pieces in which the feeling of absurdity came through' (Nixon 2002: 7). Though she claimed that it was constructed very naively it had a depth of 'meaning and soul', it was almost like a patient in a hospital who had a broken arm bandaged up.

Gravity, as a feature in this work, is yet another example of an element joining Duchamp, Arp and my practice together. It is evidenced in the way that all three have allowed part or all of the works to fall to the floor in either their creation or final result. In Hesse's works it can be observed in the way that many of her works are hung, allowing gravity to pull them in a downwards direction.

The effects of gravity are clearly evident in *Aught* (1968), fig. 22, page 71 below, which was made from four pieces of rubberised canvas, each slightly different, suspended in a row. Hesse described the work as ludicrous (Nixon 2002: 14–15), yet it serves to highlight the differences between works hung in a specific way but with unpredictable and chance-determined shapes: each piece of cloth has its own unique shape and the unpredictability of work created by chance procedures.

Later in the same interview *Sequel* is considered (Nixon 2002: 8). For Hesse, this was the epitome of chance and satire (Nixon 2002: 14). She tried to introduce satire together with feelings of absurdity into her work, but whether this is achieved with *Sequel* is open to debate. Chance is certainly present and can be classed according to the ideas of Peirce rather than *I Ching*.



fig. 22 Eva Hesse: *Aught* (1968)

Ordinary chance is also evidenced in *Sequel* (1967), fig 23 below, in which a number of 6.6cm latex balls are placed on a square of cheesecloth in a random, disordered and loose configuration (Nixon 2002: 10).



fig. 23 Eva Hesse: *Sequel* (1967–68)

Chance is created by the way in which the balls spread across the cloth. The first impact in *Sequel* is of absolute chance because it can be predicted that the balls will roll across the cloth, in a similar way to that of the ink/ice mixture spreading across the paper and the ink breaking down into its component colours, but this develops into ordinary chance when the balls run off in various directions, seemingly uncontrollable; as with the experimental drawings discussed in the next chapter. These works reference the chance and random elements in Arp's collages *Papiers déchirés* as discussed earlier.

It can also be referenced to Cage's series *Fire*, created on the bed of the printing press and the chance way that the paper burns before it is extinguished by dampened papers placed on the top as part of the printing process, during the workings of the press. As stated above this process represents the first excursion into the use of chance as described by Peirce and is a departure, albeit for a brief interlude, by Cage from the divinations of *I Ching*.

A key aspect of Hesse's practice was her attempt to insert a degree of the ridiculous and absurd: to challenge the viewer by using industrial processes in the creation of works of art from domestic items. This is seen in *Metronomic Irregularity II*, fig. 24 below, which seems at first chaotic, with a mixture of cotton-clad wires running across the work.

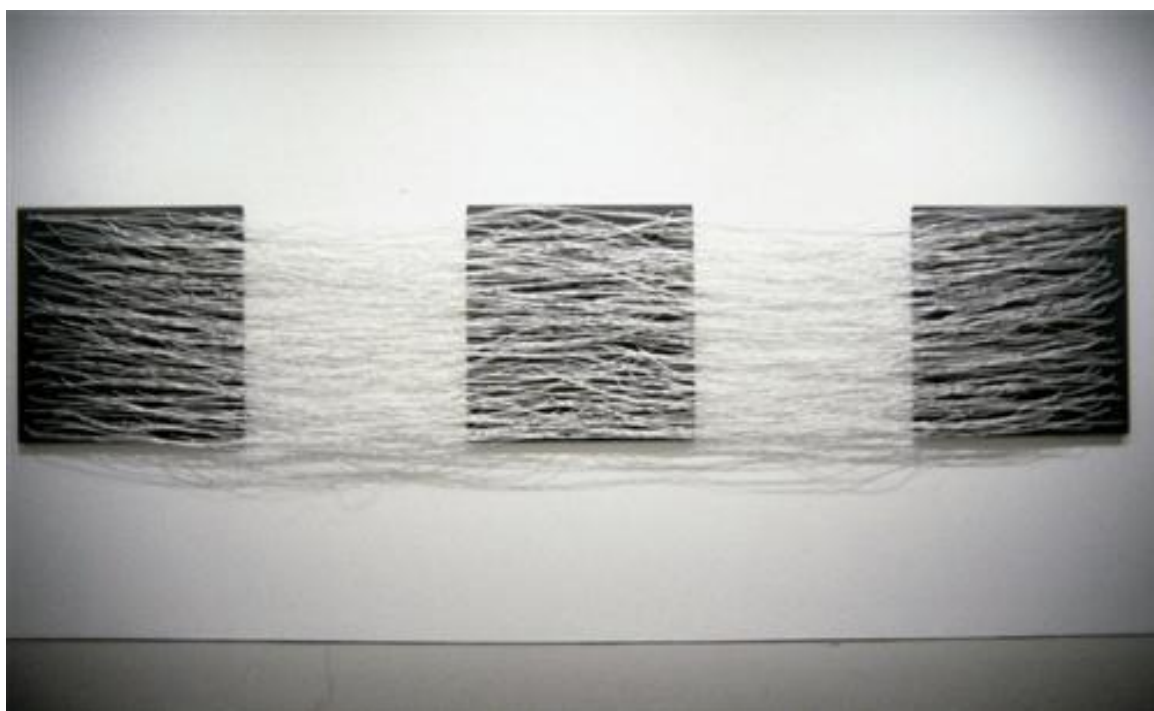


fig. 24 Eva Hesse: *Metronomic Irregularity II* (1966)

In practice it engages with the element of chance that was a feature of many of Hesse's works. When Hesse engaged with sculpture the disturbed state of her mind appeared to continue; Fer notes that *Metronomic Irregularity II* 'makes a drama out of that loss' (Fer 2008: 123), because it appears to viewers as a 'fraught series of disconnections' (Fer 2008: 123). The lines in the work seem to be 'moving back and forth between desire and loss, referencing the unstable mental state of her mind during this period' (Fer 2008: 123). This gives the impression of confusion rather than control in the direction of the work.

Yet the lines in the work, however, are not chaotic: the distance between the slate blocks reveals a degree of measured precision, and the criss-crossing of the wires lends a sense of movement and dynamism that can be seen as unpredictable rather than chaotic. The way in which the wires seem to run between the blocks seems in line with the laws of chance as defined by Arp.

Metronomic Irregularity II and *Hang Up* may reference Hesse's earlier work, because both are exhibited hanging on a wall like a painting. *Metronomic Irregularity II* was created for the New York exhibition *Eccentric Abstraction*. It represents a combination of abstract expressionism and minimalism, while the use of the horizontal was a feature of work by other contemporary artists including Robert Morris and Donald Judd. The wires are not rigid structures, but seem to rush back and forth (Fer 2008: 120). This might be seen to allude to the swing of a metronome, or even a series of synapses in the human nervous system. This sense of fluidity and organic movement is also present in Hesse's later latex works. However, while thinking of this work in musical terms it can be referenced to Cage's music, because of its apparent lack of discipline, but which in practice was a basic element carefully constructed. Although Hesse's works were not obviously bound up in formality there is an element of discipline in each one.

While Hesse was concerned with chance, this was focused on the randomness found in her work. She used materials that behaved in a random way, such as latex-covered materials, cheesecloth, string and rope. Another concern was the temporary nature of her works: she knew that latex, as a natural material and thus liable to decay, was impermanent. Latex resembles and behaves in a similar way to milk, in both its consistency and its liability to change from smooth liquid to a congealed mass. When latex is used to form items it is stable because of the curing process, but over months and years begins to deteriorate. In the sculpture

below from New York's *Whitney Museum*, Hesse used wire and latex-covered string; it is possible to see the effects of decay, as though the work is dying in front of the viewer.



fig. 25 Eva Hesse: *Untitled* (1970)

The inherent tendency to decay in this work is reminiscent of the decay of Arp's early collages. For Arp, the decay was caused by decomposition and rodent attack, while for Hesse it was an essential feature in the material used.

Hesse's ideas and desire to add chance to her practice are typified by *Addendum*, (1967) fig. 27 page 75 below. The way in which the ropes fall to the floor and become coils is random and not predetermined. The work combines mathematical formality in the spacing of the 17 hemispheres, unlike the random and disordered placement of the balls in *Sequel* (1967–68) fig 23 page 71, discussed above, and chance in the way in which the 10-foot-long ropes fall from the work to coil on the floor in unpredictable forms, as with Arp's collage pieces and the threads that are the basis for Duchamp's *3 stoppages étalons*.

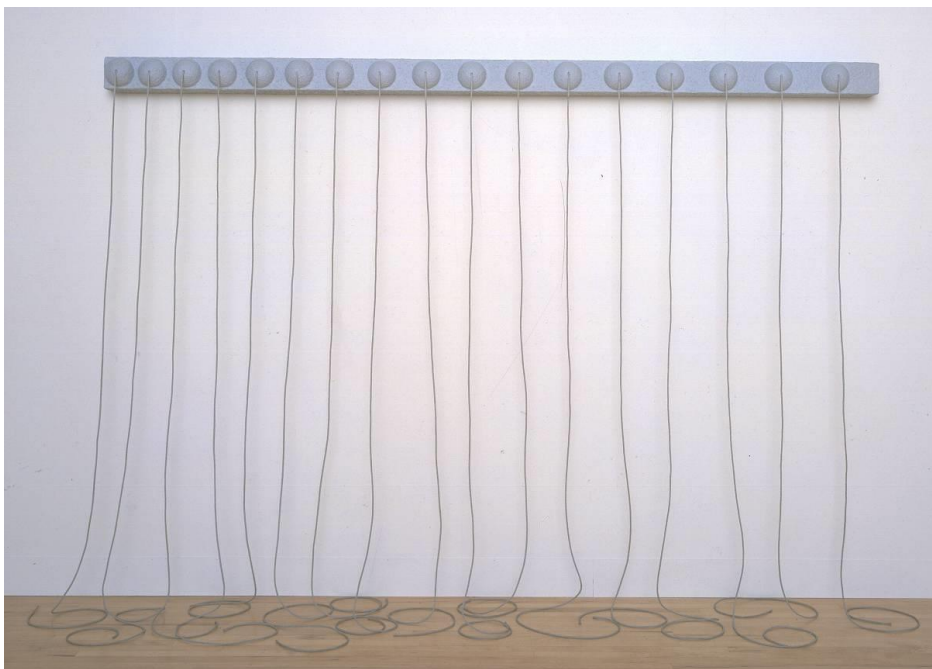


fig. 26 Eva Hesse: *Addendum* (1967)

Hesse uses both walls and the floor in her works and combines the ideas of painting and sculpture in the same practice, which results in a type of a blur, but in *Addendum*, she consciously narrows the distance between sculpture and painting. The work is a wall-mounted sculpture that extends from the wall, yet it appears to be contained in a frame like a painting. Hesse defined it as:

a thing added to or to be added. A title is after the fact. It is titled only because it is preferred to untitled. Explanations are also only after the fact. The work only exists for itself. The work must then contain its own import (Corby 2010: 42).

Hesse seems to be saying that *Addendum* is a work that allows elements to be added to it, or to the sum of its several parts. In this work Hesse is repeating the combination of painting and sculpture used in *Hang Up* and *Metronomic Irregularity II* as discussed above.

Rosalind Krauss described Hesse's *Contingent* (1969) fig. 27, page 76 below, eight banners created from cheesecloth, latex and fibreglass and hung from the ceiling:

the most powerful...element of Hesse's work comes from the way it concentrates on this condition of edge...imperious by materialising it...the edge that is displayed is not focused on the boundaries within a painting or sculpture. In the language of anamorphosis...positioned at the edge from which the meaning of death is understood literally as the condition of the world disappearing from view (Krauss 2002: 32).



fig. 27 Eva Hesse: *Contingent* (1969)

In view of her involvement with Minimalist artists such as LeWitt and Andre in New York, it was not surprising that Hesse engaged with Minimalism. LeWitt was the most influential, and Hesse certainly influenced him. When Hesse died in May 1970 LeWitt wanted to create a 'bond between himself and Hesse and so he decided to combine something of Hesse's work and his own in one work' (Roberts 2014: 13). Within two days he produced *Wall Drawing # 46*, (1970) fig. 28 below, which unlike his earlier work, contained lines that were 'not straight' (Roberts 2014: 13) more in line with *Addendum*. He introduced the element of randomness and chance into his practice, which had previously relied on precise and mathematical formulations.

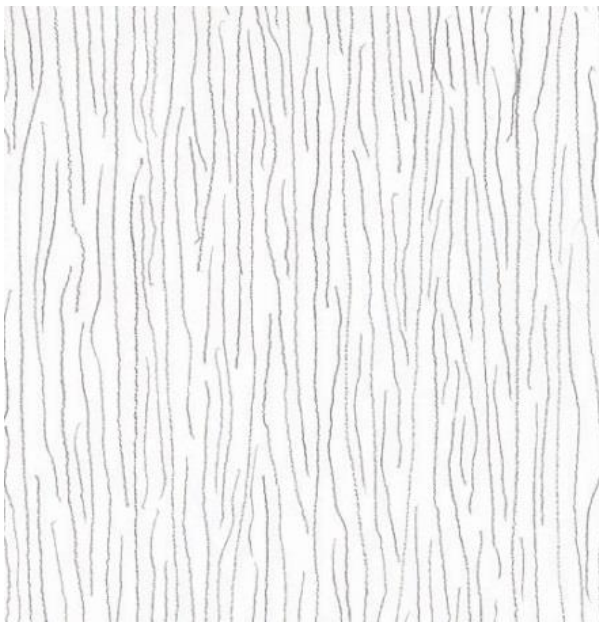


fig. 28 Sol LeWitt: *Wall Drawing # 46* (1970)

This work was a turning point for LeWitt: it freed him from the strict guidelines and precision of his earlier works and he went on to create more than 90 wall drawings in this style. It is relevant to compare this to the changes in Arp's collage practice in which he engaged even further with chance, as seen in *Papiers déchirés*.

Soft Materials

A recurring feature in the works of all these artists is their use of soft and malleable materials in the creation of their works. Each of the artists uses materials in a different way, even when they are of a similar type. Duchamp used ordinary thread in an absurd, almost mocking way to produce the *3 stoppages étalon* based on dropping thread to the floor as though he were recreating an international standard. Arp focused on the use of paper for his collages and plaster for his sculptures. In both cases he considered the notion of mortality emanating from precision or the lack of it. Hesse created many of her sculptures from latex and cord. Addendum uses latex-covered cord and also relies on cord falling to the floor. She too, was influenced by Duchamp, she felt that her works contained elements of the absurd. She was very concerned with their impermanence and liability to decay. Additionally, she added resin and fibreglass which lent her work more enduring qualities, but the latex elements still showed signs of perishing. It is not known whether she considered her own mortality while creating the work, but in her latter years she certainly considered her proximity to death.

Cage used paper to create some of his visual works, but he also used copper plates to etch and engrave the drawings before printing them. His use of soft and floppy materials was quite extensive and covered the methods of preparation before use and the size, quality and type of paper. Unlike Duchamp and Arp, Cage did not try to include the absurd or use his work to reflect on mortality, but he did sometimes use them in his creation of other forms of art such as music and written works. The way in which he wrote or scored on the papers was unique to him and lent his work an added dimension when compared with other writers and musicians.

While there are obvious differences between the types of soft and floppy materials used there are also some similarities. A common factor is lack of permanence from each artist, though not all soft or floppy materials are temporary. The minimalist sculptor Robert Morris produced a range of felt works. The industrial felt

he used is an example of soft material such as in *Untitled* (1968), fig. 29 below, which hangs in the *Centre Pompidou*, Paris. These works are not as fragile or as subject to decay as the works of Arp and Hesse.



fig. 29 Robert Morris *Untitled* (1968)

In Morris's minimalist work, the viewer is reminded of Hesse's *Addendum* with its cords falling to the floor like some organic creature. Morris's works such as *Felt* (1969), fig 30, page 79 below, from New York's *MoMA* collection, highlight this. They provoke similar images of living organic objects trying to hang on to the wall. Their geometric nature is also reminiscent of Hesse's work, and the felt is like a thick layer of tough skin, soft and malleable yet hard wearing. While felt is a soft material and has a 'shelf life', it is arguable that it will outlive the works of Hesse. Like the works of the case study artists, Morris's felt sculptures are part of a series, each one individual, but composed of similar materials.

When considering the significance of soft or floppy materials used in the above, there is an element of an organic being in each of the works; they seem to live. This sense of the organic is also a feature in my experimental drawings, as seen in the next chapter.



fig. 30 Robert Morris: *Felt* (1969)

Another is the element of chance that arises from Duchamp's desire to rid his work of the 'hand of the artist' and the constraints of figurative art. Arp's work, also, reveals the effects of chance in the way the cut and torn pieces of collage paper fall to the floor; in the later collages when excess glue caused the backing paper to ruck up, and in the random state of deterioration of the early collages used to create his later works. The disintegration of the latex in Hesse's sculptures also generates a chance element of decay that references mortality. The chance folding of the cords and latex sheets as they fall to the ground or hang down the wall lends Hesse's works the appearance of floating organic objects. Cage's life, music, writing and visual art were all controlled by chance in the form of the *I Ching*. While the other artists used ordinary chance, interspaced with transient influences of absolute chance in their work, Cage used *I Ching* in all areas of his life.

In each of the above artists' work it can be seen that chance plays a major part and is a strong influence. This is a major feature of their practice and an objective of this project. The use of chance to explore the significance of experimental drawing as found in the programme is fundamental. Another feature is the use of

experimentation which has been seen in the above discussions representing a constant feature in their artistic practice.

Summary

Each artist has produced works with common elements though they did not work with each other. The use of chance identifies the distinct variations, variables and similarities that have been achieved, for example, these variables are seen in Arp's *Papiers déchirés*, when he moved away from precision and engaged even further with ordinary chance. For Cage chance was seen in his visual art, especially in the *Fire* series previously discussed. Each of the artists discussed above, has engaged with chance in one form or another. The following chapter will also examine how chance impacts on the intentionality within the work. The ways in which intentionality may be evaluated when chance is involved in creating random results will be investigated. Chance will be discussed with reference to the ways in which freedom, depth and the variations created by its inclusion are demonstrated, as in the experimental drawings. A key element is the maintenance of the concept of intentionality. There is also the element of play in the creation of works, influenced by external forces or as a result of the processes. This produces a degree of randomness in the final images. Each of the artists has shown the strength of decision-making in the processes leading to the results. These range from an escape from the traditional; the reflections and inclusions of the influences of nature; the transience of decaying materials; the trace of an original object found in the new work; the deconstruction of materials to produce new forms of sculpture, and the challenge to perceptions as viewers engage with the elements of chance and intentionality and reflect on their meaning in the context of the works.

11. My Own Practice

There are two parts to this chapter. The first is to answer the research questions and to address in depth the reasons why I chose to focus on chance as an essential research proposition. The second is to discuss the mechanics of the experimental drawing processes. In order to complete the first part a number of questions need answers and explanations:

- How did I move from reading CS Peirce to working in ink and oil?
- How and why have Peirce's theories of absolute and ordinary chance been deployed in my practice?
- How is the theoretical underpinning deepened through phenomenological enquiry re the related works of Husserl and Merleau-Ponty, and how does my research go beyond these sources?
- Why did chance and experimentation become a central concern in my own art practice?
- Why and how have chance and random procedures been adopted, and what has this art research investigation achieved in refining them through a specific and particular use of materials and methods of testing?
- What is the importance and relevance of intentionality and how has intentionality come to play a strategic role in the investigation?
- What is the significance of my practice to other artists and how might the whole project be useful to them?
- What does Cage bring to the equation?
- What is the relevance of my scientific background to my artistic practice?
- Why have I focused on experimental drawing?

In the interest of identifying my own practice and as a starting point, the theoretical aspect will be discussed, and then the practice content of the project will be described and analysed. Key terms relating to the project, which are grounded in experimental drawing using a range of materials and formats, will be defined. The ways in which my work answers and responds to the research questions and the issues raised will be examined, together with the direction in which the work will proceed and develop. The questions, as previously identified, are:

- In experimental drawing, what is the relationship of chance, in its ordinary rather than its absolute sense (Houser and Kloesel 1992: 219), to intentionality in the work?
- How does chance impact on the character and meaning of experimental drawing in this project?

The elements contained within the project are mark-making, experimentation, intentionality, chance, randomness and failure. The first is mark-making, demonstrated here by using various combinations of ink/ice blocks, oil and oil and ink in a process that will be explained later. The options for types of mark-making are many and varied. Mark-making is and has been an essential feature of visual artistic practice for many generations. It is difficult to imagine visual art that is not to some degree based on mark-making. An example of mark-making and the next feature, experimentation, is seen in fig 31 below:



fig. 31 Mike Halpin: *Experimental Drawing* (2015)

The second element is experimentation, which has been used to create the drawings by means of measured experimental techniques. These can be seen as experiments by the artist, as in the project drawings, or as an experimental process that is part of the development of the practice, resulting in images that are random and created by chance, despite the degree of control inherent in the preparation of the mixtures and the type of paper used. The musical works of

Cage were a major influence on the process behind my experimental drawings, helping me widen the parameters within my practice. I have translated some of his musical ideas into my visual work. I found his work 4'33" particularly interesting because the content was created purely by chance and no two performances could ever be the same. His works link experimentation and chance, as discussed below as the fourth element. By its nature the composition contains both absolute, expected results, and ordinary chance because the final work cannot be predetermined.

The third element, intentionality, is more difficult to define. It concerns both what is seen by the viewer and the supporting ideas of the artist. In view of its importance to the project, it is appropriate to note the philosophical dimension of intentionality, as identified in the *Contextual Review* and which references the theories of Husserl and Merleau-Ponty. For Husserl, it is a phenomenological concept and as such he relates it to mental states, considering the experience and perception of the viewer. Intentionality relates to acts which can have both a content and an object, or 'the mental process of an object like any other' (Welton 1999: 87). The idea of content can be described using the concepts of *noema* or the object of perception and *noesis* or the thought of perception (Welton 1999: 87–89). Thus, *noema* relates to the content or object of a work and *noesis* to the viewer's interpretation of it (Welton 1999: 109). This says Merleau-Ponty:

brings the possibility of meaning into our experience by ensuring that its content, the things presented in experience are surrounded with references to the past and future, to other places and other things, to human possibilities and situations (Davis 2004: 10).

Thus, both *noema* and *noesis* relate to intentionality, but the latter is more relevant to the intentionality behind my works. The viewer's experience of them is variable and unique, but the concept supporting intentionality is similar. An additional factor is the *horizon* present in the intentionality of the work, which is 'represented in the experience' (McKintyre and Smith 1989: 23) and determined by the perception of the work from all angles as discussed in Husserl's *Phenomenology* (McKintyre and Smith 1989: 2, 9–12, 16-17, 23). Husserl also says:

every subjective process has a process "horizon" which changes with the alteration of the nexus of consciousness to which the process belongs and with the alteration of the process itself from phase to phase of its flow, an intentional

horizon of reference to potentialities of consciousness that belong to the process itself. For example, there belongs to every external perception its reference from the “genuinely perceived” sides of the object of perception to the sides “also meant”, not yet perceived but only anticipated (Welton 1999: 109)

In this, Husserl indicates that in addition to what is visible there is an unseen dimension. He continues:

the horizon structure belonging to every intentionality thus prescribes for phenomenological analysis and description methods of a new kind, which come into action wherever consciousness and object, wherever intending and sense, real and ideal actuality, possibility, illusion, truth and on the other hand experience, judgement, evidence and so forth, present themselves as names for transcendental problems, to be taken in hand as genuine problems concerning “subjective origins” (Welton 1999: 111).

It may be posited that the concept of *horizon* in intentionality is the centre of the determination of the differences between the real (actual) and the possibility of perceived (imagined) dimensions within a work of art. In adding perception to the unseen dimensions I have sought to create works that stimulate a dialogue between the work and the viewer. In every case this dialogue is unique because no two individuals will ‘see’ exactly the same images in the experimental drawings. This is, of course, an attribute of the work of many artists and it is not restricted to the visual arts; it is found, for example, in the music of Cage. My research goes beyond Husserl and Merleau-Ponty by engaging with the viewer and their perceptions to see that there is more to the works than merely a series of abstract apparently accidental images. In addition to the *horizon* within the works there is the *noesis* which is the thought or perception of an object rather than a figurative copy of an object. It is not an illusion of an object but an attempt to visually create a tangible thought of, or the idea of an object. The viewer’s presence is needed to complete the work. This is a complex use of chance, because the relationships associated with the works have shifted from that of the artist to the work, to one in which the viewer has the dialogue with the work. By ‘seeing’ the work it is possible to observe that it is greater than the sum of the *noesis* and *horizon*. This combination of both the ideas of Husserl and Merleau-Ponty adds more dimension to the research and the experimental drawings.

The definition of the fourth element, chance, is the nexus of the programme and the central theme on which this research project is based. CS Peirce, who is one of the three philosophers used to support the theory in the thesis, suggests that there are two types of chance: 'ordinary or relative chance' in which nothing is explicable and 'absolute chance' in which everything is explicable (Houser and Kloesel 1992: 219). In practice the results are similar. Peirce says: 'everything that can happen by chance sometime or other will... and chance will sometime bring about a change in every condition' (Houser and Kloesel 1992: 220). George Brecht proposes a view that is relevant to this project:

with art, and the affective image, we shall indicate two aspects of chance, one where the origin of the images is unknown because it lies in deeper-than-conscious levels of the mind, and the second where images derive from mechanical processes not under the artist's control (Iversen 2010: 35).

In the project, 'ordinary chance' and the way in which things happen by themselves are foregrounded: the impact of external influences on the image during the creative process produces chance and random results, as in my work *Experimental Drawing* (2016), fig.32 below:

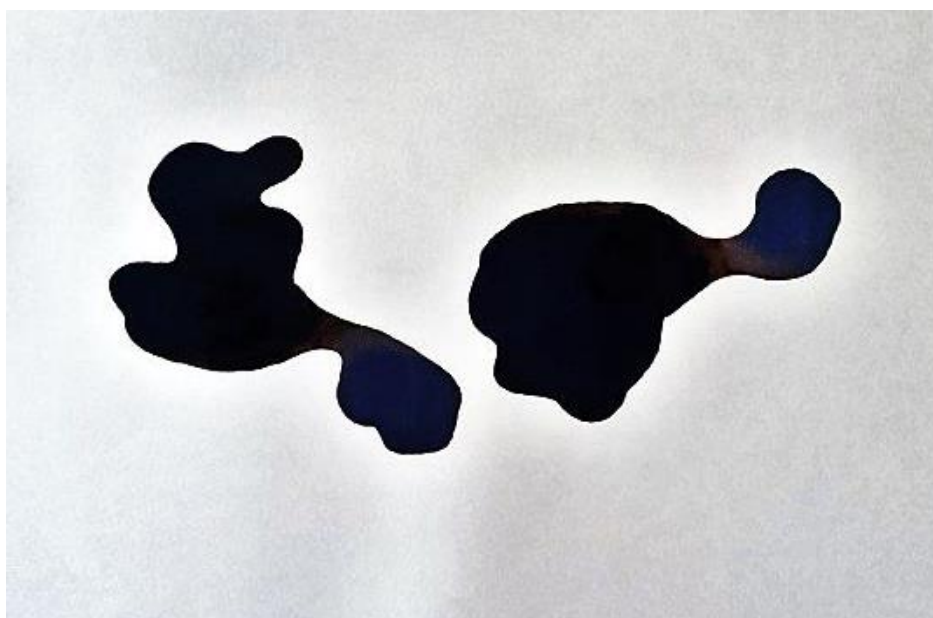


fig. 32 Mike Halpin: *Experimental Drawing* (2016)

In the experimental drawings I have to consider whether the results are 'accidental', as proposed by Aristotle or influenced by the external forces. One consideration is that they are a combination of both, and it is important to explore

the impact of Cage's experimentation, as seen mainly in his musical scores, on the works. Certainly the tonal influences in his music can be referenced to the tonal qualities seen in the depth of colours observed as the ink breaks down into its components.

Chance does not exist in the work in isolation but is combined with and formed from experimentation. As described above, experimentation is a key element in the programme and stimulates the effects of chance on the resulting random images. It is also a determining factor in the considerations of failure in the practice. Thus it can be said that experimentation, intentionality, chance and failure all combine to create the work. I have selected chance and intentionality as the key indicators but they could easily have been exchanged for experimentation and failure. The reason for my choice was that experimentation and failure are closely combined, as though they are one side of a coin or equation; the other two, while existing together, represent two sides of the same coin.

The fifth element, randomness or the impact of randomness in the practice, is closely associated with chance. In the context of this project randomness may be seen as 'occurring without method or conscious choice; unpredictable in detail; without bias'. It is possible, by extrapolation, to propose that the method is chance and that the outcome is the randomness of the final images. In terms of numerical and statistical sampling, randomness aims to eradicate human bias. It is difficult to achieve and not relevant to this project, because the number of variations observed corresponds to the number of works produced.

The sixth and final element is failure. It must be asked whether failure exists as part of the project, it may do, inasmuch as failure is linked to experimentation and the experimental processes leading to the creation of a work of art, such as Arp's *Papiers Déchirés*. In the introduction to *Failure*, her examination of failure in artworks, Lisa Le Feuvre says:

in the realm of art, failure has a different currency. Failure, by definition, takes us beyond the assumptions and what we think we know. Artists have long turned their attention to the unrealisability of the quest for perfection, or the open-endedness of experiment...the inevitable gap between the intention and realization of an artwork makes failure impossible to avoid (Le Feuvre 2010: 12).

Le Feuvre also suggests failure in art-making activity is in 'the gap between intention and realization' (Le Feuvre 2010: 13). This is particularly relevant to my practice: initially I strove for perfection, much like Arp with his early collages. I thought drawings in which the ink/ice mixture had overflowed the paper were failures. I was wrong, because this effect was caused by the external forces that were a major influence in their creation. The focus of the process in terms of the project is thus an expression of the magnitude of the force involved. In my work, the 'failure' lies between the intention and the realisation (Le Feuvre 2010: 13) and is not external to it. This is created by experimentation as identified above. In practice it shows that each of the above elements is important. It is critical not to look at the elements in isolation, their combination makes the whole sum. My work, therefore, involves the potential for more 'failures', or as Le Feuvre says:

failure takes us beyond assumptions and what we think we know and can be represented...and examines the potential for experimentation beyond what is known (Le Feuvre 2010: 18)

In fig. 33 below, the still-wet, watery ink mixture ran off the lower corner of the paper in an effect caused by unexpected, but chance-influenced developments.



fig. 33 Mike Halpin: *Experimental Drawing* (2016)

It is possible to summarise at this stage that all elements of the work which create the random images are required. This is also true of Cage's experimental music practice: he used time and space as an alternative to mark-making but the conclusions were similar, the sounds replacing the visuals. His experiments included adding screws, nuts and bolts to the piano strings and variations, tonal

repetitions to create the music; in my research ink is frozen and used engine oil with and without ink have been used to create the final results. My external forces have been created by passing traffic while Cage has used the performer playing the musical instruments.

The question of how these considerations relate to the practice of the project will be considered as this chapter develops. An additional consideration is the purpose of the underlying elements supporting the practice.

In the theoretical aspect of my work the introduction is the concept of chance in the making of works, though chance is not always involved with process, but it can be considered as a major element. Why did I choose to focus on chance as an essential research proposition? As identified in the *Introduction* chapter the original concept for this programme was based on space and perception in artistic practice. I looked at creating geometrical drawings using the floor and walls as the canvas and the use of monochrome shapes referencing minimalism. During the early stages of the research I discovered that this was the wrong starting point and there was something fundamentally important prior to this position. It was chance and it is an element of such magnitude that the majority of visual art practitioners include chance in their work whether consciously or not. In my practice it underpins all of my experimental drawings and experimentation.

Having determined the relevance of chance it was necessary to consider the theories of a range of philosophers over the past two millennia. These are briefly identified in the *Contextual Review* chapter. The research identified that there are three philosophers that have had an influence on my practice. These are CS Peirce and his theories of 'absolute' and 'ordinary' chance, the ancient Chinese *I Ching* system of divination as used by Cage and finally Aristotle because of his identification of 'accidents' which are in practice chance events. The main influence has come from Peirce and Cage, with Aristotle's ideas being a method of understanding and explanation of the results in the experimental drawings.

With reference to my practice running alongside the theory in this programme, I have identified that chance underpinned the creation of the image in the abstract work *Hotel Bristol Beirut '83*, (2012) fig. 34, page 89 below. During the 1980s, I lived and worked in the Middle East. Political and socio-economic events were part of my daily life, and I was exposed to acts of violence and aggression.

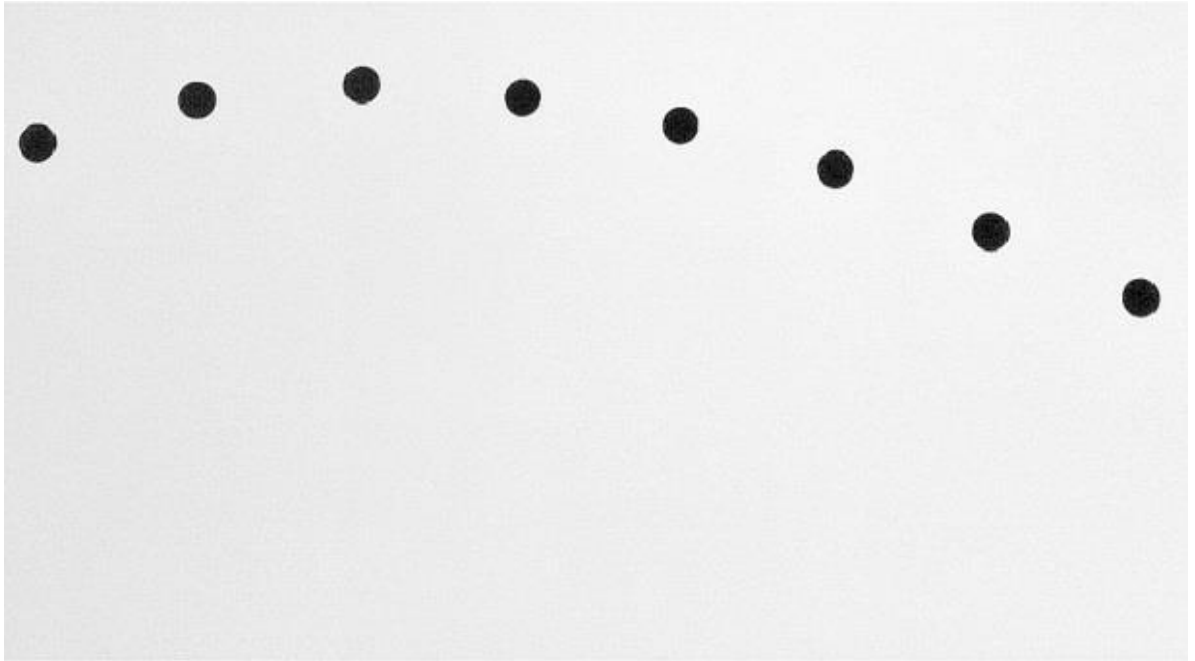


fig. 34 Mike Halpin: *Hotel Bristol Beirut '83* (2012) (1m x 0.5m)

Hotel Bristol Beirut '83 references a particular incident, though the narrative element is not initially evident to the viewer. The Arab sector of Beirut's city centre was under shellfire from an Israeli gunboat stationed off the coast. Civilians were caught up in the chaos, and many buildings including homes and hotels were hit. In the *Bristol Hotel*, mine was among the many rooms destroyed, with result that the walls were full of holes and plaster was off the ceiling and covering all my possessions. Luckily I was not in the room during the attack because the consequences would have been dire. It was distressing to find the state of the building when I eventually returned later in the day.

The arc of black discs represents the bullet-holes in the walls, but is not intended to be an accurate representation of their appearance or number. I used stark monochrome because it seemed to describe my feelings at the time: a mixture of excitement and fear; life and death: whereas bright colours can imply a sense of lightness and happiness. The starkness and bleakness of the event depicted is a feature of both sides of the conflict: it felt like a problem with no solution. The decision to make the work as a visual reminder of the experience was deliberate, yet it acts as a bridge between reality and ideology.

For *Hotel Bristol Beirut '83*, plaster and industrial paint were mixed to create a smooth ground resembling a well-plastered wall. Nine coats were applied to a

canvas and each was sanded down before the next was applied. Finally, a series of black discs was added using acrylic paint. It should be noted that the number nine has no religious significance, and there is no evidence that nine coats of plaster were used on the hotel wall it represents. Using Peirce's theories this type of chance event can be considered to be 'absolute' chance because it might have been expected that the landmark *Bristol Hotel* would be a target.

It is necessary to indicate how the practice developed from Peirce's theories of both 'absolute' and 'ordinary' chance and my decision to work in ink and oil. In order to demonstrate the randomness seen in the images it was necessary to return to the concept of 'mark-making', having identified that the starting point for the research was chance. Following experimentation it became obvious that black ink was my preferred medium because of its flexibility. In order to introduce chance elements in the drawings the ink had to be free to create marks without the direct influence of the human hand. To introduce an aspect of originality I decided to freeze the ink, so that as it melted it would flow across the paper under the influence of gravity and external forces. This was observed in the process by chance, initially ordinary chance. As the experimental process developed, so did the questions underlying and surrounding the practice. I found that both ordinary and absolute chance could be present in the creation of the drawings, because the repetitions in the experiments indicated that there was a degree of expectation in the results and that the ink breaks down into its component colours. With oil and oil-ink mixture the questions were different but the fact that the oil mixtures flowed across the paper in a similar manner to the ink/ice mixture was a further element in the experimental programme. It added weight to support the developments of the practice based on chance.

This use of experimentation leading to chance results in the form of random images maintained a degree of dynamism in the works. This was different from the rigidity of some styles of formal drawings in which the practice is perfected as a craft, following specific rules of perspective and weight of line. I decided to call my works experimental drawings. They mirrored my ideas of freedom within my work. There was, however, a degree of formality in the measuring and mixing processes and type of paper used as a ground. This freedom is evidenced in fig 35, page 91 below, in which the ink mixture is seen to break down into its component colours and allowed to flow across the paper.



fig. 35 Mike Halpin: *Experimental Drawing* (2016)

The chance and freedom in my work reference those ideas of Peirce:

chance is indeterminacy, is freedom (Houser and Kloesel
1992: 222)

This identifies some of the ideology behind my artistic practice.

While considering intentionality further, it has an equal importance with chance and is a feature in most artistic practice. This is manifested in the fact that an element of the practice is to stimulate the viewer's imagination to perceive whatever he or she sees in the random images. There is no backstory in the ink/ice experimental drawings other than my interest in art and science as found in my experimental drawing processes. This is not the case with the later oil and oil/ink drawings. These reference my scientific background and education that I used during my time within the oil industry and my earlier career. These references act as a bridge between then and now; while most of my time was spent in marketing, the whole aspect of the oil industry was and is concerned with experimental exploration. This was similar in its basic principles, yet different from the experiments in this project. The difference between the experimental exploration in the oil industry and my experimental practice is that the oil industry works on a macro level and I have worked on a far smaller scale. The industry's objectives were rigidly defined and subject to absolute chance; knowing what they expected to find whereas I did not know what the random results would be or look like. My experiments were not so rigid, they may have started on a basis of absolute chance but were clearly finalised as ordinary chance.

What underlies the practice is discussed using two series of experimental drawings. One series was created by melting ink/ice blocks on cartridge paper and the other by putting used engine oil on similar paper. The views of Merleau-Ponty are referenced in the consideration of the experimental drawings, in order to develop a deeper understanding of space, perception and the influence of chance within the works.

It is notable that Merleau-Ponty conflates space and perception, though it may be said that he views perception as experiencing objects in space, as described in *Phenomenology of Perception* (Smith 2010: 283–284). In my practice, it is difficult to perceive whether there is space in the works because they exist as objects only when the final image is created. It is possible to claim that the experimental drawings contain space because the areas round them remain untouched by ink, as though they are the spaces in a room where the work is exhibited. This will be discussed further. The relevance of Merleau-Ponty to my work can be summarised as this: space, perception and time when applied to movement ‘the phenomenon of movement merely displays spatial and temporal implications’ (Smith 2010: 321). The use of this idea to analyse the experimental drawings produces the chance images that are created by movement, in the form of vibrations over a period of time, from blocks of ink/ice occupying a given space on the paper laid on the studio floor and oil mixtures in a similar space and time.

Merleau-Ponty’s ideas on perception and space assumed a greater importance as the practice developed:

every object is the mirror of all others...I can therefore see an object in so far as objects form a system or a world, and in so far as each one treats the others round it as spectators of its hidden aspects...any seeing of an object by me is instantaneously reiterated among all those objects in the world which are apprehended as co-existent, because each of them is all that the others ‘see’ of it (Smith 2010: 79).

A key consideration is what Merleau-Ponty sees. He was concerned with seeing how objects relate to each other, rather than looking at a work of art. Seeing is a subjective experience that relates to my practice in various ways. In the context of what the viewer sees in the organic shapes created in the experimental drawing images, interpretations by the artist are not of *prima facie* importance: they can be misleading because of their potential influence on the viewer’s perception. There is a constant: the unfilled blank space on the paper is not dependent on social,

psychological or scientific concepts, as considered by Merleau-Ponty, but merely those areas not directly influenced by the flow of the mixture on the paper, yet co-existing with, and a part of, the drawing. In the case of the ink drawings, external forces move the ink mixture in finger-like projections across the paper, but the naturally occurring meniscus holds the shape. This is not the case with the oil and ink drawings: initially the finger shapes are formed but over time the space on the paper is filled as the oil soaks into the fabric. This effect will be discussed in detail later. A viewer looking at the original image before the diffusion of the oil would see images similar to those created using the ink/ice blocks, but the nature of the oil transforms the final image. Thus, what the viewer sees initially is less than what is ultimately seen. There is no predictability in the final image, only the chance-influenced randomness.

How does this relate to intentionality? For both Husserl and Merleau-Ponty perception was a key feature. As described above there several facets associated with perception and intentionality, these are *noesis*, *noema* and *horizon*. The *noesis* and *horizon* are more relevant to this study, but they all exist together in the work as a consideration of the intentionality behind the practice. The *noesis* is the perception of something that is seen, not specifically a defined object. The *horizon* is the difference between the real object and the perception of an object. Thus, the *noesis* and *horizon* are implied in the abstract, random and chance created images seen or perceived in the experimental drawings. The rationale in producing images in my practice is what the viewer perceives. The work needs the input of the viewer's imagination or perception to be complete. An advantage in the random images is the infinite number of potentials, nothing is exactly repeatable, as is also found in Cage's 4'33".

The importance of intentionality in the work is as a key element in the research. It occupies a position alongside chance because it explains the perception of the viewers to the chance developed works, in which abstract drawings represent an idea or thought of an object. The viewer must decide whether the object is an organism, leaf or an enlarged image of a single cell. The corporeality in the images further enhances the concept of perception of an object rather than a physical manifestation of an object.

The focus on the use of chance and randomness in the procedures gives a sense of dynamism to the research. The procedures, while controlled, result in

chance-driven and random images because of the materials used and the method of working. The melting of the ice mixture took time which enabled the external forces to impact on the process. The results are free in the sense that they have been drawn not by human hand but by chance. It was important to control the volumes and composition of the mixtures and to maintain the quality and size of paper used.

The significance of my practice to other artists is that it is a treatise on the relevance of chance in artistic practice. Most art practice contains an element of chance, whether deliberate, as is found in my practice and Cage's musical performances, or as 'accidental' elements in the artistic process as in some of Duchamp's works⁸. Peirce's ideas of absolute and ordinary chance are both found in my practice, not merely as examples of the two different types of chance but as a dynamic development of chance in the experimental drawings. As the works develop the process begins as absolute chance, because the experimentation has shown that some of the results are predictable, then ordinary chance takes over as the random images are finalised as unique works. There is a cross-over from absolute to ordinary chance in the creative process. It is not an accident but a specific event. Throughout the practice, influences emerge from the works of Cage and Hesse and their use of space and chance.

The relationship between the artist and the viewer has not thus far been considered. In his essay *The Death of The Author*, Roland Barthes describes perception, what is seen and who has the responsibility for this. After the work was finished the focus moved from the artist (author) to the viewer (reader); the dialogue changed so that it was no longer between the artist and the work, but between the viewer and the work. While still important as the creator, the artist became secondary and the viewer took on the predominant role. What the viewer sees in the work is now the key, and may differ markedly from the initial concept. Thus, whatever meaning the artist ascribes to the work is superseded by the interpretation of the viewer.

The majority of my experimental drawings are deliberately untitled, in order to enable the viewer to engage with them and make a judgement about the work without the intervention of the artist. In this instance the presence of the viewer

⁸ Marcel Duchamp: *3 stoppages étalon* (1913)

completes the work of art not by accident or chance happenings, but by choice. In Cage's musical works, for example, the viewer or listener plays an integral part; in the score of 4'33" the viewer or listener is a participant. Barthes said:

the total existence of writing: a text is made of multiple writings...entering into mutual relations of dialogue, parody, contestation, but there is one place where this multiplicity is focused and that place is the reader, not, ...the author. The reader is the space on which all quotations...are inscribed without any of them being lost (Heath 1977: 148).

The second part of this chapter considers the mechanics of creating the images together with comments on their potential significance, even though they are not usually given a title. In terms of what this means for my practice, it consists of both multiple images and layers of images, all produced by a similar process. This results in a degree of three-dimensionality or roundness, as evidenced by the depth and implied shadows within. The dialogue seen in the images by the viewer may be different from that imagined by the artist, yet there is no right or wrong interpretation. Roundness is a feature of the process used to create the drawings: the ink/ice blocks are frozen in round moulds and the oil mixtures are added to the paper using a spoon. There is a sense of movement in the fluidity of melting ink/ice blocks used to develop the images seen in the works. The process engages with temporary procedures, yet fixing the mark-making in a permanent state. Once the black ink breaks down as a result of the melting process, it is no longer black but is a complex formulation, because each manufacturer uses a different set of ingredients. Other colours of ink do not have the same complexity and do not break down into such a wide range of colours.

The ink/ice drawings began as an experiment with the objective of producing sets of nine units, each set being part of a series of nine sets on A4 cartridge paper. There is a vague similarity to this process and the creation of Cage's *Where R=Ryoanji* print series, in which he drew round rocks a predetermined number of times. As my experimental drawings programme developed, a continuous roll of Fabriano paper replaced the A4 cartridge paper, finally moving to individual sheets of A1 cartridge paper. The first of the examples is shown below, as a grid of 81 images set out in lines of nine units. The rationale for choosing nine images for one set, and nine sets for the series was based on a mathematical sequence which allows individual rectangles to be separate yet have common sides, but no more than one side is shared with another rectangle. An aspect of producing

images in this size is that there is a degree of buckling of the paper. This may be seen as a failure in the production process because of the effects of the influence of volumes of liquid added to the surface of the paper, but it produced a wave effect in the work when it was hung in the gallery space. This effect was not designed but appeared by chance.

When mounted in a large block the 81 images produce a single work, which helps to unify the component rectangles. This is seen in fig.36 below:



fig. 36 Mike Halpin: *Nine²* (2014–5) (2.7m x 1.89m)

An aspect of the drawing is the degree of uncertainty and possibility of action upon the work by unknown forces to produce the final image. Chance, in the form of ordinary chance, is evident in both the total work and the component sheets. There is a rigidity, formed by the calculated control of the mixtures used, surpassed by the randomness of the images, which could be viewed singly or collectively. This degree of control is a constant throughout the process. Once this has been achieved and the individual units placed on the paper, chance takes over: the resulting images have a degree of unpredictability and randomness, which could be seen as control.

Further examination of the process reveals that it follows a cycle of repetitions, where ice cubes are made from a measured quantity of ink in 9ml of water. The

ink drops are arranged from 1–9 drops in each cube respectively and are carefully measured in controlled quantities to ensure that the sequence in the ratio of ink to water is maintained. The water is added using a clinical 10ml syringe and a fountain pen is used as an ink dropper. The ink used is black Quink, which is made up of several colours from gold to dark blue, as seen in the works when the mixture dries and the final images have been created.

In the ice cube the black ink is of smooth perfection, yet the unseen underside is made up of hidden colours and unexpected images. The process of producing the works begins from a position of controlled precision, but the final image is created by inexplicable ordinary chance, as per Peirce's claim that 'everything that can happen by chance, sometime or other will happen' (Houser and Kloesel 1992: 220). Peirce's claim is evidenced by the changes from an initial circular mark, made as a result of the placing of the ink/ice block on the surface of the paper, to a random shape that spreads across the paper in a seemingly uncontrolled way. These chance elements are created by two factors: the viscosity of the mixture, and the vibrations through the studio floor. From a design position the results might be seen as a failure because of the unpredicted and random results, yet in terms of the experimental process this is exactly what is required. It is grounded in the intentionality of the work and by the emergence of the component colours. In the ink/ice drawings this is evident in the range of colours seen as the images take shape.

The random forms created by the fluid flowing across the paper are altered by the vibrations in the studio building caused by heavy vehicles passing violently shaking the floor, thus producing chance images in the work. The breaking down into the component colours is to some degree predictable, yet the intensity of the colours is subject to chance and dependent on when the external forces are applied to the melting mixture.

The next series of smaller images fig. 37, page 98 below, was created on a far longer roll of paper in sets of series with ten cubes of ice and ten drops of ink included in the individual cubes. This change produces a wider spread of the drawing mixtures across the paper enabling a range of drawings to be produced; the colour diversity in the composition of the ink becomes more visible. Other unforeseen events included the settling of dust particles present in the air on the paper, producing tiny specks in the liquid that appeared on the images.



fig. 37 Mike Halpin: *Experimental Drawing* (2015)

The drawings are manifestations of the time taken for melting ink/ice blocks in a given space; the movement is evidenced by the image created by the liquid flowing across the paper occupying some of the blank space, yet leaving other sections untouched. The presence of the space on the paper is seen in the blankness remaining after the melting process has occurred. These blank spaces are there as perceived spaces, the space remaining after the drawing has been finalised. Merleau-Ponty reflects on perceptions of space:

space is composed of a variety of regions and dimensions, which can no longer be thought of as interchangeable and which effect certain changes in the bodies which move around them...we have a world in which objects cannot be considered to be entirely self-identical, one in which it seems as though form and content are mixed, the boundary between them blurred (Davis 2004: 50–51).

Space is a mixture of areas around and between objects whether they are sculptures in a gallery or blanks on a canvas or paper. In my practice there are no pre-determined ratios of space to drawing and the non-figurative images created are not, and cannot, be pre-designed or delineated as any specific object, 'they are what they are' (Stella 1966). This is because they are created by chance influences. There is an apparent interchangeability in the perception of what is seen in the images if they are rotated through 90° or 180°. This is in contradiction to Merleau-Ponty's claims, yet if they maintain their original position prior to the rotations his comment concerning space and interchangeability is valid.



fig. 38 Mike Halpin: *Organic Repetitions* (2015) 10m x 1.5m

In my work *Organic Repetitions* fig. 38 above, the chance vibrations affecting the studio floor form the images, running into each other as they spread across the paper. As discussed, the breakdown of component colours in the ink mixture is evident, indicating the anticipated absolute chance development visible in the range of images. To an extent, *Organic Repetitions* references some of Hesse's work, particularly *Expanded Expansion* (1969) fig. 39, page 100 below, which is made from fibreglass, poles and latex-covered cheesecloth. Each is supported using both the walls and the floor. The viewer is encouraged to engage with both works: they are on a grand scale, so there is much to see and experience.



fig. 39 Eva Hesse: *Expanded Expansion* (1969) 7.5m x 3m

Each work seems to resemble a screen shielding the viewer from the unseen, and a sense of free-flowing movement is present in both. There is an element of the temporary in the materials used for each work. In terms of what underlies this practice, how the above elements are manifested, and their meaning, will be discussed using two series of experimental drawings. One series was created by melting ink/ice blocks on cartridge paper and the other by putting used engine oil on similar paper. The views of Merleau-Ponty are referenced in the consideration of the experimental drawings, in order to develop a deeper understanding of space, perception and the influence of chance within the works.

While there are similarities between *Expanded Expansion* and *Organic Repetitions* there are also differences, not only in the obvious use of different materials and permanence of the images, but in the process of creation. *Organic Repetition* carries a degree of painterliness, because of the mark-making elements in its concept. It relies on chance to create the random images, with less input from the artist after completion of the initial process. The shapes found in the piece are as varied as there are images present. Hesse's process includes work made in panels then fixed together in a collection of smaller units, reflecting what is observed in *Nine*², fig. 36 page 96 above; the chance element can be seen in the non-aligned folds and panels with irregular widths. *Expanded Expansion*, however, is a single piece rather than a collection. In Hesse's works the influence of minimalism, vaguely referencing the works of Morris, is evident. In my practice, the varied shapes reference shapes found in the collages of Arp, which are rooted in Dadaism, though this is by chance rather than by design.

The ink/ice drawings figs. 40 and 41 below, reflect the uncertainties that occur in the creative process. The random images are reminiscent of the traces of a corporeal body pressed into the paper: unpredictable, not predetermined and not designed. In the image on the left the breakdown of the black ink is clearly visible, as are the organic shapes. In the image on the right, the globules of ink have been captured in the centre by a film of oil that formed round them, inhibiting the breakdown of the ink into its component colours. The corporeality of the organic shapes is still evident, and reflects the elements of chance and randomness which are supported by the presence of intentionality where the viewers are invited to 'see' the work and contemplate about the concept of the abstract image rather than the actual image. This will be discussed later in the chapter.



figs. 40 & 41 Mike Halpin: *Experimental Drawings (ink/ice), (oil/ink)* (2016)

The works in this project interrogate the established conventions of mark-making. These were frequently based on figurative objects and images, drawn on the background by the artist in an attempt to demonstrate dexterity and a range of technical skills while depicting what was seen. The project highlights the influences of external agents on the works, which are reflected in the fluidity of the resulting images. The works appear as organic shapes, as though they represent living objects and dynamic emotions.

The impact and experimentation of ink/ice cubes on the surface of cartridge paper have been discussed. Further experimentation was necessary, and while searching for another liquid that would behave in a similar way to the ink/ice

mixture, I discovered used engine oil. This had the fluidity to cover the paper, was equally responsive to the vibrations through the studio floor. It was subject to the influence of temperature changes, presenting a range of random, chance and unpredictable images. The oil separated into three distinct sections. The outer rim was a pale area created by the very light elements in the oil mixing with unused petrol in the mixture. The second zone was slightly darker because of the chemicals added to the oil to protect the engine, and the residual content in the mixture which retained a value as a lubricating agent. The final, darker inner area contained colloidal carbon residues from the burning of petrol in the cylinders, together with microscopic traces of metal deposited during engine movements. Over time, as the residues were exposed to moisture in the atmosphere, the inner central area absorbed it and became darker, as seen in figs. 42 and 43 below. The residues seen in the darker central areas are waste materials and pollutants present in the oil. These are present in the atmosphere as a consequence of the use of the internal combustion engine.

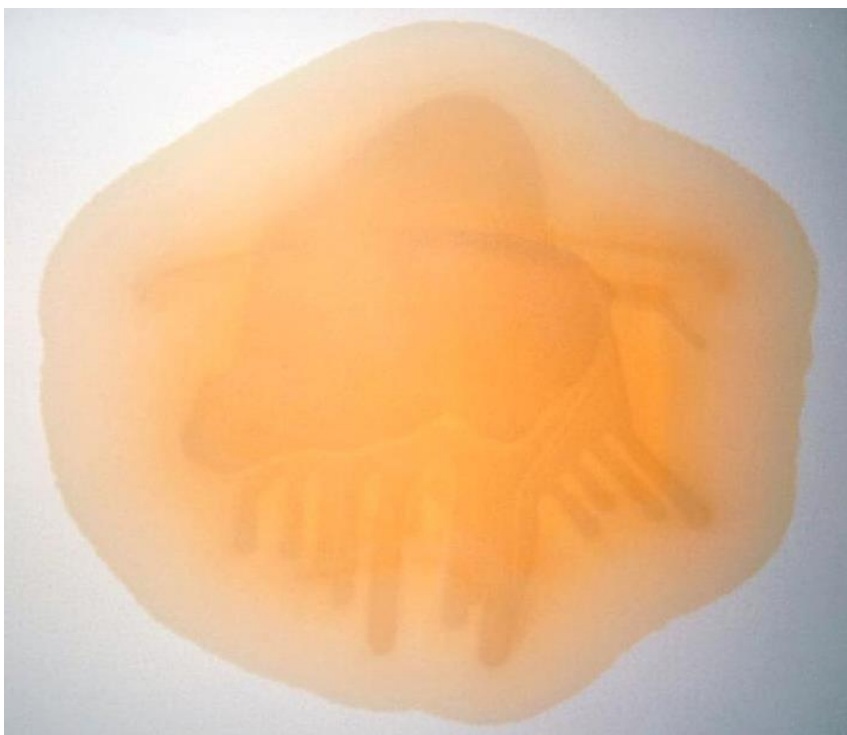


fig. 42 Mike Halpin: *Experimental Drawing (used engine oil)* (2016)

Fig. 42, above shows the translucency in the image on the cartridge paper when illuminated, while fig. 43, page 103 below, shows what is seen without lighting. In the first image, which was subject to greater vibrations, the areas of movement are more clearly defined. In both, darker areas are visible.

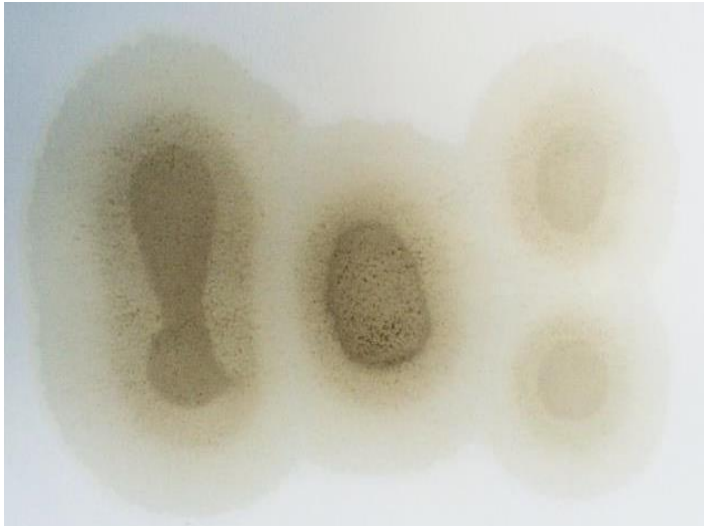


fig. 43 Mike Halpin: *Experimental Drawing (used engine oil)* (2016)

The random images in the experimental drawings of this project are created by chance without the use of external and reusable objects such as the stones seen in Cage's practice. There are no expected results in the random images; they are a result of ordinary chance. Cage's drawings, while subject to the influence of chance in the method of selecting the stones have the predictability of expected results and are a result of absolute chance.

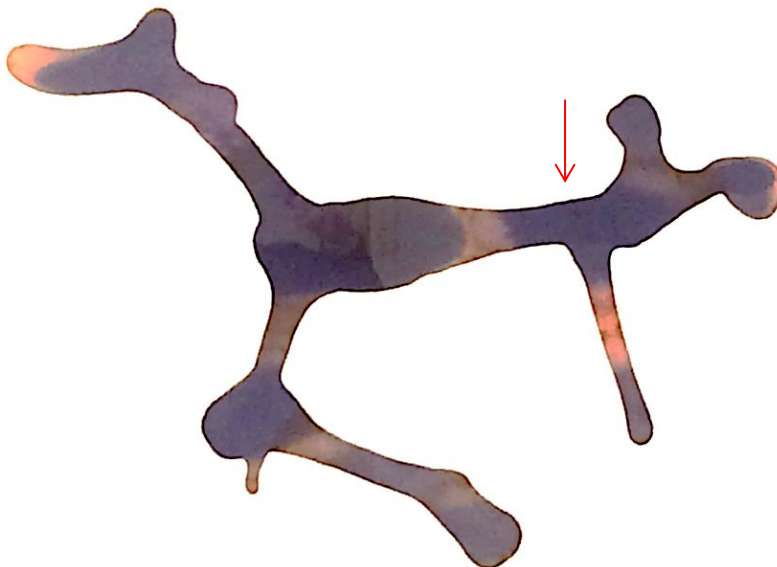


fig. 44 Mike Halpin: *Experimental Drawing* (2015)

Close examination of one of my experimental drawings fig. 44 above, shows the potential for two organic shapes that seem to be created from one source of ink/water mixture. The centre of the work is highlighted by the bulbous area under the red arrow. From this point two shapes emerge; one oriented right and the other

left. The forms, created by chance vibrations shaking the studio floor, are indicated by the separation of colours in the black ink, each seemingly attempting to pull away from the central point but grounded in the locus of the ink/ice block. The starting point in this work resembles a living organism growing in all directions: a chance and random image that was originally a single block of ink/ice but could be seen metaphorically as a single cell. The light and darker areas produced by the ink's component colours give the impression that it is more than a two-dimensional drawing; it is imbued with a sense of perspective because the extensions have an almost shadowy appearance. It seems to emerge from the paper towards the viewer.



fig. 45 Mike Halpin: *Experimental Drawing* (2015)

In fig. 45 above, the focal point is a circular central shape, indicating where the ink/ice block was placed. This is the real *horizon*, in contrast with the perceived *horizon* observed in the final image; both are present as components in the intentionality of the work. The manufacturing process is the same, but unlike the previous image it gives an impression of movement rather than division, floating across the paper. The same volume and ratio of ink to water was used. It appears less dense, because of the effect of the vibration as the melting process progressed before the mixture had begun to dry. The deep blue did not have time to develop, and the colours seem more even than in other images in the series.



fig. 46 Mike Halpin: *Experimental Drawing* (2015)

In fig.46 above, two elements on the right trail behind the main body. The image seems to suggest two organisms joined at a central point. It has again been created by chance, 'ordinary chance' (Houser and Kloesel 1992: 219) under similar influences of vibrations to the studio floor. Unlike the previous pieces, it has taken on a circular form. Its meaning is unfathomable: it was not created to act as a metaphor, but it depicts chance interventions that affect the work. Part of the drawing in the lower left corner appears to be running off the paper, owing to more extreme external forces evidenced as vibrations that occurred during the melting and drying process



fig. 47 Mike Halpin: *Experimental Drawing* (2015)

Fig. 47 above, also suggests two organisms joined at a central point. The dark blue is more intense. This image, as in previous examples, suggests a three-dimensional object moving out of the paper, its limbs creating shadows beneath it.

The edges show how the mixture has run off the edges of the paper. While this event might seem to indicate failure, it is the result of both experimentation and external forces in the form of vibration and gravity on the work. The degree of vibration is the result of chance and timing in the process. Cage found similar results in his work, especially when he introduced fire into his printing process. His results were created by either the direct influence of fire or the effect of smoke on specially-prepared paper.

Cage's work *River Rocks and Smoke 4/11/90 No 1* (1990), fig. 48 below, was created by combining smoked paper with paint washes and drawing round rocks. There is lightness in the work, and a reliance on the direction of *I Ching* in the process. Cage experimented with stones, smooth and angular rocks taken from different sites along the New River, Virginia. Over time, Cage abandoned washes and focused on the ambiguous space on the smoked paper (Brown and Lockett 2010: 143).



fig. 48 John Cage: *River Rocks and Smoke 4/11/90 No 1* (1990)

This series is relevant to my own practice because in my earlier work care was taken to place the ink/ice cubes in the centre of the page, producing rigid yet random shapes. These works referenced the precision of Arp's early collages. As my practice developed the cubes were placed randomly: first individually, later in pairs and finally in random multiples. As with Cage's random placement of stones in *River Rocks and Smoke* fig. 48 above, works within the series differ because of the placement of their component parts. Cage was disciplined and used the *I Ching*; Arp engaged with chance by letting paper shapes fall to the floor, while in

my work the cubes were carefully placed by hand and chance took over only as the process developed.



fig. 49 Mike Halpin: *Experimental Drawing* (2015)

Fig. 49 above, shows a central bulbous area that looks like a fulcrum. This does not seem to have been subjected to the extremes of vibration evident in the two previous drawings. Further examination reveals a feature of many works of art: balance. In art terms, balance is seen as symmetrical, asymmetrical or radial. In symmetrical balance, both sides of a visual work are of equal weight, centred on an imaginary line passing through its centre. This is frequently typified in figurative images by representational artists. In asymmetrical balance, there is no equal weighting or central line, and portrait artists such as Gainsborough and landscape artists including Constable used a technique based on the two-thirds or 'golden' rule. Radial balance is based on a circle, with the design extending from the centre.

Asymmetric balance is relevant to the works seen in this project, and it is present in the images of the work by elements of chance. Asymmetric balance results in a more complex series of images, featuring darker and lighter areas that are not equal, and challenge visual perception to suggest a sense of perspective. Lighter areas seem further from the viewer while darker areas are foregrounded. This chance happening lends my experimental drawings corporeality or a sense of roundness. In Cage's work fig. 48 page 106 above, the roundness is of drawn images in the work, though the smoke residues on the paper imply a degree of movement within it. Thus, though the experimental drawings produce random,

chance-driven images, they contain balance. The shapes are fluid, cellular, almost living; different from, yet shadowing natural forms, much as living cells are created and move through a fluid or gas. The term asymmetrical balance is important because the images are intended to be dynamic, not mirror images. A hidden tipping point moves between chaos and order, stillness and movement and horizontal and vertical, to produce a sculptural illusion for the viewer. Order from the precision of the process becomes chaos as the fluid spills across the paper; stillness is present in the ink/ice blocks and movement in the random shapes. Finally, the realisation of the colours hidden in the original ink mixture contributes to the perception that the images are organic and developing. In fig. 50 below, the centre is clearly visible but the mixture has begun to set and dry out before the major influence of vibration is experienced. The separation of the colours is less defined and lacks the sense of weight present in the previous works. The limbs are shorter and thicker, and the image seems to occupy less of the space on the paper.



fig. 50 Mike Halpin: *Experimental Drawing* (2015)

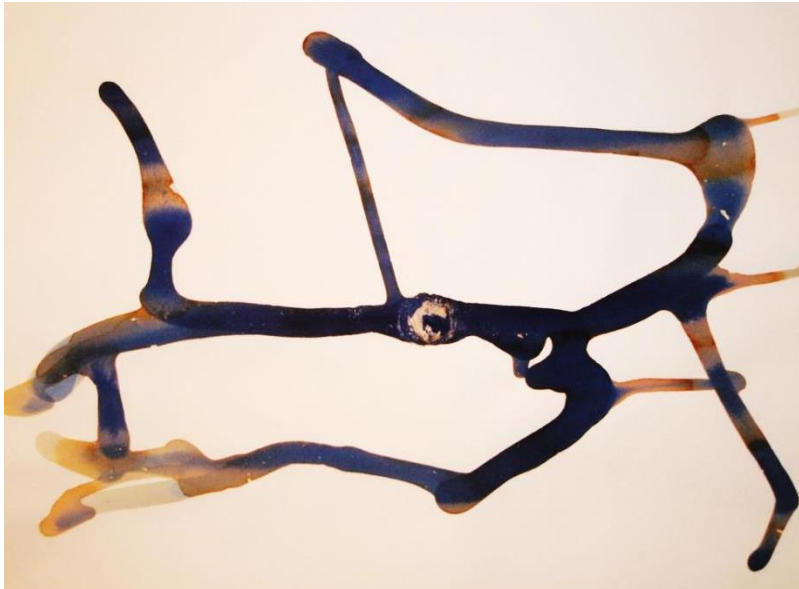


fig. 51 Michael Halpin *Experimental Drawing* (2015)

Fig. 51 above, the final image in the ink/ice series, appears to indicate movement from one side of the paper to the other, maintaining the sense of the organic that is a feature of all these images. The deep blue seems to run off the paper in several areas, lending the work a degree of urgency and chaos and expressing seemingly uncontrolled movement, not defined by the margins of the paper.

For Hesse, urgency and chaos are seen in the movement of wires across *Metronomic Irregularity II*, fig. 24 page 72, which might seem to reference the synapses of the human body. Finally, Cage's *Where R=Ryoanji: R^x* series (see page 57) might have the appearance of both movement and chaos, but have been constructed with meticulous precision and mathematical calculations based on *I Ching*. In comparison, the chaos found in my practice is based on the random images and the urgency seen in the fluidity within them. As discussed, this chaos may be considered akin to failure, but as Le Feuvre suggests, failure in art has a different currency (Le Feuvre 2010: 12). The long quest for perfection in art is unrealisable, and the result is open-endedness of experimentation (Le Feuvre 2010: 12). The concept of what this adds to artistic practice is challenging, but it might be said that experimentation is a key element of artistic progression, in which works and ideas are constantly expanded and boundaries pushed. The floor is important in the production of the experimental drawings in my own practice. This seems at odds with the more usual way of presenting two-dimensional works on gallery walls. The reason is that, apart from the obvious need for the paper to be on a flat surface, the floor is more sensitive to the external vibrations that

contribute to the development of the random chance images. The floor has featured in the works of Duchamp and Arp, as discussed in the *Case Study Artist* chapter. It is also part of the process of curating my exhibition *les insuccès* which will be discussed later in this chapter.

The involvement of chance in the experimental drawing together with the significance of intentionality within the work must be examined. Chance does not negate the role of intentionality: it enhances it because the decision to use chance to create random images was deliberate. Images with a similar appearance might have been produced by more traditional artistic methods, though it is likely that they would have derived, however obliquely, from a specific object, image or vista. The intention, however, was to move away from representational art and traditional artistic process in order to challenge perceptions of art. The resulting work invites the viewer to interrogate what is seen and how it was produced.

In terms of what is seen, artists such as Duchamp, Arp and Hesse challenged the entire artistic establishment and changed the philosophy by creating art in a different way.

In my own practice, on a superficial level ice is used to convey the ink to the paper and control the spread of the fluid that creates the random images. As the ice melts into liquid form, it facilitates a period of contemplation regarding the future of the work and the chance images that will result. Ice signifies not only coldness but also whiteness, which is absorbed by the blackness of the ink within the mixture. Ice is a key element and a catalyst for the mark-making process, though it is initially a human intervention. This is limited when the ice reverts to its liquid state, engaging with the ink to break it down into its component colours. As discussed, during the process, the concept of 'absolute' chance is changed to that of 'ordinary' chance. In consequence, the results are indeterminable and relative to the causes that are taken into account (Houser and Kloesel 1992: 219). Events surrounding the effects of chance on the work influence the outcome, but in unpredictable and unrepeatable ways. Pouring a diluted mixture of ink and water on the paper would not produce the same effect: there would be evidence of movement as it flowed across the paper and signs of mark-making, but the breakdown of ink into its component colours would be limited.

Comparisons have been made between my practice and those of Cage and Hesse; the controlled 'mark-making' of the experimental drawings includes elements of chance. The influence of Cage and his use of chance on my project is clear, though the way in which he involves chance is different. Theoretically the results of chance, whether ordinary or absolute, are similar (Houser and Kloesel 1992: 95), but Cage's is more of a mathematically derived process incorporating elements of the explicable. I have tried *I Ching* and found the results interesting, though the way in which the questions are formulated seems crucial. The answers cannot be anticipated so it is a system of chance and change, yet there is a possibility of the explicable: one action can lead to another and so on. Cage sought to eradicate the effects of taste and human involvement from his work, yet the element of interpretation required provokes the possibility that there is a subjective element. The process used in my practice eliminates this: the random nature of the results found in the experimental drawings clearly demonstrates that there is no subjective element. The interpretation, if any, is in the mind of the viewer.

The use of fire was a major feature of Cage's later visual art practice. He burned printing paper on the bed of a press to create a series of works and used specially produced smoked paper in another series of images, resulting in his chance images. The chance elements in these works are very similar to those used in the experimental drawings of this project, particularly the latest works on A1 cartridge paper. Cage's first fire drawing *Fire No 6* (1985), fig.16 page 60, has been discussed earlier, but it is relevant to revisit his process in order to compare it with my practice. Cage singed and partly burned paper, then extinguished it by covering it in damp printing paper while rolling it through the press. He added the circles from a chance-determined number of Japanese iron teapots, heated so they burnt the paper (Brown and Lockett 2010: 108).

Cage also created *Eninka* (1986), which in Japanese means circle, stamp and fire (Brown and Lockett 2010: 108), comprising 50 images printed during his last visits to the *Crown Point Press*. The thin Japanese gampi paper used had been smoked in advance and was supported by a heavy handmade deckled sheet. The two were fused using the traditional print process *chine collé*. This process involving chance produces images which have a degree of randomness, yet are linked by the circles from the hot metal teapots and also the smoked paper. They were,

however, created using a printing press as a base. Cage used printing techniques for many of his works, including etching and lithoprint processes, so the works were essentially prints.

The chance images produced for this project are not prints and no part or parts are created by printing. A difference is that etchings or engravings created as part of a process can produce repeatability of the whole work or part of it. The process used in the experimental drawing, the effects of vibration on the work, eradicates the possibility of repeatability or the production of exactly the same image, which would diminish the element of ordinary chance in the work.

In both figs. 52 and 53, page 113 below, a circular shape is seen. Cage's fig. 53 right, includes a circle made by a teapot base, while my experimental drawing fig.52 left, shows an imperfect circle produced by chance. Both images have a sense of movement. In my drawing the movement is caused by the fluidity of the liquid on the surface of the paper, while in Cage's the movement derives from the smoke covering the paper. The burnt edges of his work give the illusion of organic shapes, similar to the organic shapes seen in my practice. Cage has used interventions in his works, but I have not. His works clearly reference his musical interventions of adding nuts and bolts to the strings of the piano during the preparations for the performance. Though different in visual appearance and means of production, the organic content highlights their similarities. Chance is a key element in both works. Each uses a limited palette, based on and hinting at black. In my drawings black is broken down into component colours while in Cage's work black is hinted at through the smoke on the paper and charred edges. Both form a series and are printed or marked on special paper. Significantly, both seek to deny the elements of tradition and are distanced from the restrictive figurative boundaries of retinal art.

While pursuing the experimental drawing, consideration was given to the use of other materials that might be relevant to my experience and practice, but would still reference movement and fluidity of the choice of medium. As discussed above, there was a positive decision to work with used engine oil. In Cage's *Eninka* series, he used fire, burning and smoked materials as a basis for his works. Used engine oil contains microscopic filaments of metal from the vibrations in the engine, referencing the vibrations caused by passing vehicles shaking the studio

floor. Colloidal particles of carbon created by the high working temperatures inside an engine reference the burning and smoking effects in Cage's work.



fig. 52 Mike Halpin: *Experimental Drawing* (2015) and fig. 53 John Cage: *Eninka 17* (1986)

The viscosity that allows the oil to flow across the paper echoes the fluidity seen in the effects of smoke on the paper used by Cage. The images figs. 54 and 55 below, show the chance results when random quantities are used, without controlled measurements.

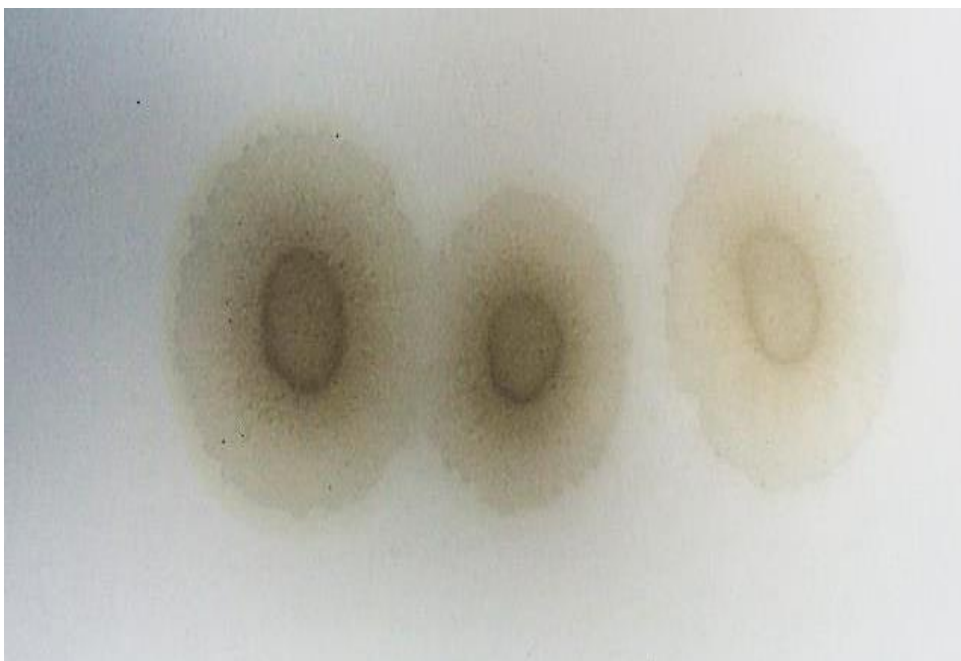


fig. 54 Mike Halpin: *Experimental Drawing* (2016) used engine oil



fig. 55 Mike Halpin: *Experimental Drawing* (2016) used engine oil

In these images, which are part of a series, it is evident that because of the nature of the oil the edges of the images are not as sharp as those observed in the ink/ice block examples. The microscopic granules, seen in brown, are a combination of metal and carbon in the used oil mixture. When the oil is first placed on the paper it is much darker; it becomes paler as it dries, then gradually taking on a darker hue as the carbon and metal are influenced by the moisture in the atmosphere. The outer sections around each drop of oil are thinner because of the residual gasoline in the mixture and the lighter coloured elements in the oil.

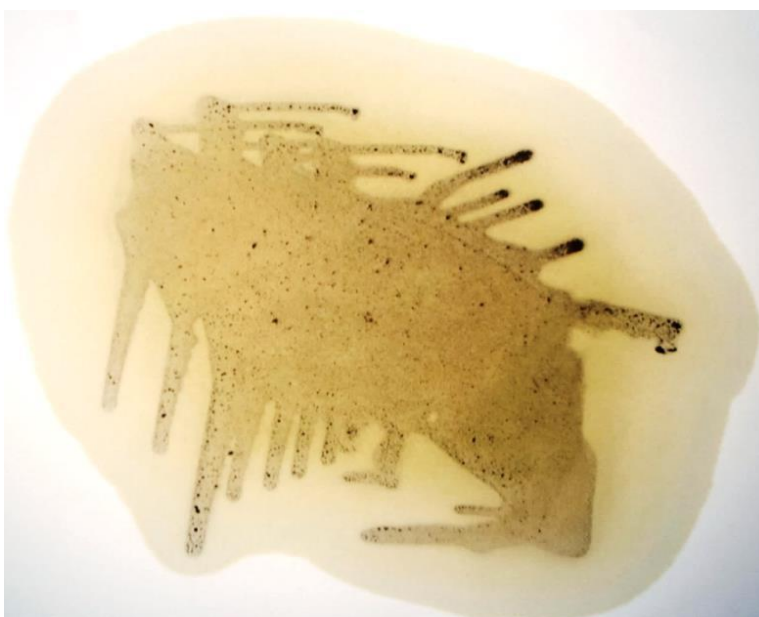


fig. 56 Mike Halpin: *Experimental Drawing* (2016) used engine oil with ink



fig. 57 Mike Halpin: *Experimental Drawing* (2016) used engine oil with ink

Following on from the used engine oil an additional experiment was considered as a part of the expansion of new boundaries: in figs. 56 and 57 above, the addition of black ink as used in the earlier experimental ink drawings was included. Logic dictates that ink, as a water-based liquid, cannot be mixed with oil under normal conditions. Also, oil cannot be frozen. Ink does mingle with the oil mixture, separating into tiny globules that seem to be surrounded by an almost molecular film of the oil. The globules do not spread throughout the oil mixture but become localised in the darker central areas, seen as black globules, where the colloidal carbon and metal fibres are contained yet do not break down into the component colours.

Reflecting further on the composition of used engine oil, the pollutants and waste products that damage the health of living organisms are visible in the centre of the drawings. There is a malevolent beauty in the darkened digits seen within them. This beauty is largely responsible for the respiratory and cardiac disease often found as cancerous growths in humans and other mammals. It is sobering that beauty can be so destructive: it is a destruction that we cannot see but is constantly present in the atmosphere. The solution is in the hands of mankind. These drawings have by chance identified their presence in the images created as part of the experimental drawing process.

Exhibitions

Participation in exhibitions and showing the works has been a key element of my practice. I have participated in a number of group exhibitions, and organised and curated a major solo exhibition *les insuccès* in the *Herbert Read Gallery* at UCA Canterbury.

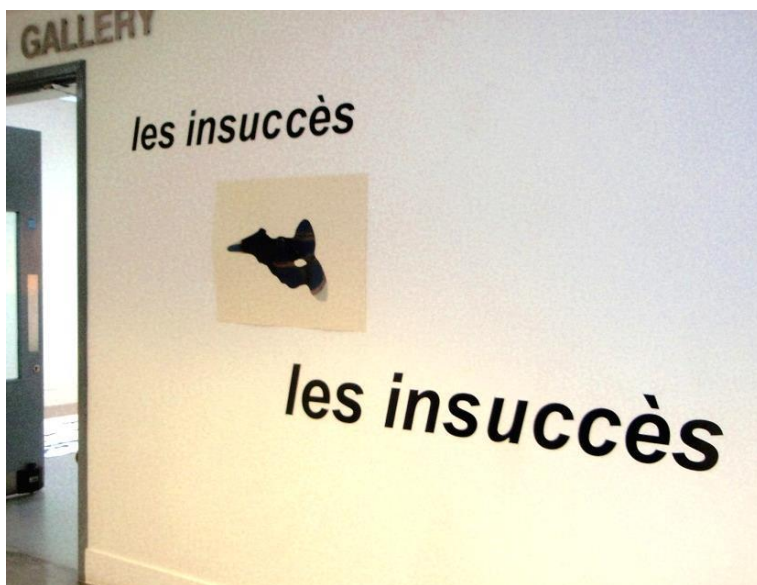


fig. 58 Mike Halpin: *les insuccès* (Nov 2016)



fig. 59 Mike Halpin: *les insuccès* Exhibition Poster (Nov 2016)

The exhibition ran from November 16–December 16, 2016 and featured a total of 22 works from the ink/ice blocks series, the used engine oil series and the used engine oil with ink series. The gallery space was approximately 10 metres square allowing large-scale works to be shown, figs. 60 and 61 below, plus a work in progress highlighting the experimental process, fig. 72 page 124.



fig. 60 Mike Halpin: *les insuccès Exhibition* (Nov 2016)



fig. 61 Mike Halpin: *les insuccès Exhibition* (Nov 2016)

les succès

These process derived experimental drawings are informed by a number of elements which are key to their creation and the development of my practice.

The first element is *mark making* which is the basis of creating the works. It can commence from the choice of materials, the tools and methods of how the tools are used. In these examples there are two basic types used, but with one similarity they end up as liquids over time, when observed on cartridge paper. The first tool is an ink/ice cube placed on the paper ink side down. As the ice melts the ink is spread over the paper and the component colours in the ink released. The second is used engine oil which begins in the liquid form and spreads across the paper gradually separating into three sections. The addition of ink to the oil produces small globules of ink sealed by the oil which are visible in the central section of the oil drawings.

The second is *intentionality* in the works. They have both a content and object set of characteristics. The abstract images do not relate to a specific object, but more of a thought or *noesis* of perception. Within the *intentionality* there is a *horizon* suggesting the difference between the real image and the perceived as the ink/ice blocks melt, similarly as the oil and oil/mixture spreads across the paper.

Then there is *chance* which exists in two formats absolute chance, with a degree of the explicable and ordinary chance in which nothing is explicable. The latter is the foundation of these works, with *chance* the abstract images have been influenced by the external influences exerted through the studio floor as heavy vehicles have passed by, thus creating movements in the melting and spreading liquids in an uncontrollable manner. The images created are influenced by these effects. They are unique and unreproducible.

The *randomness* of the abstract images is related to chance that occurs following the initial precise base for the practice. There is a degree of unpredictability in the final part of the process, from which the images produced are devoid of the involvement of direct human bias or control in their creation. The resultant images are infinitely variable.

As with all experimental programmes there is a potential for *failure* which is the final element in this creative process. Yet one must ask the question – what is failure? If the final images are different to those anticipated they do not represent *failure* but are a manifestation of the results observed in the experimental drawing process. Failure in artistic terms has a different currency to other walks of life; as far as this process is concerned it is an identification of the unpredictable developments realised during the creative process. The results are *experimental drawings*.

M Halpin

November 2016

fig. 62 Mike Halpin: *les succès* (Nov 2016) Text of exhibition handout



fig. 63 Mike Halpin: *Experimental Drawing* (2016)

The three images fig. 63 above and figs. 64 and 65 below are of ink/ice blocks on A1 cartridge paper. The separation of colours in the ink is clearly visible as are the initial signs of placement of the blocks.

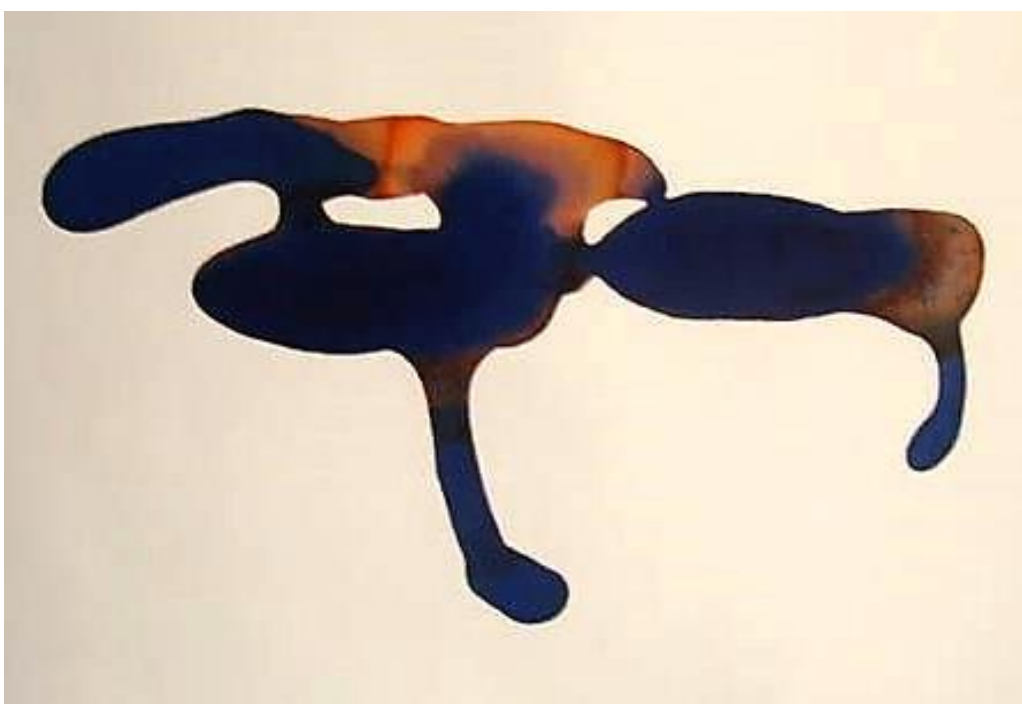


fig. 64 Mike Halpin: *Experimental Drawing* (2016)

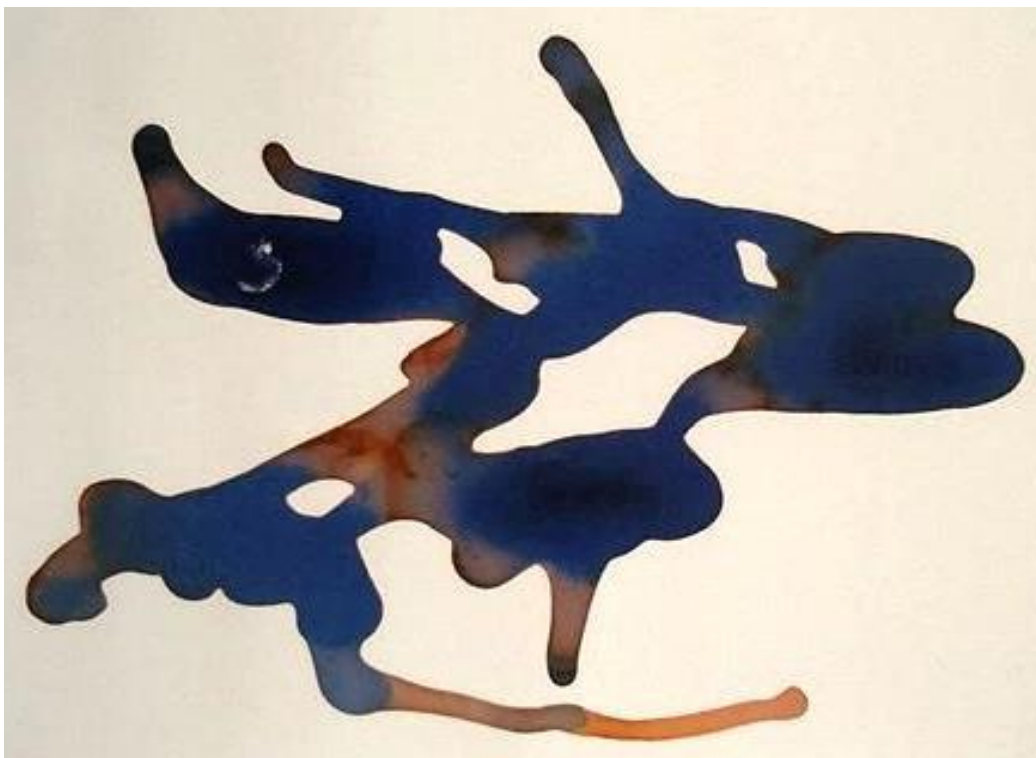


fig. 65 Mike Halpin: *Experimental Drawing* (2016)

Figs. 66, 67 and 68 below, are from used engine oil. The three different areas are visible, the outer ring showing the lighter oil/petrol mixture, the inner ring the useful oil still present and in the central darker areas the toxic pollutants.

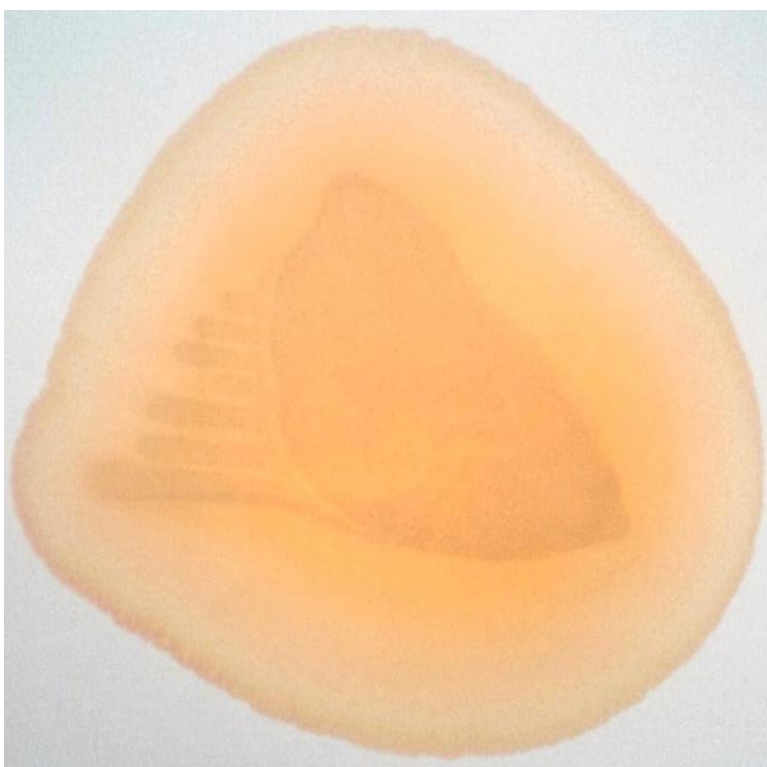


fig. 66 Mike Halpin: *Experimental Drawing (used engine oil)* (2016)

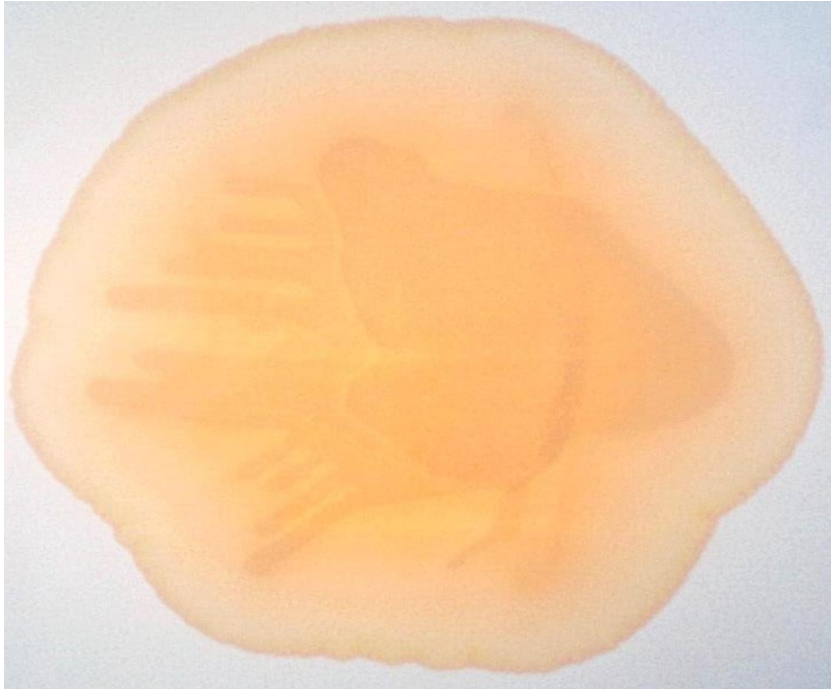


fig. 67 Mike Halpin: *Experimental Drawing (used engine oil)* (2016)

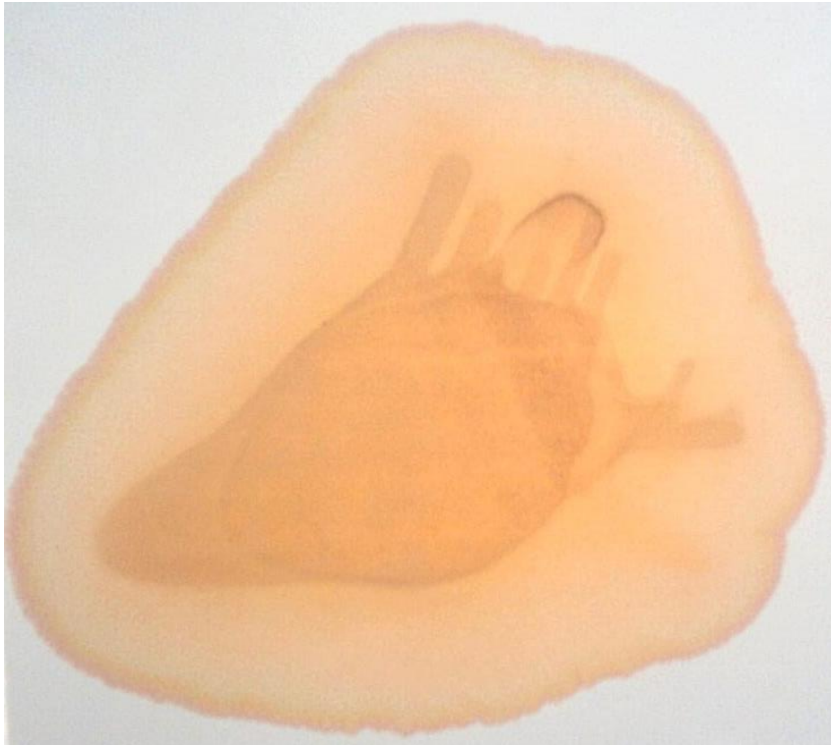


fig. 68 Mike Halpin: *Experimental Drawing (used engine oil)* (2016)

The following figs. 69, 70 and 71, pages 122 and 123 show the oil and ink mixture. The three areas are still clearly visible but the central pollutants areas now indicate the inclusion of the ink globules, which are not present in the two outer areas, yet visibly enhancing the toxic substances images as if referencing a scientific process.

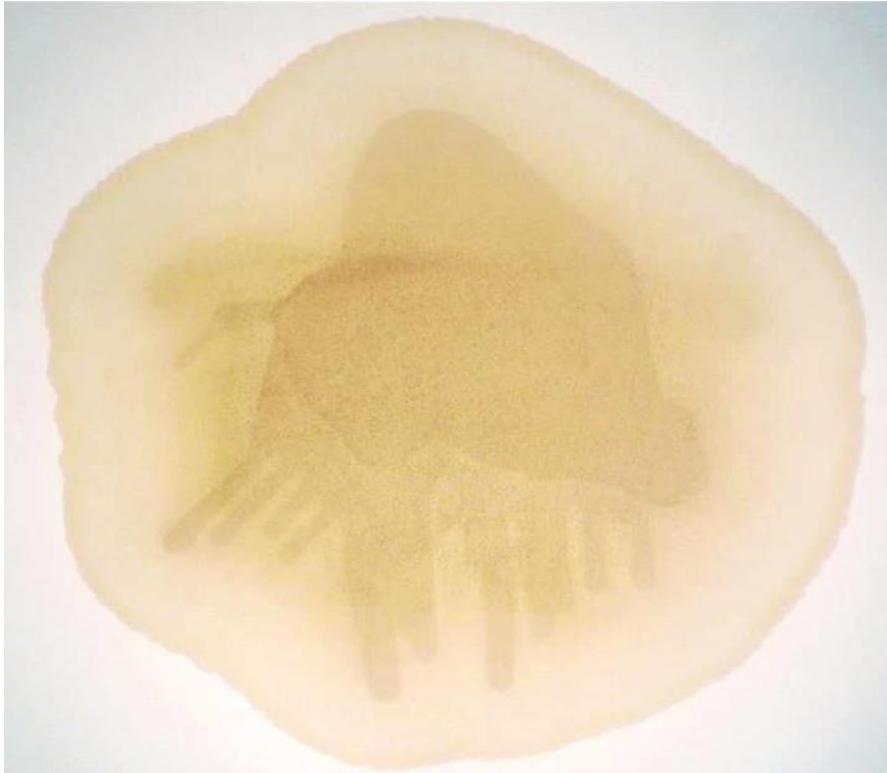


fig. 69 Mike Halpin: *Experimental Drawing* (2016) used engine oil with ink

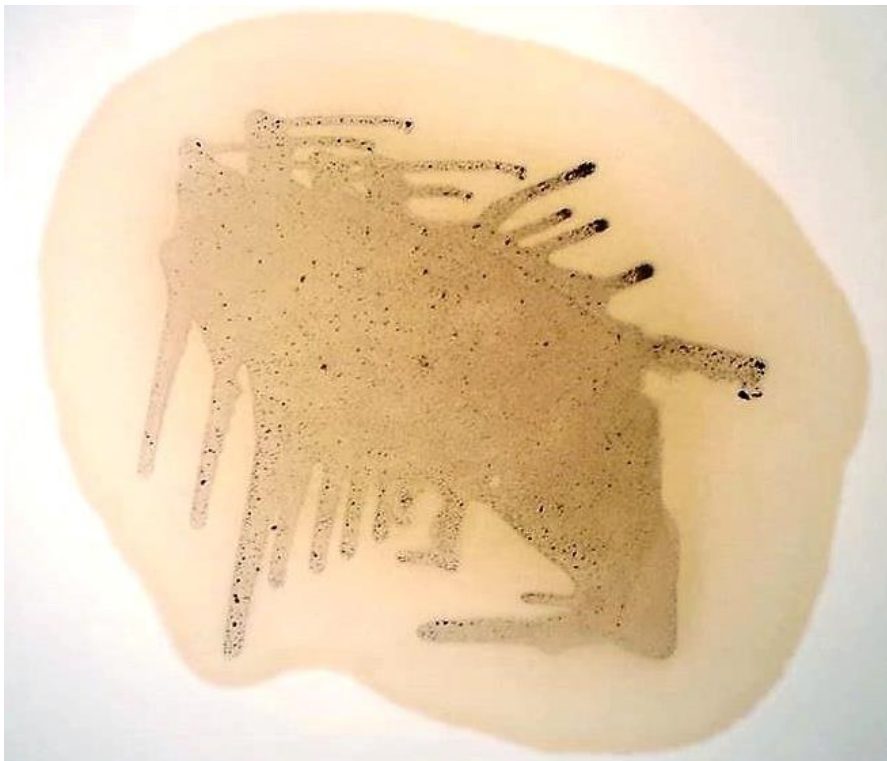


fig. 70 Mike Halpin: *Experimental Drawing* (2016) used engine oil with ink



fig. 71 Mike Halpin: *Experimental Drawing* (2016) used engine oil with ink

Fig. 72, page 124 below, shows the work in progress exhibit. The ink/ice blocks were allowed to melt on a 10m x 1.5m roll of Fabriano paper fixed to the gallery floor during the exhibition. It was interesting to observe that, though the gallery is on a quiet campus with little or no passing traffic, in sharp contrast to my studio, there are still external influences which cause the gallery floor to vibrate. These have an impact on the melting ink/ice mixtures as evidenced in the image.

A number of students attended the exhibition on the opening day and participated in a discussion group. A range of interesting questions and opinions were raised. Of major concern was the influence of chance on the work, as well as the degree of control present as part of the process. The students felt that the influence of chance was limited to the period of time when the ink mixture was spreading across the paper, and that up to this point the process was controlled. This was what I had concluded during the experimental drawing project. It was also suggested that the results were not quite so unpredictable, because I knew that the ink would break down into its component colours. Again this was true but the final images produced were created by chance and the shapes were unpredictable.



fig. 72 Mike Halpin: *les insuccès* (Nov 2016) work in progress

There was a sense of calm about the exhibition which made the viewing process a peaceful experience.



fig. 73 Mike Halpin: *les insuccès* Exhibition (Nov 2016)

Fig. 73, page 124 above, shows some of the students in the discussion group. In addition to the group's input, visitors to the exhibition made a range of comments. These ranged from questions about the process – graphic design students wondered if the works had been created using a method of silk screen printing – to whether the oil and ink images were actually drawn by hand in the traditional way. The result of discovering that the drawings were made by liquid mixture spreading over the paper as a result of external forces was a questioning appreciation of the process. Viewers wanted to know how the mixture was created, how it was applied to the paper and why the inner area was darker. Strangely, nobody asked why the two outer areas did not show any indication of the presence of ink.

Questions were also asked about the paper used in the oil and oil/ink drawings because several viewers thought they were drawn on acrylic sheets. This assumption was provoked by the use of spotlights; the light passed through the paper, giving it the appearance of being backlit and of being on acrylic. In fact, it was hot press manufactured 300 GSM in A1 sheets.

Academic staff concerned themselves with the beauty within the works and expressed interest in the range of colours in the ink/ice mixture. The fact that the ink did not break down into component colours when mixed with the oil was mentioned several times. Non-university visitors commented on the beauty and sense of silence associated with the work. One visitor said the exhibition was minimal and the works were minimalist, something that I had not previously identified. Universal concern was raised about the pollutants and toxic substances identified in the used engine oil drawings, with or without ink, which might prompt the desire for further action from viewers.

After the discussions students were encouraged to experiment as part of the experience by adding ink/ice blocks to the large floor-mounted work. Everyone had their own idea of how they wanted to participate, with interesting results. Some wanted to place several blocks on top of each other and others to try to crumble them. Rubbing the blocks on the paper to reduce the melting time was also considered. Figs. 74, 75 and 76, pages 126 and 127 below, show students participating in the experimental process putting their interpretations into the work.



fig. 74 Mike Halpin: *les insuccès* (Nov 2016) exhibition with students' participation

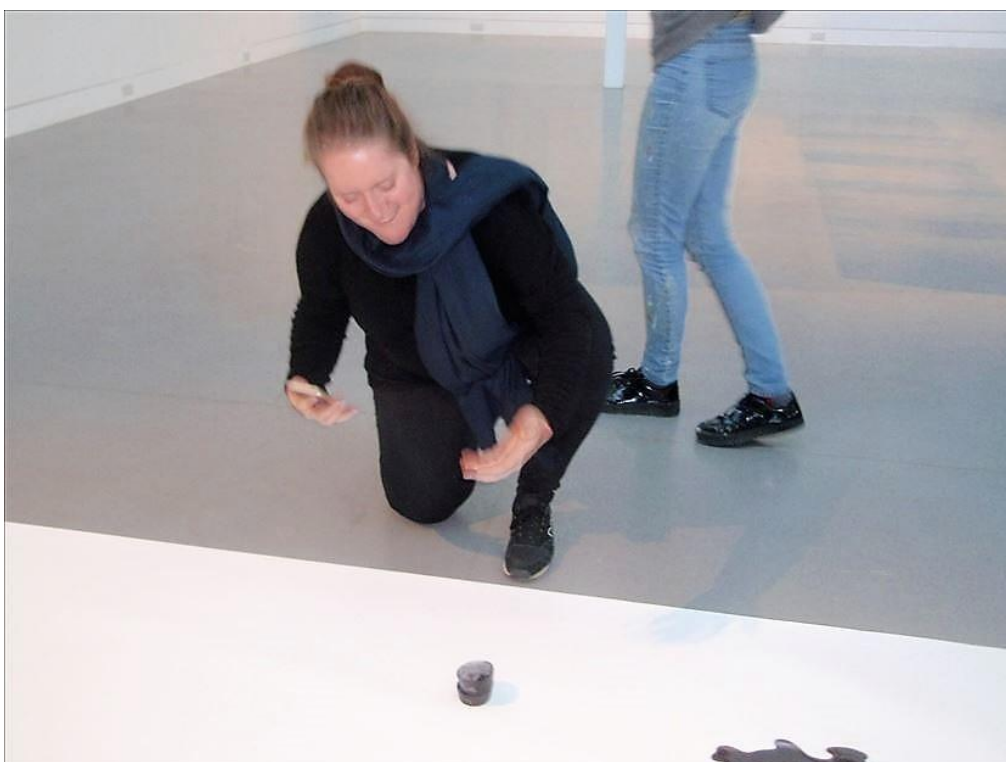


fig. 75 Mike Halpin: exhibition *les insuccès* (Nov 2016, with students' participation)



fig. 76 Mike Halpin: *les insuccès* (Nov 2016) with students' participation

Finally, in fig. 77 below, the students' individual works were identified by marking off the area where they were located on the larger work. This enabled them to see their additions to the overall work while the exhibition was open. It was also useful to see how other artists approached the concept of experimental mark-making and an indication of the merits of future collaborative programmes in the realm of experimentation in art practice.

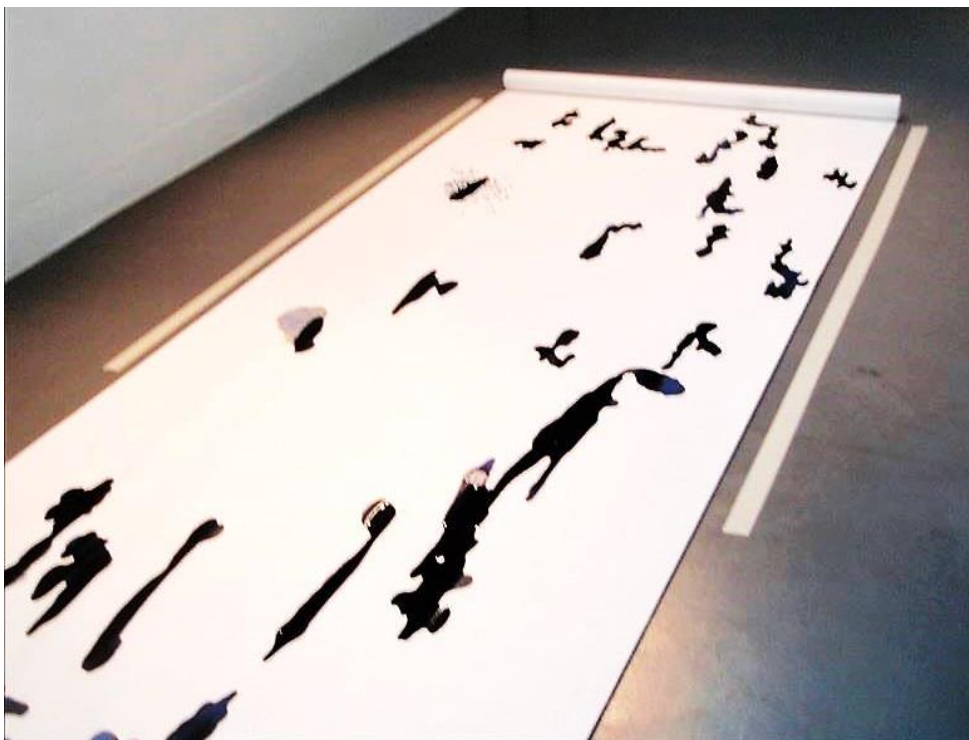


fig. 77 Mike Halpin: *les insuccès Exhibition* (Nov 2016) with students' participation

The general response to my exhibition was positive, with no negative feedback. Some visitors felt that it was almost scientific or that it occupied a position between art and science. My view and objective was that it was art. This does not preclude the use of some scientific principles or even the use of minimalist techniques, from the simplicity of the materials and colours to the general layout of the exhibition, but it is not to be restricted to any specific type or group. It was, and is experimental drawing including the use of chance together with mark making, intentionality, randomness and failure. It must be said, however, that the notion of failure in my work is effectively negated, because it is accepted that it is created by chance and the final results are random.

Following on from the discussions in the exhibition the question of intentionality is answered by the deliberate actions in the process that facilitate the creation of the random images. These are initially controlled, then chance in the form of fluidity and vibration takes over to produce the inexplicable forms and unpredictable shapes in the final images. The importance of chance on my drawings has been discussed, but the impact of chance must be considered. The final images would not exist had chance not influenced every element of the uncontrolled stage of the process. Each case study artist has, to a greater or lesser extent, relied on the influence of chance in order to complete their works. Discovering its importance to my practice has provided a dynamic dimension to my work which makes it a living and evolving presence.

Summary

In summary, this experimental drawing project has explored the influence of chance and external physical factors to produce the random results evidenced in the unpredictable images shown. The various elements in the process have been identified but for clarity they will be discussed briefly. A key starting point was the significance of mark-making and the use of ice and spoons to create the marks. The intentionality in the works is the thought of perception referencing the *noesis* present in the abstract images which relate to the thought of something rather than a specific object. The *horizon* in the drawings is defined as the difference between real and perceived images.

In the process, the floor has served two purposes: firstly as a stable flat surface for the paper as the process was carried out and secondly to facilitate engagement

with the vibrations from the external forces through the floor. The process and elements impact on the perception of the images from the position of what is seen and what is not seen but perceived. The breakdown of the black ink into its component colours is made visible by the movement across the paper of the ink/ice fluid mixture and the drying process. In the oil and ink mixture the ink is contained within the centralised inner areas of the drawings, yet each involves the creation of random images.

In terms of whether the results produced are a 'failure', and whether 'failure' exists in the production of works of art, the answer has to be no. The images are a result of the experimental process, and by inference 'failure' in art is experimentation.

Throughout the project, the practice has been influenced by a number of artists and writers. These are classified in two groups: the case study artists discussed earlier, including Cage, Duchamp, Arp and Hesse; and the writers that support the theory behind the work, including Duchamp, Arp, Cage, Fer, Peirce, Krauss, Kostelanetz and Greenberg. Other writers and philosophers including Aristotle, Epicurus, Leucippus and Cournot have been referenced briefly in the *Contextual Review* chapter.

The important elements identified are the inclusion of chance and randomness in my practice, not the 'absolute chance' described by Peirce which suggests that everything is explicable in general terms (Houser and Kloesel 1992: 219), but ordinary chance, which is inexplicable and has the capacity to change situations and results. Ordinary chance is something which can happen to most events (Houser and Kloesel 1992: 220), together with the lack of conscious choice in the final results. They also include the series of works as seen in the works of Arp, Hesse and Cage.

A key element is the movement and corporeality evidenced in the artists' works. Another element discussed both above and in the previous chapter is the impact of permanency in the works which acts to differentiate the works, but also identifying a sense of similarity between them.

Artistic practice is dynamic and there are still answers to be found. The impact of chance in the experimental drawings is vital, as shown by the results seen in the images. A question that remains concerns the impact of ice in the process of colour separation. Certainly, if diluted ink is put on the paper, the separation of the

colours into the different pigments is not evident. It might therefore be suggested that the impact of ice in this part of the practice is crucial and it seems to act as a catalyst in the process. It enables chance to become intentionality, because chance facilitates the production of the intended organic and fluid images. Additionally, the evidence of used oil mixtures references the images of ink on the paper. The results are random and subject to chance variations but are quite different from those found with the ink/ice blocks. It must also be noted that though oil does not freeze, it begins to thicken at -40°C .

The first research question interrogates the relevance of chance in its ordinary rather than absolute sense to the intentionality in the work. The above discussions have shown that chance is the nexus of the research programme, and after a process of experimentation has indicated that while it was originally thought that the experimental drawings were completely subject to ordinary chance as per Peirce's ideas, in practice they were initially formed as a part of an absolute chance development because the experimental results could be anticipated. Then, however, as the process developed, absolute chance gave way to ordinary chance, because the details and shapes of final images could not be predicted, and were as unique as each performance of Cage's 4'33". What has this realisation given to the intentionality behind and within the work? To answer this question it is necessary to focus on the viewer and the dialogue between him/her and the work. The final abstract images are as seen by the viewer, not a specific object but the concept, thought or idea of an object. They are the *noesis* of the object, and the *horizon* of the object is the difference between the initial real mark of the ink/ice block and the perceived marks of the random images. The sum of these as identified earlier is the intentionality. Thus without chance it would not be possible within the boundaries of this research to define intentionality.

The second research question asks how does chance impact on the character and meaning of the experimental drawings in the project? Again, as with the first question, chance has had a major impact on the research. The above discussions have indicated, using Peirce's ideas, that the character of chance can and does show a degree of fluidity and an ability to change from absolute to ordinary chance.

Cage based his use of chance on *I Ching*, the relevance of this method and system of determining chance to my research is limited, because the final results are random and without a mathematical element; with the exception of the measuring process there is no reliance on numbers and no reference made to the ancient tables of divination controlled by chance selection of a series of numbers. It can be said that there is an element the accidental⁹ as per Aristotle's ideas, but the main focus is under the influence of Peirce. The fluidity of chance and the perceptions of the viewers combine to explain a series of images that are unique to each viewer and not repeatable.

The notion surrounding the benefits of introducing a collaborative element with a group of other artists in the exhibition became a consideration during the process of creating chance driven works. It was not an ideology that I had previously encouraged, because I have for the most of my artistic career preferred to work alone with the exception of one period during my undergraduate studies in which collaborative efforts were part of the study programme. The collaborating artists were free to express their own ideas in the experimental drawing process by adding a further dimension of chance and unpredictability to the work. They had not been given any instructions or guidance about any expectations, ordinary chance; it was interesting to experience the impact of their efforts on the final work, it certainly added a randomness to the final images because they were totally unpredictable and relevant to Peirce's ideas of ordinary chance and thereby adding further support to the chance involvement in my research and practice. While I value the additional reaffirmation of the final relevance of ordinary chance to my practice, I doubt whether this type of collaboration will become a regular feature in my work.

There are other areas of chance which are of potential interest for further investigation. These are concerned with the cross-over and or interchange between ordinary and absolute chance and how this can be observed in my practice. The experimental drawings can be used to facilitate this enquiry and offering the potential for additional research as a new project.

⁹ Marcel Duchamp's comments about *3 stoppages étalon* (1913) were that for him chance was an accidental event (Kuth K 2000: 92).

12. Conclusion

In this project I have tried to show the importance of chance and the relevance of intentionality, and how they influence my work. Additionally, experimentation and failure have been analysed with reference to artistic practice and finally ideas for potential research and future developments identified. The following research questions are indicators in the project:

- In experimental drawing what is the relationship of chance to intentionality in the work?
- How does chance impact on the character and meaning of experimental drawing in this project?

These questions are discussed throughout the thesis and the results and answers summarised. Initially it is necessary to explain what has brought the research to the current position. In the *Contextual Review*, Peirce suggests that chance cannot be formulated, nor exist as a rigid rule (Wiener 1958: 179). It is not an object, so has no physical properties or boundaries, but it is a powerful influence on thoughts, decisions, events and actions. Chance is omnipresent and omnipotent, determining directions of choices made in the creative process, having the power to bring about change in every condition (Houser and Kloesel 1992: 220), and is evidenced in Cage's works and my own practice. Artists are experimenters; this is inherent in artistic practice. Some seek to challenge the traditions of their contemporaries by creating new and dynamic works; many try to divest their work of figurative elements to avoid producing retinal¹⁰ images. In my own practice, different elements of chance are integral to the work. As an example, Duchamp claimed that freedom from 'retinal art' was an important objective. The notion of freedom is consistent with Peirce's theories on chance. Without freedom in artistic practices, chance as an element in the process would be restricted. Peirce said 'chance is indeterminacy, is freedom' (Houser and Kloesel 1992: 222). The influence of chance on the experimental drawings has been used to answer the research questions. Does it occur as a result of accidents, thus referencing Aristotle's causes?

In addition to Cage, Hesse is another influential artist and her encounter with chance reveals another aspect: force. Ordinary chance informed her practice, in

¹⁰ Duchamp was keen to focus on the avoidance of creating retinal art, he believed that 'one hundred years of retinal approach was enough' (Kuh 2000: 89), he sought to be free from it

which nothing is explicable and everything that can happen will. This was intrinsic to *Addendum*, when the ropes formed random loops as they fell to the floor; in *Metronomic Irregularity II* the fibres appear to move freely across the work, and Hesse's *Hang Up* combines painting and sculpture challenging the viewers' perception.

Intentionality; the ideas of perception, object and subject as outlined by Husserl and Merleau-Ponty: the *noesis* or thought of an object and the *noema* or perception of it, have also been discussed. Focus on the 'phenomenology of perception, or the essence of perception' (Smith 2010: vii), is a vital element in the evaluation of intentionality, which combining with chance provides the grounding for this project. Here perception is the thought of something associated with the work; classed as a mental image of the artwork and part of the intentionality in the work. Intentionality is a yardstick by which to measure it and can be seen as the consciousness in the work, or the consciousness of the thoughts and perceptions of the abstract element. In my work they exist as unpredictable final images. This accords with Merleau-Ponty's ideas on perception: it is not what the viewer looks at, but what is actually seen, 'the see-er does not appropriate what he sees; he merely approaches it by looking' (Dallery et al 1964: 162).

Chance in the abstract images is created by influences of external forces impacting on the work and observed throughout the programme, a complex concept, it is illuminated by the causal effects of ordinary chance. These reference Aristotle and a fifth indeterminate cause; the other four relate to something made, use of form or pattern, the primary source of change or rest and the fourth used for the end or the final purpose (Waterfield 2008: 38–44). They are abstract images; free and driven by chance, both chance and intentionality exist together in the experimental drawings as partners with equal importance and relevance.

Intentionality comprises of several elements of which three are: *noesis*, *noema* and *horizon*. The *noesis* or thought of perception is the most relevant to the practice, because it relates to the thought of the specific object and is concerned with the viewers' perception. The *noema* references the object of perception which is conceptually more concrete. The *noesis* and *noema* are two sides of the same coin: essential elements, but different in nature. The *horizon*, the difference between the real and the perceived image, is a key to intentionality. It is grounded in subjective process (Welton 1999: 109), and is a feature of intentionality and

'prescribes phenomenological analysis', in which every object and consciousness presents themselves as 'transcendental problems, to be regarded as genuine problems with subjective origins' (Welton 1999: 111).

In the light of these ideas, and concepts found in the practice of Cage, I have drawn conclusions as the basis for my own practice. The concept of mark-making is observed in the use of two different types of fluid, each evidencing similar properties of flow and responses to external forces applied to the work. Ordinary chance, caused by vibrations from passing vehicles through the studio floor impact on the liquids used to create the chance drawings.

In all the experimental drawings, chance is initiated as absolute chance, because the controls involved in creating them produce some expectations. As the random and unpredictable images begin to develop, this changes to ordinary chance, in accordance with Peirce's suggestion that both absolute and ordinary chance produce similar results (Houser and Kloesel 1992: 219), but it does not identify the cross-over between the two forms of chance in the experimental drawings. This can also be seen in the way in which the black ink breaks down into its component colours. Initially ordinary chance, but over time becomes absolute chance: experience indicates that it will happen. What is not predictable is how the separated colours are balanced in the drawing, it is a move from absolute to ordinary chance.

In the oil drawings, the position is more complex. It seems logical to expect the ink to gravitate towards the inner area with the other pollutants, yet rather than breaking down into its component colours it retains its original colour. A thin film of oil appears to cover and fix both the shape and colour of each ink globule. While created by external forces, the fronds in the overall shape are less defined than those in the inner area, as though external forces have a greater influence here. These differences in shape result from ordinary chance and reveal the presence of the pollutants. Observation of these two types of experimental drawings indicates the potential for additional research into the cross-over process, and the impact of external forces on the slightly heavier inner area.

Reflecting further on the ink/ice blocks, there is clearly a mark where the block is first placed on the paper. Peirce suggests that this is an icon of the original block because it references its form. This mark may be indexical because the drawing

does not denote a likeness, but rather an existential connection with the ice block (Bann 1970: 135). It is not a photograph, which can have both iconic and indexical properties: though the experimental drawings are not photographs they record the physical outline of the original ink/ice blocks.



fig 78 Mike Halpin: *Experimental Drawings Work in Progress* (2016)

In fig. 78 above, the ink/ice blocks seen on the right of the image are in the process of melting. When the final image is produced, it is not a likeness; it is changed and the elements determined by the controls are altered, becoming traces of the original forms. They could be symbolic because their relationship with chance determines a presence of the unknown in the creation of the final images, visible on the left of the image.

With the oil drawings, the issue is different. There is no initial shape or icon on the paper, yet the images are indices of the oil and ink mixtures and become symbols of the original preparations. The oil mixture flows across the paper appearing to fuse with it, obliterating the original index. Considering this symbolic representation *en route* to the abstract drawings, reveals the limitations found so far requiring further investigation.

I have translated and extrapolated the music of Cage into my visual practice, while I don't fully agree with his reliance on *I Ching* for divining chance because of numerical relationships in the *I Ching* system, I do accept his use of chance. The *I*

Ching is more of a way of life than a method of determining chance. My work is not a way of life but is artistic practice determined by chance in the production of random images, under the influence of external forces and gravity. I do, however, fully support his elements of exploration and experimentation, which also underpin my practice. Cage also used scientific experimental techniques in the creation of his scores. There were no directions or parameters, for Cage, to indicate where to place the nuts and bolts on the piano strings, only experimentation. In this respect art and science are relevant to each other.

Peirce has looked at chance in the same way that I have, some types of chance have potentially expected results; they are absolute chance. This can be found in scientific research and genetics. Yet artistic chance is more akin to ordinary chance where everything is possible and unpredictable with random results achieved by experimentation.

In artistic processes it is possible that certain results may occur by absolute chance, as seen in the early stages of my experimental drawings. In practice, though the results may start as absolute chance, when the unforeseen happens and unpredictable results are obtained absolute becomes ordinary chance. A crossing over has occurred. This is a significant development in the creative process of the practice. Further research may determine how and when did this crossover occur and explain whether it is a simple process or a complex mixture of elements of chance in the process creating the experimental drawings. It might also explain if the crossover always happens. It may be classed as absolute chance because the occurrence of ordinary chance is to be expected, yet the images produced are the final result of development in the experimental drawings and are ordinary chance.

External forces have impacted on the work; their timing and gravity influenced it unpredictably during the drying process, and while I know they will happen, 'how' is still random. Of the fifth cause Aristotle wrote:

the things which might act as causes of chance are bound therefore to be indeterminate. That is why chance too is taken to be indeterminate and opaque to people, and why it does make a kind of sense to think that nothing comes about by chance. All these views are, not surprisingly, correct. There is a sense in which things happen by chance: they happen

coincidentally, and chance is a coincidental cause. (Waterfield 2008: 45)

'Coincidental' can be substituted by 'accidental' and Aristotle's notions are relevant to Peirce's ideas ordinary chance, since chance is indeterminate. This comment helps to explain the rationale behind the experimental drawings. For other artists and art students I would strongly reference ordinary chance because of its special relationship to the unpredictability and experimental nature of visual art.

Examining some of the elements of intentionality, the first part of perception is the *horizon* as described by Husserl:

to every perception there always belongs a horizon of the past, as a potentiality of awakenable recollections; and to every recollection there belongs, as a horizon, the continuous intervening intentionality of possible recollections (to be actualised on my initiative, actively), up to the Now of perception. Everywhere in this connection an "I can and do, but I can also do otherwise than I am doing" plays its part – without detriment to the fact that this "freedom", like every other, is always open to possible hindrances. (Weldon 1999: 109)

It is the difference between the real marks and the final perceived image. It suggests a reference to the past with historical perceptions impacting on the current. This is crucial because the viewers' perceptions are unpredictable and may be influenced by previous events and experiences, the *noesis* of the work. These unpredictable perceptions are chance derived, especially in the infinitely variable experimental drawings, referencing Cage's 4'33". While the *noesis* of the works is found in the viewer's perceptions; there is no predetermined object or subject, so the perception is of an abstract drawing with no explicit meaning, existing without any expectations in the final stage of the creative process. There might be meaning in the consciousness of the viewer, as noted by Barthes, once the work is completed the dialogue shifts from the artist to the work, to that of the viewer and the work, with the artist subservient to both (Heath 1977: 146). This enables the viewer to make his or her decisions about the nature of the experimental drawings.

In this phenomenological study of the consciousness of the viewer, the *horizon* in the works is the difference between the real and the perceived image. The real

image is the initial ink/ice block mark; the perceived image is the nebulous, organic shape that apparently comprises a range of colours each flowing out of and merging into each other in unpredictable forms.

A further complication is that inexplicable external forces may be present in newer buildings, as seen in the images from the work in progress at my *les insuccès* exhibition at UCA Canterbury, fig 73 page 124 above. The images clearly showed the chance influence of external forces, though the gallery was in the centre of the campus, away from a major road, with no heavy vehicles passing. The impact of chance in the experimental drawings is thus clearly evidenced. Without it the final images would be very different: the results would still be impersonal but would lose their dynamism and unpredictability. These are key elements in the experimental drawings giving rise to images having a sense of corporeality and organic dimension, seen in the cellular shaped images, for example, of amoebas or leucocytes, albeit the experimental drawings are on a much larger scale, yet maintaining the almost infinitesimal variations of results.

Two other concepts in this programme are experimentation and failure, as with chance and intentionality, both are related to and reference each other. They are one side of a coin, whereas chance and intentionality are two sides of the same coin. Experimentation is another key element in artistic practice and failure is part of that process. Lisa Le Feuvre suggests that failure is an undeniable feature in artistic practice and a feature of experimental processes. When failure occurs it gives an opportunity to reflect on and make new decisions about the work, creating a sense of freedom and fluidity, adding greater depth and energy. Artistic failure, though not failure in a general sense, provides an arena for consideration of future practice.

Failure may be defined as faults or shortcomings in the results, yet this is what gives artistic practice its depth and diversity. The notion that 'failure in art has a different currency' transports the artist from what he thinks he knows to the realm of unrealisable perfection (Le Feuvre 2010: 12). It might be said that failure is almost unavoidable when creating art, so the meaning of failure and its relevance to the project is crucial. Failure is the gap between intention and realisation: it is in this gap that 'Art' lies and where its generative processes are to be found. The results are actually beyond expectation, unpredictable and subject to chance. In these terms failure is not failure but experimentation (Le Feuvre 2010: 12).

I do not believe that there will be a time in the development of my experimental drawings when the results will be predictable. This is because no two images created by external forces in the experimental process can ever be exactly the same. Yet there is more to consider while referencing intentionality. Some considerations will reflect the perceptions of the viewers, but they will require a different type of research to identify and analyse these elements.

A potential area for further research and for additional investigation is whether the crossover from absolute to ordinary chance is actual or imagined. Further reflection will be necessary in order to determine whether this is a realistic project. New directions will require the use of different materials in order to test the effect of chance in artistic practice. This might involve substituting textiles, wood and other materials for the paper base, and using different inks and paints combined with water or oils of different types.

The influence of chance has endowed the practice supporting this project with a sense of freedom which I believe has been identified. A major objective is to further explore this freedom together with its limitations, because with freedom comes responsibility and accountability. In artistic practice, I would posit that, freedom and indeterminacy are essential for dynamic and exciting creative works.

Reflecting on the project, it is not finished, but it is beginning. There are more questions to be asked and answered to determine the relevance about the achievements and the methods to be used.

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