**SCRIBBLE AND THE STRUCTURES OF DEPICTION:**

**Exploring relationships between patterns of children's spontaneous gestural mark making and adult designed pictorial schemes in the context of the rectangle**

**VOLUME 2**

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A thesis submitted to The University of Gloucestershire in accordance with the requirements of the degree of Doctor of Philosophy in the School of Arts

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## Abstract

This study makes a contribution to knowledge through art practice by producing – for the first time – a meta-analysis of children's scribble typologies and an examination of the correlations between those typologies and simple pictorial structures produced by adults in the context of the rectangle. This research is predicated on the primacy of art practice as a means of research enquiry, both in its role as a materials-based and visual means of finding things out and by using practice as a comparative method across fields and disciplines. The wider significance of this study is its contribution to the development of methodologies of Fine Art practice through research and through emphasising the underdeveloped links between artists' image making, established cognitive and semiotic research into pictorial typologies and the graphic structures found in children's drawings.

Application of lines and marks to a rectangular surface is a typical method of pictorial construction. Picture making occurs early in human development when infants begin to scribble, usually on rectangular sheets of paper. Studies of the early developmental stages of children's drawings have identified basic kinds of scribble pattern that evolve into more well-defined graphic forms. A meta-analysis of these typologies had never been put together before this research was undertaken. Nor had a comparison been made between typologies of scribble pattern and the pictorial structures occurring in the simplest visual communication designs produced by adults. Such a comparative study had never been used to generate a body of new artwork as research. The findings indicate that there is a finite typology of 41 Primary Line Formations that are commonly found across studies of children's spontaneous gestural mark-making. This was compared with the simplest adult designed pictorial structures, namely heraldic partitions and alphanumeric displays. As practice-based research, this PhD demonstrates that, in the context of the rectangle, the phenomena under study are related in terms of: 1. Configural morphology and how this is perceived; 2. Modes of representation and types of abstraction; 3. Modularity.

Author's Declaration:

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas. Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed                                    Date        25 December 2022

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I am indebted and hugely grateful to the following people, without whom this work would not have been possible.

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*for Yolaine*

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# Chapter 1: Introduction

## 1.1 Background

We were all children once. Every infant who has the opportunity to freely make marks upon a surface over a period of years newly invents and discovers the processes of drawing for themselves. Each individual's graphic development is uniquely their own; personal, longitudinal and continuous. This study is concerned with the very beginnings of this process and how the elementary patterns that originate there are related to fundamentally simple pictorial visual communication designs produced by adults – specifically heraldic partitions and alphanumeric displays – that are nonetheless capable of producing highly complex significations. This research developed from my long-established art making and exhibition practice, which investigates seeing, pattern recognition and the legibility and meaning of mark making, notation, letterforms, glyphs and visual communication designs.

> All my works share one concern: what is it that constitutes a picture and leads to visual communication being produced?
> (Parsons in Carey-Kent, 2008)

The informal research that underpins my practice is a constant process of searching for visual affinities between various kinds of phenomena, collecting evidence in fieldwork and compiling an archive of source material from which to produce final artworks. I had observed that there seemed to be similar types of arrangements of pictorial elements occurring within many kinds of visual artefacts produced by people across time and space, since prehistory and from diverse geographical locations (see section 8.2.3). My hunch was that the configurations of these pictorial designs seemed to be related to the shapes and patterns that are first produced by children as they grapple with materials and cultivate the elements of drawing. I wanted to embark upon a programme of doctoral research in order to develop formal processes of organising and analysing the possible

connections between these phenomena that I had already instinctively identified in my art practice.

The near universal and characteristically human activity of drawing underpins the preparatory phase of many areas of visual output and its origins and formations therefore seemed to me to be a significant starting point for my research as a practising artist.

> The cognitive significance of the act of sketching out *primi pensieri*, first thoughts, is attested by its appropriation from the visual arts into most aspects of Western cultural production.
> (Petherbridge, 2010, p.26).

During my undergraduate studies I encountered two visual sources that had a lasting influence on the development and methodology of my practice. The first was the oil painting *Fallimento* ('Bankruptcy') (Balla, 1902) [Figure 1.], which was exhibited at the Royal Academy of Arts in London (Rosenthal & Celant, 1989). I was struck by the way in which the artist had recreated what appeared to be wayward chalk scribbles using a refined and meticulous pointillist method (known as 'Italian Divisionism') (Osborne, 1988, p.159). The white strokes are in fact made up of spectral touches of colour. The second influential source was a book illustration entitled *The Visual Alphabet* showing a progression of line formations made by children based on research by Rhoda Kellogg (1955) [Figure 2.]. She had apparently 'identified twenty basic scribbles and six geometrical diagrams, from which the combines and aggregates are constructed that finally lead to pictorial representation'. The author went on to note that 'the visual alphabet … is probably common to all humans' (Trevor-Roper, 1990, p.134-5). This unsubstantiated assertion had a profound effect on me and has ultimately led me to pursue this current study.

**Figure 1.** Giacomo Balla (1902) *Fallimento* ('Bankruptcy')
[oil on canvas] 116 x 160 cm, Private collection. Photo: © Rheinisches Bildarchiv
Cologne (RBA c005051), Available at: https://www.kulturelles-erbe-
koeln.de/documents/obj/05020065 Giacomo Balla © DACS, 2022

**Figure 2.** Rhoda Kellogg (1955) *What Children Scribble and Why*. Palo Alto, CA: National Press Books, 'Chart showing evolution of pictorial drawing from early scribbling', p.4. By kind permission of the Golden Gate Kindergarten Association
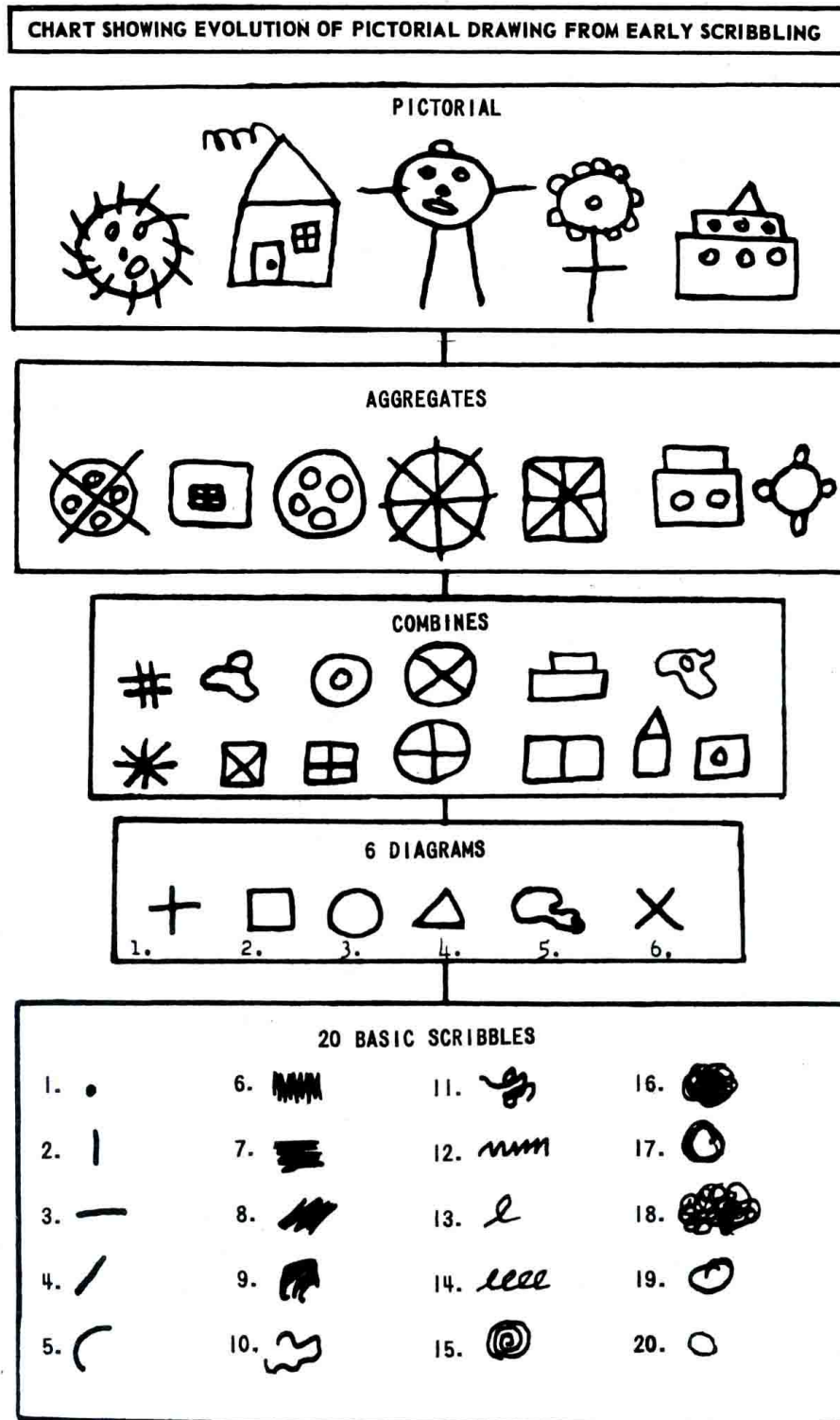
The status of mark making in contemporary Fine Art practice is contested. In Western traditions, gesture and spontaneity have been associated with expression, authorship and authenticity (Osborne 1988) and continue to be widely appreciated and celebrated (Basquiat, 2017; Wylie, 2017; Twombly, 2015). Since the mid 20th century, however, such attributions have been comprehensively challenged and critiqued (Richter, 1995; Baldwin, Ramsden & Harrison, 1983; Kelly 1981; Steinberg 1972) leading to practices predicated on detachment and appropriation (Brown, 2018; Riley, 2018; Guyton, 2017; Levine 1982). When I read Trevor-Roper's book in 1990 I was already captivated by the critique of the gestural mark and began to develop a practice that could potentially analyse this phenomenon, rather than simply indulge in it. Early works included *Kiss* (Parsons, 1994) [Figure 3.], one in a continuing series of drawings that use the method of reversing figure and ground through a process of filling-in, which indicates their intentional and considered status as reproductions of photographically recorded found marks and problematises their status as drawings. The source material for *Kiss* was deliberately chosen as a version of one of the line formations identified by Kellogg.

The procedure of collecting source material in the form of photographically recorded found gestural marks and then remaking them in different ways became an ongoing methodology [Figure 4.]. I transcribed and depicted found marks in analytical detail using various techniques that indicated their non-gestural status. Many hundreds of hours of practice were dedicated to this pursuit over a period of more than 25 years. I intuitively felt that such configurations demonstrated some quality of primal significance in relation to the worldwide production of pictorial artefacts through time. My approach was described as 'almost an archaeological method' (Wallinger, 1991). I had, however, insufficiently articulated what the significance of this analysis really was. It was much later, in the mid 2010s, that I decided to pursue this intuitive trajectory as an academically rigorous programme of formal research. My deep motivation was to examine whether or not I had been on the right track – was a 'visual alphabet' of basic

**Figure 3.** Jonathan Parsons (1994) *Kiss* [yellow chalk on black paper] 495 x 460 mm (19.5 x 18.25 in), private collection, Wiltshire.
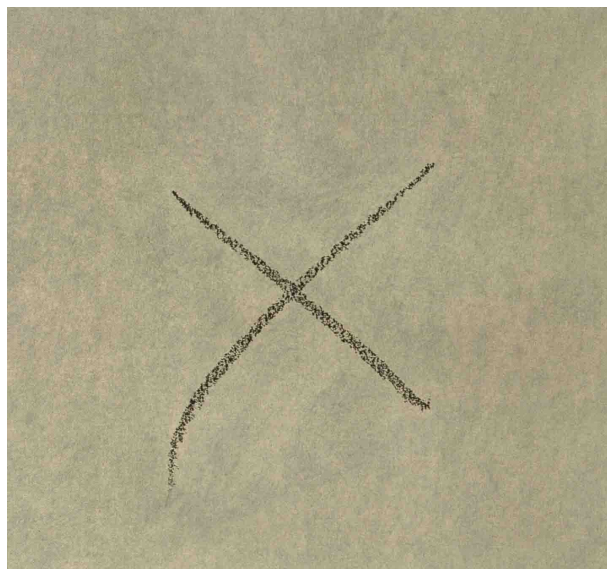


**Figure 4.** Jonathan Parsons (2004) *One Forty* [oil on linen], 115 x 115 cm (45¼ x 45¼ in), collection the artist
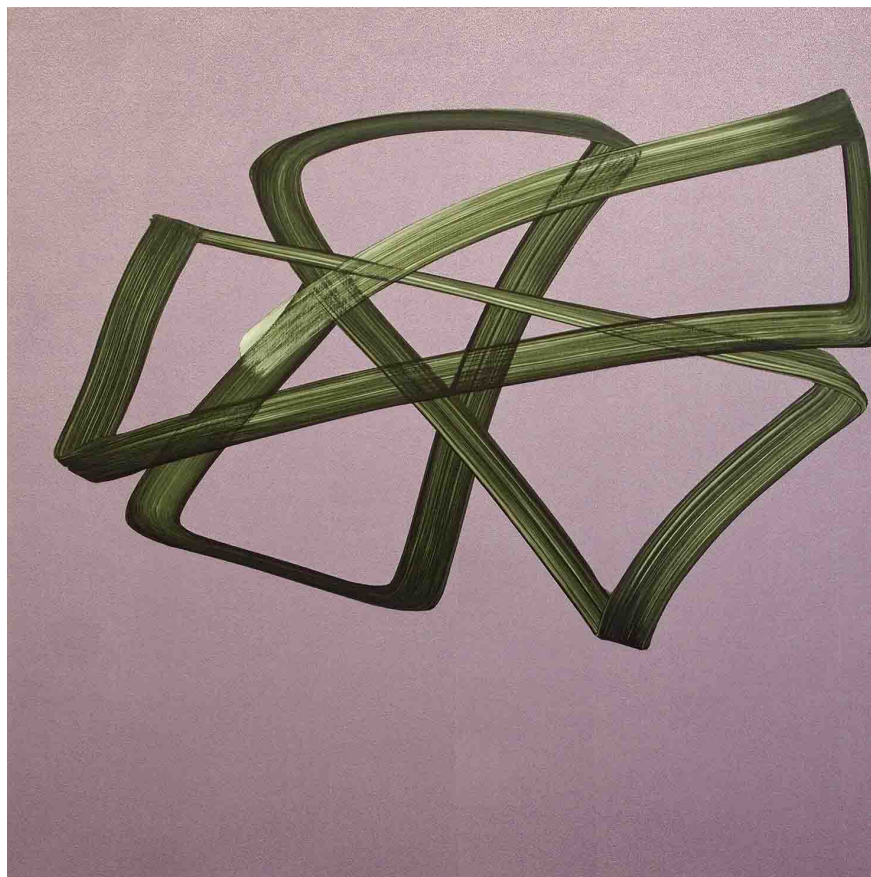
scribble types a real phenomenon, or had I based my art practice on something I had mistakenly thought I had seen?

> I want to 'legitimise the scribble' in my own work – to make that particular *incident* a worthwhile object of artistic attention. 'Scribble' is in itself already a legitimate and powerful phenomenon. Absent-minded mark making – as distinct from conscious picture making – and unconscious movements of the hand (such as the result of attempting to re-start the flow of a ball point pen) are invariably significant. Mark making in these circumstances will distance the author from acquired sophistication and the influences of their culture. Thus, the marks produced tend towards those that are of a fundamental nature. Such marks have been shown to be the basis of all drawing and writing, common to every culture in the world. Anything that unites every user of language on the planet must be worth some sort of study. (Parsons, 1996a)

## 1.2 Research aims and objectives

My research aims are, firstly, to identify typologies of scribble pattern made by children – i.e., spontaneously produced gestural marks – and specific designed schemes of pictorial structure produced by adults occurring in heraldic partitions and alphanumeric displays. Secondly, to investigate the relationships between typologies of scribble pattern and the specified designed schemes of pictorial structure in the context of the rectangle. Thirdly, to develop new methodologies for analysing, understanding and demonstrating those relationships using multiple methods of art practice, exhibition production, curation and writing. My research title, overall aims, objectives and questions are summarised in Box 1. These ultimately derive from an in-depth exploration of my own visual experiences and observations, development of manual studio craft expertise and personal insights gained by conceptualising and theorising my own artwork and that of others.

**Box 1. Research title, overall aim, objectives and questions**

**Title of research**

Scribble and the structures of depiction: exploring relationships between patterns of children's spontaneous gestural mark making and adult designed pictorial schemes in the context of the rectangle

**Overall research aim**

To examine the relationships between typologies of scribble pattern (spontaneous gestural marks) and specific designed schemes of pictorial structure within the context of the rectangle and to develop new methodologies for analysing, understanding and demonstrating those relationships using multiple methods of art practice, exhibition production, curation and writing.

**Research objectives**

1.  To identify typologies of scribble pattern made by children and the designed schemes of pictorial structure occurring in heraldic partitions and alphanumeric displays.
2.  To investigate the relationships between typologies of scribble pattern and the specified designed schemes of pictorial structure in the context of the rectangle.
3.  To develop new methodologies for analysing, understanding and demonstrating those relationships using multiple methods of art practice, exhibition production, curation and writing.

**Research Questions**

1.  What are the typologies of scribble pattern made by children and the designed schemes of pictorial structure occurring in heraldic partitions and alphanumeric displays?
2.  What are the relationships between typologies of scribble pattern and the specified designed schemes of pictorial structure in the context of the rectangle?
3.  Which methodologies can be developed for analysing, understanding and demonstrating those relationships using multiple methods of art practice, exhibition production, curation and writing?

## 1.3 The research process

### 1.3.1 Research terminology

My working practice is systematic, by which I mean that each work or project follows a schedule for a set procedure, rather than employing a 'system' per se. My research is led by activities that may be intuitive or logical; instinctive or intellectual:

> The exciting thing about art is that is necessarily practical; something has to be practiced, but the practice can lead in any direction. It can also employ any kind of technology. Art has the capacity to be philosophical; theoretical; rational; logical; knowing; experimental; quantitative. The power of art, though, is that it can also be irrational; disorganised; impulsive; intuitive; unthinking; mystical; metaphysical. (Parsons, 2013b)

Art practice can embody contradictions. I consider the studio to be a research laboratory into the mysteries of perceptual phenomena and the practising artist a researcher defining the terms of their own field of inquiry. For the purposes of this study, I will use the term 'artist-researcher', by which I mean an artist actively engaged in the analysis and interpretation of their own or others' production, or a combination of both (Parsons in Bick *et al.*, 2017, p.37).

There is varied usage of key terms in research literature, which is potentially confusing. I have defined them in Box 2 for the purposes of this current study. They are known as the 'elements' (Crotty, 1998) or 'building blocks' (Grix, 2010) of research, or the 'big research house' (Hockey, 2017a).

| Box 2. Research process terminology |
| --- |
| **Findings** – analytic interrogation and theorising of data/evidence |
| **Data** – evidence collected from sources |
| **Sources** – origins of data |
| **Methods** – selected procedures for data collection determined by methodology |

> **Methodology** – rationale behind selected approach for acquisition of knowledge, set within a paradigm and underpinned by philosophical assumptions
>
> **Paradigm** – established academic approach; research framework; research tradition
>
> **Epistemological position** – philosophical assumption interlinked with ontological position concerned with understanding and explaining how we know what we know
>
> **Ontological position** – philosophical assumption concerning what we believe constitutes reality; the logical foundation of research inquiry (Hockey, 2017b; Grix, 2010; Crotty, 1998)

Crotty (1998) suggests that a starting point for proposed research is to identify the methodologies and methods to be employed and justify their selection and use. It is tempting to follow this suggestion given my established practice. However, this could merely produce a justification for my previous work. I prefer to firstly consider the philosophical assumptions underpinning my research. As Grix (2010, p.59) unambiguously states: 'Ontology is the starting point of all research, after which one's epistemological and methodological positions logically follow'.

### 1.3.2 My ontological position

Claims and assumptions are made about the nature of reality, what exists and what is possible in a particular view of the world. These are ontological claims and they establish an 'ontological position' in relation to reality, which asks: 'what is out there to know?' We all, therefore, have an ontological position whether we are aware of it or not (Parsons in Bick *et al.*, 2017, p.37; Grix, 2010, pp.59, 60 & 68; Blaikie, 2000, p.8). I have previously characterised this as the prejudices, conditioning, disposition and unique development of each individual (Parsons *et al.*, 2003, p.33).

The nature of art practice is that artists make propositions about the nature of reality. They do this by engaging socially through *showing* the processes or outcomes of their practice (Bourriaud, 2002, p.108). What they show will accord or discord with the ontological position of others. Artworks can therefore provoke strong emotional responses: they confirm or refute deeply held views and beliefs

about reality (Parsons *et al.*, 2003, p.34).

My ontological position is rooted in the primacy of the experiential and perceptual: specifically, that of 'autopsy' in the original sense of the act of 'seeing with one's own eyes' (Onions, 1973, 1990, p.135). I therefore consider 'seeing things for myself' – including internal ocular sensations – to be the primary source of visual evidence, information and verification. 'Seeing' is my direct way of questioning what can immediately be known. I wish to 'see' as though it were 'a new direct insight into the very Nature of Things' (Parsons in Bick *et. al.*, 2017, p.40; Huxley, 1968, p.15).

My own 'autopsy' is conditioned by minor visual impairments. My most significant impairment is that I have always lacked stereoscopic vision, which means that I have no visual depth perception. This is probably why I am so interested in the concept of the 'picture', as my entire visual sensorium is two-dimensional – I have no idea what it is like to visually experience three dimensions. This also could explain why I am so preoccupied with trying to understand visual phenomena in general. The impact of visual impairments on my personal phenomenological experience and how this has affected my research will be discussed further in section 8.2.2.

The limitations of my visual perception reinforce my view that visual appearances are superficial in the sense that they are subject to significant variation, transience, subjectivity and non-repeatability. Visual appearances alone are necessarily inadequate to fully represent the structures underlying reality. All experience is 'real' experience for the percipient. Visual experience is not, for example, restricted to the apprehension of still images in isolation from the entire corporeal sensorium. I am personally wary of picturing the semblance of three-dimensional objects in the visual field for these reasons (Parsons in Bick *et al.*, 2017, pp.38-39). Notwithstanding these reservations, art practice is my attempt to externalise an autoptic encounter with reality.

### 1.3.3 Other minds

The multiplicity of artistic products created by human beings across time and space suggests that many others have also responded to the primacy of their experiential encounters by externalising them through practice. The philosophical problem of 'other minds' determines the possibility of justifying the belief that other humans are mostly like ourselves, with minds very like our own. The philosophical literature indicates that there is not a received solution to the problem (Hyslop, 2016), which is why others' externalised productions are of interest. Accessing the interior worlds of other minds relies on *reporting* from others and these reports are affected by the environmental conditions in which they are made.

> My best guess is that the world exists independently of us, but our experience of it is constrained, if not entirely created, by the individual mind. Every brain is unique, although we are able to agree about certain features of the external world (such as which objects constitute examples of basic colour terms). We can't be in complete agreement, however, about our individual, temporal, experiences of phenomena.
> (Parsons, 2012d)

Physical artworks voluntarily produced under their makers' control are, to a greater or lesser extent, externalised reports of interior mental states. Whether they can be considered *reliable* reports depends on the particularities of the artforms being produced and the attitude and methodology of the producer. Art objects are significant in this respect, because they usually anticipate some form of audience and are fixed as an enduring assemblage of materials available to repeated scrutiny. An additional element of this research is therefore to consider how various modes of depiction, including notation systems and text pieces, function as experiential encounters.

Piet Mondrian's painting *New York City*, (1942) is an example of highly controlled externalised production. In order to arrive at a final painting of this nature, he

employed a laborious process of meticulously organising every pictorial element of its composition. He constantly adjusted the colour, weight and placement of every line. He sometimes attached strips of coloured paper or tape to the canvas, drew directly upon it, or made additional sketches on paper. He would only execute and 'fix' the finalised elements in oil paint once he was completely satisfied with what he termed the 'pure plastic composition' (Mondrian, 1986, 1993, p.343). Apart from the effects of aging and the degradation of its materials, what we see when we scrutinise the painting must closely correspond with what the artist saw and considered satisfactory to his intentions. As such, the final painting is reliable external evidence of Mondrian's internal compositional decision making. There are many artworks that similarly embody 'satisfactory' externalisations of a variety of interior worlds and are, therefore, evidence of implicit ontological positions. The physical practice that is integral to my research aims to show as clearly as possible what it is that I have seen. However, the extent to which artworks can be adequately decoded or understood is questionable and ambiguity is a key characteristic of artistic products.

> A work of art may be understood as a conductor from the artist's mind to the viewer's. But it may never reach the viewer, or it may never leave the artist's mind. (LeWitt, 1969)

### 1.3.4 Subject area paradigm

In research, a paradigm is an organising framework that establishes an academic approach within disciplines and is used to distinguish between specific research traditions (Grix, 2010, p.171). I consider the arts broadly to be situated in the interpretivist paradigm of knowledge in contradistinction to positivism, which is employed in the objectivist methodology of the natural sciences, for example. Positivism is a broad term encompassing different approaches linked by attempts to *explain* the structures of reality by searching for general laws and rules. It is characterised by a belief in predictive causal explanations and the 'foundationalist' view that reality exists independently of our knowledge of it (Hockey, 2017b, Grix, 2010, p.64 & pp.81-2). Interpretivism is also a broad term,

but it links approaches that attempt to *understand* reality. It is characterised by no belief in the possibility of causal explanations and the 'anti-foundationalist' view that reality does not exist independently of our knowledge of it. Reality and the meaning of phenomena are socially and discursively constructed and can therefore be constructed differently by different human actors. This is termed the 'constructionist' approach, and it should not be confused with the art-historical term Constructionism (Hockey, 2017b; Grix, 2010, pp.64 & 84; Crotty, 1998, p.9). Interpretivism is concerned with subjectivity and agency and so produces outcomes that are more suggestive than conclusive and findings that tend to be open-ended (Crotty, 1998, p.13; Grix, 2010, p.79 & pp.83-5). Inconclusive open-endedness is characteristic of the encounter with what artists *show* and this ambiguity is central to the comprehensive operation of art practice. A positivist treatment would be less satisfactory and not sufficient to deal with practices showing the externalised productions of others' interior worlds.

### 1.3.5 My epistemological research position

My practice is an interpretive, translational analysis of autoptic perceptual experience. My current research is a study of a compilation of constructed products of human behaviour. It is grounded in the re-making of my own and others' experience and my epistemological position is therefore anti-foundationalist, constructionist and interpretivist. The data is empirical – derived from experience – and my findings are the product of inductive reasoning, which produces generalisations and theories from specific evidence (Grix, 2010, pp.166 & 168). This is consistent with typical professional art practice, where methodologies are usually the central focus and are developed first, precisely in order for the practitioner to direct themselves toward a particular epistemological position (even if the artist never thinks of their practice in these terms, or even completely rejects them).

### 1.3.6 Positivist influences

My personal ontological position has been influenced by the findings of positivist traditions, specifically the natural sciences and mathematics, which are potential sources of epistemological conflict. My instinct is that empirical evidence that is 'out there in the world' does indeed have some basis in what physically constitutes reality. For example, I accept that information can be obtained from an analysis of data deriving from the spectroscopy of starlight or from Remote Sensing technologies. Some key phenomena defined by mathematical explanations are central to my research, including aspect ratio, symmetry and co-ordinate planes. However, these can be experienced as pictorial effects and can therefore be analysed interpretivistically.

Grix (2010, p.79) suggests that there is a continuum of research paradigms, ranging from approaches aiming to explain reality (positivist) to those attempting to interpret or understand it (interpretivist). The two extremes are broad and overlap. Approaches that lie between them are termed 'post-positivist' and are sometimes also known as 'realist'. The realist ontological position, like positivism, subscribes to the possibility of a causal explanation of reality, which is at odds with the interpretivist paradigm. The approach known as 'critical realism' also accepts that a causal explanation is possible, but that the identifiable mechanisms generating the structures of reality are not necessarily visible beyond superficial appearances (Grix 2010, pp.85, 107-8; Hay 2002, p.122). As I previously stated in section 1.3.2, I accept that visual appearances are superficial and, in isolation, are not able to adequately represent the structures underlying reality. However, I cannot fully subscribe to a realist or critical realist position, as predictive causal explanations will not be possible in my research. I find the explanatory models of positivism to be very useful tools for thinking and categorisation, but the consideration of any data – including that produced by the 'hard' scientific method – is always mediated by the researcher's senses and cannot exist outside of human perception.

I believe, from personal experience, that all notions of 'reality' are only and *exclusively* accessible from percepts *including external empirical evidence*. This is consistent with the anti-foundationalist view that reality does not exist independently of our knowledge of it and is discursively constructed (Grix, 2010, p.64). So, although my hunch is that some form of objective reality is 'really out there' – which would be a positivist, foundationalist and realist position – I feel obliged to take an interpretivist, anti-foundationalist, constructionist epistemological position as a researcher.

My analysis of the central phenomena of children's scribbles in relation to designed pictorial structure produced by adults includes data from the fields of Pedagogy, Developmental and Perceptual Psychology, Cognitive Science, Anthropology, Ethnography, Prehistory, Linguistics, Electrical Engineering, Industrial Design, Computing and Heraldry. The research traditions of most of these disciplines are distinct from the interpretivist traditions of Fine Art. The study of Heraldry is even referred to as a 'science' (Fox-Davis, 1909, pp.1 & 106). My analysis therefore requires a discussion that is necessarily broader and lengthier than one that would ordinarily be undertaken for a study strictly within the subject area of Fine Art practice.

### 1.3.7 Theoretical perspectives

Artists originate much of the most pertinent primary theory concerning art practice. Throughout the history of artists' writings, they have defined their own terms and coined neologisms to analyse their various approaches, which has fed into the building of new theories. One of the aims of my research is to emphasise artist-generated theory and to privilege what practitioners themselves have written or said about their own work.

> One does not 'apply' a theory…concepts must be forged *from* the object of
> one's inquiry or imported *according to* that object's specific exigency…the
> main theoretical act is to define this object, not the other way around.
> (Bois, 1990, p.xii)

There is a large body of existing art theory, as well as relevant theories from the disciplines mentioned in the preceding section. The most important theoretical perspectives for this current research derive from Art History, theories of Depiction and Abstraction, theories of what constitutes a Picture Element and the study of Semiotics.

## 1.4 The significance of scribble and structure

This research will contribute to knowledge by generating a body of new artwork that encapsulates an analysis that has never before been undertaken, i.e., a correlational analysis between a compilation of commonly found typologies of children's scribble and the pictorial structures found in the simplest visual communication design schemes produced by adults.

### 1.4.1 Mark making

Relationships between mark making and depiction have existed since the earliest instances of visual art in human culture and are 'the source of just about everything' concerning pictorial signification (Law, in Saltoun *et al.*, 2009, p208.). The current research can therefore be understood as 'a novel interpretation of an old problem' (Grix, 2010, p.160).

Touch is the origin of mark making:

> Asked for directions, a man takes out a stub of pencil and some paper and makes a rough map. A cup is kicked over and spilt coffee flows across the floor, leaving a dark trace behind. Desperately, in an emergency, a car brakes. The black skid marks on the road show where it careered out of control. Drawings are everywhere. Wherever two objects or two materials touch…evidence of their meeting is left behind. To examine such drawings is to excavate, to muse over activity in the past. They present us with the archaeology of acts of touching. (Godfrey, 1990, p.9)

A mark is whatever we see that we recognise as having a cause – whether that cause is intentional or not. We see it and we see past it, or into it; it is what it is *and* a reminder of something besides. It is when we see something in that double, ambivalent manner that we call it a mark…As such, a mark is a sign you can see. A sign, in logic is something which points beyond itself; something which *means*. (Bell, 1999, p.26)

The concept of the 'picture element' originates from the centrality of manual graphic practices in human culture. Paul Klee (1961, p.103) identified the line as 'the basic element' and he recognised the original co-identity of drawing and writing. Panofsky (1962, cited in Manghani, Piper & Simons, 2006, pp.88-90) characterised configurations of line as 'pure forms', which are 'carriers of *primary meanings* … an enumeration of [which] would be a *pre-iconographical* description of the work of art' (original emphases). As I will show in Chapter 4, this has indeed happened in studies of children's drawings, where categories of Basic Scribbles and Formal Units have been exhaustively enumerated. Analysis of these linear configurations are central to understanding the development of children's drawings, how they come to convey meaning and what they ultimately represent.

The primary phenomenon of scribbling has principally been categorised by psychologists in various contexts and by educationalists in the context of child development. Children spontaneously produce these line formations, largely before the age of four years. Pioneering work by Kellogg (1969; 1955) produced the first ever study of scribble categories and she identified consistent developmental stages in line constructions made by infants. 'Every drawing, pattern, shape, design, pictorial or language symbol can be broken down into Scribble components, that is, into basic line elements' (Kellogg, 1969, p.18). Her ground-breaking study – which derives from her little-known personal collection of several million transnational examples of art made by children between the ages of two and eight (Rudick, 2017; Byrne, 2014) – produced 'an extensive morphology' of line formations (Arnheim, 1974, p.182). Machón (2013) systematically studied the phenomenon in great detail over a period of forty years

and refined and simplified the classifications, as well as producing a very detailed and evidence-based account of their precise occurrence in child development. He has also placed his work in the historical context of the discovery and analysis of Western children's art since the 19th century (Alcock, 2014). In addition, he has very clearly laid out evidence of how the process of graphic *representation* evolves and develops. Kellogg and Machón specifically looked at the *morphology* of line formations – their visual configurations. Kellogg has attempted an exhaustive and comprehensive set of finely divided categories, whereas Machón has described general categories that can be applied to an almost infinite variety of drawings. Matthews (2003) focused on the *event* of scribbling and described everything surrounding and relating to various marks being made. He refuses to recognise discrete stages of development. Instead, he presents continuous longitudinal observations, which detail particular mark making phenomena as they occur. His study emphasises the relational aspects and physical actions of graphic representation. All of the researchers have identified morphologically similar phenomena, with many corresponding findings, but their methodologies and epistemological approaches differ and so do their conclusions.

There is cross-disciplinary acknowledgment (e.g., in Anthropology, Archaeology, Education, Neurology, Palaeoarts, Psychology and Visual Communication) of the validity and significance of Kellogg's (1969) study. Although studies of relational and physical action have extended understandings of scribble formation – and Machón has considerably clarified the categories and development of the phenomenon – Kellogg's classificatory system remains the most widely known and cited (Sunday, 2017; Naimi, 2006; Matthews, 1984). Nonetheless, the formal study of children's work has been overlooked and undervalued in the field of Fine Art. This was demonstrated by the critical response to Brian Belott's (2017) exhibition of approximately 300 items from the Kellogg archive (Carney 2017; Indrisek 2017; Russeth 2017). Notable practitioners in the field were enthusiastic about the exhibition's content, with Higgs (2017) describing it as: 'inspired and inspiring' and 'game-changing'.

Belott's (2017) research focused on how the collection was organised, 'subtle impressions of [Kellogg's own] artistic choices' (Rudick, 2017) and the children's drawings themselves. During the exhibition, the display was supplemented with participatory contributions of artwork made by visiting children in a dedicated central workshop space. My current research, by contrast, uses correlational analysis to compare categories and codes of scribble typologies with common-knowledge adult designs that are pre-planned, self-conscious and made for a specific purpose. Artist-researchers have produced forms of curatorial practice that engage with the methodology of exhibiting categories and codes (Mullican 2016), but not in relation to the phenomena under study, or in the form of a short-term and highly focused research project. There is no evidence in the literature that any comparison of scribble typologies with designed schemes of pictorial structure has been undertaken, nor has such a comparative study (of even the most basic kind) been used to generate a body of new artwork *as research.* This is the core methodology of my PhD and is the principal way in which my practice makes a new contribution to knowledge.

### 1.4.2 Marks and the rectangle

Basic scribbles appear to be placed in particular visual patterns relative to the boundaries of the page. 'The Scribbles apply to all line formations in any medium, but a Placement Pattern requires 'a well-defined perimeter, a "frame" of some kind' (Kellogg, 1969, p.23). Children also spontaneously use spatial arrays on the page to represent – with increasing age – abstract categories, ordinal sequences and intervals. 'Their graphic productions are true inventions' (Tversky, 2011, pp. 510-1). This is important, because arrangements of marks upon a rectangular support are able to convey visual meanings through spatial configuration, abstraction and schematisation. Analyses of common examples of visual communication and depiction reveal consistencies related to user consensus, communal evolution, the psychology of visual perception and physically embodied experience (Sunday, 2017; Tversky, 2011; Naimi, 2006; Moran, 2000; Arnheim 1974).

My studio practice scrutinises basic components of two-dimensional depiction and is concerned with the global hegemony of the rectangle in image production, storage and display. It examines human responses to visual phenomena by making 'image-objects', which explore the pictorial qualities of objects and the material potential of pictures. My way of working embodies my mistrust of picturing the semblance of three-dimensional appearances in the visual field by presenting newly made objects derived from two-dimensional imagery as phenomena worthy of attention in themselves. *Commune* (Parsons, 1998) [Figure 5.] presents a compilation of the principal rectangular divisions in national and signal flags of the world, demonstrating common systems of usage.



**Figure 5.** Jonathan Parsons (1998) *Commune* [31 sewn polyester flags with wall mounted flagstaffs] each unit 99 x 95 x 7.5 cm. Installation view: *Anthem*, Milch, 1998

The colours used in the work (brown and black) disrupt the flags' signalling function and contrast maximally with white gallery space. This poses the question: 'what is the structure, function and meaning of these pictures?' The

elements of this work develop the idea of not necessarily functioning as 'pictures of things', but as 'pictures of *pictures*' (Parsons in Bick *et al.*, 2017, p.39).

A proliferation of artist-generated theories of pictorial structure demonstrates coevolving, and often mutually exclusive, attitudes within traditions of 20th century 'avant-garde' practice (Manghani, Piper & Simons, 2006; Harrison & Wood, 2003). Crucially, all of these theories relate to activities bounded by a rectangular limit and they inform the theoretical perspectives underlying my research methodology.

I will consider the origins and development of the rectangle and how it relates to various modes of depiction, with specific reference to the phenomena under study. I will also consider how the rectangle has become an all-pervasive format within which the majority of image making technologies are confined. In products of digital culture, for example, the rectangle is presented and largely accepted as a neutral field, but this can be deceptive as any significant deviation from its boundaries are effectively proscribed.

## 1.5 Methodology, methods and rationale

### 1.5.1 Established methodology

Artistic practice is the platform on which I have built my overall methodology. It comprises multiple methods of studio practice, fabrication, site-specific installation, mapping, transfer, varying modes of representation, re-making, written analysis, curation and exhibition making. These are used together or in parallel and this approach, which was inherent to my practice for many years, has led to my current formalised research methodology, which works across these practice methods specifically in order to interrogate my research questions.

My research typically begins with the compilation of varied archives containing detailed categories of found, recorded and constructed image-sources [Figure 6.]. Phenomena such as maps, fonts, flags, gestural marks and overlooked configuration patterns, known as 'physical trace evidence' (Teddlie, 2009, p.341),

are collected as 'raw data' in the form of photographic documentation, or as a set of graphical artefacts I produce in my role as artist-researcher.

The data is digitised, collated, categorised and translated into resolved physical artworks. This is usually achieved through various processes of re-making the image-sources in often unexpected materials and using counterintuitive methods; transforming them physically whilst retaining their shapes and configurations. I reify optical sensations, observations and imagined objects and, in the process of re-presenting them in a transfigured way, I am able to disrupt audiences' visual expectations (Purves & Lotto 2002; Seth 2021) [Figure 7.].
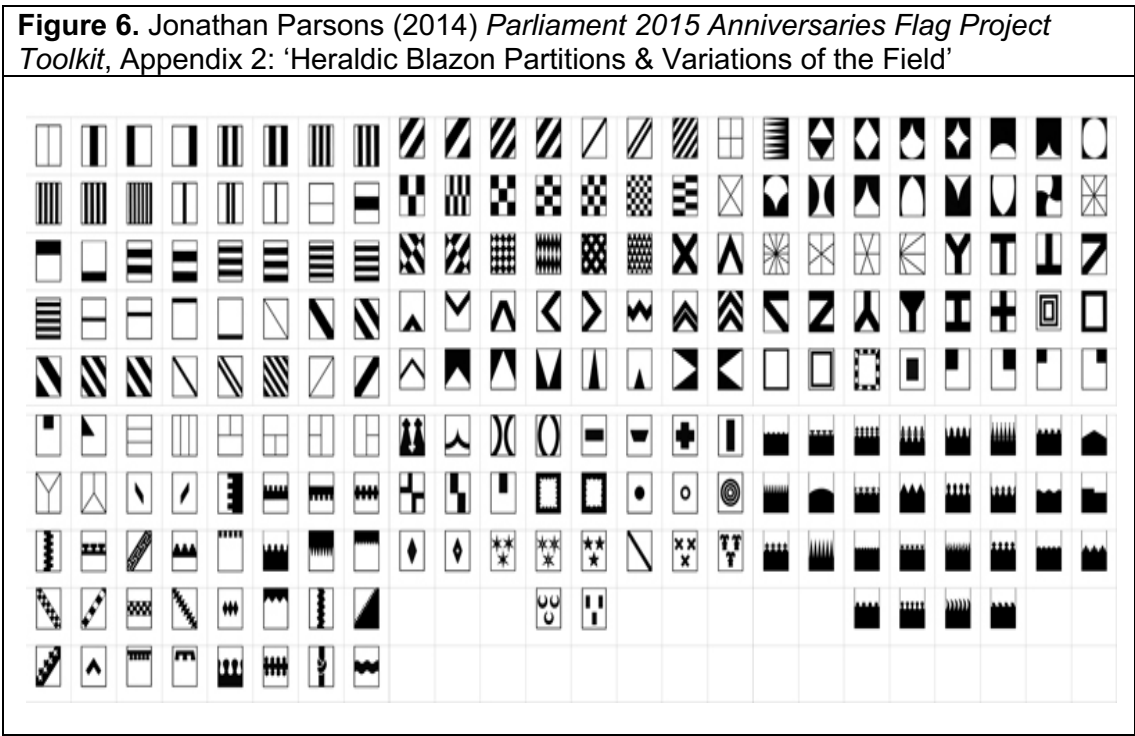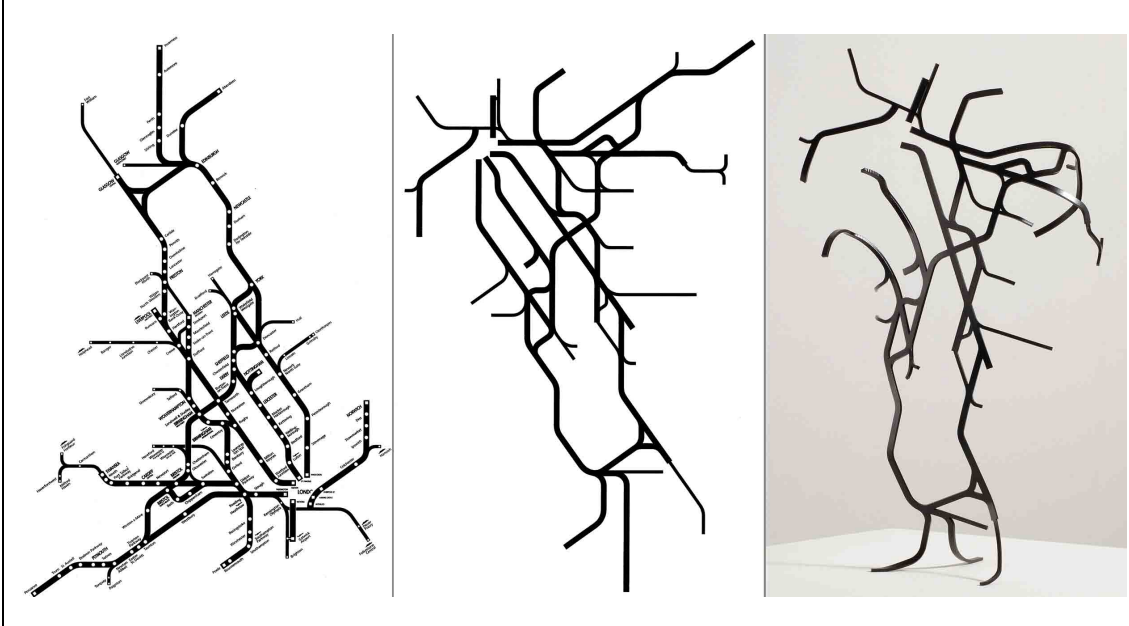
**Figure 6.** Jonathan Parsons (2014) *Parliament 2015 Anniversaries Flag Project Toolkit*, Appendix 2: 'Heraldic Blazon Partitions & Variations of the Field'

**Figure 7.** Jonathan Parsons (2007) *Terminator* [painted steel] 42 x 22 x 16 cm approx (16½ x 8¾ x 6¼ in) edition of 3 – source material, plan and final work

### 1.5.2 Correlational analysis

For this study, I have collected visual data of scribble patterns, heraldic partitions and alphanumeric displays. These have been collated and re-drawn in a standardised way for the purposes of clarity and consistency. Re-drawing is the principal method of processing the primary visual data in this research. This has helped me to see and understand the phenomena more clearly. In some cases – for example, the work of Matthews (2003) – I have extracted and tabulated the findings. Matthews did not publish a table of graphic illustrations, but described his longitudinal findings using verbal descriptions of the phenomena along with occasional photographic illustrations. Another example is my treatment of the data from the literature on heraldic partitions. The authors are in broad agreement, but there is a small amount of variance between how they have specifically ordered some hierarchies and which particular phenomena are included in what categories. By collating and re-drawing all of the phenomena, I have been able to clarify this in a visual way.

My own collation and re-drawing enable me to better comprehend and cross reference various different sets of data as a whole by physically displaying them side by side on the studio wall. I can then make sense of this by looking at the

various relationships between them. For me, the only way of sorting the correlations is graphically and through re-enactment – they cannot merely be conceptualised, imagined or verbally described. I actually have to *see* them. External realisation is therefore central to my methodology.

My preliminary findings were derived from my observation of morphological correlations between the data and how these were connected to theories in the literature concerning the specific phenomena under study. I then developed further theories connecting all the relationships between the phenomena that I could uncover.

### 1.5.3 Form-similarity problem

Correlational research examines the strength of observed relationships between phenomena (Teddlie, 2009, p.332). In this study, comparisons are made between particular configurations by removing them from their original contexts and then transforming their contingent meanings through re-making. This is potentially problematic as it could lead to misinterpretations of the data. Like concepts in theorising, configurations (patterns; shapes; designs; arrays; layouts) must not be 'abused' by failing to consider the particular context in which each has evolved (Grix, 2010, p.29). For example, basic scribble patterns are not self-consciously preconceived whereas design schemes are purposely structured for future deployment. Kellogg (1969, p.111) was convinced that scribbling has a lasting influence on all art and predisposes the adult mind to retain and perceive its primary 'abstract' forms. Practice can demonstrate how correlations provoke intuitive connections and insights concerning seemingly unrelated phenomena. However, in this study the correlation of form-similarity cannot function as evidence of causation (Grix, 2010, xiii). The material from educational studies interests me in the first instance as evidence of interpretive categorisation. Its implications for developmental progression are of secondary importance, although how these impact on the evolution of the types of sign used in visual art will be analysed in detail.

### 1.5.4 Exhibition making

The production, curation and showing of an exhibition of artworks enables the interactive sharing of research findings through the social engagement that such activities provoke (Parsons in Bick *et al.*, 2017, p.37; Bourriaud, 2002, p.108). This, as a research method, facilitates the display of collected data in a physically embodied form. It provides an accessible way in which my correlational analysis of typologies of visual configuration can be inspected and critiqued (Grix, 2010, p.163, Teddlie, 2009, p.332). Findings are displayed in a way that enables them to be experienced as perceptual phenomena – which is a standard method in Fine Art practice – allowing meanings to be discursively constructed by the interaction between me, as artist-researcher / producer, and the percipients of both a physical exhibition and an online record or documentary catalogue of its content. *Showing* is the key consideration in exhibition making as it is the most impactful way of demonstrating visual categories and morphological configurations. In this research, I have made physical works that fix and demonstrate transitory actions and experienced and codified phenomena. The work records a 'journey among the signs' (Bourriaud, 2009, p.113).

Exhibition production constitutes an effective method through which artist-researchers can define and determine the conditions under which particular selections of specific artefacts are encountered. The exhibition as a research method involves the generation and presentation of data and interpretive material by the artist-researcher / producer / curator and then a subsequent social interaction that is physical, perceptual and interrogative. This process allows contingent experiences and meanings to emerge. Presenting research findings as physical practice in an exhibition setting invites a discursive encounter entangled with how institutional contexts of presentation enable the distribution and reception of art, its content and significance (Mackay, 2011; Harrison & Wood, 2003, p.1088). Exhibition production is therefore a suitable method for the interpretive research paradigm of artistic practice. My curatorial aim is to interrogate the content of my research questions by compiling and showing a number of graphical resources that explicitly address them along with the results

of the correlational analysis described above. This compilation comprises a significant part of my both my critical literature review and of data gathering in fieldwork. (Grix, 2010, p.167)

Two of my previous curatorial projects are important evidence of my exhibition practice methodology as research. The group exhibition *Approaching Content* (Parsons, 2003) presented objects and installations whose meanings largely derived from the inherent signifying properties of the materials and methods of their realisation. It explored how content resides as much in the experiential encounter and act of interpretive engagement with physical work as it does in understanding the contexts of an artwork's origination. Additionally, my curatorial practice has highlighted the commonality of sensory experiences and archetypal forms that arise throughout global culture (Jung 2009, 1978). *Seeing Round Corners* (Parsons & Ward, 2016) was the first major public exhibition in the UK to explore the centrality of the circle, the circular and the cyclical in art. It showed significant international contemporary artworks alongside historical objects from a range of cultures and philosophies and included work employing a wide variety of media and methods. The exhibition featured more than 130 items dating from 3000BC to the present day, with some contemporary artworks created especially for the exhibition. Comprehensive archives documenting both of these exhibitions can be accessed by following the links below.

**http://jonathanparsons.com/Exhibitions/Pages/Approaching_Content.html**
**http://jonathanparsons.com/Exhibitions/Pages/Seeing_Round_Corners.html**

### 1.5.5 Specific techniques

The data and findings are understood through their re-enactment and transformation. They are planned through a hybrid process of physical and digital drawing (an example of this in my previous practice can be seen in Figure 8.) and then embodied using specific techniques of fabrication, which have been selected

in order to emphasise intentionality and to expand upon the recent Western critique of the spontaneous gestural mark as a signifier of expression, authorship and authenticity. The resulting works also tend to function as 'painting-drawings' (Maclagan, 2014, p.145). Techniques I have considered are: (1) typologies of spontaneous gestural marks re-enacted using methods – such as Zen calligraphy, manual screed box pouring, or CNC engraving – that enable detachment from their identification with the authenticating touch of the artist; (2) light-touch finger-painting and transient 'action representations' (Matthews, 1984) captured as permanent marks, sometimes on the reverse of glass, using techniques of controlled sgraffito, multiple layers of colouring, engraving and water gilding – integrating the mark with the surface and making them as one.



**Figure 8.** Jonathan Parsons (2017) *Possibles* [hybrid physical/digital drawing] – a layout for a potential new flag installation (ongoing project since 2002)
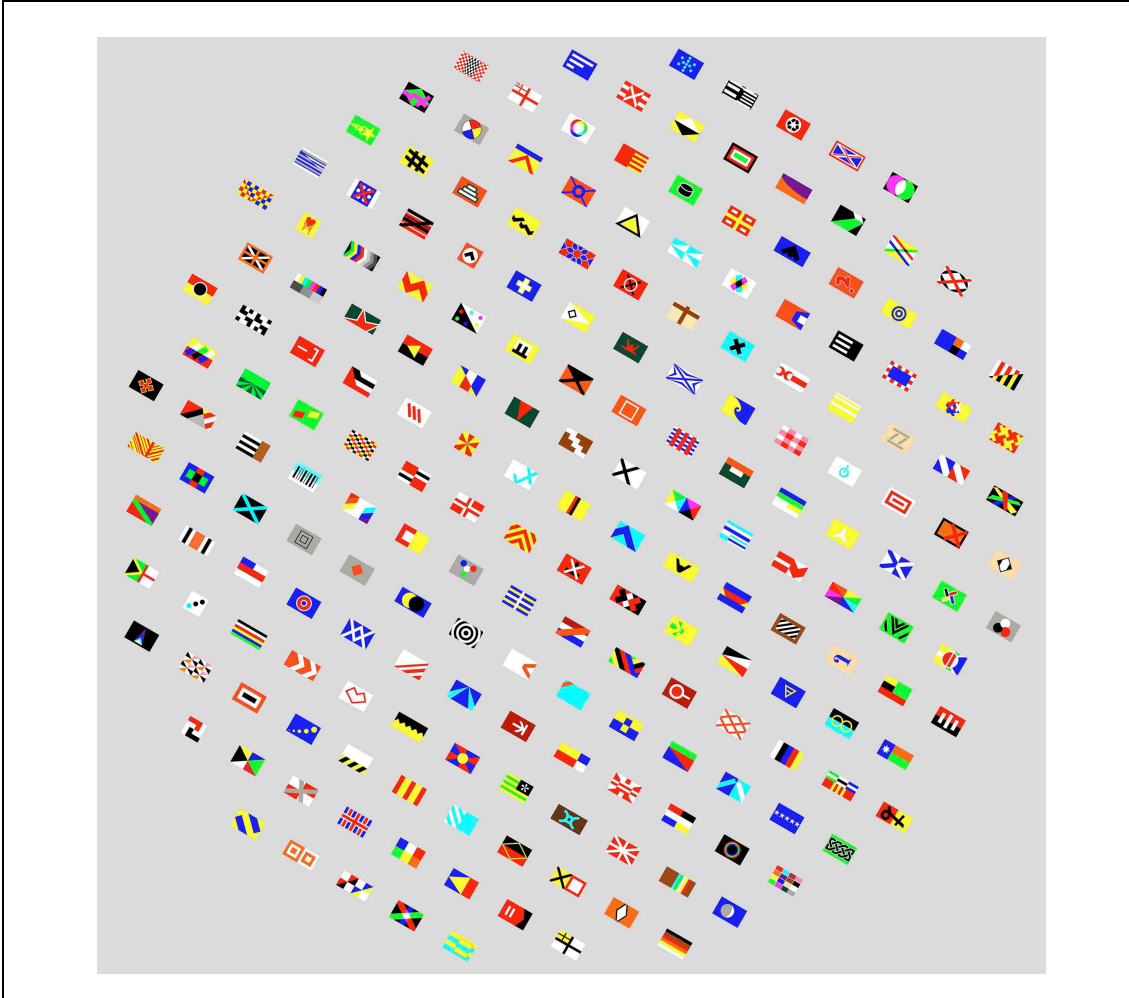
### 1.5.6 Physical practice research

Throughout my studies I have developed a body of physical practice research – complemented by my written analysis – which has directly addressed my research questions and has, in effect, driven the entire research project. This is detailed in the Practice Research Catalogue (presented in Volume 1, Section 2.). The works are wide-ranging: material test pieces; tabulations and displays of data; sets of images from field work; preparatory sketches; detailed plans and drawings; maquettes for larger works; finished multi-part installation pieces; exhibition installations. The rationale behind each of the types of work, along with their overall contribution to the research, will be discussed in detail in Chapter 5.

## 1.6 Contribution to knowledge

This research aims to contribute to understanding by connecting primary human experiences to both ancient and newly evolving technologies concerning the human hand and its orientation of scribble and structure withing the rectangle. For example, understanding intuitive gestural actions within a rectangular perimeter is essential to the successful development of touch screen interactivity and digital post-production relies upon manual processes occurring 'inside the camera' (Hockney, 2001). This research will analyse relationships within handmade visual productions that may be common to human nature across time and space. Findings will connect to a 'post-medium' condition for the production and exhibition of art (Foster *et al.*, 2004, p.674). A gap in current knowledge is the relationship between gestural patterns and designed structural schemes and how these are perceived, seen and understood. Another is the development of new methodologies for their analysis, comprehension, demonstration and interpretation.

The wider significance of this research is its potential contribution to the development of the specified subject area methodologies of Fine Art practice and how these are then related to understanding and knowledge across a number of subject specialisms. The objective is therefore to explore underdeveloped links between creative Fine Art practice and established cognitive and semiotic

research into scribble and pictorial typologies. The resulting research will contribute to new knowledge by establishing these connections and parallels through an art practice.

# Chapter 2: An examination of the field; artists and scribble

## 2.1 Scribble in the artists' context

The following sections consider artists' practices and their statements as literature; a direct contribution to knowledge in the field of Fine Art. The review examines how artists have been preoccupied with the origins and nature of mark making and have taken differing positions regarding the status and significance of gesture. In response to the issues and debates arising from this review of the literature, I will also briefly analyse the key developments I have made in my own practice, in order to indicate where it sits in relation to this current PhD research.

### 2.1.1 Defining scribble

The word 'scribble' derives from the medieval Latin *scribillare*, which is a diminutive formed on the Latin *scribere*, meaning 'write'. Since its first recorded usage in English in 1577 it has been a depreciatory term, which usually refers to writing that is careless or hastily formed and is worthless, negligent, irregular and trivial. In 1709 scribble was recorded as meaning 'a number of irregular and unmeaning marks made with a pen, pencil or the like', but it was not specifically linked to drawing. It is worth noting that 'pencil' originally meant 'an artist's paint-brush', rather than the prevailing sense of an instrument for marking formed from any suitable substance with a tapering point enclosed in a protective casing (Onions, 1973, 1990, pp.1543 & 1913).

> At the dawn of civilization…writing and drawing were the same thing
> (Klee, 1961, p.103)

> So long as writing is understood in its original sense as a practice of inscription, there cannot then be any hard-and-fast distinction between drawing and writing…In typing and printing, the intimate link between the manual gesture and the inscriptive trace is broken…the same logic has

driven the contemporary separation of writing from drawing, now placed on opposite sides of an overriding but decidedly modern dichotomy between technology and art. (Ingold, 2007, p.3)

The idea of scribble as a type of drawing is also modern. The first time the term was specifically used to refer to children's drawings was in 1895, in the English psychologist James Sully's *Studies of Childhood*, where the first of three developmental stages was labelled 'Formless Scribble as Play' (Machón, 2013, p.35). In *Artful Scribbles* (1980), the American developmental psychologist Howard Gardner gives a detailed overview of the significance of children's drawings. Aside from a few, very rare, archaeological survivals he describes a lack of conclusive historical evidence prior to the latter half of the 19th century that children's drawings were seen as significant or, indeed, that children even drew. 'Clearly, prior to modern times few people cherished and preserved works by children' (Gardner, 1980, p.10). This is echoed by the Gloucestershire-based artist and writer David Maclagan's (2014) analysis of the phenomena of scribbling, doodling and automatic drawing. He notes that the notion of scribbling seems to be a modern one and that it has a backward or regressive connotation. The term is 'often used in a dismissive and pejorative sense' (Maclagan, 2014, p.7). He continues:

'Scribble' refers to a wide range of rudimentary marks…whose intentionality is uncertain…Hence scribbling is on the threshold of what we might decide to call 'drawing'. The marks made by chimpanzees…or by very young children are called scribbles because their status is uncertain…In common usage there is usually a somewhat derogatory undertone to 'scribble', as if our default response is that it is meaningless. However, one of the characteristic features of modernism is that the domain of meaning is constantly being redefined, and in this context the scribble has undergone a more radical re-evaluation than either the doodle or the automatic drawing. (Maclagan, 2014, pp.9-10)

This study will show that the uncertain status of scribble as a significant category of drawing has indeed been comprehensively re-evaluated in terms of both its developmental role in children's graphic representations and its relationship to the understanding of art and design produced by adults.

> Until not long ago…these first marks, which are commonly – and not without a certain amount of disdain – called 'scribble' were considered by educators and parents to be a sign of children's inability to draw…Children's scribblings, far from being 'simple motor releases without meaning or sense', as some scholars claim, constitute graphic experiments in space and form, genuine investigations that are cognitive in nature.
> (Machón, 2013, pp.115 & 117)

### 2.1.2 Practice and theory: children's drawings

Perhaps precisely because of its derogatory undertones, very few practitioners have self-identified their work as the product of scribbling. However, the genuine vigour and clarity of children's drawings was intuitively discovered by many Western Modernist artists.

> I only desire to create a simple art. In order to achieve this, it is necessary for me…to render, just as children would do, the images of my own brain.
> Paul Gauguin, *Echo de Paris* magazine, 23 February 1891
> (Machón, 2013, p.27)

At the beginning of the 20th century, the idea of stepping back from sophistication and looking towards the origins of mark-making provided a powerful model of spontaneous freedom from artistic convention, as well as a source of unlimited creative energy and renewal.

### 2.1.3 Klee

Paul Klee made one of the earliest and most prescient artists' analyses of children's drawings. From 1908 to 1912, Klee encountered the work of Henri

Matisse – who had also made studies of children's drawings – in a series of exhibitions in Munich. Of this he wrote: 'With the results of impressionism he turns far back to the childhood stages of art and achieves amazing effects.' Klee collected the drawings of his own son alongside those of other children and noted in the *Die Alpen* review of 1912 that primal beginnings in art still exist and instances are likely to be found 'at home in the nursery…The more awkward they are, the more instructive an example they offer us' (Machón, 2013, p.28; Klee, 1961, p.22). Klee's seminal analysis of the evolution of pictorial elements demonstrates his profound understanding of children's drawings. He describes how the application of a pencil, or another pointed tool, quickly gives rise to an active line, which is 'the most primitive of elements.' Once children discover the mobile point, they begin using it 'with what enthusiasm it is hard for us grown-ups to imagine. At first the pencil moves with extreme freedom, wherever it pleases.' He states that children soon discover that their random efforts are governed by laws and that their pleasure in chaotic 'play-drawing' progresses towards a certain order where the 'free motion of the line is subordinated to anticipation of a final effect; cautiously the child begins to work with a very few lines.' The child does not 'remain primitive for long' and, in order to retain a 'simple intelligible plan', it 'becomes necessary to establish a relation between things of first importance and those which are subsidiary.'

He further elaborates upon the cosmic nature of the point and line and illustrates visual categories of the types of line that result from various actions of the moving point [Figure 9.]. This is prefaced by his famous, and widely paraphrased, remark: 'In all these examples the principal and active line develops freely. It goes out for a walk, so to speak, aimlessly for the sake of the walk' (Klee, 1961, pp.103-7). Klee's remarkable analysis, first formulated in the 1920s, accurately anticipates 21st century findings concerning the genesis and morphology of scribble types, as well as the nature and development of graphic representation in children's drawings, which will be discussed in detail in Chapter 4. 'Klee's practice of "letting a line go for a walk" could be seen as a slowed-down version of scribbling' (Maclagan, 2014, p.31).

**Figure 9.** Paul Klee (1961) *Notebooks*, Vol. 1: *The Thinking Eye*, ed. J. Spiller, trans. R. Manheim, London: Lund Humphries, 'Development of the free and active line', pp.105-7, drawn by Jürg Spiller. By kind permission of Lund Humphries.
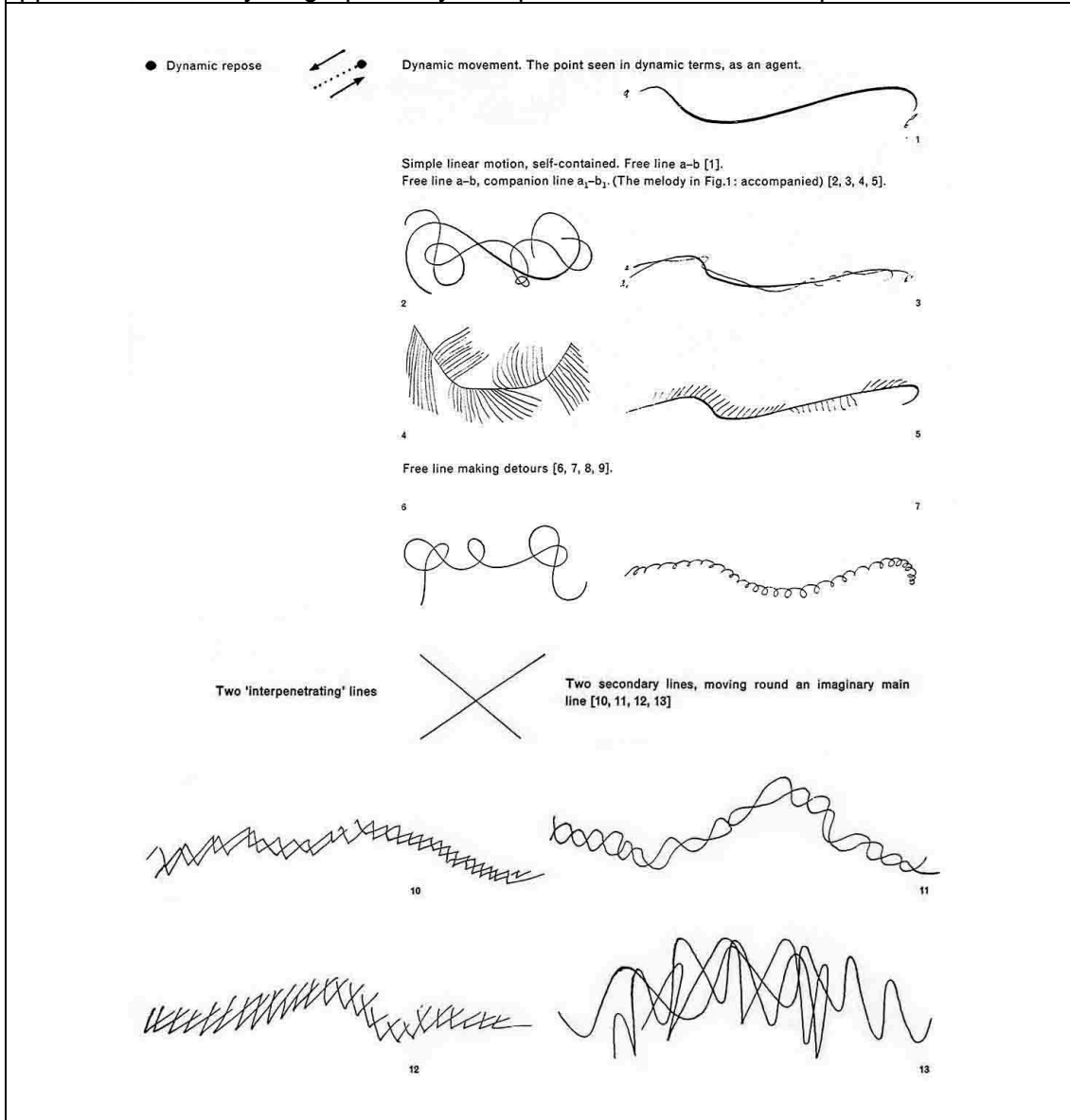


## 2.1.4 Practice and theory: a history of 'artists and scribble'

The work of children influenced many artists' practices and direct, child-like approaches to pictorial structure had a pervasive influence throughout the 20th century and continues until the present day. I have compiled a brief history of 'artists and scribble' that charts some of the most significant instances of artists engaging with child-like gestural structures, along with their preoccupation – and often obsession – with gestural mark making and attitudes towards it. This appears in full as Appendix 2, and is summarised in Box 3.

- **Derain Matisse Picasso**
- **Dada**
- **Surrealism**
- **Pollock**
- **Art Informel and Tachism**
- **Dubuffet**
- **COBRA**
- **Twombly**
- **Performance**
- **Graffiti**
- **Basquiat**

## 2.1.5 Gesture in the present

The successful questioning of the normative standards of 'art' by Dada, Art Brut, Situationism, Neo-Dada, Fluxus, Pop, Arte Povera and their parallels and successors gradually led to a confusion of values and status within institutions and to a collapse of artistic hierarchies that began in the 1970s and was complete by the 1990s and 2000s. Despite the erosion of discrete categories under the umbrella term 'Postmodernism' and the rise of the generic term 'art' to describe and endorse any and every practice imaginable, the all-pervading power of gestural mark making, and particularly gestural abstraction, is undiminished in its influence. Painting has effectively become merely one among very many modes of representation available to the contemporary artist and yet the gesture remains a signifier of almost totemic proportions (Foster *et al*., 2004; de Duve, 1996; Osborne, 1988). Paintings continue to be one of the highest value asset classes and the drive to produce them, and support their production, is undiminished. The genuine impulse behind the kind of work that enabled Twombly's place in the 'easel painting' tradition is reflected in flourishing contemporary gestural practice, which includes artists such as Jadé Fadojutimi, Jana Schröder (who emerged under the tutelage of Albert Oehlen), Struan Teague, Frederic Anderson and Gilgian Gelzer, all of whom employ types of marking and line formations that are found in children's scribbling.

## 2.1.6 Mehretu

One of the most significant artists currently working on large-scale gestural painting is Julie Mehretu [Figure 10.]. She describes her 'abstract mark-making as a type of sign lexicon…for characters that hold identity and have social agency.' They act within 'story maps of no location' that occur 'in an intangible no-place: a blank terrain, an abstracted map space' (Firstenberg, 2002). Of the physical embodiment of painting, she says 'the reason you read the mark is because you also feel the mark.' Her complex works are built up of many layers of differing actions and structures, where she attempts to understand and pull together the interplay of varied systems of pictorial construction. Her marks are as diverse as ruled lines, masked shapes of solid colour, airbrushed tones and touch-up layers of isolating translucent grounds, all overmarked with restless, calligraphic sweeps and scribbles of liquid colour that are sometimes semi-wiped away and sometimes left crisp (Goldstein, 2019; Mehretu, 2018).

**Figure 10.** Julie Mehretu working on *HOWL, eon (I, II)* for the San Francisco Museum of Modern Art, 2017. Photo: Tom Powel Imaging, Inc. / Courtesy of Julie Mehretu / Marian Goodman Gallery. © Copyright: Julie Mehretu

For Mehretu, Abstract Expressionism still looms large in the minds of audiences for painting, but she is clear that her interests in sources such as traditional Chinese painting and Ice Age art are just as important. As she says, we should remember that, when Pollock was working, 'so were Helen Frankenthaler, Elaine de Kooning and all these African-American women and men. But none of that was considered part of the story.' It is impossible to separate any history of painting from its political context: 'what is undefined, unstable…that's important politically. There is always a multitude of ways of seeing' (Murray Brown, 2019).

## 2.1.7 Non-linear narrative

Any artform produced today is judged as having equal socio-political status to any other, in a current critical condition known as 'post-medium' (Foster *et al.*, 2004, p.674) and, increasingly, in a wider context of 'post-fact' communications. As in the generic idea of 'art', every mode of picture making is accepted as valid and scribble forms are just one small part of a constellation of varied practices that signify 'painting' as a whole.

> The well-known problem of the Modernist programme was its historicist insistence that progress in intellectual culture was not only possible, but approaching its zenith. It conveniently ignored non-Western, non-20th century, 'other' and 'outsider' practices, as well as denying the fact that any one kind of cultural production always takes place alongside a multitude of others. There are always simultaneous parallels; always tens of thousands of people making all sorts of different stuff at the same time. There are now no movements and there is no consensus, except perhaps that of an obsession with marketing. A new form of historicism has emerged and is based on institutionalisation, which slavishly trails in the wake of the market for imitative contemporary art. It takes the form of canonising selected practitioners; inculcating them into a canon. But at least it has no pretence of progress. The current historical context is plurality and the dissolution of hierarchies. You can be earnest or take the piss, be studio-bound or a

project manager. All the stupefying, beguiling variety of life is permitted, but it must receive official endorsement and be widely disseminated, in reproduction, through the media of mass communication.

(Parsons, 2007b)

The latest development is that all of these parallel practices are now instantly visible – and there is no consensus for any overarching narrative – with millions of examples from every spectrum of production shared online through social media every day and sold as digital tokens on thousands of cryptocurrency blockchains. Gestural mark making lives on as one of many tropes signifying 'art' in general and it is a mainstay, for example, of mechanical performative videos promoting patently commercial products popularised on platforms such as Instagram

## 2.2 Scribble as method

Nearly all of the artists discussed in the sections set out in Appendix 2 – most notably Miró, Dubuffet, Constant, Twombly and Basquiat – have used conspicuous scribble-like gestures and lines as well as child-like pictorial constructions in their work, but virtually none of them have explicitly named it as scribbling. Only André Breton and André Masson openly wrote of producing *gribouille, gribouillage* and *gribouillis* ('scribble', 'scribbling' and 'scribbles'). In recent times, very few artists have used scribble as a named method.

*Scribble Wall Drawings* was the last exhibition conceived by Sol LeWitt and it was realised five months after his death at the PaceWildenstein gallery, New York, in September 2007. For this, LeWitt 'returned to the simple and direct way he made his first wall drawing back in 1968' (Reynolds, 2008). The exhibition presented a number of mostly square large-scale graphite wall drawings made of gradations of tone, which appeared to show the curved metallic surfaces of shallow notional spaces and forms. The tones in all the drawings were gradually built up using overlaid continuous lines applied with the random scribbled gesture known as the 'roving enclosing line' (see section 4.2.3). LeWitt had radically questioned the idea of authorial mark making and touch and, from 1968 onwards, formulated detailed proposals and schedules for the production of wall drawings. He employed highly skilled artist drafters to execute the final works. In his *Sentences on Conceptual Art* he wrote: 'The artist's will is secondary to the process he initiates from idea to completion' (LeWitt, 1969). For the *Scribble Wall Drawings*, LeWitt had created a maquette of the entire show and a system of gradation of scribble densities from zero (white) to six (black), which were applied directly to the wall beneath a guiding framework of threads. The simple instruction to the drafters was to make single continuous scribbled lines, which are 'taken for a random walk' in order to convey a 'gradation and feel of steel'. In the areas of paler tone, the mesh of curving roving lines is clearly visible, but the lines become increasingly 'lost' as the tone gets darker. It was important for the drafters to take care not to create clusters of lines, or areas where scribbles and intersections built up, producing a patch that was darker in tone than required. Although the

process of making the work required a high degree of mental focus and was physically demanding, it was also very involving and engaging for the artist assistants: 'your mind develops as you scribble to where your hand becomes intuitive and it's already going for the problem areas – when you hit that level it really is a joy to scribble.' (uncredited assistant in Harry & Samatulski, 2007) A retrospective of 105 of LeWitt's large-scale wall drawings, including five of the Scribble drawings, is currently on display at the Massachusetts Museum of Contemporary Art and will continue there until 2045. (Maclagan, 2014, p.45; Reynolds, 2008;; LeWitt, 2007; Harrison & Wood, 1998, pp.834 & 837; LeWitt, 1969)

Since 1989, Jonathan Lasker has been making a recurring series of paintings that he calls the 'Coloured Scribbles', which function as a subset of his wider painting practice. In these works, whole backgrounds and various discrete shapes and areas are filled-in using a network of apparently overlapping scribbled roving lines. They are, in fact, carefully painted-in using a variety of bright colours, as well as black. The shapes and forms in his paintings – and the method of filling-in – derive from small studies on paper variously made with graphite, acrylic, colour pencil and oil. Some of the studies are as small as 11 x 15 cm.

> In all my 'scribbled' works I use random, unconscious marks to consciously compose the constituent shapes within a picture. In other words, I seek to confront the unbounded subconscious with the containment of bounded forms. (Lasker & Schwabsky, 2004, p.1)

The filling-in marks in the preparatory studies are genuinely automatic randomised movements, which sometimes stay rigidly within a boundary and sometimes stray across it. The marks in the much larger paintings (up to 190 x 254 cm) conform closely to the configurations of the scribble in the drawings, but are painted using a flattened, non-gestural method described by the artist as 'both engaging gesture and at the same time withdrawing from it, standing outside of

it in an analytical manner' (Herzog, 1997, p.34). In all of Lasker's mature works, there is a tension between what appear to be spontaneous shapes and forms and the meticulous, measured way in which the various areas of the painting are constructed; a sort of 'frozen spontaneity'. The elements in his pictures occupy a very shallow flattened pictorial space – usually consisting of no more than two physical layers on a ground – with very thin flat marks contrasted with built-up impasto formations [Figure 11.]. (Lasker & Schwabsky, 2004; Paparoni, 2002; Herzog, 1997)

**Figure 11.** Jonathan Lasker (2002) *Productive Love* [oil on linen] 193 x 193 cm (76 x 76 in) © Jonathan Lasker 2021 Available at: https://jonathanlasker.net/painting/productive-love/ (Accessed: 17 March 2021) Image courtesy the artist and Greene Naftali, New York
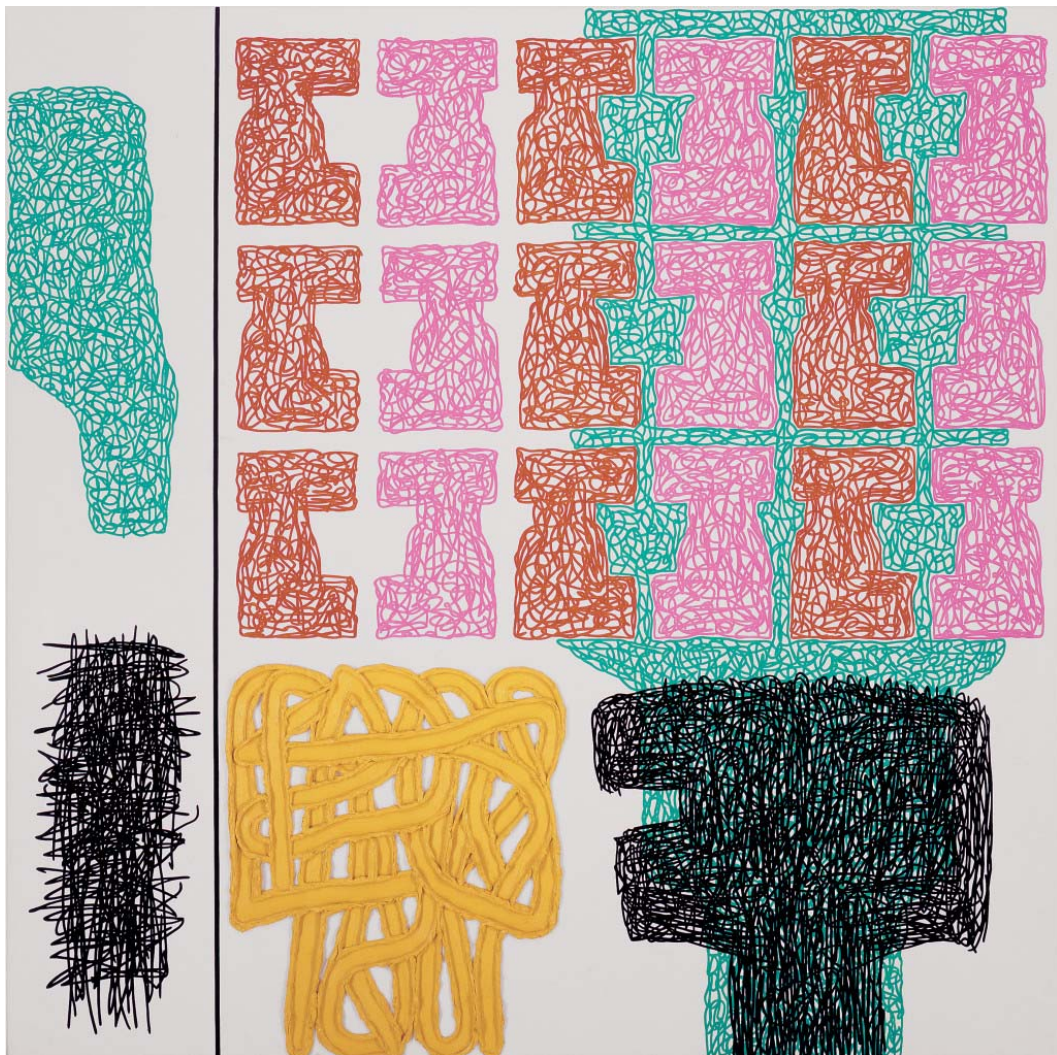
LeWitt's technique for producing even tone using a network of roving graphite lines is almost identical to my own method for filling-in solid areas of graphite in two ongoing series of drawings: the chalk mark 'reversals' (begun in 1990) [Figures 3 & 22a.] and the 'black' drawings (begun in 2009 and first exhibited as an entire series in 2022). In both of these series, large areas of the drawing are covered in a web of graphite marks so densely worked that my own authorial gesture is obliterated [Figure 12.].



**Figure 12.** Jonathan Parsons, *Black Drawing for FB: Cut Arrow* (2009) [graphite pencil on white paper] 42.5 x 56.5 cm

These works accurately depict the configurations of various found gestural marks that have previously been photographically recorded in the field and archived. In the works, figure and ground are reversed, with the 'background' being the only part of the drawing that is 'coloured-in' and the formations of the found marks themselves left as untouched paper. This method is intended to indicate the final drawings' status as intentionally produced objects. The reversal of figure and

ground and my gesture-obliterating colouring-in of the depicted area corresponding to the 'background' problematises the works' very identification as the category 'drawing':

> Graphic line is determined in opposition to surface…In fact, graphic line is coordinated with its background. Graphic line designates the surface and thereby determines it…a drawing that entirely covered its background would cease to be drawing altogether. The background thereby occupies a definite and, for the sense of a drawing, indispensable position.
> Walter Benjamin (1917)
> (Quoted in Bois (1990, p.178), from a translation specially made by Peter Fenves)

For the chalk mark reversals and the black drawings series, I have a clear vision of the final appearance that I want the works to have. This necessitates thinking through the specific technical stages of making; the steps that will be required to produce exactly the desired outcome. It is a kind of conceptual 'reverse engineering'. The filling-in technique I have developed uses movements of the pencil across the paper in a kind of restless cartographic travel, which attempts to visit every point on the blank surface using fine, spontaneous graphomotor movements of the wrist and fingers [Figure 13.]. As the build-up of tone progresses, the pencil revisits all the points of the surface again and again, each time searching out those areas where the paper remains unmarked [Figure 14.]. All the 'gaps' in the web gradually become filled-in and the sharp point of the pencil finally passes over the densely worked surface a few more times, picking out and obliterating any areas of uneven tone and removing all traces of gestural form. The result is a randomised and consistent solid area of dark graphite. I have used a similar method of lightly filling-in an area of randomised scribbled roving

**Figure 13.** Jonathan Parsons, *Black Drawing for FB: Cut Arrow* (2009) [graphite on white paper] 42.5 x 56.5 cm – *work in progress studio view*
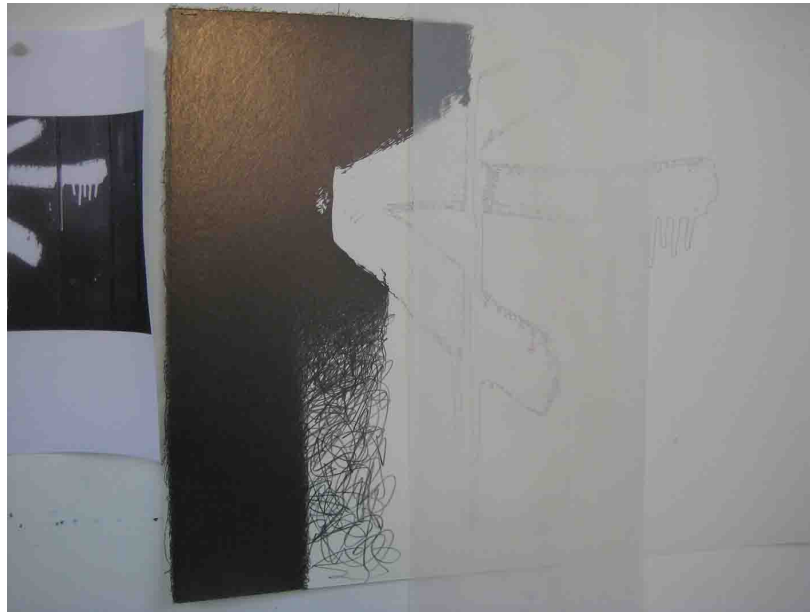


**Figure 14.** Visualization of my technique for filling-in solid dark areas of graphite tone. Red lines represent movements of the pencil that come after the black marks in each preceding image. In the images that follow, the red lines are shown in black.

1.　　　　　　　　2.　　　　　　　　3.

4.　　　　　　　　5.　　　　　　　　6.

7.　　　　　　　　8.　　　　　　　　9.
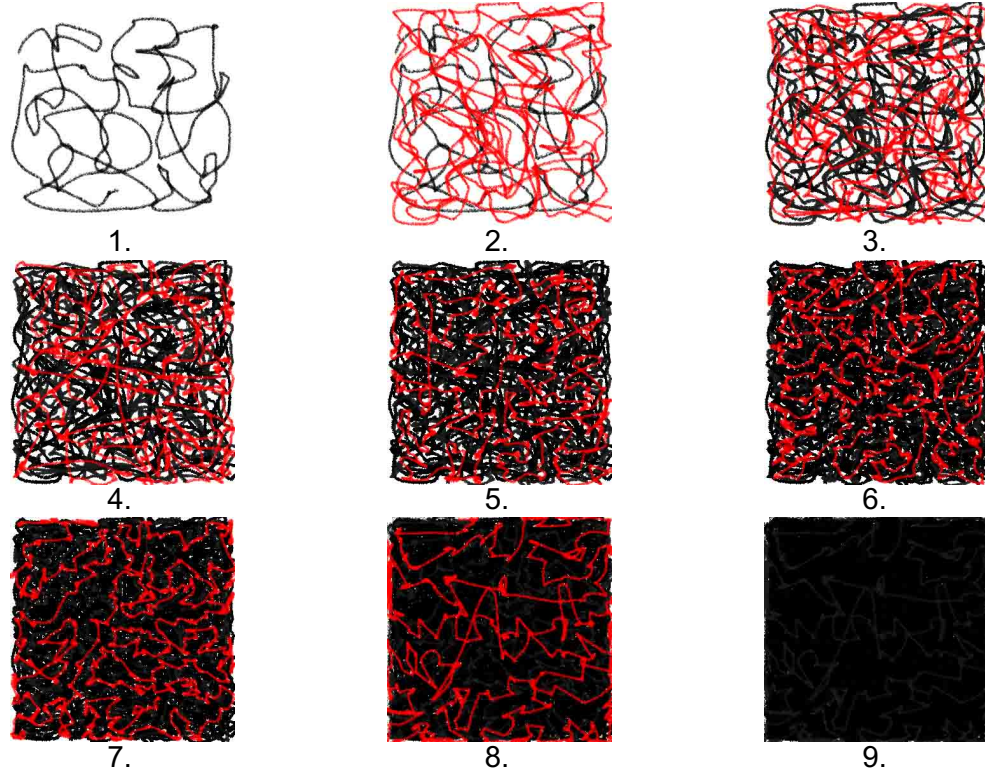
lines to make the individual panels for the work *Test Piece: The Placement Patterns P1-P17* (Practice Research Catalogue no. 012, 2017) [Figure 15.] (see sections 3.1.8, 6.2 and Volume 1, Section 2). Using scribbled roving lines is, incidentally, a method that is currently being promoted to amateur artists by 'drawing instructors' as a 'fun way' to learn to draw form-contours and produce decorative shading: 'I can tell you that scribbling is one of the best ways to improve your drawing skills.' (Albert, 2020) A cursory internet search of the term 'scribble art' will throw up countless examples of such production.



**Figure 15.** Jonathan Parsons (2017) *Test Piece: The Placement Patterns P1-P17* [Acrylic reverse painting on PVC with wall mounted fixtures] 17 panels, each: 14.85 x 21 cm (A5). Overall dimensions: 156 x 104 x 1 cm (Practice Research Catalogue no. 012)
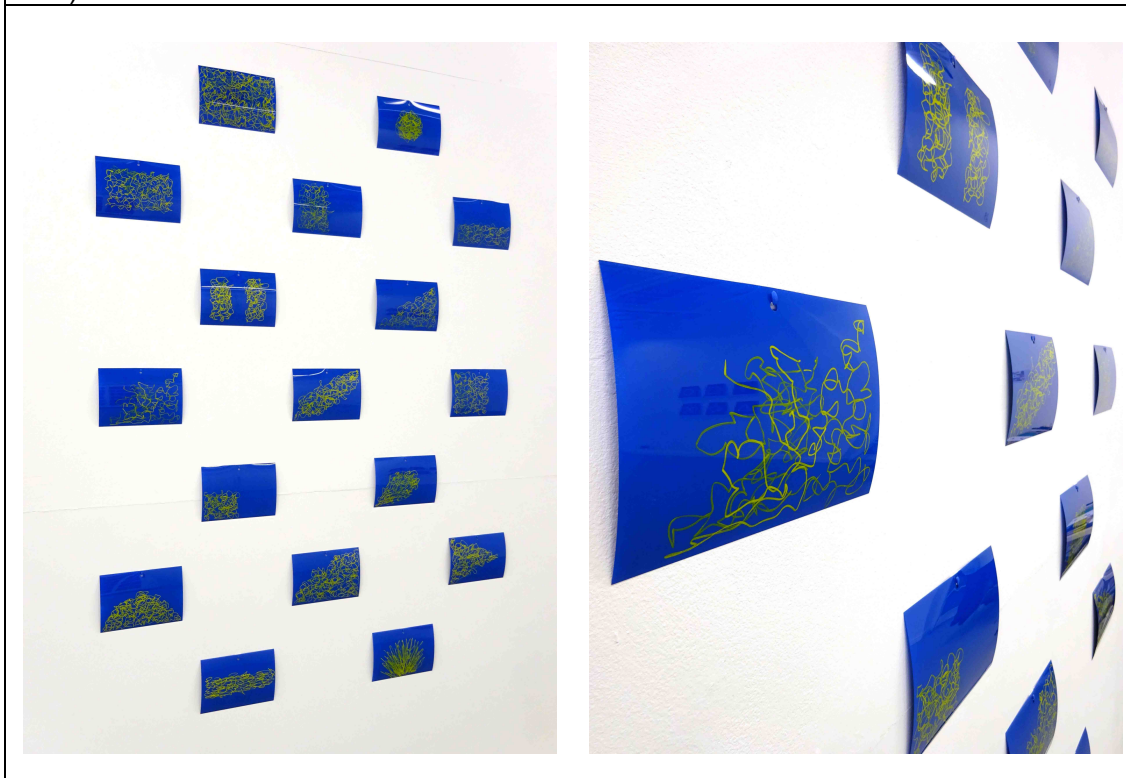
One of the most significant and well-known art historical examples of an artwork that actually includes children's scribbling is Mary Kelly's six-part *Post-Partum Document* (1973-8), which consists of a total of 135 small rectilinear units presented as wall-mounted museum displays. Kelly juxtaposes notes attesting to the experiences of her early motherhood with residues of her son's infant development – including his formative scribbles and pre-writing alphabets – along

with detailed analyses of this evidence. *Documentation III: Analysed Markings and Diary Perspective Schema* (1975) shows ten mounted scribble drawings in crayon and chalk on brown sugar paper that her son presented to her daily on returning home from nursery. Kelly overlaid these with a 'diary schema' of 'maternal discourse' and conducted an analysis of how the marks were placed upon the paper, labelling the mounts of each drawing with coded notations. In the later publication documenting the work in full, she provided a key showing that her codes denoted stages in the child's graphic development. This revealed that her analysis was based entirely on Kellogg's (1969) system of categories (as discussed in detail in section 4.2). Kelly's overall work was the 'model of an art project that exists somewhere between a psychoanalytic case-study and an ethnographic field-report.' (Goodwin, 2018; Foster *et al.*, 2004, p.574; Kelly, 1983, p.77-78)

Joan Snyder, a significant painter of the New York feminist movement in the mid-1960s and 1970s, was critical of 1980s and 90s Neo-Expressionism as a male appropriation of her early work and that of her female contemporaries. In 2007, she wrote: 'Our dialogues impacted the art world. Women's work helped to pump the blood back into what were dry, cold and minimal years in the art world in the late 1960s' (Jansen, 2017). David Reed, for example, acknowledged the importance of Snyder's work to his later 'stroke' paintings of the mid-1970s. Snyder's maximalist approach to mixed media was a reaction against the dominant Colour Field and Minimalist painting of the period. Her use of the grid and 'the anatomy of a stroke' stemmed not from Minimalism, but from her observation of drawings made on lined paper by the young children that she was teaching (Bui, 2008). Her striking 1978 painting *Sweet Cathy's Song (For Cathy Elzea)* – that was exhibited in a prominent display at MoMA New York in 2014 – is particularly significant in her output. She had collected some of the 'fabulous drawings' made by the young children she was teaching and used them, with the children's permission, to make four paintings. *Sweet Cathy's Song,* named for a developmentally challenged child she was working closely with at the time, is the largest, 'the most serious' and the most significant of these. The structure of the

painting is based on a grid formed by four rows of six drawings collaged onto a 6½ by 12-foot canvas. Snyder has further collaged upon and applied papier mâché to this underlying structure and overpainted it with synthetic polymer, oil paint and pastels. The highly colourful linear structures she has used very strongly resemble the kinds of formations found in typical pre-school children's drawings. Snyder describes these as 'totems…symbols of loss, grieving etc.' Earlier that year she had suffered a miscarriage and 'made a painting called *Norfolk Landscape* in which appeared totems that I later learned were or could be a symbol…for death or loss. These images were flowing out of me onto the work.' (Manes, 2014)

## 2.3 Deskilling

A more widespread historical method for producing automatic and spontaneous marks – and one that can connect artists with the renewed creative energy offered by direct, unsophisticated touch – is a set of practices collectively known as 'deskilling'. The term was coined in 1981 by the Australian Conceptual artist and scholar Ian Burn to describe a number of diverse approaches used by artists throughout the 20th century, which 'are linked by their persistent effort to eliminate artisanal competence and other forms of manual virtuosity from the horizon of both artistic production and aesthetic evaluation.' (Foster *et al.*, 2004, p.531)

A characteristic Modernist strategy was to question historically accepted conformity and an early target was the celebration of technical mastery. The invention of Cubist collage replaced both the function of drawing and of painterly execution with the deployment of elements of found cut paper. Dada experiments in removing the roles of artistic choice, selection and composition using chance procedures – such as Duchamp's *Three Standard Stoppages* (1913-14), or Arp's *Collage of Squares Arranged According to the Laws of Chance* (1916-17) – invalidated the definition of an artist as someone who possesses a specialised skill set. The deskilled automatism of the mass-produced Readymade and the 'Readyfound' (Duchamp, 1934 in Sanouillet & Peterson, 1973, p.26) dispensed with the manual know-how of the artist altogether. In the texts that Dubuffet wrote to accompany his early exhibitions in the 1940s, the artist emphasised his lack of skill or giftedness, describing in his *Prospectus* how he worked 'here with [a] finger, there with a spoon'. In the same work, under the heading *Departing from the formless*, he wrote: 'The point of departure is the surface one is to bring alive…A painting is built by facing away from the end result; gropings, going backwards!' (Dubuffet, 1946) Mechanically tracing around the contours of an existing object, so as to produce a personally detached graphic mark, is a technique used by many of the artists cited in this discussion. Deskilling almost became the definition of Conceptual Art, with LeWitt writing in his *Paragraphs on Conceptual Art* in 1967: 'This kind of art is not theoretical or illustrative of theories; it is intuitive, it is involved with all types of mental processes and it is purposeless.

It is usually free from the dependence on the skill of the artist as a craftsman.'
(Foster *et al.*, 2004, pp.31, 337, 497, 524, 531, 652; Harrison & Wood, 1998, pp.
590, 834; LeWitt, 1967)

An archaic precedent for the deskilling of marks made in painting is the practice
of Thomas Gainsborough (1727-88), who, unusually for the 18th century, painted
all his works entirely in his own hand in order to present his individual technique
as an essential effect in its own right. He used brushes with very long handles
and oil paint diluted to the consistency of watercolour to elicit highly visible – and
apparently accidental – wayward and chaotic marks and traces. These
nonetheless coalesced into the semblance of convincing visual appearance when
viewed from a certain distance and were posthumously described by Joshua
Reynolds (1723-92) as 'a kind of magic' (Murray, 1983, pp.151-3, 349).

The use of long-handled brushes, or other implements for deskilled mark-making,
continues to be a useful method for contemporary painters. In 1948-51, Matisse
made drawings for his decorations of the Chapelle du Rosaire in Vence using
charcoal fixed to the end of long poles (Osborne, 1988, p.360). Basquiat held his
'instrument in a way that a child would' (Davis, 2010) (See Appendix 2). For Brice
Marden, accidental and random mark-making, as opposed to highly controlled
composition, was a key method used by him from the early 1970s onwards.
Marden employed long ailanthus twigs, which he dipped in ink and drew with
using his whole forearm. He sometimes attached a twig to the end of a pole to
deskill the marks further, as the oscillating twig would amplify the tiniest of
movements. Throughout the 1970s and 80s, he became increasingly interested
in Eastern mysticism and religion and, specifically, Japanese and Chinese
calligraphy. In an echo of Gainsborough's technique, Marden made paintings
from the mid-1980s onwards using brushes attached to long sticks and oil paint
thinned with terpineol – which is a highly viscous turpentine alcohol that prevents
brush marks from levelling – to produce final works consisting of stacked webs of
overlapping curvilinear strokes [Figure 16.]. Although this method certainly
introduced an element of automatism into the marks he made, the paintings were

also the result of much discipline and reflection. 'I keep wanting to lose control but I can't quite do it…My paintings are not gestural although they may look like it' (Kremer, 2020; Lewison, 1992, pp.14, 45, 47, 52).

**Figure 16.** Brice Marden in his studio, New York, 1993. Photograph by David Seidner. © International Center of Photography, David Seidner Archive. Artwork: © 2020 Brice Marden / Artists Rights Society (ARS), New York.



Gerhard Richter's practice questions the roles of subject matter and modes of production in painting and picture-making, pursuing what he calls 'a principled avoidance of the subject' (Richter, 1995, p.130). He also consistently questions the role of the individual painter's hand, recalling the total deskilling of the Readymade: 'everything made since Duchamp has been a readymade, even

when hand-painted' (Richter, 1995, p.101). His diverse practice includes blended works based on photographs; enlarged details of paint surfaces; grey paint applied uniformly using various discrete techniques; panes of glass, often with colours integrated into their surface; abstract 'inpaintings', where dabs of colour are partially blended using continuous meandering brushstrokes; mechanically painted colour charts arranged by chance; abstract paintings assembled from an agglomeration of unrelated marks and treatments; large-scale digital prints; Jacquard-woven tapestries; mirrors; abstract paintings built up of different layers of paint application, with their final surfaces entirely smeared with a squeegee. In all of this work, Richter uses particular 'anti-painterly' strategies for removing evidence of his authorial touch – what he disparagingly refers to as 'peinture' (Richter, 1995, p.138). The squeegee is perhaps the most dramatic large-scale example, but he also consistently employs tracing from projection, blending brushes, marbling of colour mixtures lifted off the surface of water, brushes mounted on long bamboo poles held at arm's length and industrial colouring processes. (Richter, 1995, pp.35, 84-7) From the mid-1970s onwards, Richter began a series of agglomerated abstract paintings, which were deliberately planned to be as arbitrary as possible so as to be 'message-free':

> On small canvases I put random, illogical colours and forms – mostly with long pauses in between, which made sure that these paintings – if you can call them that – became more heterogeneous. Ugly sketches is what they are…they are not legible, because they are devoid of meaning or logic. (Richter, 1995, p.88)

In these Richter crystalises his avoidance of any commitment to the subject and thoroughly distances himself from aesthetic judgement or a particular skill set. An artist's intervention is important, but their hand is not:

> …the artist's productive act cannot be negated. It's just that it has nothing to do with the talent of 'making by hand', only with the capacity to see and

to decide *what* is to be made visible. *How* that then gets fabricated has nothing to do with art or with artistic abilities.

(Richter, 1995, p.140)

Richter's lifelong commitment to painting is to make it intelligible, visible and usable, to offer 'something of universal interest', where, among other things, 'the pleasure of painting proves the necessity of it – all children paint, spontaneously.' The universality of marking up coloured surfaces is defined by the ability to see what something is, the decisive act of seeing that places the maker and the viewer on the same level. 'Anything can be painted…As Duchamp showed, it has nothing to do with craftsmanship.' (Richter, 1995, pp. 95, 217)

Many artists have engaged in much more extreme methods to distance themselves from artisanal competency, whether deliberately or otherwise. Total dissociation from one's own activities can be hazardous, especially when enabling substances are used and abused. Marden, for example, drank heavily and used narcotics to induce a meditative state to contemplate his work: 'It was built into the philosophy of the paintings'. However, he ultimately decided to reject this destructive behaviour, as 'it just makes you tired, and you can't get your work done.' (Lewison, 1992, p.46). Sadly, the untimely drink- and drug-induced demise of Wols, Pollock and Basquiat – just three examples among many others – serve as a cautionary reminder of the very real dangers involved. Theirs was a process of dissociation to the point of self-annihilation.

## 2.4 Critique of gesture

Richter's insistent rejection of what he called 'the art of peinture' (Richter, 1995, p.139) – the foregrounding of authorial painterly touch – was part of a tendency of critiquing what were considered to be the myths and excesses of gestural expression that began in the mid-20th century.

### 2.4.1 Rauschenberg

When Robert Rauschenberg was studying in the late 1940s and early 1950s, Abstract Expressionism dominated discourse, both at art school and in the wider professional world.

> The idea of the painted mark as a unique trace of the individual who makes it, along with the entire conceptual baggage of authenticity, spontaneity and risk that accompanied this ideology of the mark, had become a kind of creed. (Foster *et al.*, 2004, p.368)

Encouraged by the example of the experimental composer John Cage – one of his teachers – Rauschenberg made a number of works that directly called into question the primacy of the expressive mark. The earliest were his matte *White Paintings*, multi panel works made without any trace of gesture, which were completed in summer 1951. They were intended to be recipients of the transient phenomena in their own immediate vicinity: picking up shadows and ambient lighting conditions; gathering dust. The *White Paintings* embodied Cage's Zen Buddhist-influenced rejection of the conception of active composition in favour of total passivity. They were in direct opposition to the idea of the canvas 'as an arena in which to act', as Harold Rosenberg had characterised it in his famous article *The American Action Painters* (1952). In 1953, Rauschenberg persuaded Willem de Kooning – one of the pre-eminent Abstract Expressionists – to give him a drawing, which Rauschenberg intended to completely erase. He took three weeks, using fifteen different kinds of erasers, to remove almost all of the markings from the paper. The resulting *Erased de Kooning Drawing* (1953) was an anti-art statement worthy of the label Neo-Dada and it literally destroyed the

Abstract Expressionist ideal of the artist's authorial touch as the primary repository of artistic significance and meaning. (Foster *et al.*, 2004, pp.368-70; de Antonio, 1972; Steinberg, 1972, p.61)

> You have to have time to feel sorry for yourself if you're going to be a good Abstract Expressionist. I always considered that a waste…with their grief and passion and action painting – they let their brushstrokes show.
> (Rauschenberg in de Antonio, 1972)

Later, Rauschenberg created two Combine paintings whose elements were applied in tandem. In *Factum I* and *Factum II* (1957) [Figures 17a & b.], each component – which included brushed and dripping paint, collage and silkscreen – was repeated almost identically in both paintings. Despite their subtle differences and variance, they appear to the casual observer to be essentially twin versions of the same work:

> I painted two identical pictures, but only identical to the limits of the eye, the hand, the material – adjusting to the differences from one to another. Neither one of them was painted first. (Rauschenberg in de Antonio, 1972)

The *Factum* paintings give the lie to the claim that any supposedly expressive gestural mark, touch or action is some form of unique – and forever unrepeatable – moment of isolated 'genius'. This critique was articulated by the collaborative practice Art & Language as follows:

> Pollock's art rests on very limited resources…As painting goes it is also very easy to reconstruct technically…The substantial lesson of Pollock's art lies not in…its 'reduction of pictorial depth', its 'freeing of line from the functions of description and definition'…or in any of the other available forms of valediction. It lies rather in the requirement of assiduousness: in the demand that one recognize how little is left to work with.
> (Baldwin, Ramsden & Harrison, 1983)

**Figure 17a.** Robert Rauschenberg, *Factum I*, 1957
Combine: oil, ink, graphite, crayon, paper, fabric, newsprint, printed reproductions, and printed paper on canvas, 61¼ x 35⅞ inches (155.5 x 91 cm).
The Museum of Contemporary Art, Los Angeles, The Panza Collection
© Robert Rauschenberg Foundation

**Figure 17b.** Robert Rauschenberg, *Factum II*, 1957
Combine: oil, ink, graphite, crayon, paper, fabric, newsprint, printed reproductions, and printed paper on canvas, 61⅜ x 35¾ inches (156 x 90.7 cm).
The Museum of Modern Art, New York, Purchase and an anonymous gift and Louise Reinhardt Smith Bequest (both by exchange) © Robert Rauschenberg Foundation

**2.4.2 Johns**

Jasper Johns asserted the unassailable flatness and object-quality of his painted surfaces using a number of strategies. His first solo show of early work in 1958 reintroduced recognizable images into painting and offered what became a very popular alternative to Abstract Expressionism (Crichton, 1977, 1994, p.37). He presented resolutely flat images of 'designs the mind already knows', which represented the 'total equivalence of the object and its field' (Bois, 1990, p.305). He attached real-world objects to his canvases and left devices used for mechanically marking a surface in place on the very surfaces that they had marked. He used collage and encaustic, inspired partly by the Merz assemblages of Schwitters. He widely employed tactile brushstrokes – which are traditional devices of illusory pictorial space – to indicate and emphasise that his canvases were flat, solid objects in their own right. In *False Start* (1959), the canvas is covered in explosive blotches of different colours laid down using supposedly expressive brush marks. The painting would resemble an Abstract Expressionist painting with an 'all-over' composition, were it not for the colour names that are mechanically stencilled in a seemingly haphazard way across the coloured areas.

> The decisions in the painting aren't based on visual sensation primarily. The idea is that the names of the colours will be scattered about on the surface of the canvas and there will be blotches of colour more or less on the same scale, and that one will have all the colours…by name rather than by visual sensation. (Johns in Crichton, 1977, 1994, p.39)

The colour names do not always correspond to the colours they are laid across, nor always to the colours they themselves are painted in. The painting seems to proclaim that nothing on the surface should be taken at face value: touch; colour; composition; illusion; expression.

> All the brushmarking, other than paint put through stencils, was arbitrary and had to do with my arm moving…I liked it that the meaning of the words either denied or coincided in the coloured paintings, or reaffirmed the actual

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experience of the colour sensation. Those paintings to me were an accomplishment in ambiguity that previous paintings had not reached.

(Johns, 1965, in Sylvester, 2001, p.163)

At the time this work was made, Johns observed that 'the boundary of a body is neither part of the enclosed body nor part of the surrounding atmosphere' (Miller, 1959, p.22). In his series of tracings – begun in the 1960s in mostly ink on plastic and continuing as a key method for all kinds of works in his practice thereafter – Johns samples a variety of different source images, traces their defining contours and fills in the resulting shapes with liquid colour. In so doing, he reduces any chosen pictorial entity to the status of linear co-ordinates laid out on a flat plane as though they are a map [Figure 18.]. Using this method, Johns demonstrates the total equivalence of all physical picture surfaces. The tracings show that the factual mapped configurations of any picture, from any time or place, are incapable by themselves of embodying any particular hierarchy.

### 2.4.3 Barré and Hantaï

At the same time that Johns was exhibiting in New York, Martin Barré was rebelling against the grandiose gestural abstraction developed in the immediate postwar period by the artists of the so-called 'École de Paris' and their many, increasingly academic, imitators (a situation that closely paralleled what was happening in Abstract Expressionism). Barré mocked the excesses of this movement in a series of paintings exhibited in 1960, which parodied grand gestures with simple scribble-like forms in paint squeezed directly onto the canvas from a tube. The following year he abandoned touch altogether and embraced a technology that was very much of its time – the spray can. He produced a remarkable series of paintings of linear constructions and traces without making any contact with the picture surface at all [Figure 19.]. The works used the minimum of material, produced no textural variation and denied any kind of link between gesture, mark-making and interior psychological function. (Foster *et al.*, 2004, pp.516-8)

**Figure 18.** Jasper Johns (2014) *Farley Breaks Down* [ink and water-soluble encaustic on plastic] 107 × 74 cm (42⅛ × 29⅛ inches), Whitney Museum of American Art, New York; promised gift of Monique H. and Gregg G. Seibert P.2018.262 Courtesy Matthew Marks Gallery © Jasper Johns/VAGA at ARS, NY and DACS, London, 2022

**Figure 19.** Martin Barré (1967) *67-Z-12-81x65* [Enamel and acrylic on canvas] 81 × 65 cm (32 × 25⅝ in) Courtesy Matthew Marks Gallery © ADAGP, Paris and DACS, London, 2022

Simon Hantaï joined the enduringly influential Paris Surrealist movement in 1953, but broke with it two years later to pursue a type of gestural abstraction allied with Art Informel and Tachism. By the late 1950s, he was making large paintings with an intertwined all-over composition. However, he wanted to find a way to rid painting of painterly gesture, expression, evidence of the hand and any kind of

representation. In 1960, he invented a radically new method of dividing up the surfaces of his canvases and applying marks to them. He crumpled unstretched canvas primed with white gesso using a technique he called *le pliage comme méthode* ('folding as method') and, in this folded and flattened state, painted liquid colour onto the remaining exposed surfaces. When the canvas was unfolded and stretched, it revealed foliate areas of unpainted ground that contrasted with the applied colour in a randomly distributed array, with the whole canvas permeated by craquelure and various physical artefacts left behind by the process of applying the colour. There was no gesture or composition of any kind. One effect of the saturated colour in his large-scale works is to produce afterimages in the audience's vision, where haloes of complementary hue appear to drift around the junctions of the colour and the exposed primer. Hantaï's remarkable method constituted a type of highly refined and deskilled automatism, which was very unlike the Surrealist mining of the unconscious mind. Anne Baldassari, curator and cataloguer of Hantaï's work, describes his canvases as 'machines for thinking about painting without any of the ballast of narrative or iconography.' (Baldassari, 2020) The art historian Molly Warnock states that Hantaï's painting 'is everywhere conditioned by absence, a thing of edges, limits, and lacunae.' (Warnock 2012) Hantaï continued making work in this way until his death in 2008. His true subject, he said, was 'the resurgence of the ground underneath my painting', where figure, ground, configuration and colour are all 'relativised'. (Warnock, 2012; Ratcliff, 2006; Foster *et al.*, 2004, p.519; Osborne, 1988, p.246)

### 2.4.4 Lichtenstein and Castoro

Roy Lichtenstein's brushstroke paintings, begun in 1965, are usually seen as a gentle parody of Abstract Expressionist handiwork [Figure 20.].

**Figure 20.** Roy Lichtenstein (1965) *Big Painting No. 6* [oil and Magna on canvas] 234 x 328 cm, Collection Kunstsammlung Nordrhein-Westfalen. Image courtesy and © Estate of Roy Lichtenstein/DACS 2022



> Commercial art…is our subject matter and in that sense it is nature; but it is considered completely at odds…with our directly preceding movement – Abstract Expressionism. Commercial art runs contrary to a major art current in the sense that it concentrates on *thing* rather than *environment*: on *figure* rather than *ground*. (Lichtenstein, 1964, in Johnson, 1982)

Lichtenstein treated the brushstroke as a 'thing' in its own right and rendered it, in his own words, as a 'cartoon' that appears 'as though the thing has been done by a committee of people rather than an artist at work.' (Sylvester, 2001, p.232) These large-scale paintings were produced using Lichtenstein's established method. He would firstly make a preparatory drawing, which was transferred onto the canvas via projection and then carefully worked on for some time. The colours

would then be flatly applied and the painting slowly and carefully finished – all of his work at this time was carried out freehand. In order to produce the 'cartoon' appearance, Lichtenstein created small-scale model brushstrokes to draw from by brushing black mineral spirit acrylic paint over a smooth plastic film.

> It took me a while to develop the symbolism which would remind people enough of brushstrokes and would be the kind of shape I could use in painting. I mean a brushstroke really doesn't look anything like these things: you'd have black lines around solid colours, and it just isn't anything like a brushstroke any more than a cartoon head is like a head…It was a question of developing some kind of…archetypal brushstroke appearance which would be convincing as a brushstroke.
> (Lichtenstein, 1965, in Sylvester, 2001, p.232)

In the mid-sixties, a younger generation of artists were beginning to make work that questioned and would ultimately reject the Abstract Expressionist world view entirely, leading to movements such as Minimalism and Conceptual Art. Lichtenstein's critique was not quite so vociferous.

> I think that these brushstroke paintings are really not so much a parody of anyone's paintings as an epitome or codifying of brushstrokes. I think it's a sort of synthetic Abstract Expressionism.
> (Lichtenstein, 1965, in Sylvester, 2001, p.233)

Lichtenstein treated the brushstroke as a phenomenon integral to painting's meaning; an occurrence typically seen as incidental to the overall appearance of any given picture. With his impeccably gesture-free technique, he reversed the usual process of looking past the materials of a picture's construction to grasp its content and, instead, presented an image of painterly construction as content in itself. (Brown, 2019; Foster *et al.*, 2004, p.518; Harrison & Wood, 1998, p. 734)

Rosmarie Castoro took the brushstroke as 'a thing in its own right' into the realms of sculpture and installation art. In the mid-1960s, she was making all-over, 'tightly packed' gestural abstractions. However, informed by her training in dance and choreography, the development of her work implied the projection of her body into space and was 'frustrated by the rectangle, the formalist limitations of abstract painting.' (Lippard, 1975, p.60) By 1968, she was making sculpture, installation and performative interventions outside the studio. Her notable 'street works' included, in 1969, a 3½-mile linear trail of white enamel paint, which leaked from a pierced can as she cycled through New York and 'cracks' in pavements and walls delineated by a 'meandering line of thin silver tape' (Lippard, 1975, p.60; Thaddaeus Ropac, 2022).

Her manipulation of interior spaces evolved into installations of free-standing panels with surfaces that were covered with an impasto of modelling paste and gesso rubbed over with graphite. In 1972, the strokes forming their surfaces 'broke away and became separate entities…cut out…[and] hung on the wall as individual or groups of units.' (Lippard, 1975, p.61) [Figure 21.]

Rachel Stella has described Castoro's process in detail:

> Amongst the artist's most intriguing works, the Brushstrokes are gracious and vivacious, and impossible to categorise. Made from idiosyncratic materials, neither painting nor sculpture, they inhabit the wall with choreographic intensity. The question of pictorial space that haunted artists of Castoro's generation is addressed with flirtatious wit in these works. […] *Brushstrokes* come as singles or small groups. Their air of mystery arises from the peculiar method of their making. The process starts with the application of a thick layer of gesso and paste on a sheet of Masonite, using a broom to delineate a form. The form is cut from the Masonite with a jigsaw; the raw edges are covered with the gesso and paste mixture. The result is sanded, then treated with a graphite stick and an eraser. Describing 'The Technique of Flat Strokes', Castoro calls this rubbing of graphite into the

grooves made by the broom 'drawing'. […] Thanks to her disproportionate tool, Castoro's gesture surpasses what can be handled by a paintbrush, even as the pigments expose the strong graphic lines no paintbrush could describe. The enlarged and simplified motifs read as enormous signifiers, parodies of painterly strokes whose guffaws pointedly refute their status as paintings. Yet their relative flatness and adherence to the wall precludes their categorisation as sculpture. They are free spirits, liberated from the burden of formalist criticism. (Stella, 2022, pp.4-5)



**Figure 21.** Rosemarie Castoro working in her studio on a brushstroke for the work *PARTY OF NINE*, New York, 1972. © The Estate of Rosemarie Castoro. Courtesy of Thaddaeus Ropac, London, Paris, Salzburg, Seoul.

Castoro described herself as a 'paintersculptor' (Thaddaeus Ropac, 2022) and her *Brushstroke* works as 'exoskeletal auras as wall sculpture' (Lippard, 1975, p.61). 'Frameless, they activate the entire surface of the wall, regardless of its dimensions' (Stella, 2022, p.5). In 1970 Castoro wrote that 'Paintings are the places where you watch yourself. Paintings are reflections. They are the

manifestations of sexuality' (Lippard, 1975, pp.61-2). Castoro's bodily projection into her works created 'an embodied, eroticised form of abstraction that functions at the intersection of Minimalism and empowered female identity.' (Thaddaeus Ropac, 2022)

### 2.4.5 Buren

The influence of Hantaï, along with the anti-compositional methods of Ellsworth Kelly and Frank Stella, steered Daniel Buren in the direction of Conceptual Art. By 1966 he had deskilled completely and chosen ready-made striped canvas as his principal material to demonstrate the theoretical nature of painting. On the occasion of the manifestation of this new work in 1967 – along with his fellow 'demonstrators' Olivier Mosset, Michel Parmentier and Niele Toroni, who all denied any suggestion of gesture in their work – he declared that 'We are not painters.' Buren wrote in 1969 that his aim was to exhibit a concept of the '*ideal-object*', which showed the 'thing itself', rather than 'a vague vision / illusion, even mental, of a phenomenon'. Using the method of alternating 8.7cm-wide vertical bands of white and single colours – which he continued in his practice thereafter – allowed him to state that 'this neutral painting…no longer has any plastic character, but that it is *indicative* or *critical*' and that production time and tensions 'in the very surface of the picture have also been abolished' (Foster *et al.*, 2004, p.520; Harrison & Wood, 1998, pp. 850-2).

### 2.4.6 Toroni and Lee

Toroni's negation of the 'unique authentic gesture' comprises the repeated use of what he calls 'the imprint of a no.50 brush' (a no.50 brush is 50mm – approximately 2 inches – wide). Since 1966, all of his work has consisted of marks made by pressing both flat sides of the paint-laden bristles of such a brush to the same place on a surface. This results in a highly regular and consistent, slightly splayed quadrilateral patch of colour. He makes arrays of these marks, which are always spaced at regular intervals of 30cm. These are applied to all kinds of surfaces, often as site-specific installations and usually on a white background using groups of brush imprints of the same colour. Almost all of his

works are titled *Imprints of a no.50 brush at regular intervals of 30cm*. (de 11 Lijnen, 2010; Warnock, 2015)

At a very superficial level there seem to be visual echoes of Toroni's brush marks in Lee Ufan's *Correspondence* and *Dialogue* series of paintings (begun in the 1990s and 2000s), but their philosophical and methodological approaches are radically different. Lee, who was born in Korea and has mostly lived and worked in Japan, is highly regarded around the world. He was part of an international generation of artists who questioned the boundaries of art in the 1960s and 70s and was the leading theorist and practitioner of the Japanese Mono-ha group of artists that he helped to found in 1969. Mono-ha (meaning 'School of Things') was a parallel to Western tendencies seen in movements such as Minimalism, Conceptual Art, Land art, Arte Povera and Performance Art. (Gayford 2015; Pace 2018)

> Mono-ha does not reject the expression of the self. Rather, it allows the expression of both the self and the exterior […] Mono-ha is not against the West. It is against the sum or the almighty of modern humanity […] In modernism, only something that is made is valuable […] I focus on understanding what is not made […] Art is not about creation. It is about perceiving a phenomenon. (Lee in Goodman, 2021)

In the *From Point* and *From Line* series of paintings that he made in the 1970s and 1980s, Lee used highly controlled non-gestural straight brushstrokes that were repeated in various ways. He used paint of his own formulation consisting of ground mineral pigment and glue. The density of the pigment in the brushstrokes decreased – to the point of disappearance – depending on the length of each stroke, or whether the strokes were repeated in horizontal rows without re-loading the brush. These works made him a prominent figure of the Korean monochrome painting school known as Dansaekhwa, which is characterised by paintings made with repetitive minimalist gestures that signify both time and the body. Echoing the literal meaning of *Gutai* as 'way of the body'

(See Appendix 2), Lee states: 'The body is crucial, our body does not belong just to us. It creates a relationship with the world. And this relationship is the most interesting thing of all.' His paintings were also in keeping with the original Mono-ha principals of creating works using minimally manipulated raw, natural and industrial materials without any representation, but which emphasised perception, material and the interrelationships between space and substance. (Gayford, 2015; Pace, 2018)

Lee's later *Correspondence* and *Dialogue* paintings use the brushstroke to focus on the space that surrounds it. These works consist of what sometimes appear to be singular isolated strokes, or small groups of widely spaced strokes in different orientations on large, otherwise blank, canvases. Each of these supposedly singular brushstrokes are, in fact, built up of many strokes made one on top of another – sometimes over many sessions and days – to produce a final mark that is made up of delicately blended transitions of colour. (Gayford, 2015; Goodman, 2021)

### 2.4.7 Remaking: Richter

Along with the complete constraint or outright rejection of gesture, another significant critical method is to depict – or re-make – pre-existing gestural marks using non-gestural processes. Richter was attracted by the 'astonishing simplification' of Lichtenstein's perfectionist technique, when he first saw the artist's work in the early 1960s, because it was 'anti-painterly' and 'was directed against *peinture*.' He saw Johns, on the other hand, as 'holding on to a culture of painting that had to do with Cézanne, and I rejected that.' (Richter, 1995, pp.138-9) Richter first produced a painting depicting a photographically enlarged section of a gesturally painted impasto surface in 1970, entitled *Cutout (Brown) (271)*. Amongst his other output, he continued with this method, making six more large-scale cut-out paintings in 1970-1 and completing the very large (each: 3 x 6 m) *Red (345-1)*, *Yellow (345-2)* and *Blue (345-3)* in 1973.

The outsize blowup…is for the time being the only form that can make real and comprehensible the 'message' that I want to present as fascinatingly as possible – I still have a lot to do. (Richter, 1995, p.87)

From 1977-80, he made a series of what he called 'soft Abstract Pictures'. These were large-scale versions of some of the much smaller agglomerated abstract paintings described in section 2.3, which were depicted in their entirety and rendered in fully blended soft-focus (Hulten *et al.*, 1993). Richter was highly critical of gestural painting and he lambasted what he scathingly called the 'new heroes' of painting that were being promoted in the art press in the late 1970s:

…these pictures are valued solely and uniquely for their stupid, bumptious object content. This naturally includes the effective recording of the painter's blind, ferocious motor impulse…These painters of spontaneity…mask and cover up their own impotence, helplessness and sheer stupidity with…fashionably nostalgic debris from the rubbish-tip of history.
(Richter, 1995, p.87)

Richter's method of softly depicting photographically enlarged gesturally painted surfaces culminated in the monumental *Stroke (on Blue) (451)* (1979) and *Stroke (on Red) (452)* (1980), which are multi-panel architectural murals commissioned for the Börde Vocational College in Soest, Germany. They each measure 1.9 x 20 m in total and both show a yellow brushstroke, which has been meticulously reconstructed using detailed photographs projected onto four canvases that are joined together. (Hulten *et al.*, 1993)

The big *Strokes* are first of all only reproductions of brushstrokes, that is, manifestations of their outward semblance. But even the semblance is called into question, firstly because it is not painted in a 'deceptively real' way, and secondly…for the simple reason that such big brushstrokes cannot really exist. But the pictures do show a brushstroke, though they

neither display it as a real object, nor represent is realistically, nor manifest it illusionistically in the *trompe-l'oeil* sense. (Richter, 1995, p.96)

## 2.4.8 Remaking: non-composition

In complete ignorance of Richter's *Cutout* and *Stroke* paintings, I began my own series of recreated found chalk marks in 1990. I was still an undergraduate at this time and I was returning home from working in my college studio when I noticed some splashed stains made by liquid that had been spilled onto the pavement. I thought that this would make a good subject for a painting, so I fetched my camera from home to record them. Returning along a different route, I was more vigilant and looked out for other possible reference material. I came across a smudged chalk mark that had been scrawled onto one of the wooden panels of a door that faced the street and I recorded it in detail. This was the source for what became the first reverse chalk mark drawing *Herma* (1990) [Figure 22.]. This method of drawing became a series that I would work on for the next fifteen years. The works were all anti-compositional (the marks I recorded were framed by the surfaces on which they were found, providing me with a ready-made template), non-gestural and they reversed the conventional relationship of figure and ground. From 1991 onwards, I applied this formula of finding, recording, remaking and transformation to painting, sculpture and installation and I have continued to use variations of the method ever since. I was completely unaware for many years that Ellsworth Kelly had already developed a formula for non-composition in the late 1940s and early 1950s, by recording and remaking a found object or surface and presenting it 'as is':

> The new works were to be paintings / objects, unsigned, anonymous. Everywhere I looked, everything I saw became something to be made, and it had to be made exactly as it was, with nothing added. It was a new freedom: there was no longer the need to compose. The subject was there already made and I could take from everything; it all belonged to me…It was all the same, *anything goes*.
> (Kelly, 1969, in Bois, Cowart & Pacquement, 1992)

**Figure 22.** a) Jonathan Parsons (1990) *Herma* [graphite on paper] 94.5 x 59 cm
b) photographic sources for the work
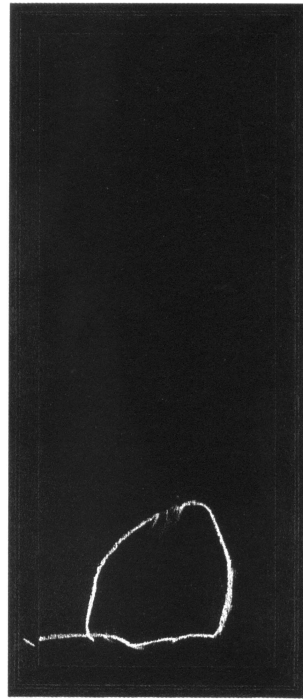


a

b

The theoretical impulse behind my chalk mark drawings was to take the logic of Johns' non-hierarchical mapping of the configurations of a picture and apply it not only to the overall form-contours of a composition, but to smaller pictorial units – to the marks themselves. As an exercise in 1991, I used Johns' method of tracing using ink on polyester drafting film to capture every single brushstroke from a reproduction of the Expressionist painting *Self-Portrait Laughing* by Richard Gerstl (1907) [Figure 23.].

**Figure 23.** Jonathan Parsons (1991) *Tracing* [ink on plastic] 27 x 18 cm



## 2.4.9 Remaking: Brown

At the same time as I was formulating the rudiments of my own practice, Glenn Brown had already been producing striking, accomplished paintings. In the late

1980s, as an undergraduate, he had been experimenting with compositions that combined photorealist images with geometrical panels. In the early 1990s, Brown developed a method that was to launch and sustain his career. He took reproductions of paintings from the pages of art catalogues and artist monographs and remade them as highly finished, flat oil paintings, which imitated the homogenous, slightly glossy surfaces of the book plates he was copying. Significantly, the majority of the reproductions his highly resolved and meticulous work from 1991 onwards recreates shows paintings that had a gestural, impasto character – particularly works by Frank Auerbach and Karel Appel [Figure 24.]. At first glance, these works appear to be gestural, but they are the exact opposite. They are reproductions of reproductions, faithful renditions of already flattened, evenly textured pre-existing images. This complex method allowed Brown to scrutinise not just the paintings themselves, but also what was – at that time – the only mass medium available to disseminate images of paintings: the delivery system of the printed page. His works are a sophisticated critique of originality and of mechanical reproduction; a mediated simulacrum of the 'authenticating' gesture re-presented via a number of removes.

> I find it hard to believe Appel took his heads seriously, they are so obviously comical. I give my paintings science fiction titles, like 'The Body Snatchers', to emphasise this absurdity. Auerbach's portraits are like cartoons. He has a set way of doing the eyes, nose and mouth with brush marks that he has perfected over the years. He copies himself, everyone does. The notion of self-parody and plagiarism is in everyone's work; Picasso did second-rate Picassos. (Brown in Blyth & Kent, 1994, p.12)

### 2.4.10 Critique of originality

Brown's use of the reproduction and his attitude towards plagiarism was part of a wider Postmodernist critique of originality that had been thoroughly articulated and explored by a number of theorists, critics and artists by the mid-1980s. These included writers such as Hal Foster, Rosalind Krauss, Julia Kristeva, Thierry de Duve and Jean Baudrillard and artists such as Sherrie Levine, Barbara Kruger,

the collective Art & Language, Peter Halley and other artists of the 'Neo-Geo' movement (see section 3.2.8).

**Figure 24.** Glenn Brown (1991) *The Body Snatcher* [oil on canvas] 61 x 74 cm
Available at: https://glenn-brown.co.uk/artworks/13/ (Accessed: 18 March 2021)
Image courtesy and © 2022 Glenn Brown



Dadaist methods of appropriation and quotation had been revisited as Neo-Dada in the mid-20th century and these developed – particularly in relation to Pop Art and photography – into a highly coherent set of practices by artists for whom traditional artistic media (such as those employed by exponents of Neo-Expressionism) did not have a neutral value. Sherrie Levine's experience of learning about art through bookplate reproductions led her, in her early work, to photographically appropriate and re-present images by canonical male artists, thus raising issues about origins, the original and originality as well as the market value of property rights and the concept of plagiarism. (Foster *et al.*, 2004, pp.580-3; Harrison & Wood, 1998, pp.1049, 1060, 1065, 1066-7, 1070-1, 1080-4 )

A picture is a tissue of quotations drawn from the innumerable centers of culture…We can only imitate a gesture that is always anterior, never original. Succeeding the painter, the plagiarist…bears within him…this immense encyclopedia from which he draws…A painting's meaning lies not in its origin, but in its destination. The birth of the viewer must be at the cost of the painter. (Levine, 1982)

Barbara Kruger – Levine's contemporary and early co-exhibitor – used her own previous experience as a magazine art director to produce works that used appropriation of mass media imagery and the language of advertising to critique hypocritical and oppressive structures of contemporary society and the art world. (Foster *et al.*, 2004, p.583; Harrison & Wood, 1998, p.1070) She wrote of a theoretical opposition in the arts that existed between:

…the laboratorial or studio versus certain productive or, more clearly, reproductive procedures…This strategy is employed by a number of artists today…their quotations suggest a consideration of a work's 'original' use and exchange values…Their alterations might consist of cropping, reposing, captioning, and redoing, and proceed to question ideas of competence, originality, authorship and property.
(Kruger, 1982)

### 2.4.11 Quotation and duplication

This critique of originality was in the air when I was completing my foundation studies in 1988-89. Quotation and reference became increasingly important in my own practice post-graduation in 1992 and throughout the 1990s and 2000s. For example, I used the trope of the Modernist grid to produce seemingly academic paintings (see Figure 137.) that satirised the totemic flatness of Greenbergian approbation, whilst attempting 'to reduce the idea of a picture down to something like fundamental constituents: brush marks; colours; configuration; illusion.' (Parsons, 2007a) I continued to re-create found marks and gestures and

increasingly turned my attention toward graffiti and tags as sources. The lesson of Rauschenberg's *Factum* paintings led me to produce a series of 'double watercolours' from 1996-2001, where each work presented two precise copies of found graffiti that had originally been made with a dilute liquid medium [Figure 25.].

> The reason there are two is to make it non-gestural. Also, it makes it deterministic…it shows you that the graffito also exists as another phenomenon elsewhere…The second thing is that it's two ways of making a copy, two possibilities…If I were to present a photograph of the graffito, then people would see it as just that. What I'm saying with [this work] is consider this phenomenon as a *painting*.
>
> (Parsons, in Parsons & Salmon, 1996)



**Figure 25.** Jonathan Parsons (2001) *Home for a Context* [watercolour on paper] diptych, overall 70 x 84 x 4 cm (27½ x 33 x 1½ in)

The method of production was meticulous and laborious:

> Transcribing a source image from photographs is not that difficult since the photographs themselves are not available for comparison alongside the finished painting. The two panels of the diptych, however, are directly comparable with one another. Making each of them exactly similar to the other is extremely difficult, far more so than the initial transcription…and is so close to impossible that it is impractical…I therefore have to content myself with making the two panels similar enough for them to give the impression of being identical. (Parsons, 2000c)

The writer and curator Jean-Paul Martinon wrote about the communicative aspect of my work in relation to what he called 'the endless quotation':

> Parsons…produces work which expresses his anxiety in front of the death of fine art in the great vortex of mass visual culture. This is not a critique of his work: on the contrary it should be seen as an elegy to someone who dares to reveal the contradictions of his times…the obsessive pristine and neatness of Parsons' mark expresses his anxiety at the expressiveness of the original: it's an avowal at being incapable of being so expressive, only being able to replicate the idea of expression…Parsons dwells and wallows in quotations in order to show that quotation and self-referentiality are the only marks of true communication…what Parsons is saying is that there are no more avant-garde conquering new territories: art can no longer pretend to be historically ahead of the rest of society: art can only quote and has never done anything else but quote. (Martinon, 2000, pp.6-7)

Bernard Piffaretti is another artist who revisits Rauschenberg's *Factum* method of doubling the image in order to question the supposedly unique authenticating gestural composition. Piffaretti's method is distinct in that he explicitly emphasises his works' status as copies. Since 1986 he has used a particular protocol to produce his paintings, which are stylistic variations on various tropes

of painterly abstraction and are all quite unlike one another. Each work is a single canvas showing two seemingly identical panels separated by a vertical strip [Figure 26.]. One of the panels is an attempt to duplicate as faithfully as possible the other, which has been freely painted beforehand. The artist states: 'the repetition, act by act, on the second half of the canvas, can only produce an imperfect image', but the repetitions are accurate enough to dispel the impression of an individualised artistic gesture. (Piffaretti, 2020)

> The duplication doesn't reproduce anything. It produces an 'image' that is neither the model, nor the copy. A kind of internal fusion comes to pass, like an acknowledgement and not a resemblance that transforms the paintings into acts. (Piffaretti in de Chassey *et al*., 2000, p.96)



**Figure 26.** Bernard Piffaretti (2020) *Untitled* [acrylic on canvas] 70 x 100 cm (27½ x 39⅜ in) © Bernard Piffaretti; Courtesy Lisson Gallery

## 2.4.12 Remaking continued

The bookbinder and artist Tracey Rowledge employs traditional techniques of fine binding, panel making, processes of drawing and other forms of marking to analyse, re-create and embody various kinds of gestural images. She uses highly developed craft methods that are very different and distinct from typical approaches to making a painting, for example. In addition to fine bindings, she has also made art objects in the form of wall-mounted panels, sculptural objects, large-scale installations and monumental drawings. In her early work of the late 1990s and 2000s, she often began with a source image taken from her 'found archive' – such as a scribbled drawing or a discarded note – and translated it into a medium that was completely at variance with the original, most notably gold tooling on leather. Rowledge developed a remarkable set of variations on traditional gold tooling, with her panels including examples of blind embossing, transferred carbon, metal leaf of different colours and finely detailed coloured leather onlays. These are incredibly laborious and meticulous processes that produce the appearance of fluid, gestural scribbles realised in seemingly impossible materials [Figure 27.].

**Figure 27.** Tracey Rowledge (2000) *Diptych* [Two wall panels covered in baby pink goatskin, with grey goatskin recessed onlays] each panel: 110 x 170 x 4mm
© Tracey Rowledge 2022
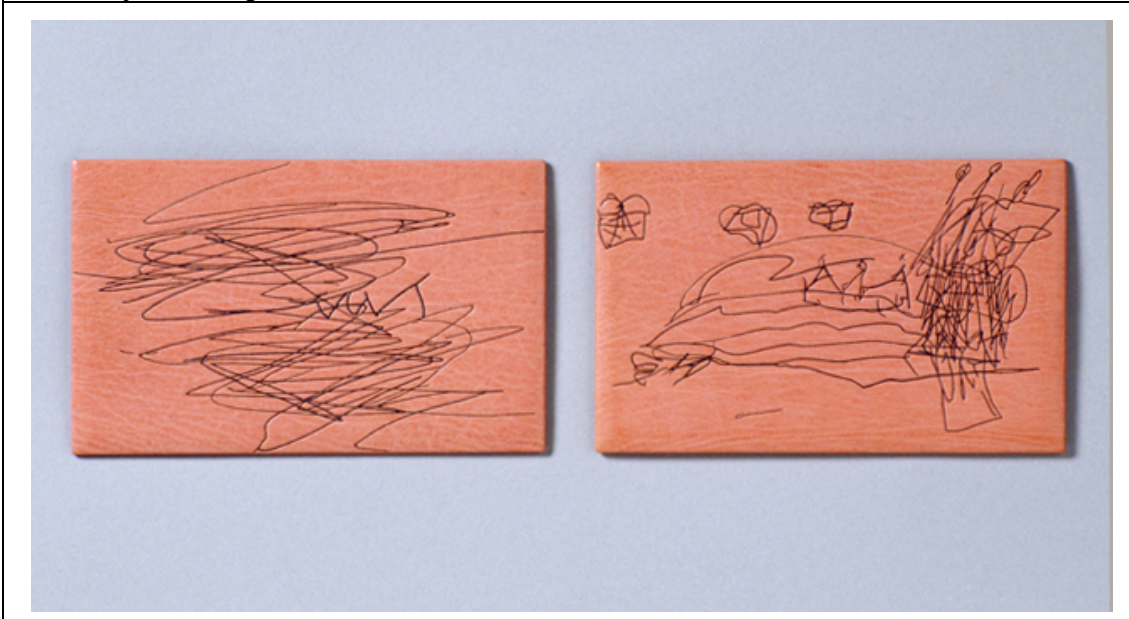
Some of her panels resemble stretched canvases, while others take the form of slim leather-bound boards or thicker traditional gesso panels, sometimes with integral frames.

> Rowledge begins with a given visual schema…and reconstitutes it in a non-gestural way. Through this she has devised a precise and uncanny antithesis to the painted panel, a critique of painting where appearance is present from the start and is enhanced and transformed by her various, sometimes mysterious, treatments. (Parsons, 2001)

Collaboration is an important part of her practice and she has made significant work and exhibitions with the silversmith David Clarke, among others. Rowledge and I exhibited our collaborative wall panel *He Gestured Toward Her* [Figure 28.] in my first solo exhibition in London in 1996.



**Figure 28.** Jonathan Parsons & Tracey Rowledge (1996) *He Gestured Toward Her* [goatskin tooled in gold and palladium leaf] 39.6 x 120 cm, Private Collection, Hampshire. © Jonathan Parsons & Tracey Rowledge 2021

In 2011, she collaborated with the dancer and choreographer Sarah Warsop to realise a suite of large-scale drawings. In these works, gestures of the dancer's bodily movement and touch were recorded as dark markings that were automatically produced as she moved over large surfaces of paper that had been sprinkled with a layer of specially prepared shards of powdered graphite [Figures 29 & 30.]. (Fletcher, 2015; Rowledge 2020)

**Figure 29.** Tracey Rowledge (2011) *What Isn't Here Hasn't Happened Drawing Series (3a)* [graphite on paper] 126 x 140 cm © Tracey Rowledge 2022
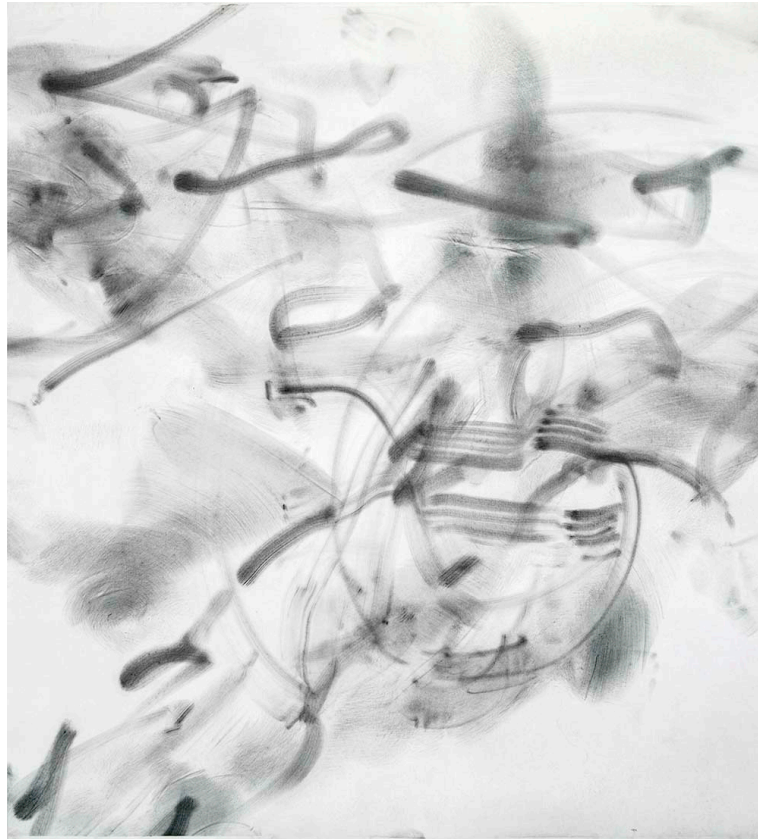


**Figure 30.** Tracey Rowledge (2011) *What Isn't Here Hasn't Happened Drawing Series* [working process documentary photograph] © Tracey Rowledge 2022

In 1996-7, Alan Brooks made a series of paintings based on small gestural drawings composed of basic scribbled black lines on paper. He enlarged them with projection and traced them onto cotton canvas in black oil using an idiosyncratic method of filling-in and embellishment. The fragmentary scribbled marks were faithfully reproduced, but they were accompanied by dots, squiggles, spirals, zigzags and meandering lines, which fringed the edges of the recreated lines and peppered the supposedly unmarked surfaces of what appeared to be grainy blank canvas. On close examination, the paintings were speckled with an all-over scattering of these busy and highly detailed marks. They provided a frenetic and almost hallucinatory overlay to the original, rapidly scribbled lines.

> The alacrity of the original lines remains, but their certainty and immediacy has been removed, replaced by a slow, nervous fragility, a product both of its change in scale and a change in the pace of its creation.
> (Brooks in MacRitchie, 1998, p.20)

The idea of recreating marks continues in the singular work of Susan Collis. Since 2002, she has exhibited what appear to be everyday objects that have been disfigured by stains, paint marks and the wear and tear of ordinary studio use. They are in fact the result of hundreds of hours of meticulous crafting using a variety of precious metals, stones and other materials traditionally exploited for their decorative or monetary value. For example: a seemingly paint-spattered dust sheet is actually brand new, but is covered with carefully embroidered marks in variously coloured threads; what appears to be a dribble of white paint across a floor is, in reality, hundreds of inlaid pieces of precisely shaped mother-of-pearl (Hoyland, 2019; Collis, 2009).

### 2.4.13 The mass produced and the mechanical

The trope of the recreated mark has been thoroughly assimilated into a wider practice of mass production by studio artists who use it as a key signifier of 'painting' as just one among many other modes of representation available to contemporary artists. Current examples are the hyperrealist 'collage' paintings of

Jeff Koons and Robert Longo's *Gang of Cosmos* (2013-14) series of large-scale charcoal drawing replicas of Abstract Expressionist canvases. Other artists use mechanical methods to apply simulations of gestural marks, subverting their status as the authenticating elements of painting. In his first public gallery exhibition in London in 2004, Christopher Wool showed a series of complexly layered enamel paintings on linen. These 'gray paintings' combined successive coatings of spray-painted marks, repeated photographic screen prints of similar marks and rollered areas of paint. These were then called into question by being partly erased by gestural wiping with a solvent and subsequently re-applied in various ways, which were virtually impossible to distinguish from one another in the final works (Wool, 2019 & 2004). Wool's critical detachment from mark making and his specific methods were echoed in paintings made by Stuart Cumberland in the late 2000s and early 2010s. In his exhibitions from this period, Cumberland showed paintings made up of images of gestural marks, dripped forms and patterned textures that were applied with a roller through various stencils and organised using brightly coloured palettes (Longo 2018a; Miller, 2016; Cumberland 2011, 2009a & 2009b).

These mechanical approaches to mark making were prefigured in complex automated installations that took the distance between the hand and the surface it marked – as exemplified in the work of Pollock and Barré – to its logical conclusion. Jean Tinguely first created small 'drawing machines' in 1955 that were operated by exhibition visitors and produced curvilinear tracings on paper resembling gestural abstract drawings. He later produced large-scale mechanisms, which produced chaotically scribbled drawings through audience interaction, such as *Meta-Matic No. 10* (1959) and *Cyclograveur* (1961) (Tinguely, 2016; Foster *et al.*, 2004, p.518). Rebecca Horn's mechanical installations are truly autonomous and they developed out of her performance practice of the 1970s, which included costumes that produced drawings from movements of her body or described the limits of her physicality within a space. She first made a painting machine in 1986 and has since created a number of different installations that automatically produce physical traces of graphite, paint,

ink and other substances. In *Les Amants* (1991), for example, the contents of two funnels – pink champagne and ink – are combined and flung across a wall by a twisting mechanical arm in a parody of amorous, alcohol-fuelled gestural abstraction. Her most recent machines, such as *Flying Books under Black Rain Painting* (2014), are activated by motion sensors when audiences approach the work (Roth, 2019). The Oxford-based artist Natasha Kidd continues this autonomous approach with mechanisms that use pumps and tubing to fill up and inflate arrays of folded canvases with circulating liquid paint; or moving brackets that repeatedly dip individual canvases into a reservoir of paint until it begins to evaporate and leave thick tidemarks that coagulate on the canvas surface (Kidd, 2015).

## 2.4.14 A conceptual coda

The marked up gestural surface – particularly one that embodies spontaneous and non-conscious drawings – continues to fascinate artists and, if treated carefully, can become a resonant signifier of all the art historical practice, theory and debate outlined in the preceding sections and in Appendix 2. Ceal Floyer is known for her concise presentation of restrained and understated installations. In her 2009 solo exhibition at the KW Institute for Contemporary Art Berlin, she showed *Works on Paper*, a wall-mounted installation of numerous single top sheets collected from stationary shop pads, upon which anonymous shoppers had tested out a profusion of pencils, pens and markers. In this work, she celebrates gestural marks in all their diversity and for their subtle power to signify, whilst remaining completely detached from producing any of them herself. In an earlier work, she addressed the contentious issue of marking a surface with her own hand in a highly imaginative way. In the single channel video *Ink on Paper* (1999), the artist performs what seems to be a very straightforward action: she places the felt tip of a marker pen onto the centre of a piece of blotting paper and leaves it there until all the ink is drained from it. The disc of wet ink expands almost imperceptibly. The process appears to be rather simple, but the effort and concentration needed to realise such a work requires enormous discipline, dedication and mental focus. The artist, whose unmoving hands are physically

present on screen, nonetheless manages to achieve a completely depersonalised Zen-like detachment, without any subjective intrusions. Instead of using a marker to leave gestural traces, the pen and the paper are used together to produce a physical form that mechanically generates itself (Parsons & Ward, 2016; Maclagan, 2014, p. 45, Jeppesen, 2009).

# Chapter 3, Part 1: An examination of the field; the picture

## 3.1 The picture

The word 'picture' is ultimately derived from the Latin *pingere* ('paint') and originally meant 'the action or process of painting or drawing'. It has come to mean the concrete result of these processes, or an individual painting or drawing (Onions 1973, 1990, p.1580).

### 3.1.1 Picture elements: the boundary

The obsessive focus by artists on the relationships between the structural elements within a picture and their overall relationship to the boundary of the support – the physical edges of the page, panel or canvas – has been present ever since the emergence in the 13th century of the concept of 'easel painting', i.e., painting executed on a portable support (Britannica, 1998a). The theoretical basis of pictorial structure within a rectangular boundary was tested to the extreme in the latter half of the 20th century. New developments in three-dimensional work produced in the mid-1960s challenged the status of both painting and sculpture. Painting was redefined as a 'rectangular plane'; a whole shape in itself, determining and restricting any arrangements occurring upon or within it. The new work established 'the rectangle as a definite form' at the same time as recognising its limited configurational possibilities.

> The primary problematic concerns with which advanced painting has been occupied for about half a century have been structural. The structural element has been gradually revealed to be located within the nature of the literal qualities of the support. It has been a long dialogue with a limit.
> (Morris, 1966)

The singular rectangular form 'has a better future outside of painting' (Judd, 1965) and its subsequent usage has proliferated into a plurality of production methods and dissolved the hierarchies between them (Parsons, 2007). The installations of Mary Kelly (2006, & 2010-12) and Daniel Buren (2007) are notable examples.

A flat surface is too handy to give up. Some things can be done only on a flat surface…The main thing wrong with painting is that it is a rectangular plane placed flat against the wall. A rectangle is a shape itself; it is obviously the whole shape; it determines and limits the arrangement of whatever is on or inside of it…the edges of the rectangle are a boundary, the end of the picture…anything spaced in a rectangle and on a plane suggests something in and on something else, something in its surround, which suggests an object or figure in its space…that's the main purpose of painting…Oil and canvas are familiar and, like the rectangular plane, have a certain quality and have limits. The quality is especially identified with art. (Judd, 1965)

### 3.1.2 Picture and image

A distinction can be made between the idea of a 'picture' and that of an 'image'. In *What is an Image?* (1986), W. J. T. Mitchell constructs a genealogy of images from institutional discourses based on likeness, semblance and similitude (which, in semiotics, are known as 'iconic' images and are discussed in section 3.2). Only some images are *visual*, and the 'picture' is categorised as a type of *graphic* image. He questions 'whether abstract, nonrepresentational paintings, ornamental or structural designs, diagrams or graphs are properly understood as images' (Mitchell, 1986, pp.7-14). A semiotic analysis of painting confirms that 'image' is interrelated with mimesis, which is a form of imitative representation or mimicry (Damisch, 2005, p.262). For the purposes of his argument in *The Domain of Images* (1999), James Elkins defines any 'nonart' image in the same terms as he does a 'visual artefact'. An 'image', he writes, is 'a general nondescriptive term for patterns on surfaces, taken in by the eye' (Elkins, 1999, pp.52-4, 256 & 260). In Remote Sensing 'image' is defined as: 'a spatial distribution of a physical property such as radiation, electric charge, conductivity, or reflectivity, mapped from another distribution of either the same or another physical property' (Mensa 1992, cited in Elkins 1996, p.69). By this definition a photograph, a shadow or the patterns of light projected onto the retina are definitive images. A 'picture', in the original sense of drawn or painted surface, can certainly be thought of as a spatial

distribution of reflectivity, but it is not always mapped from another distribution of that property. It can be an externalisation 'entirely conceived and formed by the mind before its execution' (Doesburg, 1930). In other words, it can come straight out of the artist's head. The correspondence between a picture and the rest of the physical world is therefore problematic. In contrast to an image as defined in Remote Sensing, a picture cannot convey universally decipherable information (Parsons, 2010b).

For the purposes of this research, I will consider a picture necessarily to be partly or wholly hand-made. We can, therefore, conceive of a 'pictorial image' – as made by an artist – in contradistinction to an image that has entirely been generated mechanically using optics or sonar, for example. Conversely, a digital photographic image that has manually been altered using post-production software, rather than being algorithmically treated with a filter, necessarily contains hand-made elements and can be thought of as a type of picture.

### 3.1.3 Pictorial structure

In computing, the successful functioning of the graphical user interface relies on a detailed analysis of how insight or understanding is acquired from data that has been transformed into pictures. This is known as 'information visualisation'. The design of electronically displayed pictures is intended to facilitate accurate interpretations by human beings and the aim of effective visualisation is to enable specific information to be derived from data of many different types. Information and data are distinct and the process of informing users about data is a highly complex and challenging one. A '*paper-based*' display is as valuable a way of visualising data as any electronic interface. Visualisation is recognised as information created in the mind of a viewer and as solely the result of human cognitive activity. It '*has nothing to do with computers*' (original emphases) (Spence, 2007 pp.5-6).

Visual communication, as understood from the point of view of Cognitive Science, is effectively a 'depictive expression of thought' (Tversky, 2011, p.499). It uses

organisation of the spatial properties of the page or surface and the types of marks made upon it to convey meanings. Visual communications can be rendered in a permanent form, which allows repeated inspection and assessment. This contributes to an overall understanding derived from multiple inferences and insights. Studies of many different types of visualisations show that there are consistent ways in which directions in space are used to convey various abstract qualities. For example, horizontal and vertical are often used for ordering, with the horizontal used to represent symmetrical qualities such as time, integer or motion and the vertical used to represent asymmetrical qualities, such as value, quantity or hierarchical position. Open and closed forms convey different information. Open lines can represent qualities such as connectivity, routes and direction and dots can represent entities. Arrows indicate asymmetric relationships. Enclosed, bounded forms such as circles or boxes can represent groupings via collection or containment, or they can separate and exclude [Figure 31.] (See section 3.1.8) (Tversky, 2011, pp.499, 500, 508, 514, 526-7).

**Figure 31.** Diagram drawn by the author – marginal note in response to Tversky, B. (2011) 'Visualizing Thought', p.526
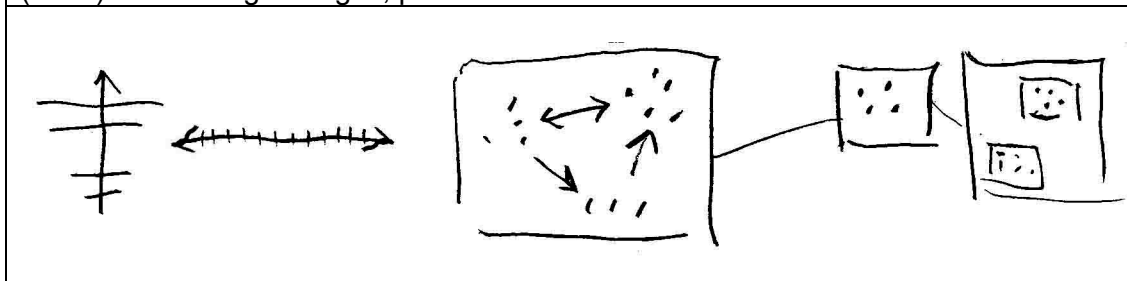


Humans have been making pictures with varying levels of technological sophistication since pre-history [Figure 32.]. Interdisciplinary accounts of picture-making, visualisation and vision have been central to the emerging field of Image Studies. One of its pioneers (Elkins, 1996, p. 13) recognises that, of all the disciplines engaged with visual theory, 'perhaps the most important is creative art, since artists have been making exact statements about the way the world appears since long before vision was ever an academic question'. They have also made exact statements and constructed precise theories about pictorial structure [Figures 33 & 34.].

**Figure 32.** Jonathan Parsons (2010) *Portal (no. 12)* [spray paint on wood with glass] 37 x 72 cm.



As previously stated, I am particularly interested in artist-generated theory; what artists have discovered about their own work, through interpretation and analysis as researchers working *within* their own discipline. It has very often been the case that theories applied to visual art have come from external researchers working within other disciplines. When the term 'interdisciplinary' is used to describe varied practices in the subject area of visual art, it typically means 'multiple methods' in research terminology.

> Because depictions…have evolved over time, they have undergone an informal but powerful kind of natural user testing…by a community of users…Features and forms that have been invented and reinvented across cultures and time are likely to be effective…this rich set of visual forms has traditionally been discussed in the domain of art…Increasingly that discussion has expanded…to take into account the mind that perceives, conceives and understands them, and to ripple across domains.
> (Tversky, 2011, p.501)

**Figure 33.** Poore, H. R. (1903) *Pictorial Composition and the Critical Judgment of Pictures: A Handbook for Students and Lovers of Art*, New York and London: G. P. Putnam's Sons, p.48. Public domain. Available at: https://www.gutenberg.org/files/26638/26638-pdf.pdf (Accessed: 24 May 2017)
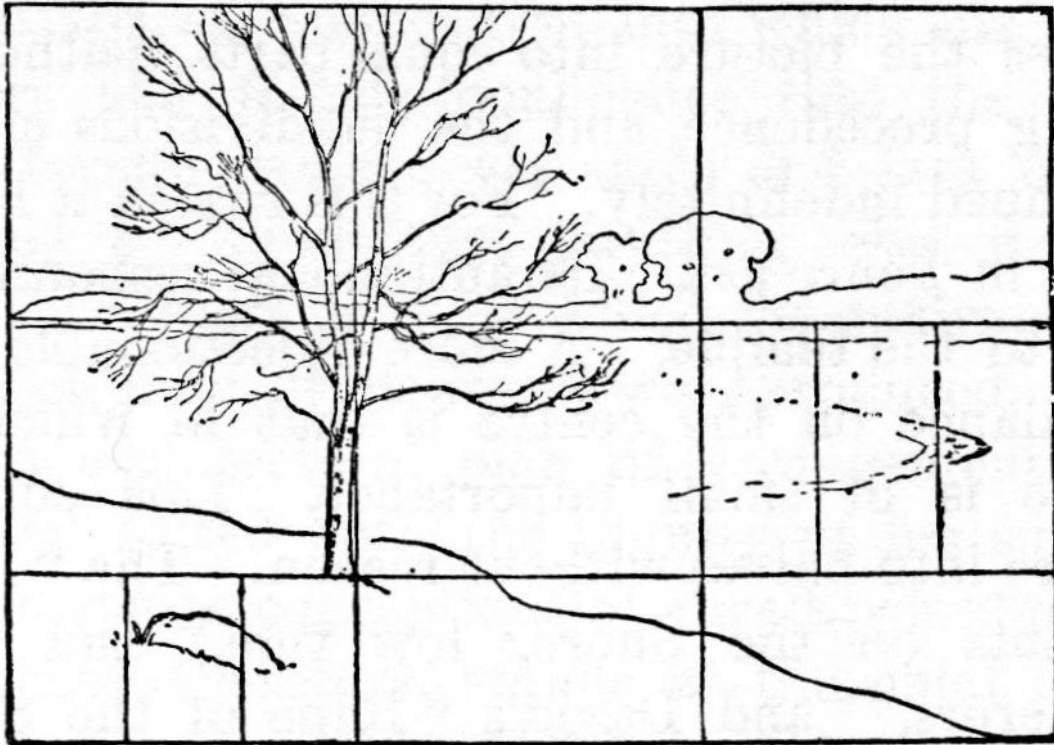


p.48: 'In all forms, save the classic decoration it should be the artist's effort to conceal the balance over the centre. In avoiding the equal divisions of the picture plane a practical plan of construction is based upon the strong points as opposed to the weak ones. It assumes that the weak point is the centre, and that in all types of composition where formality is not desired the centre is to be avoided. Any points equidistant from any two sides are also weak points. The inequalities in distance should bear a mathematical ratio to each other as one and two-thirds, two and three-fifths. These points will be strongest and best adapted for the placement of objects which are distant from the boundary lines and the corners, *in degrees most varied.* If we take a canvas of ordinary proportion, namely, one whose length is equal to the hypotenuse on the square of its breadth…and divide it into unequal divisions as three, five or seven, we will produce points on which good composition will result. […] The formula is always productive of excellent results.'

**Figure 34.** Frank Stella (1959) *Die Fahne hoch!* [enamel on canvas] 121 5/8 × 72 13/16 in. (308.9 × 184.9 cm), Whitney Museum of American Art, New York; gift of Mr. and Mrs. Eugene M. Schwartz and purchase with funds from the John I. H. Baur Purchase Fund, the Charles and Anita Blatt Fund, Peter M. Brant, B. H. Friedman, the Gilman Foundation, Inc., Susan Morse Hilles, The Lauder Foundation, Frances and Sydney Lewis, the Albert A. List Fund, Philip Morris Incorporated, Sandra Payson, Mr. and Mrs. Albrecht Saalfield, Mrs. Percy Uris, Warner Communications Inc., and the National Endowment for the Arts 75.22 © Frank Stella. ARS, NY and DACS, London, 2022. Photo courtesy Whitney Museum of American Art, New York
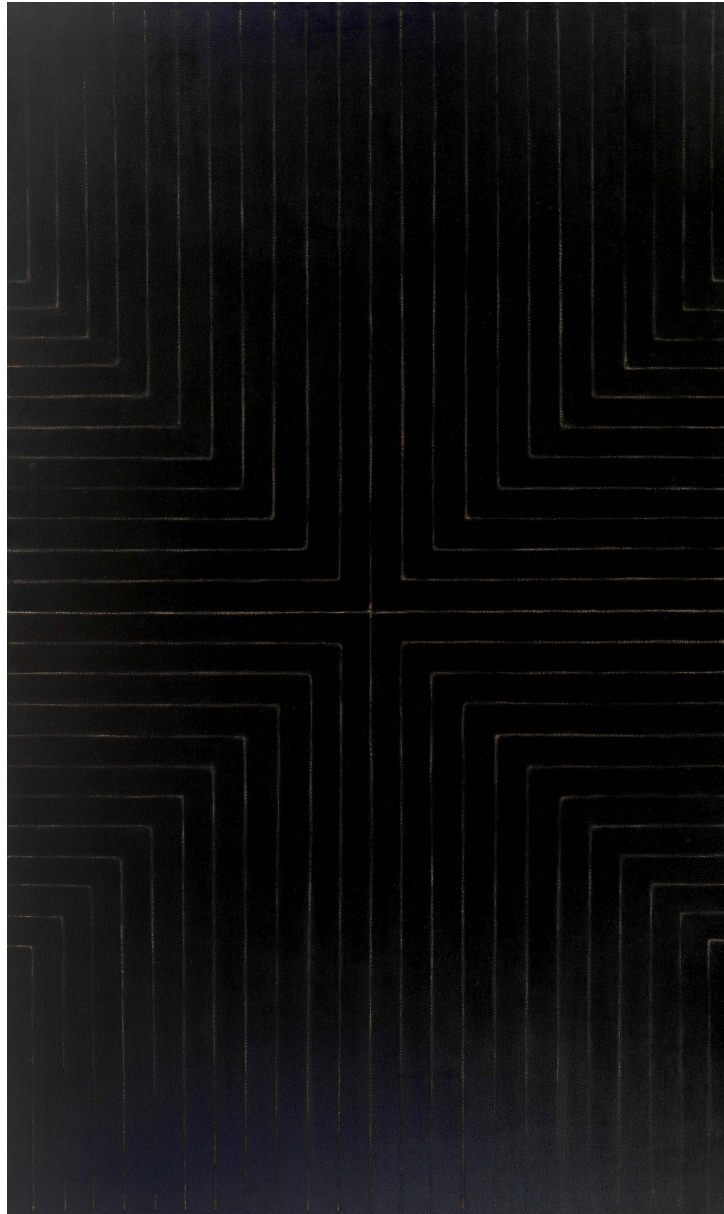


Details from the museum's object label: '*Die Fahne hoch!* belongs to a group of twenty-four black paintings that brought the young Frank Stella instant art world notoriety. What appear at first to be white lines are actually bare, narrow spaces of unprimed canvas between the standardized black bands that the artist applied with a housepainter's brush. Spanning a deep stretcher, the painting seems to project off the wall, asserting its presence, or what Stella called its "objectness." There was nothing to this work, the artist declared, beyond the observable—as he put it in a now-famous maxim, "what you see is what you see." While Stella insisted on the non-referentiality of his paintings, the German title *Die Fahne hoch!*, which translates as "hoist the flag," is taken from the "Horst Wessel Song," the Nazi Party's marching anthem. Indeed the painting's title, cruciform configuration, and flaglike proportions call to mind not only Nazi banners but the darkness and annihilation of the Holocaust. The phrase may also refer to raising the banner of a new aesthetic, one that marked a shift away from Abstract Expressionism and anticipated the geometry and rigor of Minimalism.' (Whitney 2022, http://collection.whitney.org/object/2964)

### 3.1.4 Artist-generated theories of pictorial structure

The pictorial is a widely assumed structural trope, which has not been analysed by artists to the same extent that gesture and mark making have. It is therefore challenging to find detailed artists' statements on the structures of depiction. For this reason, the selection of artist-generated theories of pictorial structure set out in in Box 4 is not exhaustive. It is, however, drawn exclusively from artists' own statements. These examples demonstrate coevolving attitudes to pictorial structure within traditions of 20<sup>th</sup> century 'avant-garde' practice. In summary they comprise comprehensive theories of composition; relational composition; unity; dissolution, formlessness and the infinite; anti-composition; non-composition; 'all over' design and symmetry; given configurations presented 'as is'; the picture as historical mode; the picture as a concept; the picture as a critical and discursive space; the picture as quotation; the picture as an overabundant exemplar of an exhausted medium. Crucially, all of these theories relate to activities bounded by a rectangular limit and they inform the theoretical perspectives underlying my research methodology. I am, however, wary of any artists' claims for universality.

| Box 4. Artist-generated theories of pictorial structure |
|---|
| **Henri Matisse** (1908) – active/reactive direct painterly composition: definite relationship between elements of composition and of overall composition to square and rectangular panel formats/proportions |
| **Kazimir Malevich** (1916b & 1919) – square is 'zero of form'; interaction of picture elements; construction by weight, speed and direction; 'pure plastic painting'; the construction of forms from nothing; frameworks of pure colour |
| **Lyubov Popova** (1919) – Architectonics; Construction in painting = sum of the energy of its parts; fixed surfaces whose content is texture; Energetics + direction of volumes + planes and lines or their vestiges + all colours |
| **Theo van Doesburg** (1919) – overall counterbalancing relationship of position, dimension, proportion, colours, forms, lines and planes |
| **Piet Mondrian** (1921) – composition of equilibrated plastic in constant and neutralising opposition forming absolute unity |
| **Paul Klee** (1924) – choice of formal elements (Measure/Line; Weight/Tonality; Quality/Colour) and the character of their mutual relationships within narrow limits – In painting, 'the picture' should be regarded as the object. The picture is the whole; the |

parts should be evaluated in relation to the whole, that is, in relation to the picture. This makes format of foremost importance. (Klee, 1961, p.47)

**Wassily Kandinsky** (1926) – 'My definition of the concept "composition" is as follows: A composition is the inwardly-purposeful subordination

1. of the individual elements and
2. of the build-up (construction)

toward the goal of concrete pictoriality.' (Kandinsky, 1947, p.37)

**Theo van Doesburg** (1930) – pictorial element has no other meaning than 'itself'; the construction of the picture, as well as its elements, should be simple and controllable visually

**Hans Hoffman** (1932) – preservation of the two-dimensionality of the picture plane; rhythmic relations of colour and form conditioned by space; limits of picture plane entity are its specific medium

**Władysław Strzemiński** (1932) – problem of relation of divided parts to pictorial border and reciprocal relation of divisions in a structural rhythm of mutual connections; the aim is not division, but unity presented optically

**Jean Dubuffet** (1946) – 'Two Dimensions': surface-language of objects transcribed onto completely flat, rectangular surfaces; representations changed into pancakes 'ironed flat'

**Lucio Fontana** (1946) – the end of colours and static forms; the union of time and space

**Barnett Newman** (1947) – 'ideographic picture': representing ideas directly without naming them; shape as vehicle for abstract thought-complex: these are 'reality', rather than an 'abstraction' of the visual; epistemological paradox of 'formless' pure idea *without* pictorial structure

**Ellsworth Kelly** (1949) – paintings/objects; seen forms made exactly 'as is' without additions; subject already made; no need to compose; everything seen has equal status (quoted in Coplans, 1971, pp.28-30)

**Jasper Johns** (1959) – the boundary of a body is neither part of the enclosed body nor part of the surrounding atmosphere; works contain possibilities at every point for the changing focus of the eye; artist opposed to pictorial simplicity; 'Everything looks very busy to me' (quoted in Miller, 1959, p.22).

**Yves Klein** (1959) – refusal to create interplay of more than one colour on a surface; consequences of line contours bring art to the crisis of form: Mondrian's 'insoluble problem of spatial organisation'; blue monochromes are 'beyond dimensions'

**Piero Manzoni** (1960) – single, limitless dynamic surface without rapport between colours: an infinite colourless monochrome (*Achrome*); pure matter transformed into pure energy; compositions are useless and deprived of all value: 'empty inventions'

**Frank Stella** (1960) – 'design solution' to spatial problem of relational composition is symmetry: 'non-relational' painting is the same 'all over' forcing illusionistic space out of the painting by using a regulated pattern [Figure 34.]

**Helen Frankenthaler** (1961) – starting out a picture with a very clear idea of what is going to be done; forming so-called accidents with rag or brush: these are 'predetermined accidents'; 'a really good picture looks as if it all happened at once, an immediate image…suddenly born'; surface and spatial perspective working together (Sylvester, 2001, pp.101-3)

**Robert Rauschenberg** (1961 & 1964) – a canvas is never empty; duplication of images is symmetry; edge of the canvas is a stopping, a termination of activity (Cage, 1961; Sylvester, 2001, p.134)

**Ad Reinhardt** (1962) – one overall uniformity and non-irregularity: the single scheme; no relations, attributes or qualities

**Jasper Johns** (1965) – designs the mind already knows; pre-formed, conventional, depersonalised, factual, exterior elements; 'things which are'; accomplished or finalised form of finished paintings

**Donald Judd** (1965) – rectangular plane in front of, and parallel to, another plane; not much further can be done with both an upright rectangular plane and an absence of space

**Robert Morris** (1966) – problematic occupying painting for half a century is structural: located within literal qualities of support and a dialogue with its limit; the divisiveness of elicited experience

**Jules Olitski** (1967) – painting is flow of 'colour feeling' structured by shape and size, support and edge; outer edge (line; drawing) is outermost extension of the development of a colour structure

**Sol LeWitt** (1967) – artist selects form and rules of pre-set plan that designs each work avoiding subjectivity; art form is unimportant; ideas better stated in two dimensions should not be in three dimensions

**Joseph Kosuth** (1969) – morphological justifications for art make it impossible to question the nature of art and therefore its function; unquestioningly accepting a specific *kind* of art (such as painting) accepts its attendant tradition

**Daniel Buren** (1970) – ideal-object of exhibited concept; no evolution or way out; painting should not be a vision of a phenomenon, but visuality of the painting itself existing only by mental reconstruction and demolition; no composition on the inside of the surface or area to be looked at

**Gerhard Richter** (1977) – arbitrariness the central problem in both abstract and representational painting; no reason for placing one thing next to another in any particular format, any particular colour, with any particular outline, with any particular likeness (Richter, 1995, p.87)

**Joan Snyder** (1978, 2008 & 2017) The structure of lines and strokes; the grid; showing the 'anatomy' of a painting: being able to see the processes the work went through from ground and under drawing to further layers; creating order and then letting go; painterliness, structure and repetition; maximalist use of materials. (Bui, 2008; Manes, 2014; Jansen, 2017)

**Mary Kelly** (1981) – the pictorial paradigm: discursive production of a norm for pictorial representation corresponding to a set of assumptions based on criticism as a determining condition for modernism

**Sherrie Levine** (1982) – a picture is a tissue of quotations drawn from innumerable centres of culture in which a variety of non-original images blend and clash

**Art & Language (Michael Baldwin, Mel Ramsden & Charles Harrison)** (1983) – Pollock's painting is very easy to reconstruct technically; its substantial lesson is that one recognises how little is left to work with

**Cy Twombly** (2000) – 'I don't think of composition; I don't think of colour here and there…all I could think is the rush.' (Sylvester, 2001; p.179)

**Julie Mehretu** (2002) – a blank terrain, an abstracted story map space occurring in an intangible no-place (Firstenberg, 2002)

**Pia Fries** (2007) Heterogenous paintings with differing elements (unrelated gestures and parts) working together to be kept 'up in the air'; spaces filled with colour alongside 'empty space'; diverse tools for managing paint in distinct ways; embodiment of energy. (Crown Point Press, 2013)

**Joanne Greenbaum** (2013 & 2016) – white ground is a 'blank', colour is a found object; gesture is made without 'meaning'; no editing; individual 'performance' with distinct materials; simultaneously structured and loose; goal is 'irresolution'. (Sigler, 2013; Bui, 2016)

**David Maclagan** (2014) – loosely scribbled drawing as starting point; not so much a compositional structure as an energetic field

**Nicola Tyson** (2017) – seismographically mapping the void – images self-organise until they find their own equilibrium (Author's notes, 2017)

**Yto Barrada** (2018) – Looking for forms; collecting children's drawings; cut textile and wallpaper patterns connected to abstraction; polysemic materials; children's scratched wall drawings; American Abstraction borrowing from Morocco borrowing from America: 'reappropriating' zellige tile motifs that possibly inspired Stella; 'Buren does not own stripes'; facts are not essential; 'Children's drawings, historically, started to be interesting after the changes in education when playing with something was accepted as a part of growing up' (Lloyd, 2018; Yerebakan, 2018)

**Flora Yukhnovich** (2022) – Painting makes sense of all the images that bombard us minute by minute; old and new aesthetics can co-exist – all image-making involves a dialogue between them; in painting this happens in a very explicit and revealing way (Hessel, 2022)

(Maclagan, 2014; Harrison & Wood, 1998; Osborne, 1988; Read, 1986; Steinberg 1972)

My own theories of pictorial structure are as follows:

Planar non-compositions using mechanical mark-making (or touch-effacing) techniques; figure-ground reversal; 'cutting through colour'; an *un*composed or an extant image, a given arrangement or formation: *configurations*. Not composition, but a procedural set of transformations (Parsons, 1996b & 2000d)

The central argument had to be visual…because what I had found came from looking at the pictures (which…are primary documents)
(Hockney, 2001, pp.15-16). [Figures 35 & 36.]

The greatest treasures of the world are art…they are the most lasting, they are still here after people…they seem to be true historical documents you know, that I can get more from than reading or other things.
(Jean-Michel Basquiat in Buchart, Nairne & Johnson, 2020, p.265)

**Figure 35.** Ralph Steadman's compositional analysis of the pictorial structures of *The Last Supper* (Leonardo da Vinci c.1495-6) (Steadman 1983, p.79) Image © 2022 Ralph Steadman, courtesy of Ralph Steadman Art Collection
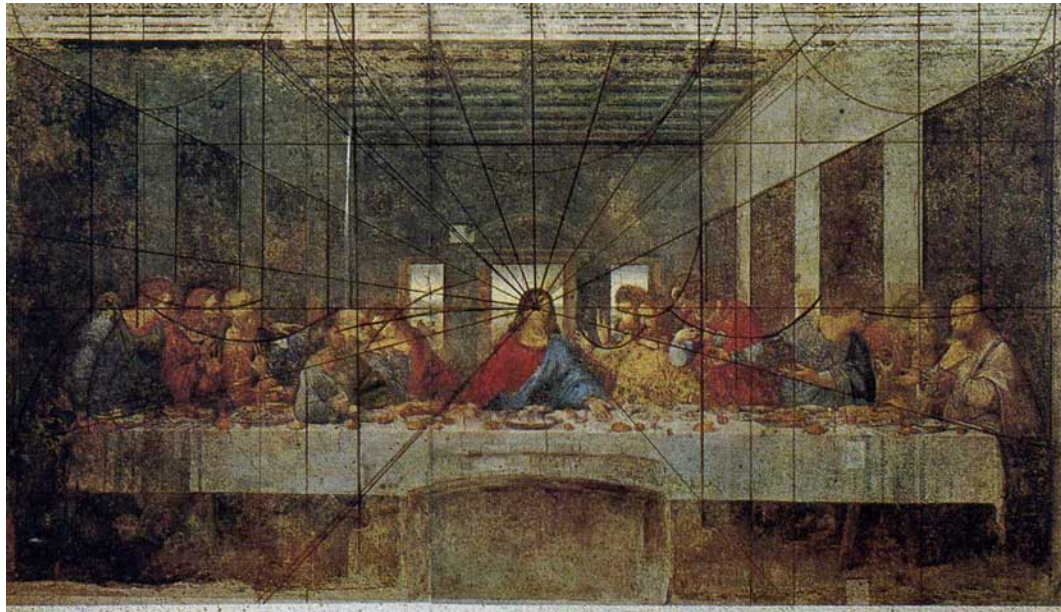


**Figure 36.** Author's re-drawing of Steadman's (1983) linear compositional structures. Adaptation kindly permitted by Ralph Steadman Art Collection, 2022.
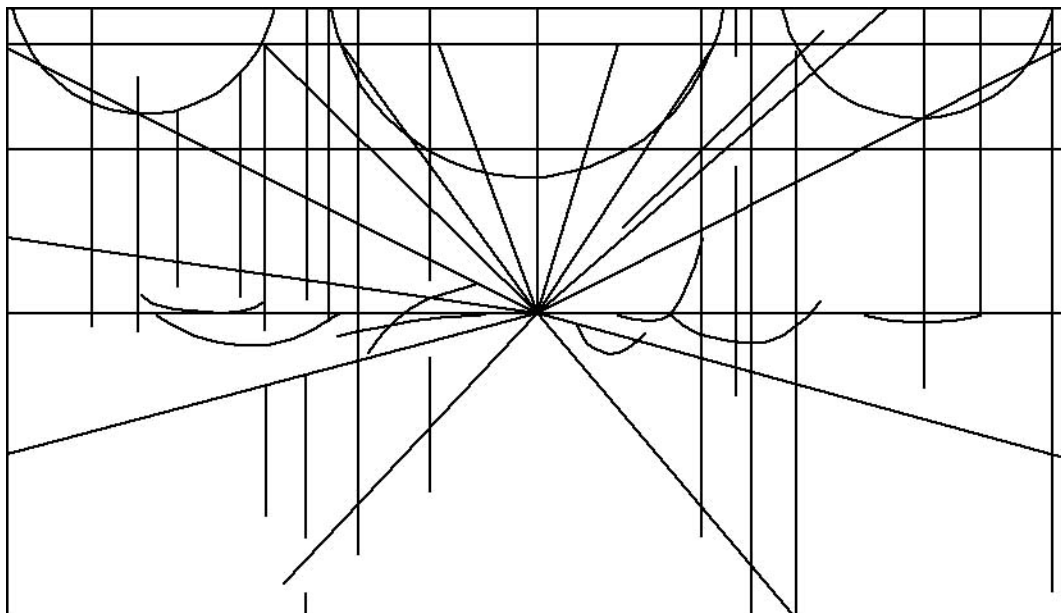
### 3.1.5 The rectangle: definition, usage and origins

A rectangle is defined in geometry as a plane quadrilateral or parallelogram with four right angles (Onions, 1973, 1990, p.1768). The 'oblong' rectangle has unequal adjacent sides, while the square has four equal sides. The proportional relationship between the height and the width of a rectangle is known as its aspect ratio and is usually written down as two numbers separated with a colon, as in 2:3. The square (1:1) is sometimes referred to as a special type of rectangle (Gates, Gentry & Sevilla, 2017a). This plane figure can be readily perceived pictorially, without any specialised knowledge of mathematics [Figures 37 & 38.].

It is ubiquitous and thoroughly embedded in contemporary visual culture [Figure 39.]. For example, the overwhelming majority of representations now being produced are digital images shown as a rectangular grid of pixels ('pixel' is a contraction of the words 'picture element', meaning the smallest controllable element of a digital raster image). This represents a global hegemony: a grid of pixels is the principal mode of image capture, production, storage and display (Parsons, 2010b). The pictorial hegemony of the rectangle – which includes the formatting of this current document – has naturally been of profound interest to artists (see Appendix 3.).

**Figure 37.** Simplified typology of the rectangle demonstrated pictorially – author's illustration**.**



square

1:2

2:3

landscape

portrait
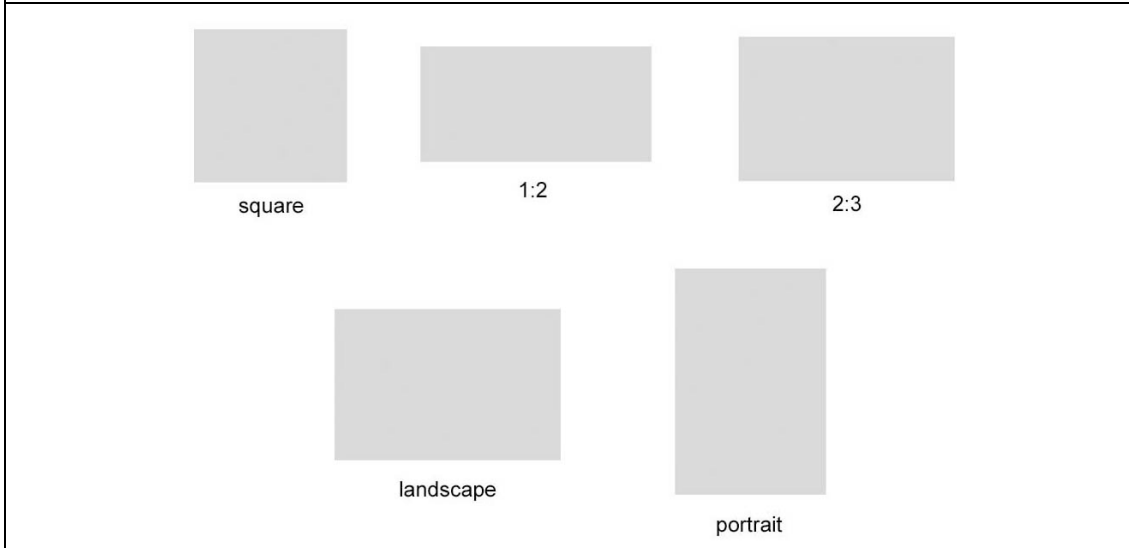
A rectangle is defined in geometry as a quadrilateral or parallelogram with four right angles. The 'oblong' rectangle has unequal adjacent sides, while the square rectangle has four equal sides. The square is sometimes referred to as a special type of rectangle. Oblong rectangles can vary in their aspect ratio, which is the proportional relationship between dimensions of width and height. Two common oblong rectangles with aspect ratios of 1:2 and 2:3 are shown alongside the square, which has the aspect ratio 1:1. Two rectangles of fixed proportions are also shown in a 'landscape' and 'portrait' format. These terms are derived from the history of painting and mean that the rectangle is presented in either a horizontal or vertical attitude. See Appendix 3 (Parsons 2017b) for the origins of these research interests.

**Figure 38.** Jonathan Parsons (2017) *A Simple Typology of the Rectangle* [Cut and polished cast acrylic sheet] three panels: 200 x 300 mm, 348 x 174 x 2 mm, 244 x 244 mm (Practice Research Catalogue no. 010)
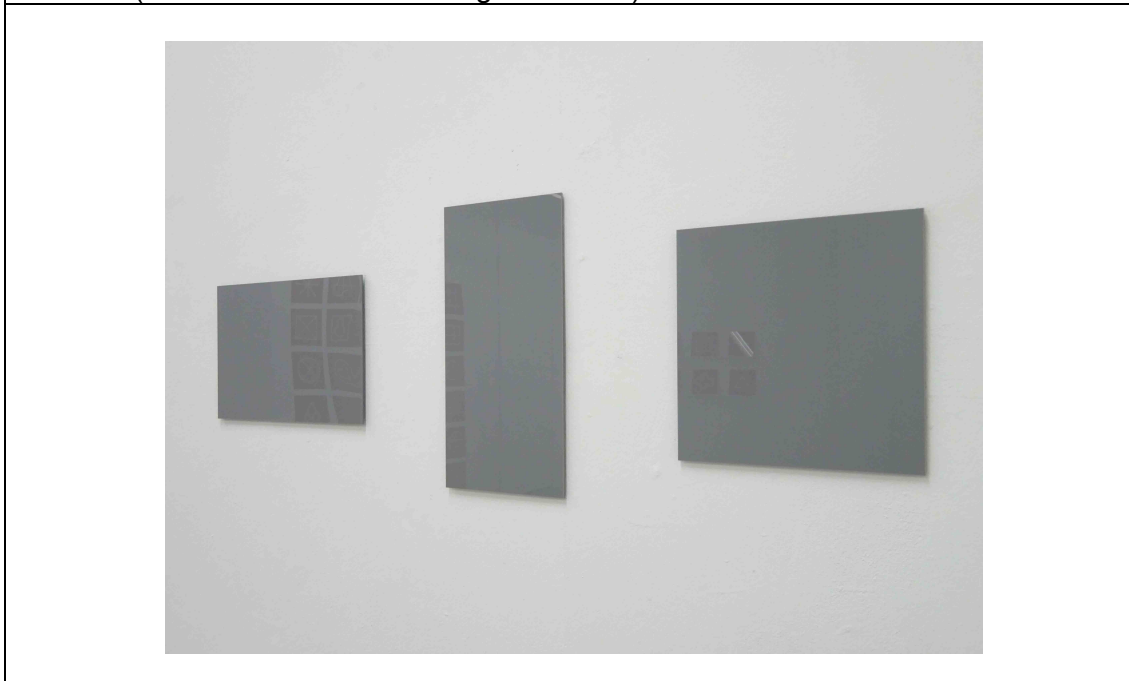
**Figure 39.** Common image aspect ratios of still images, films and digital images. Adapted from uncredited table, Available at: https://en.wikipedia.org/w/index.php?title=Aspect_ratio_(image)&oldid=807856052 (Accessed: 6 April 2021)

9:16
Vertical

1:1
Square

1.20:1 (6:5)
Fox Movietone aspect ratio

1.25:1 (5:4)
Early television & large-format computer monitors

1.33:1 (4:3)
Traditional television & computer monitor standard

1.375:1 (11:8)
Academy standard film aspect ratio

1.41:1
√2:1 ~1.4142:1, Lichtenberg ratio, ISO 216 paper sizes (A4)

1.43:1
IMAX motion picture film format

1.5:1 (3:2)
Classic 35 mm still photographic film

1.58577:1
Credit card is 85.60 × 53.98 mm.

1.6:1 (16:10 or 8:5)
A common computer screen ratio.

1.6180:1
The golden ratio

1.6667:1 (5:3)
A common European widescreen standard; Paramount format;[1] native Super 16 mm film.

1.77:1 or 1.78:1 (16:9)
HD video std.; U.S. digital broadcast TV std.

1.85:1
A common US widescreen cinema standard

2:1 (18:9)
Univisium

2.35:1 or 2.40:1 (21:9)
A current widescreen cinema standard

2.414:1
The silver ratio

2.76:1
Ultra Panavision 70

4.00:1
Used only in *Napoléon* (1927)

Since the upheavals of Dada (see Appendix 2), performative and other interventions from various practitioners – most notably Duchamp and the pioneers of Land Art, Performance Art and Minimalism – have problematised the characterisation of the rectangle 'as an arena in which to act' (Rosenberg, 1952) or, indeed, as a Modernist trope for framing multiple forms of visual culture. The rectangle itself was thoroughly critiqued by Morris (1966) and Judd (1965), for example, and its boundaries were tested to breaking point by Rosmarie Castoro, Carolee Schneemann and the *Gutai* artists (See sections 2.4.4, 3.1.1 and Appendix 2). Later curatorial interventions, such as that by Bourriaud in his 1996 group exhibition *Traffic*, attempted to challenge the conventions of rectangular display, both curatorially in terms of interactivity and the 'relational', as well as through the multiple and sometimes fragmentary nature of selected artworks and projects. The video documentation of performances that were exhibited in *Traffic* and the temporary rooms built for the show, however, did not escape their conventional rectangular constraints (Bourriaud, 1996; Freedman, 1996; Tsingou, 1996).

Whilst it may be argued that the 'hegemonic' presence of the rectangle as a trope for framing forms of visual culture is a Modernist assumption, there is no doubt that, beyond the discourses of Fine Art and its histories, the rectilinear format is the most common vehicle for image production and visual communication by a large order of magnitude.

The ubiquity of rectangles in wider human culture may have its ultimate morphological origins in natural physical structures, such as geological or mineral formations, the skeletons of animals and plants and tensegrity. It is tied to the notion of mechanical forces acting upon the vertical human body perpendicular to the surface of the earth and visually in relation to the head turning in the plane of the horizon: the horizontal. In physical actuality the vertical is the direction pointing directly away from the earth's centre: a line in relation to a sphere. In his all-encompassing study of the production of pictorial form, Klee noted with typical perspicacity that:

We are constrained by the plumbline…The 'I' orients itself in space according to three dimensions. It judges its position in this space according to the concepts: above → below; left hand → right hand; in front → behind…vertical and horizontal corresponds…to the human frame in reference to the attraction of the earth…In our gravitational realm of experience, the earth (or, actually, its centre) always wins…All straight lines that run vertically are schemata of the first rule of statics (gravitation). Straight lines that run horizontally are schemata of the second law of statics (horizontals, stratification as consequences of gravitation).
(Klee, 1961, pp.5, 147, 413-14).

Indeed, in geology, horizon is the name given to distinctive rock strata. The human-made rectangle most likely has its origins in the artefacts and innovations of ancient prehistory: unrolled cylinders of tree bark; timber frames; prepared animal hide; woven cloth. It is also connected to the development in armoury of the hand-held shield protecting the upright human body, which later became the entire field upon which heraldic designs are emblazoned (discussed in section 3.3.2.). Highly refined hides in the form of leather and parchment were instrumental in the invention of the book and fine mesh stretched over frames was indispensable for the invention and production of mould made paper. All of these technologies gave rise to the form of the book, the modern concept of the rectangular 'page' and, its later proxy, the interactive screen. Before printing was invented, books were manuscripts written by hand. Medieval scribes developed fundamental codes for the proportions of the page, the position of its type area and their overall relationship to the format of the book.

A book is thought of by the scribe chiefly as an open book, and the width and height of its pages are chosen with a view to its convenient shape and pleasant appearance when open. The most economical sizes into which a suitable sheet of paper can be folded (or a skin of parchment can be cut) may commonly be allowed to decide these proportions. [Figure 40.]
(Johnston, 1906, 1973, p.67)

**Figure 40.** Edward Johnston (1906, 1973, p. 67-8) 'A printer chooses a sheet of paper which will fold into a suitable shape and size. If the sheet be folded once to form two leaves, the book is called a *folio*; folded again to form a "section" of four leaves – a *quarto* (4to) or folded a third time to form a *section* of eight leaves – an *octavo* (8vo)'. Image in the public domain. Available at: https://www.gutenberg.org/files/47089/47089-h/47089-h.htm#fig69 (Accessed: 23 November 2022)
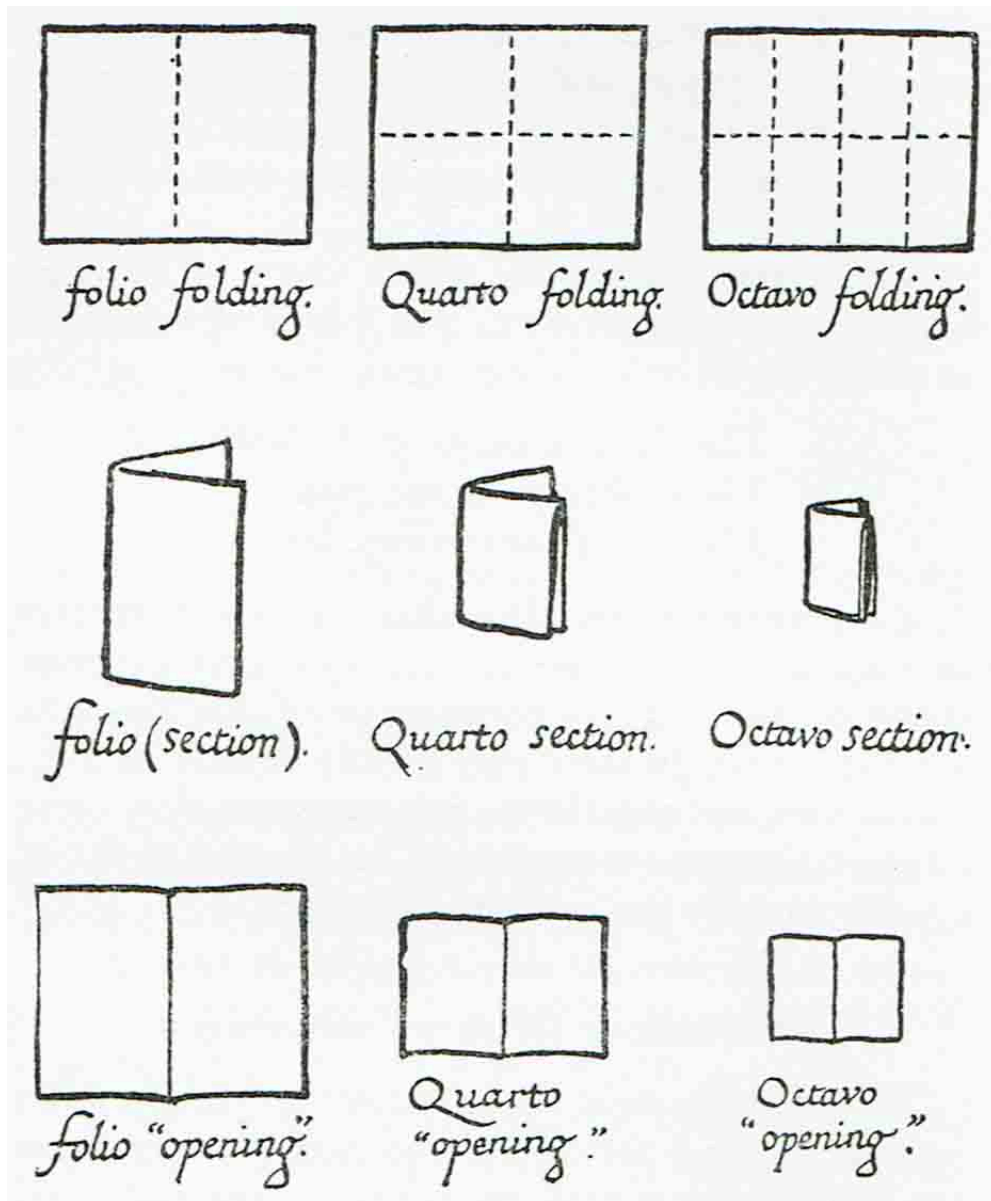
The German-Swiss typographer, calligrapher and book designer Jan Tschichold painstakingly measured a large number of medieval manuscripts and, in 1953, finally succeeded in reconstructing the 'Secret Golden Canon' of book page construction [Figure 41.]. He also produced an overview of all the principal rectangular proportions used for book pages [Figure 42.]. In order to divide the rectangle in the most efficient way, Tschichold preferred a graphical solution: 'A geometrical division is simpler and better than an arithmetical computation' (Tschichold, 1991, pp.42-44, 56, 59 & 61). The ubiquitous concept of the page is a defining physical and conceptual space in studies of children's drawings and, along with the ready availability of inexpensive sheets of paper to young children, it is a prerequisite to the development of the modern idea of scribble as a type of drawing.

**Figure 41.** Jan Tschichold (1991, p.44) 'The secret canon, upon which many late medieval manuscripts and incunabula are based. Determined by Jan Tschichold, 1953. Page proportions 2:3. Text area and page show the same proportions. Height of text area equals page width. Margin proportions 2:3:4:6' By kind permission of Lund Humphries
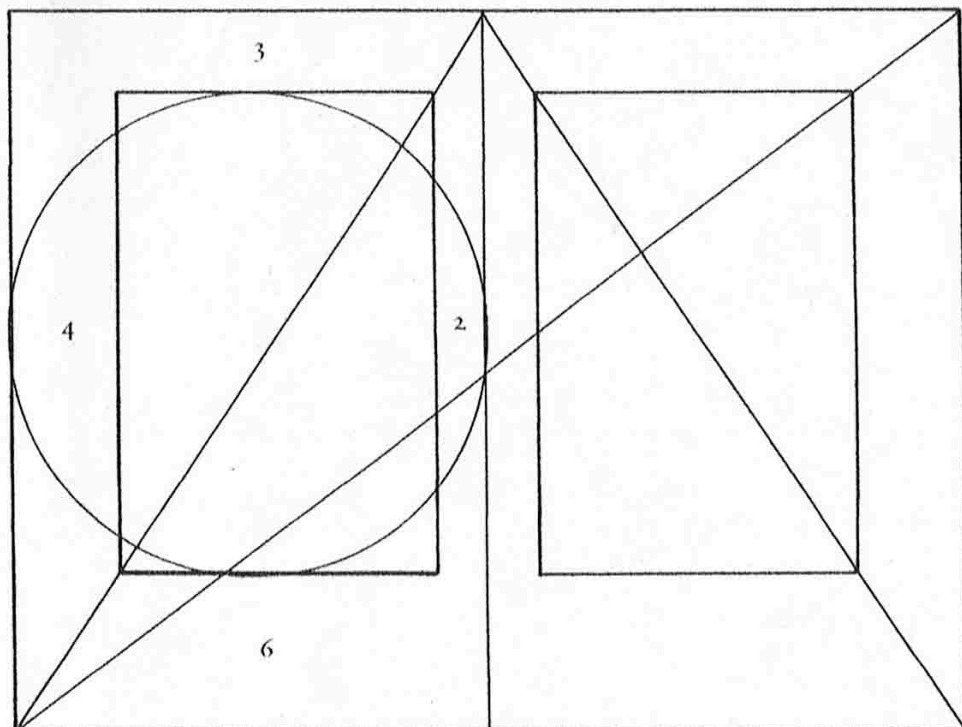
**Figure 42.** Jan Tschichold (1991, pp.59 & 61) '[This figure] provides an overview of all rectangular proportions mentioned here and also gives the rare ratio of 1:√5. A, D, F, G and I, are irrational relationships, while B, C, E, H and K are rational ones. By kind permission of Lund Humphries



A 1:2.236 (1: √5)     E 3:5                H 2:3
B 1:2 (1: √4)         F 1:1.618 (21:34)    I 1:1.414 (1: √2)
C 5:9                 (Golden Section)     K 3:4
D 1:1.732 (1: √3)     G 1:1.538
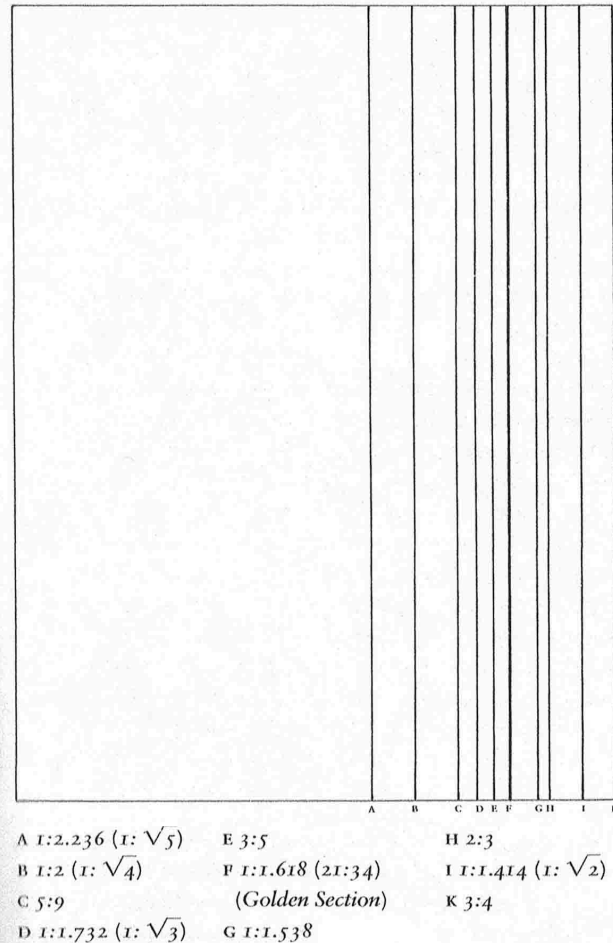
### 3.1.6 Picture elements: point; line; plane

Wassily Kandinsky taught alongside Klee at the Weimar Bauhaus in the early 1920s and both artists produced treatises on the elements of pictorial structure. In 1923, Kandinsky brought together materials he had been working on since the 1910s, which were published in 1926 as *Point and Line to Plane*. Klee had assembled teaching materials on *Pictorial Mechanics* in c.1925. These were formally brought together after his death and first published in 1956. (Kandinsky, 1947, pp.8 & 13; Klee, 1961, p.47) Both artists emphasised the importance of the point, line and plane as the most basic picture elements.

Kandinsky wrote that 'the point is the result of the initial collision of the tool with the material plane' and that it 'is the *proto-element of painting* and especially of the *graphic'* (original emphases). 'The geometric line', he continued, 'is the track made by the moving point'. According to Kandinsky, all line forms can be reduced to 'two cases', i.e., the application of one force, or the application of two forces working either together or alternately. These two cases result in straight lines (horizontal, diagonal and vertical), angular lines (acute, right or obtuse) and curved lines (simple, complex, geometrical or free). The last basic type of line is one that combines of any of these former characteristics. He identified the 'Basic Plane' as 'the material plane which is called upon to receive the content of the work of art.' The schematic Basic Plane 'is bounded…and is thereby set off as an individual thing in the realm of its surroundings.' (Kandinsky, 1947, pp.28, 32, 57, 58-9, 68-9, 79, 85, 92, 115)

Klee considered the mobile point and the line it produced (resulting from the application of a pointed tool) as the most primitive pictorial elements. He wrote: 'I begin where all pictorial form begins: with the point that sets itself in motion. The point (as agent) moves off, and the line comes into being – the first dimension.' If the entire line itself shifts (as when the linear edge of a graphic tool, such as a crayon, is applied and moved) a two-dimensional plane is produced 'at first and when the freedom of movement is very limited.' When a plane moves into space, it gives rise to a three-dimensional body. (Klee, 1961, pp.24 & 103)

### 3.1.7 A taxonomy of lines

Picture elements can be marks, which may or may not be gestural. As we have seen (Appendix 2.), they can also comprise a variety of other phenomena, such as folds, colours, planes, incisions and textures. In *Lines* (2007), Tim Ingold develops a ground-breaking anthropological archaeology of the line, where everything in the human world is interconnected by interwoven lines of various types. He attempts what he calls a 'rough and ready taxonomy of the different kinds of line that we may encounter in everyday life' (Ingold, 2007, p.41). These are summarised in Box 5.

| **Box 5. A taxonomy of lines** (my synthesis of Ingold, 2007, pp.41-51) | |
|---|---|
| <u>Type of line</u> | <u>Characteristics</u> |
| **The thread** | a physical filament in three-dimensional space; a natural or man-made fibre |
| **The trace** | any enduring mark left in or on a solid surface by a continuous movement; additive or reductive; the basic component of all two-dimensional drawing and surface decoration; trackways |
| **The cut, the crack and the crease** | ruptures in the surface; displacement; breakage; folding |
| **Ghostly lines** | visionary or metaphysical; abstract, conceptual, rational; imaginary connectors; survey lines; lines of sight; geodesy; routes; meridians; lines of energy |
| **Lines that don't fit** | vapour trails of aircraft or sub-atomic particles; lightening paths; scent trails; beams of light; rods and tubes; tensegrity |

## 3.1.8 Placement of picture elements

How elements are organised across the pictorial space is an essential consideration for any kind of visual communication. Tversky (2011) has analysed this in detail. She sets out how certain properties of the picture space, or page, can be used to convey meanings [Figure 43.]. These are summarised in Box 6.
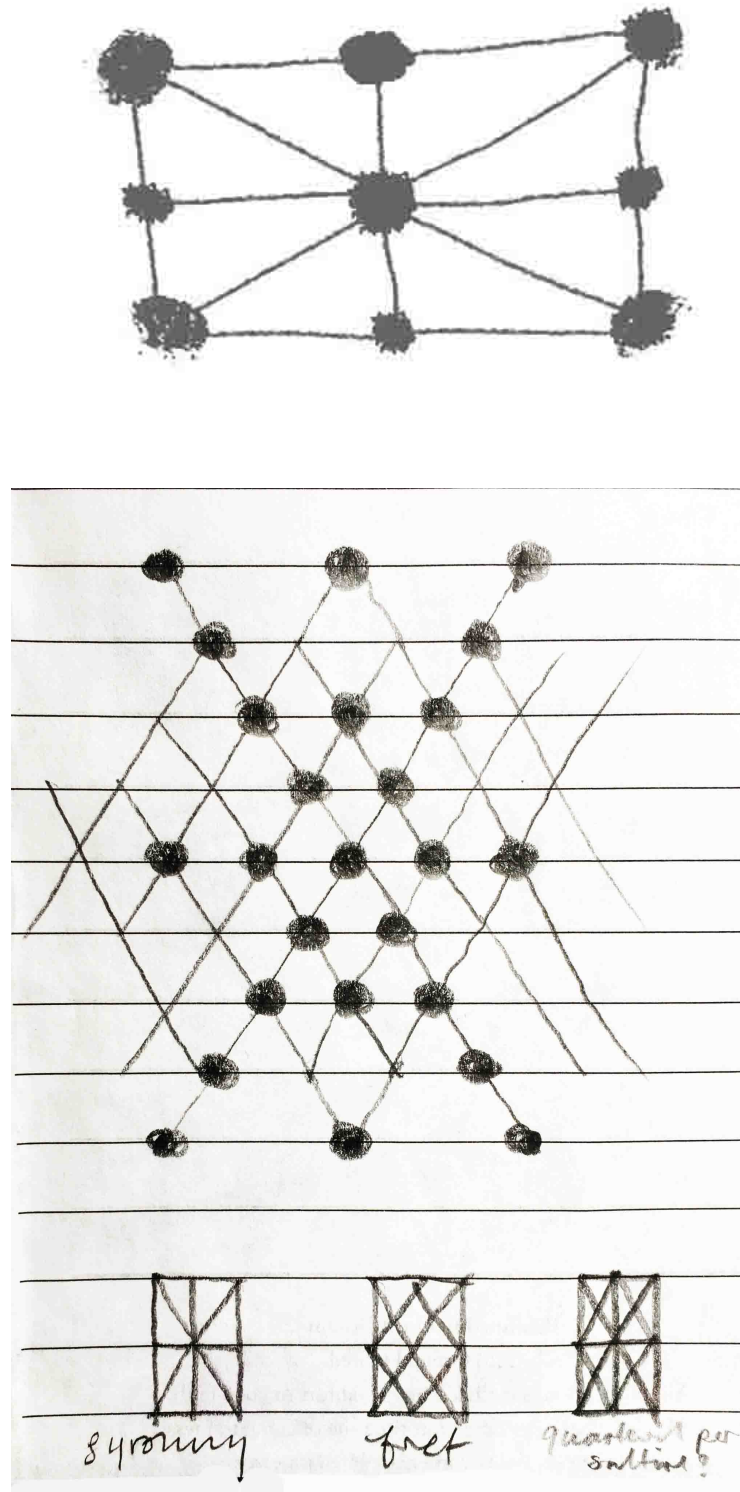
| Box 6. How page properties convey meanings (my synthesis of Tversky, 2011, pp.508-514) | |
|---|---|
| Page property | Possible meanings |
| **Proximity: Category and continuum** | most fundamental way to create abstract meanings; conceptual proximities; hierarchical spaces; clusters and groups; spatial progression in a continuum provides conceptual basis for graphing; three arrays suggested by page: horizontal, vertical and central-peripheral |
| **Central-peripheral** | reflects organisation of retina; most acuity in centre, declines in all directions outwards; mandaloid array of oblique directions not well suited for ordering; human visual system most sensitive to horizontal and vertical, so these are typically used for serial ordering |
| **Direction in space: Horizontal** | weak asymmetries – left-right axis largely symmetrical; mapped to time and motion; neutral concepts; writing order and reading habits affect perception of motion, drawing, aesthetic judgement, judgements of agency, power and speed; more flexible than vertical dimension |
| **Direction in space: Vertical** | strong asymmetry defined by gravity; used to express evaluative concepts like quantity, preference and strength, with higher values always towards the top and lower values towards the bottom; upwards has positive value |
| **Mapping meaning to space** | Spatial properties of page used to relay a range of abstract and concrete ideas: proximity, place, linear arrays, horizontal, vertical, direction, groupings, categories, relationships, orders, distance, value |
| **Catalogue of meaningful mappings** | depictive/geographic; clumps for categories; centre for importance; lines for orders; proximity in space for abstract proximity; horizontal for temporal and neutral concepts; vertical for concepts of strength, quantity, force and power |

She also found that 'children spontaneously use spatial proximity and linear arrays to represent categorical, ordinal and interval properties of abstract

dimensions. With increasing age, children's representations progress from categorical to ordinal to interval. Their graphic productions are true inventions' (Tversky, 2011, pp. 510-11; Tversky, Kugelmass & Winter, 1991).

Kellogg (1969) reported that children placed Basic Scribble forms in definable patterns upon the rectangular page [Figure 44.] (discussed in more detail in section 4.2.8.)

**Figure 44.** Rhoda Kellogg (1969, pp.24-5) 'Placement Patterns'
By kind permission of the Golden Gate Kindergarten Association



PLACEMENT PATTERNS

P1. Over-all.
P2. Centered.
P3. Spaced border.
P4. Vertical half.
P5. Horizontal half.
P6. Two-sided balance.
P7. Diagonal half.
P8. Extended diagonal half.
P9. Diagonal axis.
P10. Two-thirds division.
P11. Quarter page.
P12. One-corner fan.
P13. Two-corner arch.
P14. Three-corner arc.
P15. Two-corner pyramid.
P16. Across the paper.
P17. Base-line fan.

Author's sketches

She found that children preferred 'to place the paper so that one of the longer edges is toward them and the paper is wider than high.' (Kellogg, 1969, p.26). Tversky notes that 'plasticity across cultures of left-right horizontal mappings supports the claim that for the page, directional bias along the horizontal axis is weaker than the directional bias along the vertical axis' (Tversky, 2011, p.513). This is an important consideration for determining whether there is a preference among children for a horizontal orientation of the page in order to establish a base line for its subsequent divisions.

### 3.1.9 The co-ordinate plane

'A network of lines that cross each other to form a series of squares or rectangles' is the lattice of a grid (Stephenson & Waite, 2011, p.626). In mathematics, a grid plan divided into squares can be ascribed a horizontal number line termed the x-axis and a vertical number line termed the y-axis. This is referred to as a 'co-ordinate plane', which generates orthogonal x-y co-ordinates (Gates, Gentry & Sevilla, 2017b). The co-ordinate plane can be perceived in purely pictorial terms and is the basis of digital raster imagery made up of grids of pixels. Its apprehensible pictorial qualities are important, because translations of the co-ordinate plane lead to comprehensible equivalents between pictures [Figure 45.]. 'Squaring up' a preparatory drawing, for example, is a standard method of transferring or scaling up a picture (see Figure 22.).



**Figure 45.** Author's marginal sketch questioning the pictorial relationship between a gridded co-ordinate plane and a 'checky' ordinary blazon
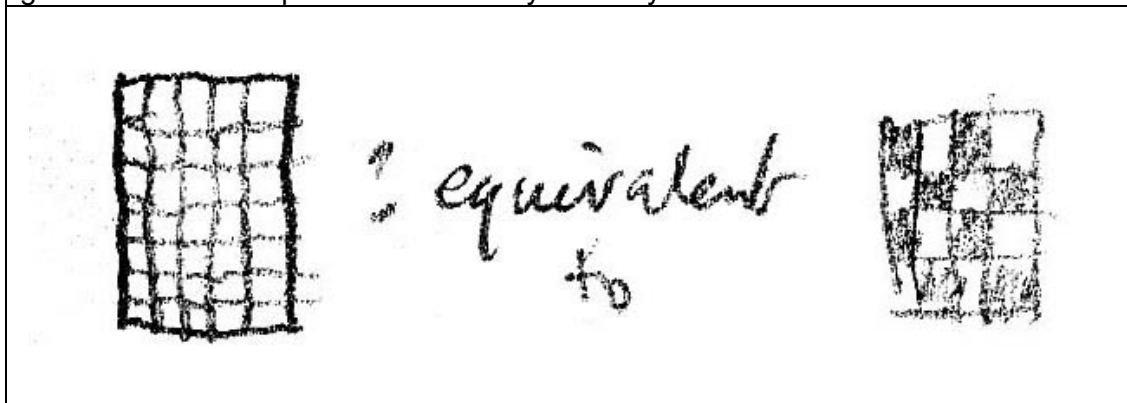
### 3.1.10 Pictorial equivalence: topological transformation

A square gyronny heraldic field division is transformed by being elongated horizontally and vertically [Figure 46.]. This demonstrates that, in accordance with what Kellogg called the 'base line' of the rectangle of any given orientation (see section 4.2.13), there is equivalence between the three manifestations of this configuration. Perceptually, no pictorial information is lost.



**Figure 46.** Author's drawing of a square 'gyronny' field division 'stretched' horizontally and vertically to demonstrate pictorial equivalence
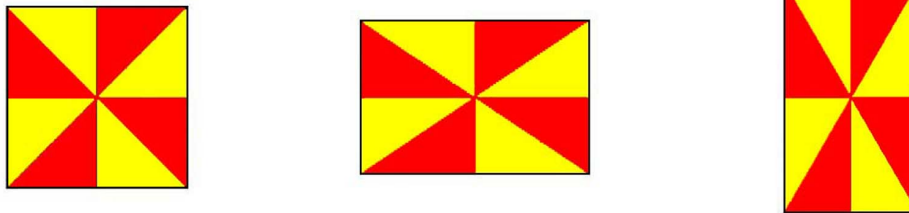
### 3.1.11 Pictorial equivalence: musical notation

In musical notation and in fixed font systems (discussed in section 3.5.1), the precise spacing of pictorial elements is crucial to the accurate conveyance of particular meanings. The stave in musical notation is a form of co-ordinate plane. Five horizontal lines and the spaces between them are used to indicate pitches relative to a specific 'clef' marked at the left-hand side of the stave. The stave is divided vertically into measures indicated by vertical bar lines. Each measure contains a given number of beats (written numerically at the beginning of the score) and these are distributed along the measure as imaginary vertical lines. In a completed score each beat must be occupied by a notated symbol, either denoting a pitch or the equivalent silent 'rest', all of which encode specific durations [Figure 47.]. One technique for structuring serial music (developed by the composer Arnold Schoenberg in the 1920s) is the manipulation of a sequence of pitches, or 'tone row' (Román, 2017). A highly simplified version can be shown as a number of pitches arranged on the stave (co-ordinate plane) [Figure 48.]. The *primary* series (P) contains a row of *unique* pitches. These can be

transformed in three ways: the row can be notated in reverse in a *retrograde* form (R); it can be *inverted* (I); the inverted form can be notated in retrograde (I-R).

**Figure 47.** Author's sketch: fundamentals of musical notation on the co-ordinate plane
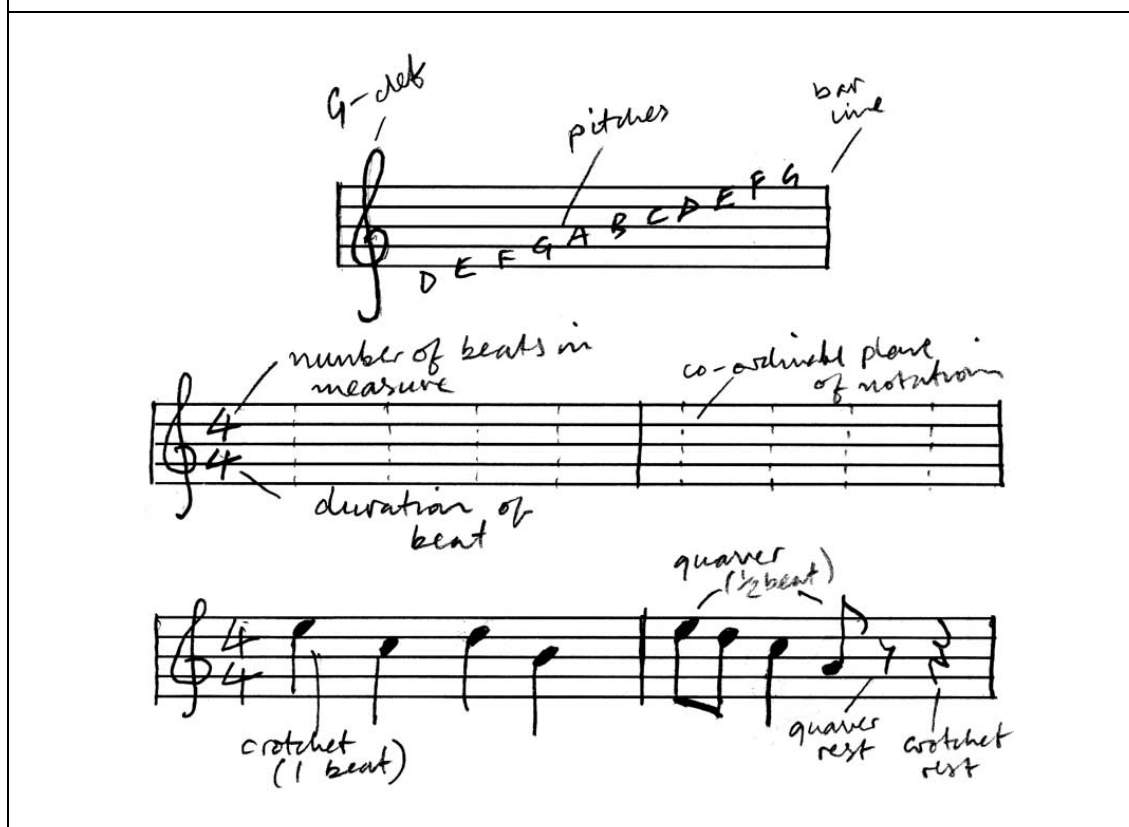


**Figure 48.** Author's sketch: manipulations of a simplified tone-row
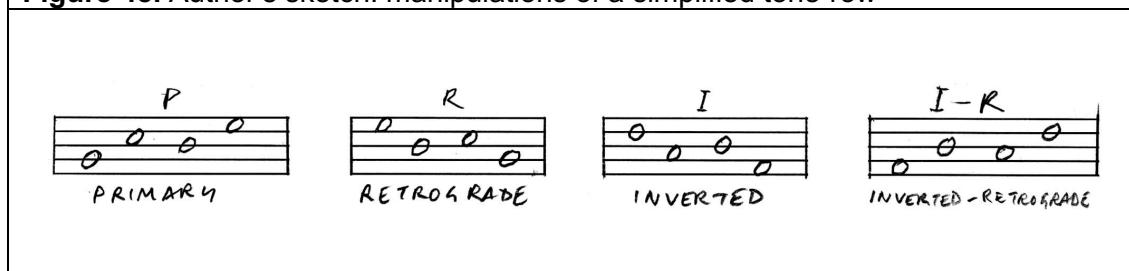


### 3.1.12 Pictorial equivalence: flipping and rotations

Transformations on the tone row are equivalent to other co-ordinate plane translations and these can be perceived pictorially as image transformations [Figure 49.]. These transformations are familiar from manipulations in software such as Photoshop, or the photographic edit function on a smartphone. As long as the picture elements are idiosyncratic or asymmetric – like the unique row of

pitches – the transformations are identical to the tone row manipulations, but they are perceived *pictorially* and different terminology is used: the original form is flipped horizontally; flipped vertically (inverted); rotated by 180º (equal to inverted and flipped horizontally). These instances relate to Stella's (1960) all-over symmetrical design solution of 'non-relational' painting. They represent the 'symmetry group of a rectangle' (Solomon, 1973, 2002). Kellogg's classifications of Placement Patterns, as well as her categories of 'Diagrams' and 'Combines' (1969, pp.23, 45 & 50), discussed in sections 4.2.4-5, could be applied to configuring the rectangle as a whole; with the possibility of co-ordinates as locating devices, but *not necessarily being perceived as such*.



**Figure 49.** Author's sketch: pictorial equivalents of flipped and rotated picture elements
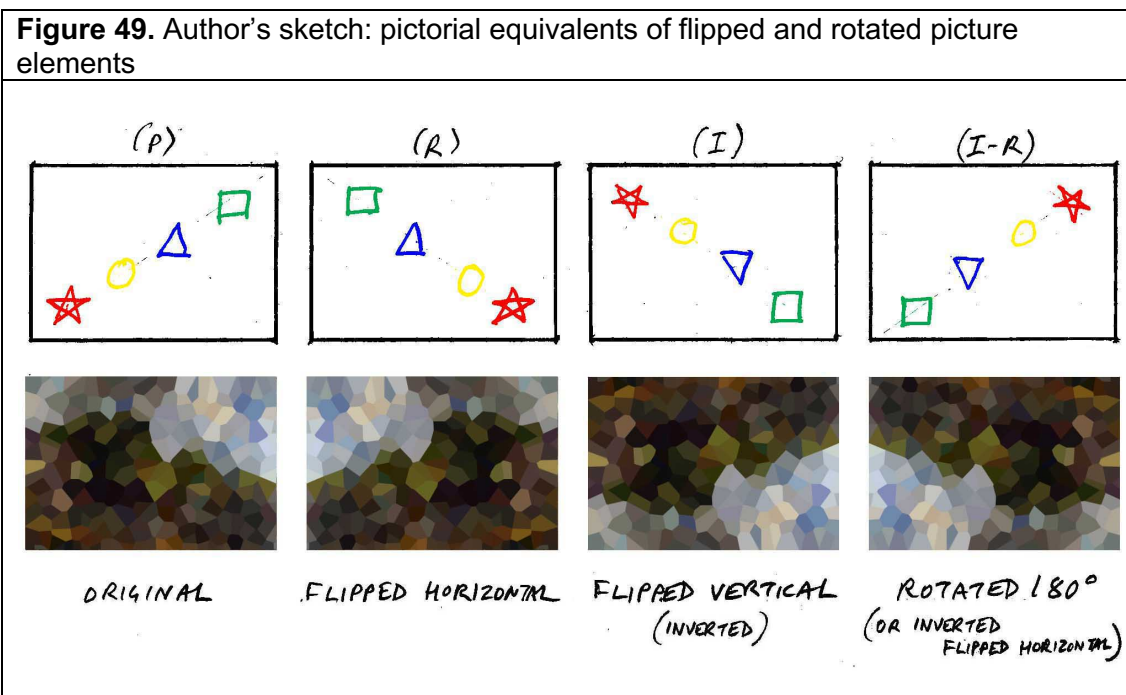
### 3.1.13 An historical precedent: perspective

The most obvious way in which pictures have been formally structured through the use of a divided rectangle is by the application of various systems of linear perspective [Figure 50.]. Perspective is a geometrical system for modelling three-dimensional spatial recession in order to create an illusion of pictorial depth.

**Figure 50.** Author's redrawing of Alberti's 'general schema of legitimate construction', *Dellá Pittura* (MSS 1435)
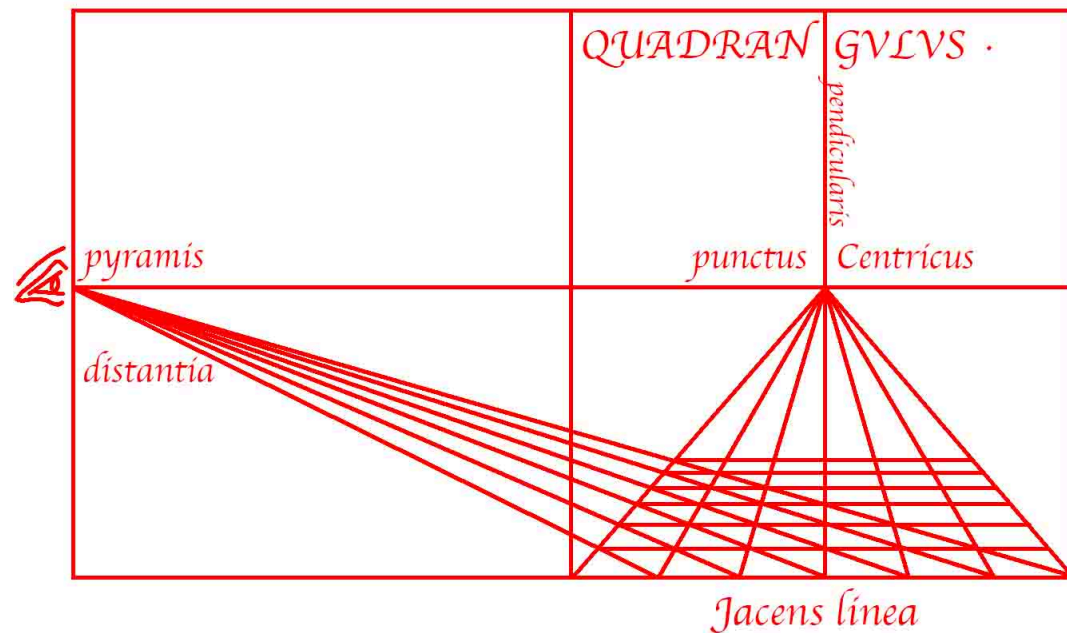


The first theoretical description of perspective was set out by Leon Baptista Alberti in his 1435 treatise on painting *Dellá Pittura* (*De Pictura* in Latin). This was the Costruzione Legittima ('legitimate construction'), which may have originally been developed by Filippo Brunelleschi. It is a geometrically constructed picture plane with a horizon line in the centre of the picture. This line is placed at a notional eye level and its intersection with the foremost figure in the picture marks the Vanishing Point (what Alberti labelled the *pyramis distantia*, the 'distance cone') upon which all receding lines converge. Any lines parallel to the picture plane do not converge and so remain perpetually parallel, introducing an element of distortion to the spatial relations within the picture. The *jacens linea* ('lying lines') that mark out the receding horizontal planes in relation to the *perpendicularis* (the 'perpendicular') plot the co-ordinates of every potential resting point on the ground level of the depicted notional space. When this structural ground lattice is no longer visible in a completed work, but has nonetheless guided the placement of its elements, it is known as the 'ghost pavement'. The Costruzione Legittima has become known simply as single point perspective (Murray, 1983, pp.5-6, 54, 90, 309-10; Grayson, 1964).

> This system is perfectly satisfactory as an aesthetic system, i.e., for the creation of an independent order of reality, a picture-world distinct from the real world; but it is inadequate for an exact representation of physical reality.
> (Murray, 1983, p. 310)

Later perspective systems employed two or more Vanishing Points and multi point perspective evolved into a highly sophisticated set of applications (including curvilinear perspective), which are capable of modelling ever more convincing notional spaces and the distortions of optical projections. It is, for example, used to great effect in CGI for producing architectural renderings, animated movies and gaming environments (Drazil, 2019).

### 3.1.14 Kisses and crosses

The straightforward division of a rectangle into equal horizontal, vertical and diagonal sections (which resembles the construction lines of single-point perspective) is a ubiquitous formal and mechanical structure. As mentioned above, a field divided in this way is known in heraldry as 'gyronny' (discussed further in section 3.3.7.) and it forms the basis of a proliferation of graphic constructions [Figure 51.].

**Figure 51.** Author's sketch: the barely visible construction lines underlying Jasper Johns (1961-62) *Map* [oil on paper mounted on fibreboard] Collection of Jean Christophe Castelli, New York.
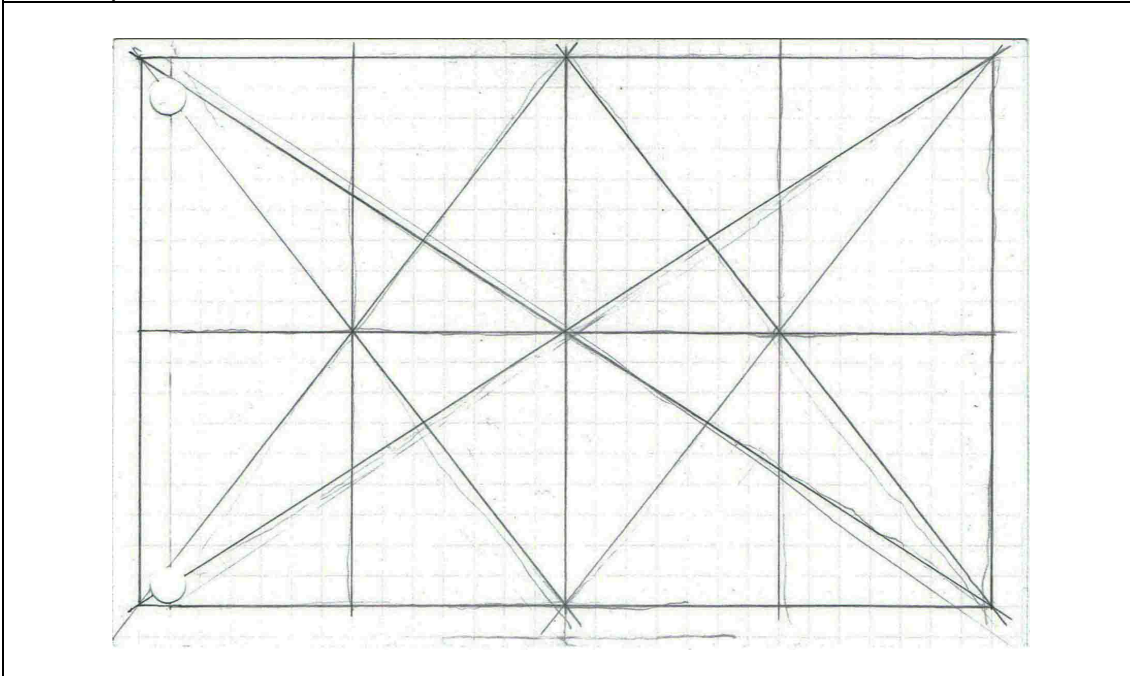


It has proved to be a deeply fascinating and almost totemic configuration for artists seeking out the fundamentals of pictorial structure. Klee described the vertical cross as balanced in relation to terrestrial gravitation. If its balance is disturbed and it begins to rotate, it comes to rest as a new element – the diagonal cross – that is a 'counter-effect', which re-establishes symmetrical balance. When a rectangle is divided by a diagonal cross, it can be interpreted as either linear or planar. From a linear point of view, it is an outline with two diagonals; from a planar point of view, it is an area divided into four triangles, which arrange themselves into two sets of opposites. They 'strike each other with their points' in

a vertical-horizontal direction, which implies the balancing force of the vertical cross. This means that when vertical and diagonal crosses are combined centrally within a frame, perfect visual balance is achieved. (Klee, 1961, pp.200-201) Kandinsky described this configuration as the 'silent lyric of the four elementary lines – expression of rigidity.' (Kandinsky, 1947, p.138)

**Figure 52.** Giulio Paolini (1960) *Disegno geometrico* [tempera and ink on canvas] 40 x 60 cm (15.7 x 23.6 in) Fondazione Giulio e Anna Paolini, Turin Image © 2022 Giulio Paolini. Courtesy Fondazione Giulio e Anna Paolini. Photo: Mario Sarotto
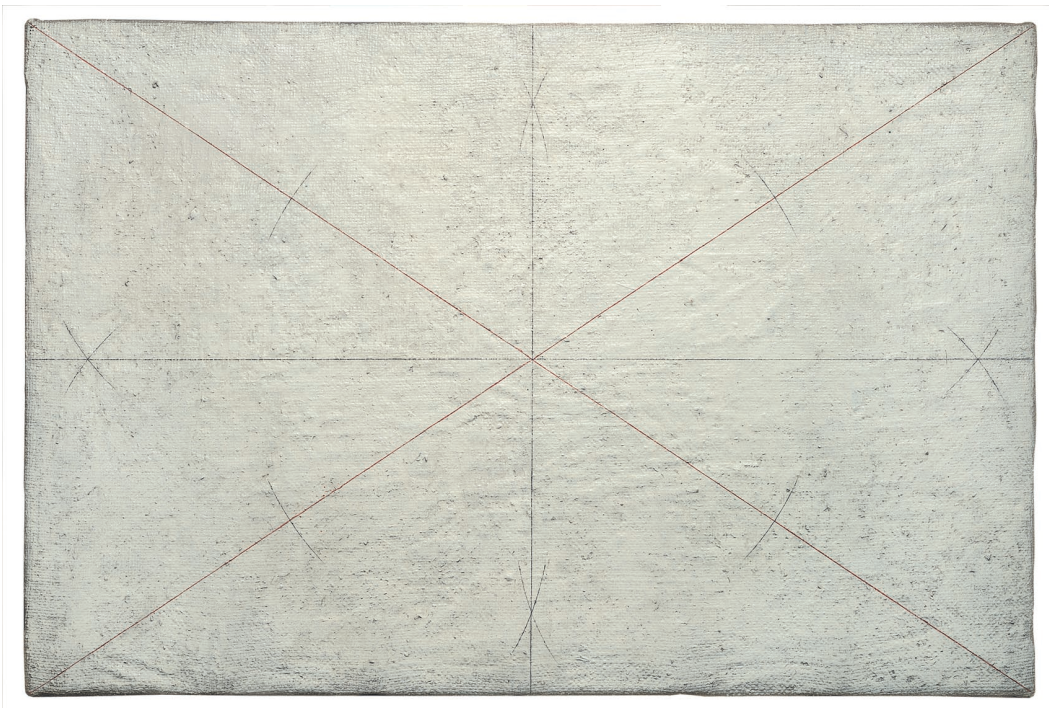


In 1960, Giulio Paolini divided a landscape-format canvas primed with white tempera into equal areas using four ruled lines: a black horizon line, a vertical black perpendicular and two red diagonals. These were overlaid by twelve intersecting compass-drawn arcs [Figure 52.]. Paolini derived this construction, and its title *Disegno geometrico* ('geometric drawing'), from a 1943 edition of Cesare Torricelli's *Disegno Geometrico e Geometria Grafica* ('Geometric Design and Graphic Geometry'), which is a technical drawing handbook first published in 1896. Paolini later acknowledged that this work, which he made at the age of twenty, was the starting point of his working life as an artist. It was a never ending

conceptual and formal returning point for all of his subsequent works; a poetic cornerstone for more than 60 years of practice (Belloni, 2019).

**Figure 53.** Bob Law (2000) *Double Cross 10.01.00* [etched coach paint and oil on canvas] 25.5 x 35.5 cm. Image © 2022 The Estate of Bob Law, courtesy of Karsten Schubert and Richard Saltoun (Saltoun *et al.,* 2009, p. 210)
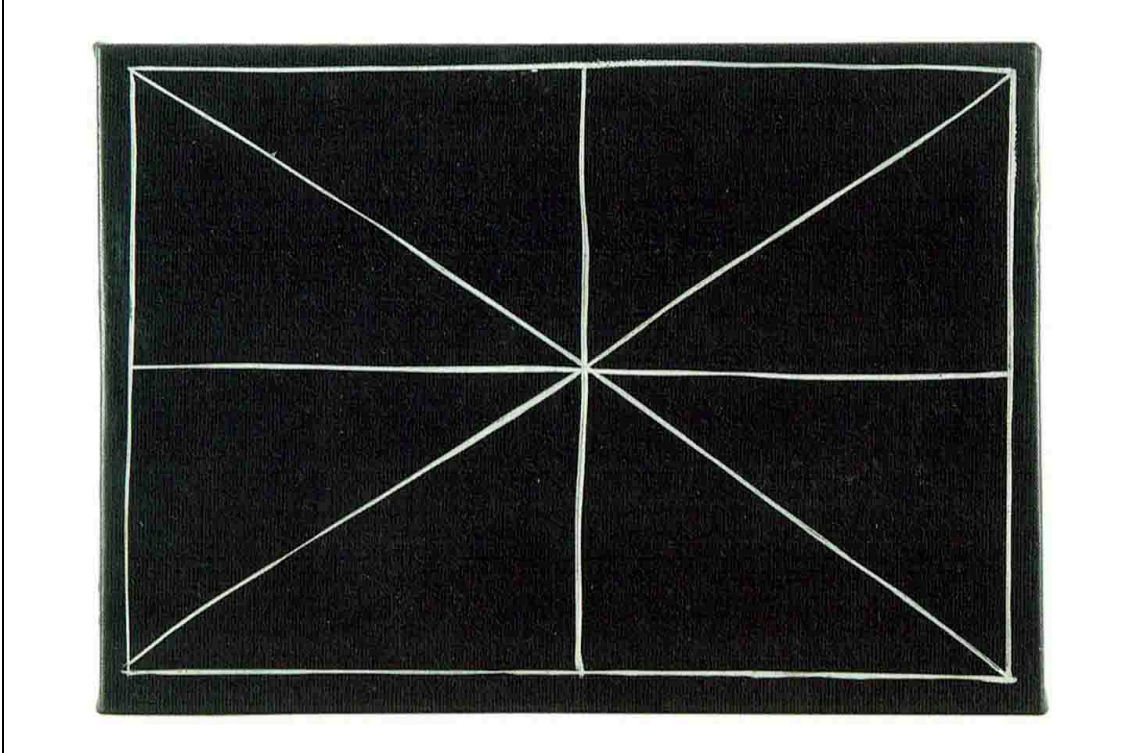


Bob Law 'was arguably the foremost British minimalist artist of the 1970s, yet somehow he has become almost forgotten'. His practice originated in the late 1950s with 'Field Drawings' that emphasised the periphery of the rectangle and often had 'mandala-like structures radiating outwards from a central core'. His larger paintings were at the scale of a prone human body with outstretched arms and delineated the limits of the visual field. All these works 'were about the position of myself on the face of the earth and the environmental conditions around me…my position in nature on earth in a particular position in time'. He described the mandala form as 'complete in itself…outside time' and his 1965-70 *Black Paintings* as 'having no beginning and no end; the complete object' (Saltoun *et al.,* 2009, pp.9, 15, 25, 33, 39.). In 2000, he made a series of eight black coach paint and oil paintings on canvas into which he had incised various combinations of white lines delineating 'kisses' and 'crosses' within a peripheral

frame. He described the emergence of the horizontal / vertical / diagonal division of the rectangle:

> *Kisses and Crosses* is a development that surfaces from the field…with the awareness of gestalt intuition of examining the meanings of the most primitive sign communication, which goes right back to the source of just about everything – even before primitive drawing around a hand […] Crosses can mean so many different phenomena…and we still use this successful system that built so much fantastic architecture and roads.
> (Law, 2000, in Saltoun *et al.*, 2009, p208.)
> [Figures 53 & 54.]

**Figure 54.** Jonathan Parsons (2020) *Cross, Kiss, Frame (modello)* [sgraffito into 'Black 3.0' acrylic over gold card collage mounted on black board] 23 x 21 cm (Practice Research Catalogue no. 052)
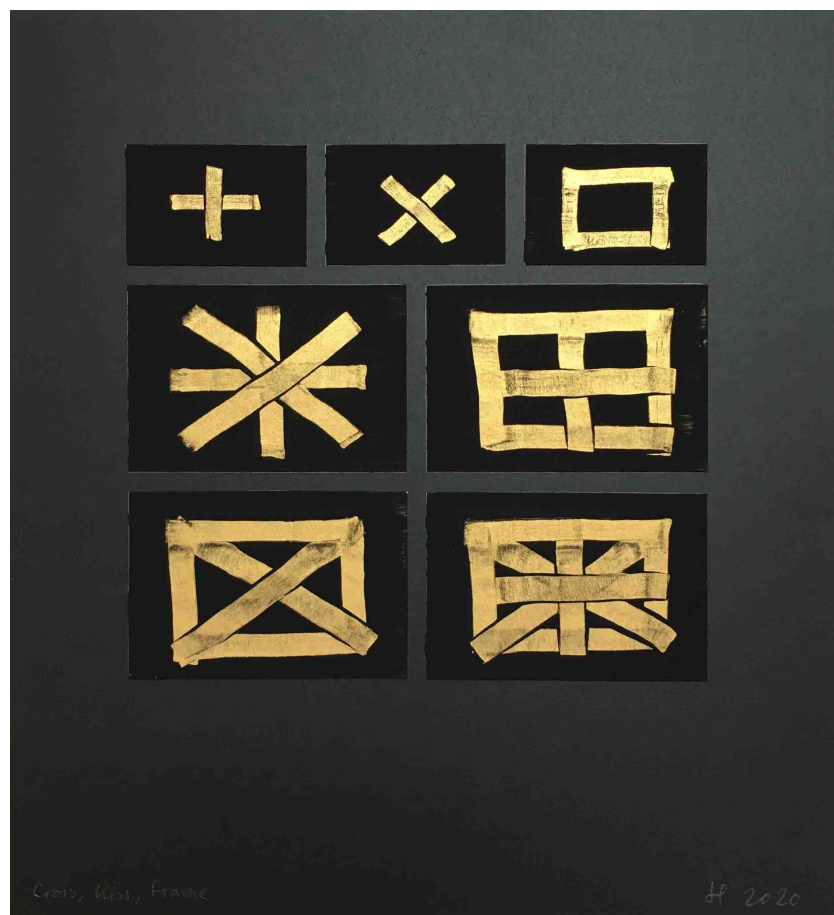
## 3.2 Semiotics

The primary phenomena examined in this PhD are linear and largely geometrical in character. In order to analyse them fully, it is necessary to understand how various modes of representation, depiction and abstraction operate and how they can generate meaning. Semiotics is the study of signs, which are sensory stimuli patterns capable of conveying meanings. It has been used across a range of disciplines and is concerned with a variety of sense-making and representational practices (Manghani, Piper & Simons, 2006, p.102). In his *Course in General Linguistics*, published posthumously in 1916, Ferdinand de Saussure designated the terms 'signifier' and 'signified' to describe the combined operating parts of a linguistic sign (Saussure, 1966, 1983, pp.65-8). These terms are extended by the concepts of the 'icon', 'symbol' and 'index', first proposed by Charles Sanders Peirce in 1867, which can refer to visual as well as linguistic signs. Peirce argued that 'all experience is mediated by signs' and, in distinction from Saussure's focus on structure, his theory emphasised process and usage – a concept that he termed 'semiosis' (Manghani, Piper & Simons, 2006, p.102; Peirce 1960, pp.135, 143-4, 169-73).

> The impact of Saussure's work…[resulted in] 'the linguistic turn', whereby all of social and cultural life is critically examined in terms of 'texts' and 'textuality'. In light of debates about contemporary image culture, W.J.T. Mitchell (1994: 16) suggests there has been a further 'pictorial turn', marked by a 'postlinguistic, postsemiotic rediscovery of the picture'; which arguably might entail a *visual* semiotics. (Manghani, Piper & Simons, 2006, p.102)

The nature and scope of 'visual semiotics' is contested. Research in this area is concerned with the smallest technical aspects of artworks as well as multi-layered semantic iterations (Damisch, 2005; Manghani, 2003). Marks, brushstrokes, and lines are described as being 'sub-semiotic' and, as such, not necessarily signs in themselves (Bal, 1991, pp.1 & 3). These could be considered as types of 'picture element', as previously discussed.

Perhaps because of their rudimentary nature, there does not seem to be a semiotics of scribbles. (Maclagan, 2014, p.21)

### 3.2.1 Refining and extending the types of sign

Peirce's taxonomies can be opaque, so I will briefly redefine these terms in a simplified way for the purposes of my research. An icon is a sign that has a likeness to the object that it refers to. It can resemble that object schematically, or be an imitative illusion. A symbol is a sign that has an arbitrary relationship to the object to which it refers, but is understood as such through convention. An index is a sign that embodies an actual, sometimes physical, connection to the referred object. According to this definition, every sign is also an index of its own construction. Studies of children's drawings (discussed in more detail in Chapter 4) demonstrate that there is a clear developmental progression from action to representation to depiction; from motor movements to mental evocations; from gesturing to picturing via the 'semiotic function' (i.e., the discovery and usage of types of sign), incorporating degrees of abstraction as well as iconic semblance (Machón, 2013, p.123, Matthews, 1984, p.3). These findings make it necessary to extend and refine the vocabulary of semiotic terms that are ordinarily applied to visual signs.

### 3.2.2 A continuum of graphic development

In the development of line formations spontaneously produced by children, originating actions give rise to indexical traces, which form the Basic Scribbles. These are practised, refined and organised into symbolic Formal Units, which are ascribed personal, individual and arbitrary symbolic meanings. These are subsequently combined and manipulated to produce signs that have a functional, configurational or spatial analogy with the signified, known as ideograms as they represent ideas. These ultimately develop into iconograms, which are iconic graphic images that retain an autonomous semblance to the depicted object and can be easily decoded in isolation from their original context – they are 'images which…bring to mind themselves the objects they represent' (Machón, 2013,

pp.277, 336). I call this evolution of visual signification the 'continuum of graphic development' and it is summarised in Box 7 (Parsons, 2019a).

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**Box 7. The continuum of graphic development** (Parsons, 2019a)

### Continuum of graphic development

motor movements…………………………………mental evocations

| **Action** | ➔ | **Representation** | ➔ | **Depiction** |
|:---:|:---:|:---:|:---:|:---:|
| \| | | \| | | \| |
| gesture and movement | | enactive / symbolic / ideogrammatic | | abstractions and / or iconic semblance |

### Extended types of visual sign

| **action** | ➔ | **index** | ➔ | **symbol** | ➔ | **ideogram** | ➔ | **iconogram** |
|:---:|:---:|:---:|:---:|:---:|:---:|:---:|:---:|:---:|
| (gesture) | | (trace: basic scribble types) | | (formal units and abstraction) | | (combines, operations and abstraction) | | (pictograms and autonomous iconic semblance) |

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### 3.2.3 Modes of representation: depiction and abstraction

The continuum of graphic development and the types of visual sign that it gives rise to can be thought of as varying modes of representation. This indicates one possible line of argument in favour of a visual semiotics or, indeed, a 'semiotics of scribbles'. Machón (2013, p.211) describes the child's development of graphic symbols via operative combinations of a repertoire of formal units and scribbles as 'a graphic and spatial semiotic system', which will be discussed further in section 4.3.8. As we have seen, 'picture' is the action or process of painting or drawing; the concrete result of this process; a representation on a surface; a graphic image. It follows that to 'depict' is to paint, draw, figure or represent in

colours and that 'depiction' is the action of depicting; a painted representation; a graphic description (Parsons, 2019a; Onions, 1973, 1990, p.522).

### 3.2.4 Abstraction: limitations of medium

Pictorial representations always embody a degree of abstraction. A measure of abstraction is dictated to all works in a given medium by the specific properties of that medium (see also section 7.5.4). For example, marks on a panel are constrained to its flat surface. The various types of visual sign are detached from immediate perceptions of the phenomena they represent. Examples of this include representations of dynamic experiences in a static medium, or the depiction of three-dimensionality in a medium restricted to two dimensions. Colour and brightness are restricted to the gamut of the imaging system employed, as in painting where any and all pigments used are necessarily unable to replicate the full colour range and brilliance of the visible world as perceived by the human eye. (Parsons, 2019a; Osborne, 1988, p.4.) We have seen that in Visual Communication there is always a degree of abstraction and schematisation. The generic term 'art' describes a set of objects presented as part of a narrative known as 'art history' (Bourriaud, 2009, p.107). The term 'abstraction' is used in two different ways in the literature of 20th century art history. These are, specifically, non-iconic abstraction and iconic abstraction.

### 3.2.5 Non-iconic abstraction

Non-iconic abstraction is a mode of representation without any iconic semblance to apprehensions of the external visible world. As a theoretical discourse, it is virtually specific to traditions of Western painting and sculpture originating in the 20th century. There are two major modes: gestural 'expressive' abstraction & geometrical abstraction. Its methods are highly various demonstrating coevolving and often mutually exclusive approaches, including: concrete traces of physical action; construction of determined compositions; total improvisation; chance processes; mathematical ordering systems and so on. Non-iconic abstraction is common in decorative and applied arts across cultures and throughout history.

The semiotic 'icon' and Mitchell's (1986) genealogy of iconic images enables an unambiguous understanding of the art-historical term non-iconic abstraction. One of its principal modes, geometrical abstraction, employs rational and coherent constructions of elements and is very roughly equivalent to the umbrella term 'constructivism'. The constructivist theory of pictorial composition conceived as a unified configuration of related parts is useful in considering designed schemes of depiction. By contrast 'unstructured picture space' is a concept emerging from traditions of 'expressive (non-iconic) abstraction' and provides a useful way of conceptualising and theorising placement patterns in gestural depiction. (Osborne 1988, pp.2-5, 129). Both approaches to picture making are, of course, bounded by the rectangle.

### 3.2.6 Iconic abstraction

Iconic abstraction is a mode of representation where limitations of medium are emphasised, all types of optical projection are equally valid and iconic semblance is deliberately constrained in terms of complexity and particularity. This has been common to most iconic (also known as 'figurative') art of the past and across cultures, but has been taken further and is used in a more deliberate and self-conscious way in traditions originating in the 20th century. Iconic abstraction also often goes beyond the limitations of medium and includes analytical 'abstraction from' apprehensions of the external visible world, which can be pushed to the point where no autonomous semblance remains. Iconic abstraction is present in most pre-Renaissance figurative traditions worldwide and its huge number of variants are often referred to as particular 'styles'. Although they differ in principle, the two modes of abstraction are not mutually exclusive and may occur together in a single work (Osborne, 1988, pp.4-5).

### 3.2.7 Abstract painting

The word 'abstract' derives from the Latin *abstractus* (to withdraw) and was first recorded in 1496 to mean 'derived'. It later came to mean 'separated, or apart from matter, practice or particulars – the opposite to concrete'. It also meant 'to withdraw from the contemplation of present objects', 'to separate in mental

conception'. The art historical term 'abstract', as it applied to theories of drawing and painting, only emerged in the early 20th century and its first recorded use in English was in 1915 (Onions, 1973, 1990, pp.8 & 2598). 'Abstraction is still the most challenging invention of the modern age' (Jones, 2017, p.32).

> In 'freehand drawing', the object is apprehended in all its parts, dimensions, proportions, geometric forms. These components are noted down as signs and can be read off as a coherent whole. This is an abstraction that distorts reality and leads to stylization of a specific kind.
> (Richter, 1995, p.35)

> Abstract is a word I don't really like because I think it is very confusing. A painting by Vermeer is abstract, for example, because it is a very specific conceptual and mechanical system…as Maurice Denis said in 1890, 'a painting is a flat surface covered with colours set down in a certain order'…Abstract, for me, means of the mind and earlier could have been equated with conceptual in a sense, so I think it is very confusing to talk about abstract paintings.
> (Parsons in Harrod, T., Kapteijn, C., Parsons, J., 2000, p.40)

Notions of abstraction, and particularly its modes as previously outlined in sections 3.2.4-6, were central to the development and conception of Western Modernist painting, from the late 19th century up until the mid-1950s. This period was characterised throughout by a search for the specifics of painting, for 'the conditions that underlay all pictures' (Bell, 1999, p.192). Initially, the limitations of the medium and iconic 'abstraction from' outward visual appearances were the main focus of artistic investigation and experimentation, most notably in Post-Impressionism and Cubism. The emergence of entirely non-iconic practices followed, with a proliferation of international movements and discourse.

In his study examining form in modern art, the art historian Brandon Taylor (2020) cautions that 'the majority of artists routinely accused of "abstraction" in the early

decades of the twentieth century seldom used the term, were suspicious of it or preferred to avoid it altogether.' The author himself only uses it 'with extreme circumspection' (Taylor, 2020, pp.21 & 22). He notes that 'abstraction of forms from nature' conceals and obscures 'a vast range of processes', which he specifies as:

> …going from simplification, schematization, abbreviation, selection, suggestion, typification and reduction on the one hand, to more complex qualities including distortion, allusion, projection, allegorization and ambiguation on the other. (Taylor, 2002, p.23)

Purely geometrical abstraction developed out of Suprematism (which itself was partly inspired by the iconic abstraction of Cubism), various approaches to Constructivism and, after about 1920, Neo-Plasticism and Concrete Art. 'Expressive' gestural abstraction had its origin in Western painting practices in the late 19th and early 20th centuries, but was not theoretically formulated until Kandinsky published his *Concerning the Spiritual in Art* in 1912. His theories assumed that human experience contained a qualitative hierarchy and that there was an essential spiritual value to works of art. An autonomy from external visual appearances was a key part of this value (Bell, 1999, p.177; Harrison & Wood, 1998, p.86; Osborne, 1988, pp.2-3). Other influential early abstractionists, such as Malevich and Mondrian, were also attracted to these kinds of ideas and were deeply interested in a spiritualised view of the universe. It is likely that Kandinsky would have encountered illustrations of some of the paintings that are the first in the Western tradition that could today be classified as 'abstract' (Bell, 1999, pp.154 & 188; Harrison & Wood, 1998, p.86). These were the gestural and textual outpourings produced by the Victorian spiritualist artist Georgiana Houghton and first exhibited by her in London in 1871. From a contemporary viewpoint, Houghton seems to have had anticipated access to the rudiments of artistic modernity. Similarly, the Swedish painter Hilma af Klint – who, like Houghton, was trained in art and believed that she was channelling essential spiritual information via her work – also produced a remarkable body of paintings, from

about 1896, which are geometrical, symbolic and – unarguably – abstract. Both artists were forgotten and ignored during their lifetimes, with af Klint's work not exhibited publicly until 1986 (Grant. *et al.*, 2016, p.30; Bell, 1999, pp.154 & 188). However, these bodies of work were not 'abstract' in the sense of an artist's innovation with a concomitant theoretical discourse:

> It is important to keep in mind that there remains a crucial difference between medium artists such as Houghton and af Klint and the main actors of early abstraction, such as Kandinsky. This lies in the fact that Kandinsky did not only paint abstraction, he also theorised and to that extent 'invented' it. The new style was associated with a theoretical discourse that implied a self-conscious positioning in relation to more traditional and established artistic styles…Houghton and af Klint…always attributed whatever originality their works had to the agency of spirits and not to their own theorical thinking. (Grant. *et al.*, 2016, p.31)

### 3.2.8 Thinking about abstract painting

The artist and writer Simon Bill (2016a) considers what has become known as 'Critical Theory' to be insufficient and unsatisfactory for thinking about current abstract painting. 'The term…usually refers to French thinkers – Derrida; Lacan; Foucault; Baudrillard; Deleuze; Barthes; Badiou; Bourdieu etc.' and brings them together with key figures, such as Habermas and Adorno, from the neo-Marxist 'Frankfurt School' of philosophy from where the term originates. In art education, Critical Theory 'can be described as a way of thinking…which is not grounded in scholarship of the kind you would see in other branches of education.' Bill cites a widespread inability to read the canonical authors' texts in their original languages as one example of this and disdains the 'linguistic tic' of 'adding the word "critical" to anything at all you say.' The 'increasingly standard renaming of Art Theory courses as Critical Theory may be the outcome of a habit of reflexively adding a word whose function has become to convey an impression of learning.' This renaming 'could mean that you believe thinking about art is always and only thinking about how it embodies ideology'. Although 'this interdiction is an

academic custom…it is important to recognise that it emerges from a considered and principled response to abstract painting'. This was the theoretically informed 'Neo Geo' (Neo-Geometrical Conceptualism) movement clustered around a number of artists, including Peter Halley, Ashley Bickerton Sherrie Levine and Ham Steinbach, who came to prominence in the 1980s. Peter Halley, in particular, wrote about the impact of the French texts on artists and theorists. Neo Geo embraced the post-structuralist idea that abstract painting was a vehicle for a 'sort of stealthy propagation of capitalist ideology.' Abstract paintings were not politically neutral manifestations of universal, transcendental or metaphysical values, 'but, actually, Halley says, their alleged "abstraction" is a sort of smokescreen. Abstract paintings are really capitalist flags.' Neo Geo artists poked fun at what they saw as the pretence of earlier abstract paintings through a strategy of visual punning, which presented diagrams, schematic iconic structures and other geometrical visual semblances as though they were non-iconic abstractions without any reference at all to the external world. (Bill, 2016a, pp.16, 20, 21)

Neo Geo was an explicit critique of 'the aesthetic doctrine' of Formalism, which was founded by Clive Bell and set out in his (1914) book *Art*. If the semantic content of works of art are ignored, Bell claimed, what remains is what he called 'significant form'. Bill implies that what this really means is 'important shapes' and that it embodies a 'faulty logic' due to the fact that the form / content distinction does not exist in reality. The way the neuropsychology of visual perception works, Bill explains, means that the semantic content of any percept is inextricable from our perception of it (see section 7.5.4). It is neurologically impossible to perceive only 'pure form'. (Bill, 2016a, p.21; 2016b, pp.14)

> In reality…you can't have 'pure' visual experience…because visual perception is a sensory and cognitive event…[when you see a table], knowing it's a table is part of seeing it. (Bill, 2016b, p.18)

The more recent 'neuroaesthetic' argument put forward by Zeki (1999) that 'the response to abstract art is something like a stimulus / response mechanism' is allied to Formalist ideas, but it reduces agency to a biological imperative. 'With Critical Theory…the imperatives are cultural, and it doesn't allow any agency all.' Bill suggests that what painters are actually doing when they actively 'abstract' is to choose what 'to do with perceptions after they have been formed.' It is a deliberate, after the fact, process of 'teasing apart the components of what you perceive.' Rather than what Critical Theory considers to be the 'old-fashioned nonsense' of the verb to 'abstract', Bill offers a new, more nuanced working definition of what abstract painters actually do. (Bill, 2016b, pp.18-9)

> You do abstract…There is discernment…You have to learn how to do it. We can consciously abstract…In art, abstraction is agency at work upon perception. And Abstract Painting is painting that bids you to abstract. It proffers this invitation to notice some things and (temporarily) disregard others by doing some of that already for you. It leads by example.
> (Bill, 2016b, p.19)

# Chapter 3, Part 2: Alternative divisions of two-dimensional space; heraldic partitions & alphanumeric displays

## 3.3 Heraldic partitions

My reasons for selecting heraldry as an important part of this study stem from my previous research into the traditional methods of flag design that informed a number of my earlier installations [see Figures 5, 6, 8, 62, 66, 67, 68, 83 & 155.]. Traditional flag designs are directly derived from the conventions of heraldry. The majority of these designs are simple geometrical systems of representation, abstraction and depiction occurring within a rectangular boundary. The conventions of heraldry constitute a concise and highly defined system of describing and producing pictorial structure. In heraldic art, the artist is granted complete control over the stylistic choices they make in their depictions. As I will show, I have used the artistic freedom that heraldry allows to adapt and manipulate the raw data through practice. This has been done in order to present the data with maximum clarity and facilitate its subsequent analysis.

### 3.3.1 Background

Heraldry is a very exact and precise system of identifying individuals or families through the use of hereditary pictorial devices placed upon a shield. Its forms were developed through practical usage and, later, codified through precedent and continuity. It originated in the late 12th century from utilitarian devices used to distinguish armoured warriors in tournaments and on the battlefield and had become highly developed across Western Europe by the mid-13th century. Because it has such a long-established history and its governing structures have largely remained unchanged there is very little disagreement between authors about its basic principles, which today are like common knowledge for its specialists. Heraldry is governed by a set of rules or 'laws' and has its own, very specific, technical descriptive language called blazonry. Heraldry is sometimes even referred to as a 'science'. It is also called 'Armory' as the pictorial devices

were originally borne upon defensive armour – specifically the shield – and the insignia are therefore known as 'armorial bearings'. Later, the shield and its devices became known simply as 'the arms', 'the shield of arms' or the 'coat of arms' (due to the fact that the arms on the shield were commonly also displayed on a protective surcoat of linen that covered body armour [Figure 55.]).

**Figure 55.** Author's photographs showing Robert Steward's tomb at Ely cathedral (1571) where his carved stone effigy is wearing a heraldic surcoat over body armour. The armorial bearings are also displayed as a separate sculptural achievement.

All heraldic devices on the shield are known as 'charges' and a shield is said to be 'charged' with any device that is placed upon it. A fully realised display of armorial bearings can also include other items and overall is known as an 'achievement'. However, as this current study is concerned solely with the simplest heraldic partitions, a discussion of every single element of heraldic art and its laws and terms is outside the scope of this review. This discussion will also be restricted to British heraldry, as the traditions developed in other European countries have their own distinctive forms and variants, which are too numerous to consider. Modern heraldry has evolved into a primarily decorative and symbolic art and is no longer solely an expression of identity. For some, it has an aspirational or even a spiritual value. (Mackinnon, 1980, pp.1-2, 10-11; Scott-Giles and Brooke-Little, 1963, pp.2-3, 13; Rogers, 1955, pp.18-22; Fox-Davies, 1909, pp.1-2, 18)

> *Arms* then, according to original uſe are Tokens or Reſemblances ſignifying ſome Act or Quality of the Bearer. (Blome, 1684, p.4)

### 3.3.2 The shield

The shield is the most essential part of the achievement and sometimes constitutes the entirety of the armorial bearings. The laws of heraldry are primarily concerned with what appears on the shield. When shields were utilitarian items, their shapes were governed by practical considerations. After the 15th century, this became purely a matter of heraldic art and design, wherein all shields are considered to be of equal value. There are no specific laws governing the overall shape of the shield. In heraldic art, the exact proportions, positions and sizes of elements within and of the shield are entirely at the discretion of the artist (Scott-Giles and Brooke-Little, 1963, pp.13 & 20; Fox-Davies, 1909, pp.60, 62, 67, 94, 96, 113, 115, 119, 123).

> Arms [can] be depicted upon a banner, a parallelogram, a square, a circle or an oval…one would be correct, for the purposes of armory, in describing such figures as shields on all occasions on which they are made the

vehicles for the emblazonment of a design which properly and originally should be borne upon a shield. (Fox-Davies, 1909, p.60)

The shield is divided into named points, which allow the positions of any charges placed upon it to be precisely described. These are set out in Box 8. All of the named points are also applied to the design of a flag, or any other figure charged with heraldic devices. Flags are largely derived from armorial banners, which always represent the contents of the shield, but without using its outline. Banners are usually square or oblong with the height being greater than the width. In a flag, which is usually landscape format, the dexter side is considered to be that closest to the flagstaff and is known as the hoist and the sinister side is that furthest from the staff and is known as the fly. (Scott-Giles and Brooke-Little, 1963, pp.20-21, 239; Rogers, 1955, pp.32-33, 105; Fox-Davies, 1909, pp.104 & 476)

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**Box 8. The points of a shield, which also apply to flag design** (adapted from Scott-Giles and Brooke-Little, 1963, Figure 12, p.21)

| | | |
|---|---|---|
| A | Dexter side | |
| B | Sinister side | |
| C | Chief | |
| D | Base | |
| E | Dexter chief | |
| F | Sinister chief | |
| G | Middle chief | |
| H | Dexter base | |
| J | Sinister base | |
| K | Middle base | |
| L | Honour point | |
| M | Fess point | |
| N | Nombril point | |



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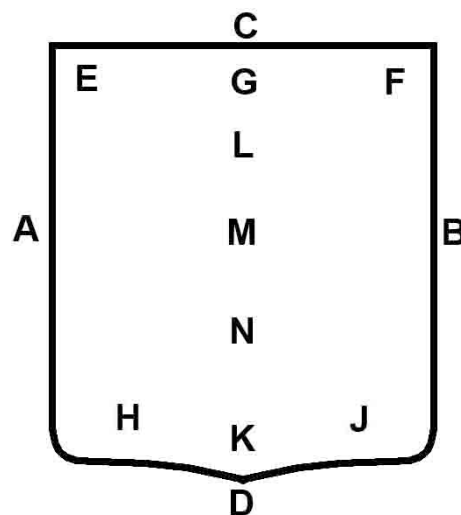
### 3.3.3 The field

The simplest possible arms would consist of nothing but a shield with a coloured ground, although in practice this is very rare. The ground of the shield is termed

the field and it is understood to be the entire surface colour of the shield within the limits of its boundary edges. The field can be coloured, divided and sub-divided in any number of ways, but is always referred to in its entirety as the field. Whichever way the field is divided, all of its pieces are considered to be lying side by side in the same plane forming one continuous surface. (Mackinnon, 1980, p.42; Scott-Giles and Brooke-Little, 1963, p.20; Fox-Davies, 1909, p.69, 70, 87, 96)

### 3.3.4 Tinctures

> *Tincture*, as *Guillim* notes, is a variable hew of *Arms*, and is as well common to *differences* of *Arms*, as to *Arms* themſelves. (Blome, 1684, p.9)

Colours used in heraldry are bold and primary and are known as the tinctures, which are traditionally divided into *colours*, *metals* and *furs*. The terms largely derive from Norman French, but are pronounced as if they were being spoken in Modern English. There is no precise meaning to the heraldic words for the colours and, while the colours of heraldry are usually rich, their shades may vary within reasonable limits. Where necessary, and according to artistic discretion, they can be abandoned altogether in favour of words expressing a more particular and specific shade, such as 'light blue'. Any object that is depicted in its natural colouration is termed 'proper' (Mackinnon, 1980, p.36; Scott-Giles and Brooke-Little, 1963, p.28; Rogers, 1955, p. 33; Fox-Davies, 1909, pp.74-5; Blome, 1684, p.10). For the purposes of this current research, I will restrict my discussion to the simplest named elements of tincture, which are the two metals and the seven colours. These are summarised in Box 9.

> In theſe Nine are comprehended all the Colours uſually made uſe of in *Blazonry*. (Blome, 1684, p.10)

A general rule of heraldry is that a metal charge may not be laid upon a field of metal, nor a coloured one upon a field of colour. However, if the field itself is divided into an equal number of pieces, it may be composed of two metals or two

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colours as all the pieces are considered as being equal parts of the field lying in the same plane. This rule for distinguishing between the field and its charges originated in the utilitarian purpose of heraldry, where it was necessary for arms to be highly contrasting and, therefore, clearly visible when viewed from a considerable distance or painted on a small scale in lists of armorial rolls. (Scott-Giles and Brooke-Little, 1963, p.29; Rogers, 1955, p. 36; Fox-Davies, 1909, p.87)

| **Box 9. The heraldic tinctures** (my synthesis of Scott-Giles and Brooke-Little, 1963, Figure 12, pp.26-31; Fox-Davies, 1909, pp.70, 75-6, 81-2, 84; Blome, 1684, p.18) | |
|---|---|
| Heraldic Name | Description |
| METALS | |
| **Or** | Gold – in heraldic art, yellow paint is often used to represent gold |
| **Argent** | Silver – argent is often represented either by an unpainted surface, or by the use of white |
| COLOURS | |
| **Azure** | Blue |
| **Gules** | Bright red |
| **Sable** | Black |
| **Vert** | Green |
| **Purpure** | Purple |
| **Tenné** | Orange |
| **Sanguine** | Dark, blood-red |

### 3.3.5 Charges

Once the precise nature of the field has been established – through tinctures and divisions – charges are then laid upon it. Charges are largely geometrical and linear in character and coloured with simple tinctures, but they can also be naturalistic or stylised depictions of real-world objects. Charges are properly understood as objects superimposed upon the field of the shield and are not considered to lie in the same plane as any elements comprising the field. The logic of an entire achievement of arms is that it should be capable of being

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rendered as a three-dimensional sculpture (e.g., for ceremonial or architectural use) and charges in this context are represented in relief [Figure 56.].

**Figure 56.** Author's photograph showing the sculptural achievement of the Royal arms of James I on the façade of Abbot's Hospital, Guildford (1622) – *Note the circular shield*.



The most ancient and simple charges are called the 'ordinaries', because of their common usage. They are the most basic forms in heraldry and originated in the early practice of painting bands of colour across the shield, or colouring parts of its physical structure. As such, they are the most important of the charges, with some of them even being classed as the 'honourable' ordinaries. There can only be one of any ordinary appearing on a shield. If an ordinary extends to the edges of the shield it is trimmed to the particular shape of those edges. Some of the simple geometrical charges have been classified as the ordinaries and others have been classified as 'sub-ordinaries', but the selection and classification has been purely arbitrary and the precise categories vary between authors. The only quality that distinguishes them is that ordinaires are composed of broad bands

that stretch across the entire field and sub-ordinaries are generally smaller or more complex. More than one sub-ordinary may appear upon a shield. Taking into account the variation across the literature, the ordinaries and sub-ordinaries comprise the pale, fess, bend, chief, cross, bars, saltire, chevron, pall, pile, canton, orle, bordure, quarter, tressure, gyron, flanche, label, lozenge, fusil, mascle, rustre, roundel and annulet. Although there are similarities between some of them, all of their forms are perceptually distinct. Narrower versions of the charges, or ones that have been truncated, cut or 'broken' are known as their diminutives. For example, the fillet is the diminutive of the cross and pallets are diminutives of the pale. In addition to the ordinaries, sub-ordinaries and diminutives, there are other geometrical charges in common usage that have not, for any clear reason, been included in these categories. (Mackinnon, 1980, pp.54 & 56; Scott-Giles and Brooke-Little, 1963, pp.38-9; Rogers, 1955, pp.32 & 37; Fox-Davies, 1909, p.106)

> To my mind the ordinaires and sub-ordinaries are no more than first charges […] there is no one quality which these charges possess in common which is not equally possessed by scores of other well-known charges, and there is no particular reason why a certain set should be selected and dignified by the name of ordinaries […] the division of any heraldic charges into ordinaries and sub-ordinaries, and their separation from other figures, seems to a certain extent incomprehensible and very unnecessary.
> (Fox-Davies, 1909, pp.107-8, 157)

For the purposes of clarity in this research – and to facilitate an efficient correlational analysis of phenomena from different times and places – I have redrawn all the heraldic partitions presented in this chapter within portrait format rectangles that have proportions and aspect ratios that I have specifically determined. These were derived from twelve diagrams showing the construction of heraldic ordinaries by John Ruskin (1873), which were made as part of his teaching collection [Figure 58.]. Ruskin laid out the construction of a 'heater' shaped shield (so-called because it resembles the shape of the metal heating

block contained within the box of a flat iron) [Figure 57]. He then determined the specific placement of the 'honour points' on the shield as a function of its geometrical construction lines. I used this method for my own diagrams to determine the construction of an upright rectangle and then the precise forms and placement of all the different charges upon it [Figure 59.].

**Figure 57.** Author's photograph showing the metal heating block contained within the box of a flat iron



In this research, it was important that these constructions ultimately derived from an artist-generated practice-based analysis of the construction of the shield and its points. My selection and use of this method for producing the diagrams is entirely consistent with the idea of the 'artistic licence' granted to the heraldic artist, as well as with the conception that any shape upon which heraldic devices are charged should properly be described as a shield. In my diagrams, the underlying structural grid has been left visible in order to demonstrate my choices regarding the specific proportions of the charges. A comprehensive selection of the simplest geometrical charges is set out in Table 1.

**Figure 58.** Jonathan Parsons (2019) *Twelve Diagrams showing the Construction of Heraldic Ordinaries, After John Ruskin: (Ashmolean WA.RS.RUD.007)* [Fine liner and graphite on paper mounted on board] 32 x 22 cm. (Practice Research Catalogue number 031)

**Figure 59.** Author's sketches showing: a) Ruskin's formula for the heater and ordinaries and its equivalence to an 8 x 6 rectangle, b) The determination of proportions, surface areas and locations of saltire, chief, chevron and cross within the 8 x 6 rectangle compared to Ruskin's heater and c) Comparison of constructions of the saltire and chevron within Ruskin's heater and the 8 x 6 rectangle.



a

b
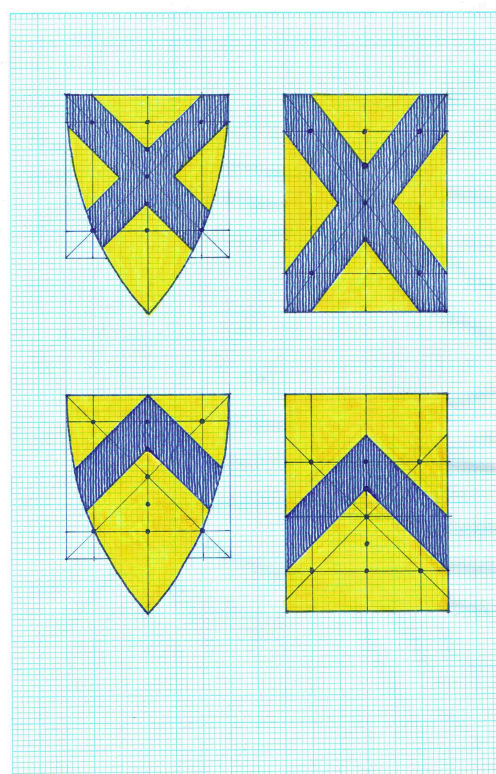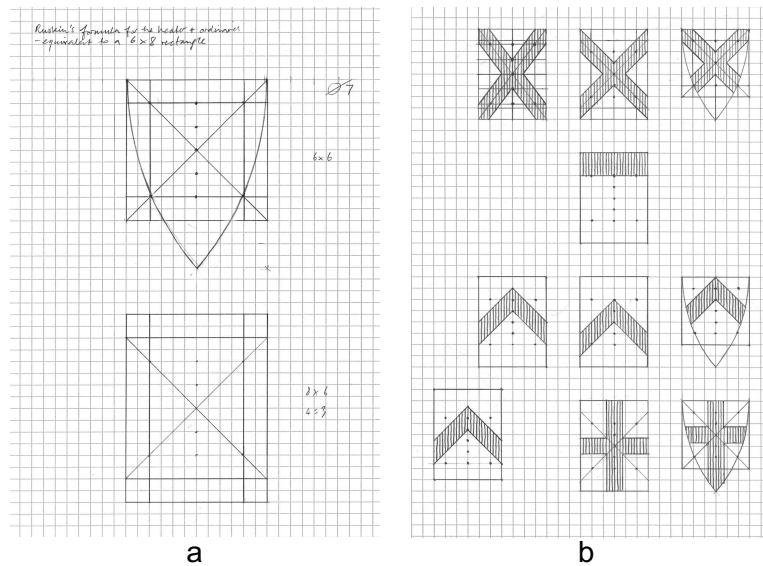
c

## Table 1. Simple geometrical charges

(my synthesis of Veðardóttir, Þ., et. al, 2017; Mackinnon, 1980; Scott-Giles and Brooke-Little, 1963; Rogers, 1955; Fox-Davies, 1909; Blome 1684)

| | | | | | |
|---|---|---|---|---|---|
| Pale | Fess | Bend | Pale couped | Fess couped | Baton |
| Chief | Cross | Bars | Base | Cross couped | Hamade |
| Saltire | Chevron | Pall | Saltorel | Chevron couped | Shakefork |
| Pile | Canton | Orle | Pallets | Barrulets | Bendlets |
| Bordure | Quarter | Tressure | Chief triangular | Cross quarter pierced | Inescutcheon |
| Flanche | Gyron | Label | Billet | Chevronels | Cartouche |
| Lozenge | Fusil | Mascle | Fret | Chevronels braced | Point pointed |
| Rustre | Roundel | Annulet | Gurges | Fillet | Tau |
| Crescent | Goutte | Fountain | Tierce | Gore | Gusset |
| Mullet | Etoile | Spur-rowel | Pale rompu | Chevron rompu | Chevron fracted |

### 3.3.6 Field divisions

Many coats of arms do not have any charges at all and consist solely of a shield with a field divided by partition lines only. The parts are differently tinctured and the field is said to be parted. The direction of the partition lines in the principal field divisions follow the configurations of the 'ordinaries' and are correspondingly named. My own diagrams of a selection of the divisions are set out in Table 2. Varied fields of a complex character are produced when sets of multiple lines follow the configurations of the pale, fess, bend and chevron, known as paly, barry, bendy and chevronny. Even more complexity is achieved by crossing different configurations of lines. For example, quarterly (per cross) combined with per saltire produces the commonly found gyronny field division. Fields may be varied by counterchanging as well as partition. This is when a number of pieces are alternately tinctured on either side of a dividing line (see barry per chevron counterchanged, for example). Paly barry counterchanged is known as checky. 'Party' means divided into an equal number of pieces, as in 'party of six'. The division of a charge itself into small equal pieces, rather than the field it rests upon, is called compony, gobony or gobonated. A double row of such divisions is called counter-compony or counter-gobony. The selection of field divisions in Table 2 is far from being exhaustive, as it is possible to divide and sub-divide the field using a variety of divisions, tinctures and counterchanging in an almost infinite number of combinations. A field semé is one that has been 'powdered' with an unlimited number of any specified object distributed evenly across the shield. As an integral part of the field, these objects will be partially obscured ('defaced') by any charge laid upon them or by the partition lines of any subsequent field division. Diapering is not an official part of heraldry, but is purely an artistic and optional detail in some heraldic art. It is a way of decorating a plain tincture of the field with an invented pattern to in order to break up what would otherwise be a featureless flat surface. It is most often used in depictions made from stained glass or enamel to scatter light, or in black and white engravings to compensate for an absence of colour [Figure 60.]. (Scott-Giles and Brooke-Little, 1963, pp.31-3; Rogers, 1955, pp.37, 45 & 48; Fox-Davies, 1909, pp.87, 89-90, 97; Blome, 1684, p.21)
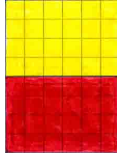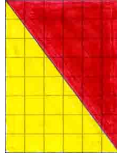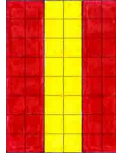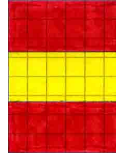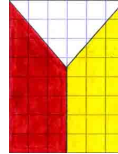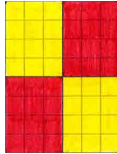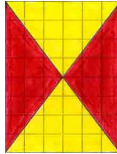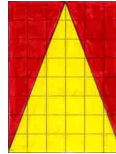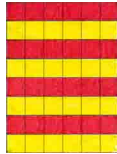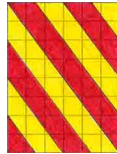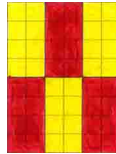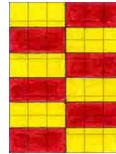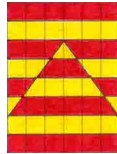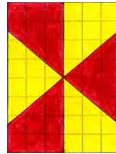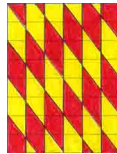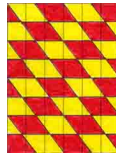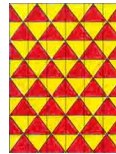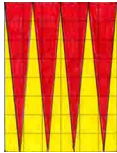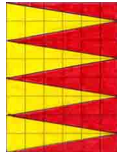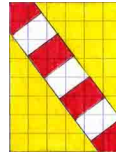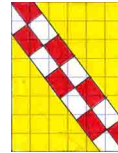
## Table 2. Principal field divisions and a selection of variations

(my synthesis of Veðardóttir, Þ., et. al, 2017; Mackinnon, 1980; Scott-Giles and Brooke-Little, 1963; Rogers, 1955; Fox-Davies, 1909; Blome 1684)

| | | | | | |
|---|---|---|---|---|---|
| Per pale | Per fess | Per bend | Tierced in pale | Tierced in fess | Per pall |
| Per chevron | Quarterly | Per saltire | Chapé | Chaussé | Vetu |
| Paly | Barry | Bendy | Party of six | Per pale and barry | Gyronny |
| Chevronny | Barruly | Barry per chevron counterchanged | Gyronny of six in pale | Gyronny of six in fess | Gyronny of six from dexter |
| Checky | Lozengy | Paly bendy | Barry bendy | Lozengy Barry | Fretty |
| Pily | Barry pily | Pily bendy | Gyronny of five from base dexter | Bend compony | Bend counter compony |

**Figure 60.** Matt Dent (2008) New Definitive Reverses for UK circulating coins. Image courtesy and © Matt Dent 2022.
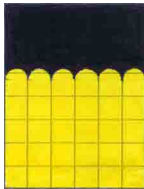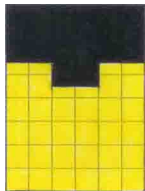
### 3.3.7 Partition lines

Heraldic arms, in their simplest form, consist of a combination of tincture and line (Scott-Giles and Brooke-Little, 1963, p.26).

The lines parting the field, or outlining the charges placed upon it, are assumed to be plain unless stated otherwise. There are a variety of ornamental partition lines, whose forms are precisely described by specific terms, and any of them can be applied to almost any line appearing in the arms. My diagrams of these are presented in Table 3, which shows a chief drawn using all the different types of line. The terminology of the partition lines describes their visual appearance. For example, indented means 'toothed', nebuly means 'cloud-like', potenty is in the form of the T-shaped 'potent' crutch-head and raguly represents the 'ragged staff', which is a tree trunk with the limbs lopped off. When a bend, fess, bar or chevron are embattled, the castellations only appear on the upper edge of the figure unless indicated otherwise. (Scott-Giles and Brooke-Little, 1963, pp.30-31; Rogers, 1955, p.48; Fox-Davies, 1909, pp.91-6)

It should be noticed by artists that there is no one definite or accepted method of depicting these lines…one is quite at liberty [to alter their proportions] as the artistic requirements of the work in hand may seem to render advisable […] artistic requirements must be the controlling factor in any decision. (Fox-Davies, 1909, pp.94 & 96)

The making of ORDINARIES conſiſts of Lines diverſly Compoſed. Lines are the matter whereof theſe *Ordinaries* are formed, and according to the divers *Tracts* and *Forms* of *Lines*, they receive their divers Shapes and variation of Names. The property of theſe *Lines* are their *Rightneſs* or *Crookedneſs*. A *Right Line* is carried equally throughout the *Eſcocheon* without riſing, or falling, contrary to which is a crooked *Line*. A *Crooked Line* is either Bunched or Cornered, according to theſe Examples.
(Blome, 1684, pp.31-2)

# Table 3. Partition lines

| | | | |
|---|---|---|---|
| Plain | Engrailed | Invected | Wavy |
| Indented | Dancetty | Embattled | Nebuly |
| Raguly | Potenty | Dovetailed | Embattled grady |
| Urdy | Rayonny | Angled | Bevilled |
| Escartelly | Nowy | Enarched | Double arched |

### 3.3.8 Roundels in tincture

Of all the charges in British heraldry, roundels are uniquely distinguished by their tincture. When shown in a particular colour or metal, roundels are given a variety of specific names that are applicable only to that roundel in tincture and are not used in any other instance in blazonry. Roundels named according to their tincture are detailed in Table 4. This table also gives the etymologies of the terms for all the tinctures. These names are important for fully understanding how the depiction of phenomena in heraldry is firmly rooted in conceptions about the real world. The etymology for each term reveals the rich history of the names, their origins in representation and how they give meaning to the phenomena by signifying specific real objects or qualities. An example of this – separate to the roundels tinctured with single metals and colours – is the common charge called the fountain, which is always a roundel barry wavy argent and azure. The latter is the conventional heraldic way to represent water. The fountain is also termed a syke, which is the name for a well, or a small channel containing a tiny stream. The associated charge called gurges similarly represents water, but this time in the form of a whirlpool. (Mackinnon, 1980, p.60; Onions, 1973, 1990, pp.1854 & 1995; Scott-Giles and Brooke-Little, 1963, p.57; Fox-Davies, 1909, pp.151-3; Blome, 1684, p.10)

My research into the tincture and roundel etymologies led me to make a multi-panel painting installation exploring the optical and verbal properties of the roundels in tincture [Figure 61.]. In addition, the paintings explore the physical materiality of a charge being an object superimposed upon a field. Singular discs of impasto paint were applied onto the picture surface with a custom-built tamper using a single pressing action to create the roundels and the texts of their names. I had developed the idea of making a set of 'shields' during my studies of heraldry for this current research. The resulting paintings, in accordance with the principle of charging a field of a given shape, can properly be considered to be shields in terms of heraldic art.

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
## Table 4. Roundels named according to their tincture

(my synthesis of Onions, 1973, 1990; Mackinnon, 1980; Scott-Giles and Brooke-Little, 1963; Rogers, 1955; Fox-Davies, 1909; Blome 1684)

| Tincture names with etymology | Roundels in Tincture | Unique roundel names specific to Tincture |
|---|---|---|
| **Or** | | **Bezant** |
| Old and Modern French *or* – phonetic descendant of Latin *aurum* gold. | | A gold coin first struck at Byzantium. |
| **Argent** | | **Plate** |
| Old and Modern French *argent* – from Latin *argentum* silver. | | A thin piece of silver; silver coin; silver tableware. |
| **Azure** | | **Hurt** |
| Middle English *azur(e)* – Old French *asur* – medieval Latin *lazur* – Arabic *al-lāzaward*, a form of Persian *lāžhward* lapis lazuli; blue stone. | | Hurtleberry; the whortleberry or bilberry. |
| **Gules** | | **Torteau** |
| Middle English *goules, gols* – Old French *goules* (Modern *gueules*), plural of *gueule* throat – medieval Latin plural *gulæ* red fur neckwear. | | A fruit tart, or a pan-cake of flat bread resembling the shell of an edible crab. |
| **Sable** | | **Pellet** |
| Old French *sable* – medieval Latin *sabelum* [of Balto-Slavic origin] the black fur of the sable-marten. | | A stone shot; a bullet. |
| **Vert** | | **Pomme** |
| Middle English *vert* – Old and Modern French *vert* – phonetic descendant of Latin *viridis* green. | | Apple. |
| **Purpure** | | **Golpe** |
| Middle English *purpre, -ur* – reinforced from Old French *purpre* – phonetic descendant of Latin *purpura* – Greek πορφύρα [porfýra or porphúrā] (shellfish that yielded) Tyrian purple dye, cloth dyed therewith. | | Wound; bruise. Spanish for 'knock'. |
| **Tenné** | | **Orange** |
| Obsolete French *tenné* variant of *tanné* – Medieval Latin *tannum* [tree bark for tanning leather] tawny: tanned; orange-brown. | | The fruit. |
| **Sanguine** | | **Guze** |
| Middle English *sanguine* – Old and Modern French *sanguin*, feminine *-ine* – Latin *sanguineus* (form of *sanguis* blood) blood-red. | | Eye. From Turkish: 'göz'. |

**Figure 61.** Jonathan Parsons (2021) *Roundels in Tincture* [acrylic on canvas polyptych (9 panels)], each panel: 61 x 45.7 cm (24 x 18 in), overall: 213 x 168 cm (84 x 66in). (Practice Research Catalogue number 108 (1-9))

### 3.3.9 Blazonry

A blazon is a clear, concise and precise verbal description of arms. It uses the shortest possible method for exactly describing the arms, in order for them to be correctly and completely visualised purely from the verbal description. Heraldic artists and armorists are able to accurately draw and paint a coat of arms with the utmost detail from just its blazon and, conversely, they are able produce a blazon for any arms they see depicted. (Scott-Giles and Brooke-Little, 1963, p.14; Rogers, 1955, p.57) The blazon is the central set of information constituting any achievement of arms.

> The form of the arms, once they are granted, will be governed not by the painting of the arms on the letters patent, but by the concise verbal description of them in the text, known as the blazon. The same arms may be rendered perfectly correctly in numerous artistic styles.
> (College of Arms, 2021)

> Heraldry is the most exact match I know between an image and its permissible description, and it is the closest any pictures come to possessing rigorous syntax.
> (Elkins, 1999, p.209)

'Blazoning' means describing arms in words and 'emblazoning' means depicting arms in colours. The nomenclature of blazonry is detailed and somewhat esoteric, but the meanings of all the terms are exact and commonly understood. Consequently, blazoning is highly economical with words. Contrary to the clichéd conception of a picture 'painting a thousand words', blazoning uses as few words as possible to completely describe sometimes very complex depictions. (Scott-Giles and Brooke-Little, 1963, p.14; Rogers, 1955, p.57)

> You muſt uſe no repetition of words, but compriſe them in as few as you can.
> (Blome, 1684, p.8)

### 3.3.10 Not the same

A consequence of the rules of blazoning is that two heraldic devices that have the exactly the same configurations, but are differently tinctured, are considered to be entirely distinct and different from one another.

> By *Blazoning* is underſtood the displaying or expreſſing a *Coat* of *Arms* in its proper Colours and Metals…and a different form of *Blazoning* makes the *Arms not the* ſame. (Blome, 1684, p.8)

This convention became an important consideration during my early exhibiting career. When I first exhibited my flag piece *Achrome* in 1994 [Figure 62.], the

**Figure 62.** Jonathan Parsons (1993) *Achrome* [sewn polyester flag] 100 x 177.5 cm (3 x 6 ft), collection the artist.



*Achrome* – the achromatic Union Flag made in grey, white and black in place of red, white and blue. It is titled *Achrome* (from Manzoni's Italian usage) instead of *achromatic* to make the title truly a name as opposed to merely an adjective. The intended meaning of the title is as *monochrome*: 'a painting executed in different tints of one colour', but it is *Achrome* to suggest a representation of a coloured object rendered simply without colour. As such it is a picture of the Union Flag observed through the effects of black and white photography or video. (Parsons, 1993) A digital image of this nature would today be described as 'desaturated' or 'greyscale'.

exhibition curators were worried that the work was somehow in breach of the copyright relating to the Union Flag and that we could encounter legal problems when it went on display. I knew that this concept did not exist in heraldry and that the only rights granted were those for the registration, adoption and bearing of arms. *Achrome*, being composed of different colours from the Union Flag, was a different flag altogether – although it, of course, derived its configurations from the latter. The exhibition curators insisted that I verified the position, so I telephoned the College of Arms in London to enquire whether my work breached any codes or statutes relating to the Union Flag. The unnamed Officer in Waiting who took my call seemed almost furious as he told me: 'Of course it doesn't, it's a different flag!' Later, the president and council of the Royal Academy of Arts felt unable to come to the same conclusion when the work was selected by the curators of the *Sensation* exhibition of 1997. Much to the extreme annoyance of the curators and myself, the RA banned the work from display, although – bizarrely – a postcard of the unexhibited work (with the photographic image reversed) was available to buy from their shop.

### 3.3.11 Other elements of heraldry

There is a well-established tradition in heraldry of many other kinds of pictorial devices in addition to the blazoning of field divisions, geometrical charges and partition lines. There is an enormous range of possible heraldic depictions that are accepted and are in use. In each case, there are accepted methods and practices for their correct depiction, but a detailed analysis of all of these is outside the scope of this present study. I will briefly mention that the largest class of items are naturalistic or stylised depictions of living things and that there are specific terms describing the exact attitudes and postures of animals in particular. The way in which lions and birds, for example, are laid out upon the shield has evolved through time in order to differentiate between a proliferation of individual arms [Figure 63.]. In addition to living things, there is an extensive heraldry of inanimate objects. Some of these are included in my diagrams of the simple geometrical charges already presented in this chapter, such as the spur-rowel, goutte and crescent. Of the purely geometrical charges, the figure that has the

most extensive heraldry is the cross, which is almost a whole subject in itself. Because arms are hereditary, there are also numerous rules regarding how they represent the composition, union and division of families. Within the accepted methods of blazonry, there are practically infinite possibilities for variation. (Fox-Davies, 1909, pp. vii-viii, 158-623)

**Figure 63.** Diagrams showing the evolution of layouts of Lion and Bird charges through time (Fox-Davies, 1909, figures 272-4, pp.174-175 & figures 440-442, p.234) Images in the public domain, see: https://en.wikisource.org/wiki/A_Complete_Guide_to_Heraldry
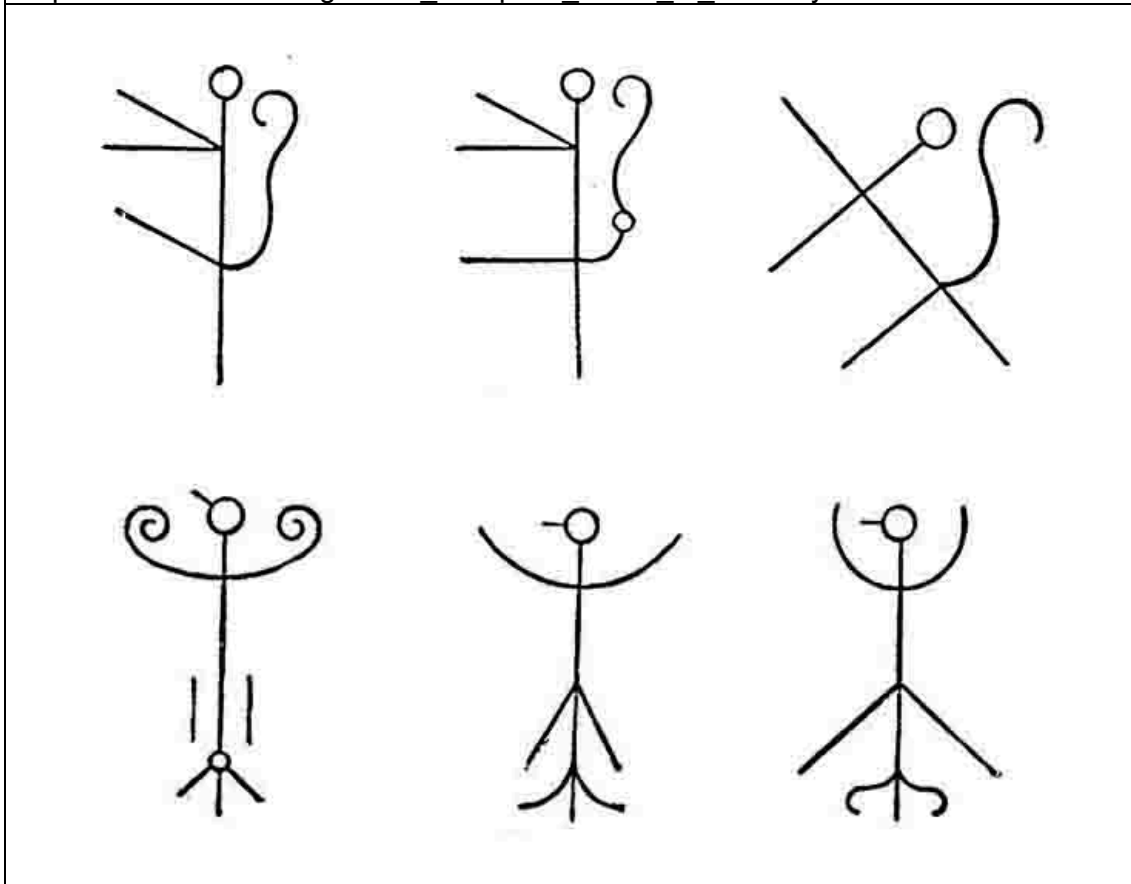


### 3.3.12 The nature of abstraction in the geometrical charges

Virtually all heraldic charges are depictions of real-world objects. As has been previously described, some of their visual appearances have a one-to-one correspondence with the form contours of particular entities, such as the crescent, the heater and potent-shapes. Others are more abstracted, such as the fountain, syke or gurges, but are nonetheless recognisable as iconic depictions of the phenomena they represent.

There is no parallel for heraldry's exacting visual regimen, which I would interpret as the result of barring 'meaningless' pictorial elements from an essentially pictorial practice.

(Elkins, 1999, pp.205-6)

My painting installation *Roundels in Tincture* (2021) [Figure 61.] is highly painterly and very much has the character of an 'abstract painting' that emphasises its own object qualities. As such, it is almost like a primer in the degrees of iconic abstraction present in heraldic art. The representations of the fruits – the hurt, pomme and orange – are very easy to recognise and are almost autonomous semblances of the objects they represent. The most abstract are the torteau and guze, with visual appearances that are quite distant from likenesses of a flatbread and an eye. The bezant is the closest in physical shape, thickness and surface appearance to the gold coin it represents. The pellet, plate and golpe are somewhere in between these two extremes of the most abstract representation and the least. Fox-Davies (1909, p.151) suggests that, on a shield of arms, the pomme and pellet can be 'shaded up into a globular form' but that the plate, bezant and torteau should never be shaded as they 'are naturally flat'.

The so-called ordinaries are an interesting case. At first sight, they seem to be purely geometrical configurations, perhaps deriving from arrays associated with the physical constructions of various shield types. However, the etymology of their names again proves to be important in understanding that they actually have their origins in representation and are, in fact, straightforward depictions of simple objects [Figure 64.]. These are summarised in Table 5.

**Figure 64.** Author's sketches (2019) showing 'A series of plaques presenting the heraldic ordinaries as their named physical objects of semiotic origin'.
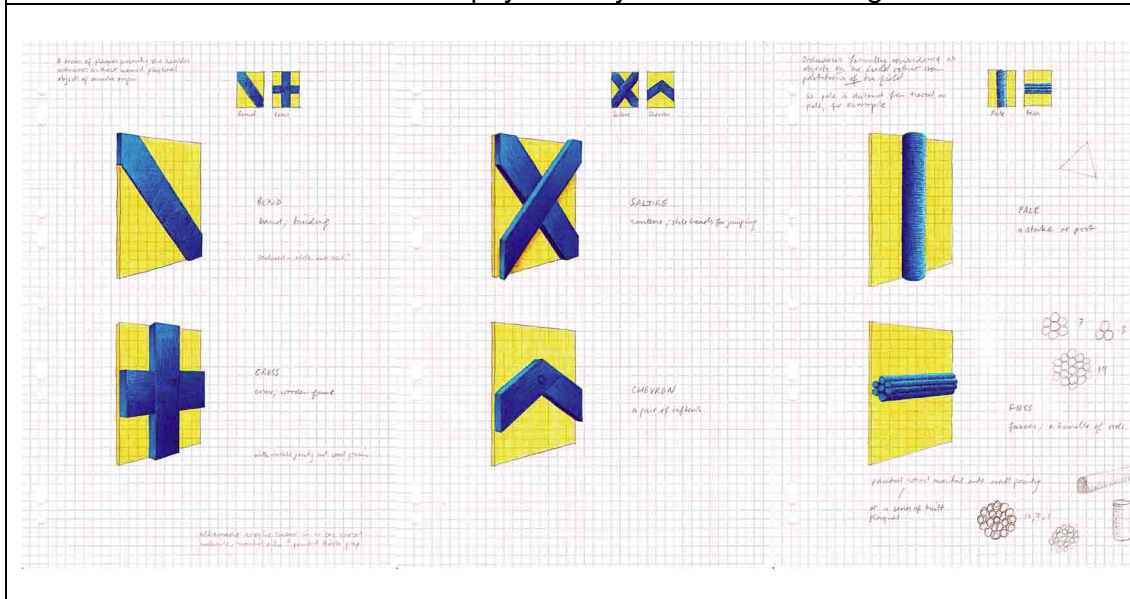
The fact that they are all derived from depictions of real-world entities explains why charges are properly understood as objects resting upon the field, whether or not they are a fully realised naturalistic depiction, or are completely geometrical in character. It also suggests why there is a 'rule' that there can only be one of any ordinary appearing on a shield. The depictions embodied by the charges are thus conceptualised as existing in an ideal space. This is clearly illustrated by the convention whereby a charge that is completely hidden from view by a later addition to the arms is presumed to still be present on the shield and continues to be mentioned in the blazon. In such a case the hidden charge is said to be 'absconded'.

## Table 5. Etymology of the principal so-called ordinaries

(my synthesis of Onions, 1973, 1990; Mackinnon, 1980; Scott-Giles and Brooke-Little, 1963; Rogers, 1955; Fox-Davies, 1909; Blome 1684)

| Name | Configuration | Etymology |
|---|---|---|
| **Pale** | | a stake or post |
| **Fess** | | fasces; a bundle of rods |
| **Bend** | | band of textile; bindings |
| **Cross** | | crux; wooden frame |
| **Chevron** | | a pair of rafters |
| **Saltire** | | saultoir, or saltier; stile treads for jumping, or a frame for scaling a wall with pins driven in for use as steps |
| **Chief** | | head |
| **Base** | | foundation |
| **Pall** | | pallium; a cloak |
| **Bars** | | barrier; beams; gate |
| **Pile** | | pilum; spearhead |

The so-called ordinaries are not purely figurative iconic descriptions, but they are clear examples of configurational equivalents. They are very similar to the structural or configurational equivalents described by Machón (2013), which occur during the period of schematisation in children's drawing, when the iconic function of the graphic image is first recognised and subsequently developed into true iconic figuration (see section 4.3.9.). The so-called ordinaries and sub-ordinaries are schematisations from models in perceived reality – 'abstractions from' external visual perceptions; iconic abstractions. Even though they ultimately derive from iconic depictions, the symbolism of heraldic charges is not inherent or fixed and is not even necessarily connected to these objects of origin. In addition, many heraldic devices, such as the fasces or the cross, have symbolic meanings that preceded organised armory.

## 3.4 Artists and heraldry

Alongside traditional heraldic art, the use of heraldic forms and imagery in Fine Art practice is current and widespread. The shield – in the form of steam iron scorch marks – was used extensively by Willie Cole from 1988-2000. He used these to symbolise Liberian Dan masks, Yoruba Elegba figures, branding, slave ships and domestic servitude. *Domestic shields* (1992), *Zulu in Silex* (1998) and the *Domestic I.D.* series (early 1990s) are notable examples of how he used scorch marks to explicitly signify shields (Cole, 2021; Weitman, 1998). Although the shield has not been widely used by other artists, there is a thriving international culture of fantasy art that draws heavily on the history of arms and armour. The powerful visual communication of heraldry means that versions of the shield and its charges are extensively used in contemporary graphic design. It is seen as 'respectable' and 'a byword for dignity and dependability' that can 'capture the visual romance and history of a brand or convey craftsmanship.' (Dowling 2020; Long, 2020) The most widely-known iteration of the shield in graphic design is, perhaps, its use in football club badges and emblems – a phenomenon that has been comprehensively documented by the Football Crest Index (Kirkup, 2021).

The heraldic items that are most widely exploited by contemporary Fine Artists are flags and banners. Perhaps the most well-known historical example of this is Johns' mixed media painting *Flag* (1955), which launched his career. The Neo-Dadaist reappraisal of the Readymade and the Readyfound in the 1960s, along with the enthusiastic use of found objects and everyday materials by Arte Povera, were among the tendencies that allowed later artists to embrace ideas of modular works built out of readily available 'off-the-shelf' products as well as artworks entirely produced by various methods of impersonal fabrication.

**Figure 65.** Rose Finn-Kelcey (1970) *Here is a Gale Warning* [hand-stitched silver tissue appliqué and black bunting flag] 607 x 900 cm Image courtesy of the Estate of Rose Finn-Kelcey © 2022 Copyright the Estate of Rose Finn-Kelcey



Image Copyright the Estate of Rose Finn-Kelcey

The use of flags and banners is often controversial. A number of Rose Finn-Kelcey's early works consisted of making and flying flags in publicly visible spaces in a challenge to institutional settings and to 're-integrate art with life'. Her first flag piece *Here is a Gale Warning* (1970), was a black bunting flag with the words of its title emblazoned upon it in appliquéd silver-tissue capital letters [Figure 65.]. The flag was flown from the mast of the BBC's Alexandra Palace television transmission centre in North London as part of *Art Spectrum*, which was a survey of new British art. It caused panic amongst the public, who

interpreted it as an official meteorological communication. In 1972, Finn-Kelcey made flags using the same hand-stitched method bearing the words *POWER FOR THE PEOPLE*, which were Commissioned by the Central Electricity Generating Board and hung from Battersea Power Station in London as part of The London Festival of that year. Despite being the product of months of negotiations, they were removed after complaints from Chelsea residents across the river and disapproval from an unknown CEGB official, who objected to the use of the word 'people'. (Cooke, 2018)

Daniel Buren's use of ready-made striped canvas as his principal material naturally leant itself to installations using banners. He objected to traditional ways of presenting art in an institutional context and in 1971, as part of the *Guggenheim International Exhibition*, he suspended a 66 by 32ft striped banner entitled *Peinture-Sculpture* from the museum's central skylight, dividing the rotunda in two. Other exhibiting artists, including Dan Flavin and Donald Judd, complained that the piece blocked views of their work and it was removed before the official opening of the show. Buren has continued to make flag, banner and bunting pieces throughout his career and he has created many large-scale public installations. An example of this is his *The Coloured Weathervanes* (2007), which is a permanent installation in Trivero, Italy. (Guggenheim, 2019; Nechvatal, 2016; Fondazione Zegna, 2008)

Because the use of flags is so widespread in Fine Art practice, I will give just a brief overview of some of the more significant projects that include or have used them.

In 1988, the Dutch Gran Pavese foundation invited 50 international artists to create a design for *The Flag Project*. They were made into 2 x 3m textile prints, which were flown as flags on the dikes of Holland and at the Museum van Hedendaagse Kunst Antwerpen. At the time, it was the largest graphic project ever produced. The participating artists are listed in Box 10. (M HKA, 2021; M

HKA Ensembles, 2019; Rob Scholte Museum, 2015; Legierse and van Beveren, 1988)

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**Box 10. Artists who participated in *The Flag Project*** (M HKA, 2021)

| | | |
|---|---|---|
| Abramovic/Ulay (NL) | Ronnie Cutrone (USA) | Matt Mullican (USA) |
| Vito Acconci (USA) | Hanne Darboven (BRD) | Bridget Riley (GB) |
| Valerio Adami (F) | Georg Dokoupil (BRD) | Gerwald Rockenschaub (A) |
| Arakawa (USA) | Peter Downsborough (USA) | Salomé (BRD) |
| John Armleder (CH) | Erro (F) | Kenny Scharf (USA) |
| Ay o (J) | Gunther Förg (BRD) | Rob Scholte (NL) |
| Elvira Bach (BRD) | Ken Friedman (USA) | Ad Schouten (NL) |
| Bernard Bazile (F) | Hans Haacke (USA) | Han Schuil (NL) |
| Gretchen Bender (USA) | Keith Haring (USA) | Stefan Sczesny (BRD) |
| Bidet (NL) | J.C.J. Van der Heyden (NL) | Joe Tilson (GB) |
| Barbara Bloom (USA) | William Katz (USA) | Narcisse Tordoir (B) |
| Alighieri E. Boetti (I) | Peter Kogler (A) | Ben Vautier (F) |
| Marinus Boezem (NL) | Joseph Kosuth (USA) | Reint Vegt (NL) |
| Jean Marc Bustamante (F) | Robert Longo (USA) | Peer Veneman (NL) |
| Gianni Colombo (I) | Bruce McLean (GB) | Lawrence Weiner (USA) |
| William Copley (USA), | François Morellet (F) | |

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Remaking the pattern of an extant flag in alternative colours is a standard heraldic technique for creating new national flags. As an artistic practice, it dates back at least as far as David Hammons' *African-American Flag* (1990), which is a USA national flag made in the black, green and red colours of the Pan-African flag adopted by Marcus Garvey and the African Communities League for the UNIA in 1920. Other examples are: my flag pieces *Achrome* (1993) [Figure 62.], *Cuttlefish* (1995) and *Babies Blue* (2000), which are all monochromatic tonal equivalents of the parent flags [Figure 66.]; Mark Wallinger's *Oxymoron* (1996), which is the Union Flag in Ireland's colours; Wifredo Prieto's *Apolítico* (2001), which repeated the concepts of *Achrome* and *Babies Blue* on a multi-national scale; my work *Phantom* (2002), which is a colourless Union Flag sewn from sections of completely transparent woven nylon textile; Chris Ofili's *Union Black* (2003), which is a Union Flag made in the same UNIA colours as Hammons' earlier work; Aaron Fein's *White Flags* (2007), which are the national flags of all the UN countries rendered entirely in white. (Public Delivery, 2021; Todorovic, 2021; Little, 2016; Andrews, 2007; Fein, 2007; Heiss et. al., 1991)

**Figure 66.** Jonathan Parsons (2000) *Babies Blue* [sewn polyester flags with wall-mounted flagstaffs] overall dimensions variable, each unit approx. 188 x 186 x 9 cm (74 x 73 x 3½ in) Installation view: *System + Structure, James Hockey Gallery, 2000.*

From 1989-2001, Yukinori Yanagi produced a series of wall-based installations collectively entitled *The World Flag Ant Farm*. These used ants, coloured sand, plastic boxes, plastic tubes and plastic pipes to display flag designs in various arrays that refer to different geopolitical relationships. As the ant colonies develop and tunnel through the different colours of the sand flags, they are broken up, dispersed and intermingled in unexpected ways. Since 1990, Robert Longo has produced a number of often monumental black bronze three-dimensional sculptures and charcoal drawings of the American flag. Cady Noland uses modified sewn American flags in her installations that explore what she calls 'the American nightmare' – a 'game' of toxic social constructs, such as celebrity and glamour. Her works often invoke ideas of mental and physical restraints, violence, incarceration and state-sponsored killing. (Higgs, 2021; Longo, 2018b; Butler & Schwartz, 2010, p. 397; Yanagi, 2009)

**Figure 67.** Jonathan Parsons (2003) *Flag for London* [sewn polyester flag] 1020 x 2135 mm (40 x 84 in).

In 2003, Time Out magazine commissioned me, Hew Locke, Emma Biggs and Matthew Collings to produce designs for a new national flag for an issue exploring the idea of London becoming a new separate city state republic. My work *Flag for London* (2003) [Figure 67.] was created using traditional heraldic principals of flag design and production, which are explained in Appendix 5.

From 2013-15, I designed, produced and delivered the *Parliament 2015 Flag Project* [Figure 68.]. The project was developed as part of a year-long programme called *Parliament in the Making* marking the 750th anniversary of the Simon de Montfort parliament in 1265, which paved the way for the eventual emergence of the House of Commons. I created teaching materials to enable young people aged 7-11 years in over 450 primary schools across the UK to design a flag which represented their local area or community using traditional heraldic concepts and techniques. More than 500 designs were produced, 80 of which were made into 12ft ceremonial sewn flags representing the historic counties of the UK. These were displayed in Parliament Square from 18-22 May 2015, coinciding with the day the House of Commons was first recalled to sit after the General Election of that year. Smaller versions of all the flags were paraded in the presence of Elizabeth II at an international event commemorating the 800th anniversary of the sealing of Magna Carta at Runnymede Meadows in Surrey on 15 June 2015.

New York based public arts organisation Creative Time commissioned sixteen artists to produce flags for their *Pledges of Allegiance* project (2017). The project launched on Flag Day (24 June) and each month one of the commissioned flags was flown from a flagpole on top of the collective's headquarters and at partner sites across the USA. The participating artists were: Tania Bruguera, Alex Da Corte, Jeremy Deller, LaToya Ruby Frazier, Ann Hamilton, Robert Longo, Josephine Meckseper, Marilyn Minter, Vik Muniz, Jayson Musson, Ahmet Ögüt, Yoko Ono, Trevor Paglen, Pedro Reyes, Rirkrit Tiravanija, and Nari Ward. (Creative Time, 2021; Martinique, 2017)

**Figure 68.** Jonathan Parsons (2015) *Parliament 2015 Flag Project*, co-created flag installation [80 flags; 58 at 2 x 4 m & 22 at 1 x 2 m] *Installation view: Parliament Square, 18 - 22 May 2015; Parade at Magna Carta: Foundation of Liberty, Runnymede 800, 15 June 2015.* Images © UK Parliament / Jessica Taylor

To mark the 250th anniversary of the Royal Academy of Arts in summer 2018, 200 flags designed by Royal Academicians Grayson Perry, Cornelia Parker, Rose Wylie and Joe Tilson decorated the streets of London's Mayfair and St James's. (Royal Academy, 2018) All of the artists except Wylie used imagery that can be described as heraldic. Perry's flag designs are clearly inspired by 'Fante Flags' – the Asafo regimental flags of the Fante people of central coastal Ghana.

Other notable flag works include Edith Dekyndt's *One Second of Silence* (2008), Patricia Reed's *Pan-National Flag* (2009), S Mark Gubb's *Union* (2010), William Forsythe's *Choreographic Objects – Black Flags* (2014), John Gerrard's *Western Flag (Spindletop, Texas)* (2017), Archie Moore's *United Neytions* (2018), Christina Victor's *House of Duende* (2019) and My *Story is My Flag* (2016, 2018 & 2020) and Guillaume Vandame's *Symbols* (2019-21).

Matt Mullican has created a quasi-heralic iconographic system of his own with which he produces drawings, prints, paintings, sketches, engravings, maps, rubbings, sculptures, archives, digital environments, 3D printing, murals, floor drawings and large-scale sewn appliquéd banners. All of his work is realised using primary black, white, yellow, blue and green and usually adopts the heraldic conventions of metals separating colours. His overall practice – and his complex exhibition methodology – synthesises these multiple methods of production, transformation, collation and categorisation of a codified, personal symbolic language.

> Mullican has been working since the early 1970s to develop a complex system of models and vocabulary that he calls the 'five worlds', corresponding to different levels of perception and represented by five colours: green for physical, material elements; blue for everyday life (the 'world unframed'); yellow where objects become valuable, as in art (the 'world framed'); black and white for language and symbols; and red for subjectivity and ideas. (Tenconi, 2018 and Mullican, 2018)

The artist conceives of a 'subjectively created view of the outside world based on our view from the inside' and uses self-reflexive methods and an autoethnographic approach. During performance and hypnosis, he experiences 'hyper-consciousness', which he describes as an 'awed relationship' to himself (Holman, 2016). The archives he presented in *The Sequence of Things* (Mullican, 2016) and the monumental *The Feeling of Things* (Mullican, 2018) – which was the most comprehensive retrospective of his work ever staged – set out an enormous variety of objects and artefacts. His exhibitions are 'interface design for subject matter' and they propose an ordered methodology for analysing relationships between his varying experienced realities and the resulting representations of these complex worlds. (Freeman, 2021; Tenconi, 2018)

Bernard Marcadé described the art of Gilbert & George as 'A heraldry of fundamentals', where some of their imagery 'is rendered abstract, emblematic', which amplifies its 'heraldic character'. This character was brought to the fore in their *Jack Freak Pictures* of 2008 [Figure 69.] (Gilbert & George, 2009; Pagé et. al. 1997, pp.250 & 268). In their pictures, they routinely employ the heraldic technique of 'fimbriation' where layers of bold, primary-coloured figures imposed upon an often busy ground are rendered clearly legible by thick outlines of black or white. This stems from their concern to make their works as widely available and accessible as possible, not just in exhibitions and books, but on posters and postcards where the pictures remain legible.

> It's that one frozen, forever-there, picture. We think it's an absolutely amazing form. You can put it on a matchbox – it reads.
> (Gilbert & George in Pagé et. al. 1997, pp.52-4)

They insist that their works should be called 'pictures', in part due to their unique method of manufacture. This accords with my definition of a picture (in section 3.1.2) as being a type of image that is necessarily partly or wholly hand-made:

Before their use of digital imaging and printing technology, Gilbert & George employed a highly complex technique of exposing grids of photographic paper to a succession of different negatives using bespoke cardboard masks. The final images were revealed only at the end of the process when the white paper was developed. The individual sheets were then masked again with gum resist and carefully soaked by hand using coloured dyes. (Parsons, 2012b)



**Figure 69.** Gilbert & George, *REALM*, 2008, 302 x 381cm. © Gilbert & George

In an early series of pictures collectively entitled *Human Bondage*, which were first shown at Galerie Konrad Fischer in Düsseldorf in 1974, each of the works consisted of nine separate framed black and white photographic prints arranged on the wall in a swastika configuration, which is a type of cross known in heraldry as a fylfot or gammadion (Pagé et. al. 1997, p.375; Scott-Giles and Brooke-Little,

1963, p.51). In most of their photo works from 1974-77, the panel containing the title, date and their signatures also included the Royal arms of Elizabeth II. They discussed this in a conversation with Robert Diament in 2021:

RD:     For a long time, you had the Royal coat of arms…

Gil:     At the beginning.

Geo:    At the very beginning – again, because we wanted to be famous!

RD:     …yeah, on your work.

Geo:    Even, even on our first books, we had it.

RD:     Yeah.

Gil:     And all the letters, they were all stamped with it.

Geo:    We had notepaper with it on to start with…

Gil:     Illegal!

Geo:    …we wanted to be established.

RD:     (laughs)

(Diament and Tovey, 2021)

## 3.5 Alphanumeric displays

### 3.5.1 Background

An alphanumeric display is a simple visual array composed of multiple discrete sections that can be altered manually, mechanically or electronically to produce sets of characters, numerals or symbols of various types. There are two main kinds of array: multi-segment and dot matrix. The resolution of alphanumeric displays is limited, so their designs tend to aim for maximum legibility from the smallest number of components (Goswami and Shah, 2015). Because all of the panels displaying the characters are of equal width, alphanumeric displays are only capable of displaying what is known as a fixed-width or monospaced font. This kind of font is where each character in a typeface occupies the same amount of horizontal space. In what is known as a proportional font, on the other hand, each individual character only occupies the width that its design requires (Azi, 2018). Fixed fonts were commonly used in mechanical applications, such as typewriter typefaces and for early machine-readable texts, such as account and sort code numbers on credit cards and chequebooks. Because of their fixed with, many character designs in monospaced typefaces have exaggeratedly wide serifs.

### 3.5.2 Multi-segment displays

The earliest alphanumeric displays were multi-segment arrays designed for use in electrical communication systems. The first example of such a multi-segment system – and a design for the alphabet it could display – was detailed in a patent application by Carl Kinsley in 1903 for an electromagnetically controlled printing device for recording telegraphic signals [Figure 70.]. His device used magnetised spring-loaded linear heads that imprinted letters and numbers onto a paper tape. The electromagnetic components were arranged with their outer ends radiating from a common point and their inner ends nested, resulting in a character set that is comparable to those still in use today. 'It is to be understood that by the use of the word "alphabet" is meant all of the letters therein and all of the numerals.' (Kinsley, 1915, p.8)

**Figure 70.** Carl Kinsley (Kinsley, 1915, Figure 12, sheet 1) 'Figure 12 shows an alphabet built up of elements according to my invention' (Kinsley, 1915, p.3) Kinsley's patent application was filed in 1903.
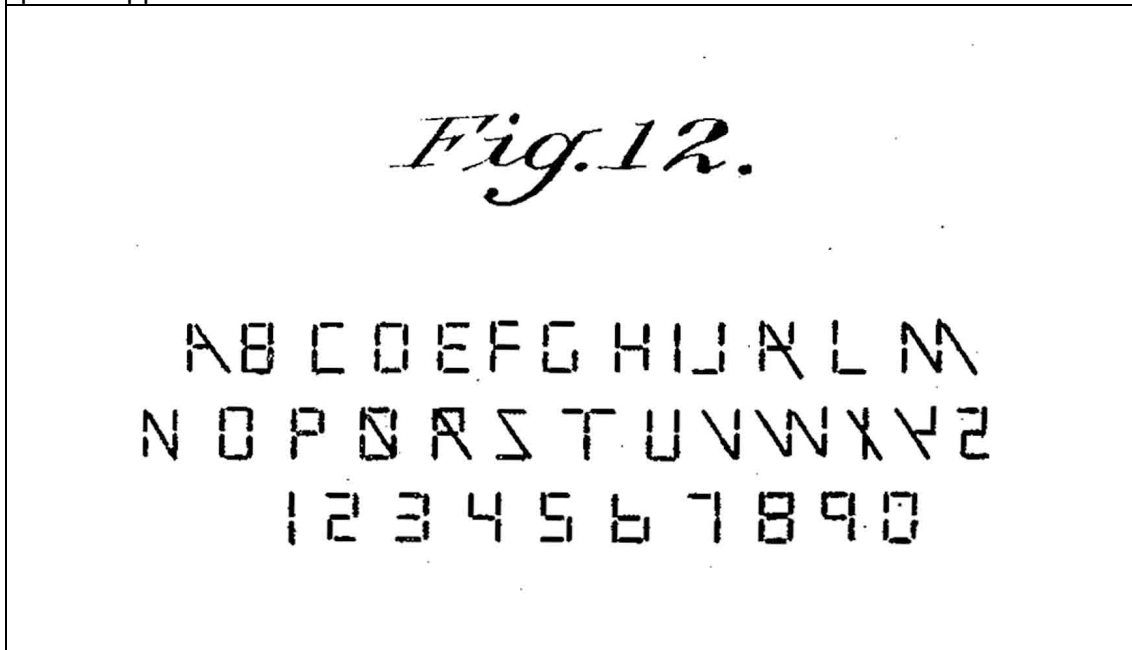
In 1908, Frank W. Wood filed a patent application for an illuminated alphanumeric display:

> This invention relates to illuminated character electric signalling devices of that type wherein the signal is produced by means of groups of electric lamps disposed in certain characteristic formations […] The primary object of this invention is therefore to reduce to a minimum the number of lamps employed within a given field to produce the various characters required, and to this end form such characters by means of certain elementary blocks of light so constructed and arranged that the characters will be clearly and distinctly outlined. (Wood, 1910, p.1)

He describes how he devised a 'special monogram arrangement of character elements', where 'each lamp compartment or cell is shaped to form an elongated rectangle having pointed ends' and how it is capable of forming any digit [Figure 71.]. He goes on to describe the array of cells or compartments in the exhaustive detail that a patent application requires and states that 'the arrangement constitutes, in reality, a pair of adjacent rectangles having a common side, and a
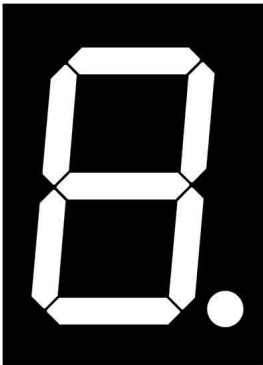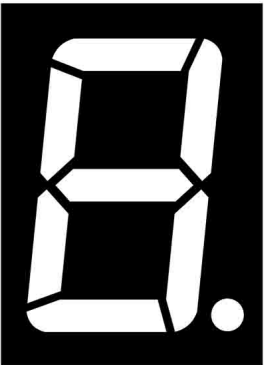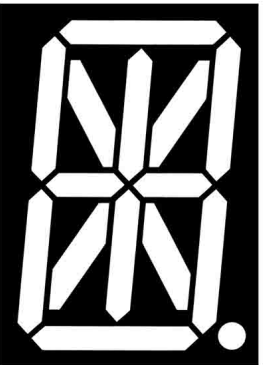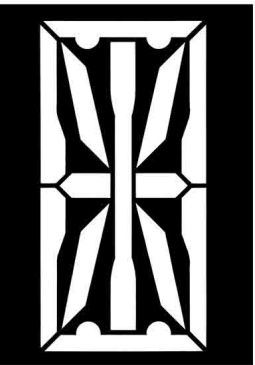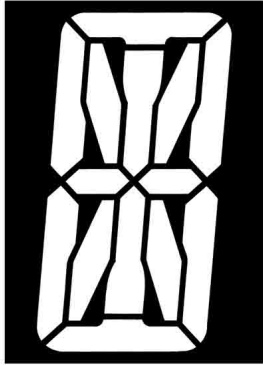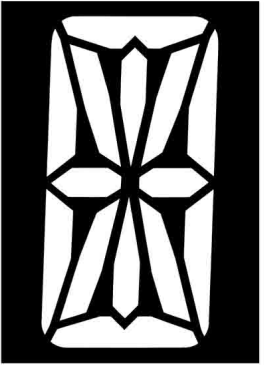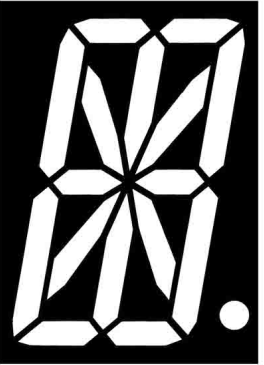
diagonal across one of the rectangles.' (Wood, 1910, p.2) Wood's 7- and 8-segment designs, first used in practice in 1910, are the basis for all subsequent multi-segment displays of this type – manual, mechanical and electronic – and his 'monogram arrangement' is in widespread use to this day. It most commonly found in consumer electronics and the simplest array is the 7-segment display.

**Figure 71.** Frank W. Wood (Wood, 1910, Figure 1, sheet 1). 'Figure 1 is a front view of the signal displaying apparatus […] By means of the special monogram arrangement of character elements, which I have devised, any digit can be formed within the field defined by any sight opening or window' (Wood, 1910, pp.1 & 2) Wood's patent application was filed in 1908.
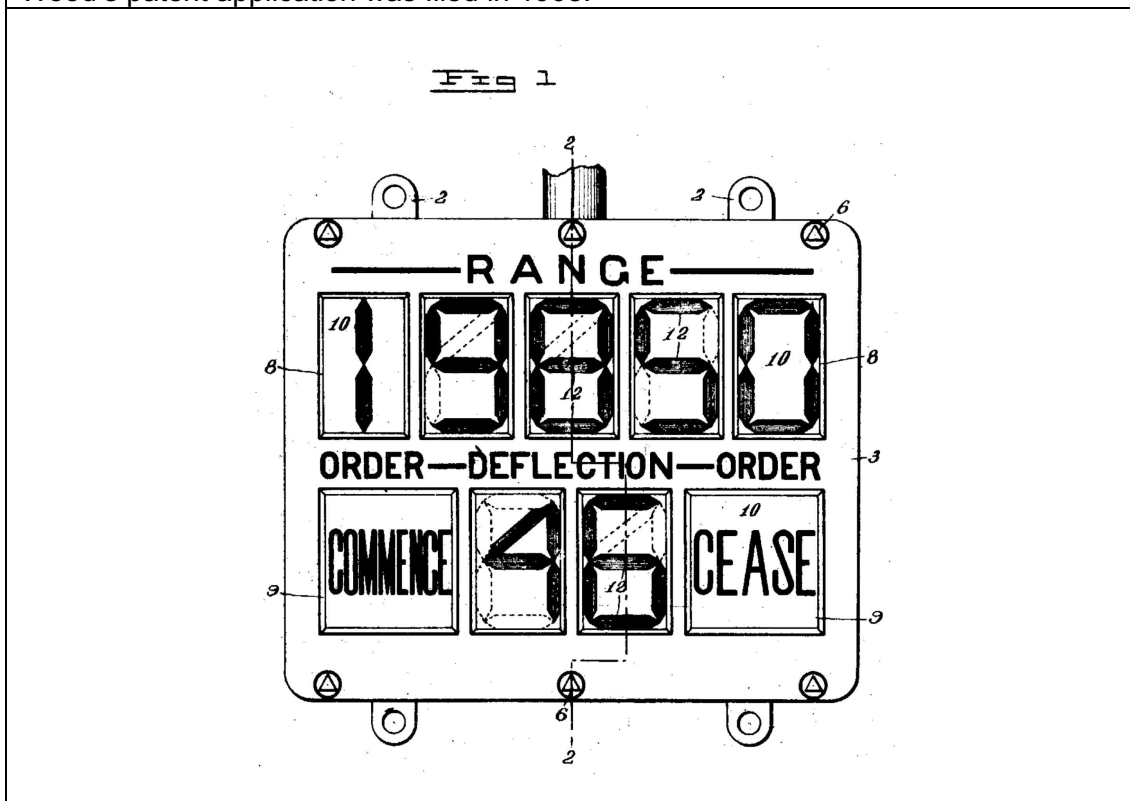


The design and manufacture of 7-segment displays was refined in the 1960s and, due to the development of increasingly sophisticated LED and LCD systems throughout the 1970s, they became widely used in electronic consumer goods such as digital clocks and calculators. The typical 7-segment display comprises panes that are set out in the way that Wood originally described, often with an additional segment that represents a decimal point. The segments can be slanted and there are variations in design that produce subtly different style effects and degrees of legibility. In some designs, diagonal and central vertical segments

have been added and these are divided in various ways. The resulting displays are capable of encoding the full ASCII character set (the American Standard Code for Information Interchange), which is the standard character code for data processing in the communications industry. Alongside the 7-segment display, the most common multi-segment displays have 14 or 16 segments, which present the ASCII character set with varying degrees of legibility [Figure 72.]. Table 6 shows a variety of typical multi-segment displays that I have observed in the field and redrawn for reference. (Madison, 2019; Kawamoto, 2002; Mackenzie, 1980; Towne, 1965)
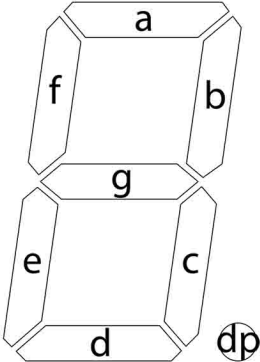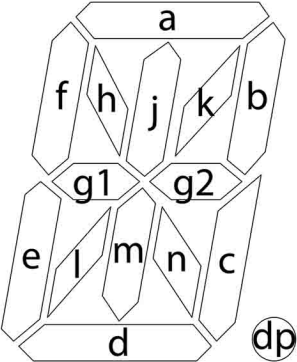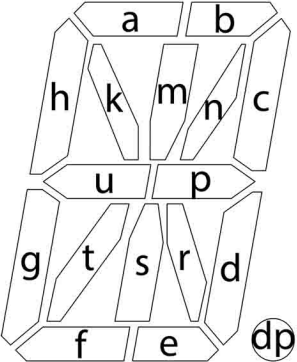
**Table 6. Typical multi-segment displays observed in the field**



The greater the number of segments in a display, the greater the memory capacity required in the electronics systems that store the character information. A 16-segment display (including a decimal point) requires 17 binary digits (bits) of information for each character, 14-segment characters require 15 bits each and 7-segment characters require 8 bits each.

**Figure 72.** Jonathan Parsons (2020) *7- 14- & 16-segment Alphanumeric Character Sets (ASCII)* [Inkjet print on archival coloured paper mounted on card with acrylic and graphite], 29.7 x 21 cm (A4 portrait). (Practice Research Catalogue number 047)
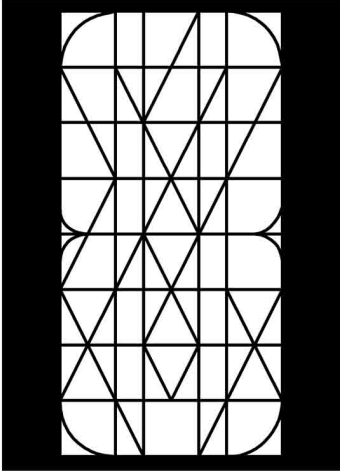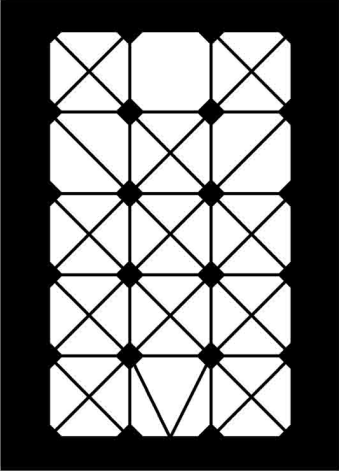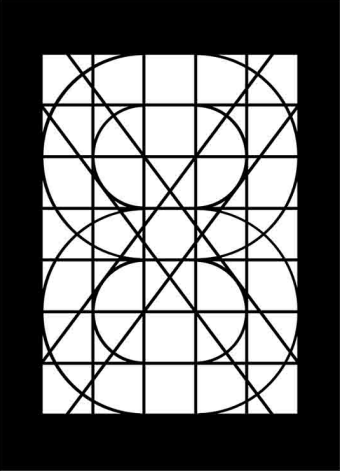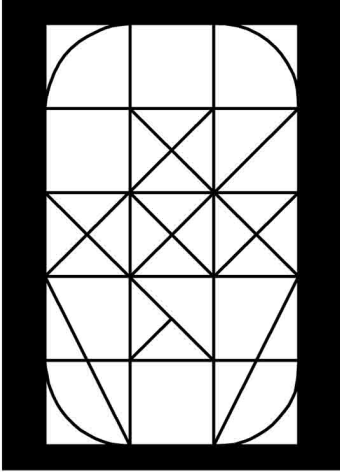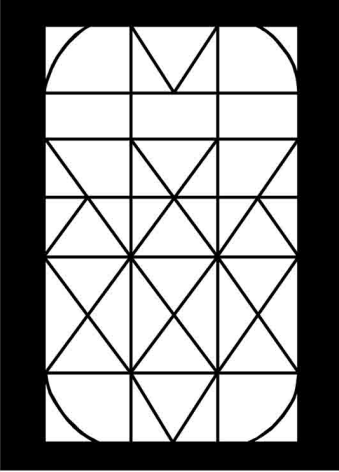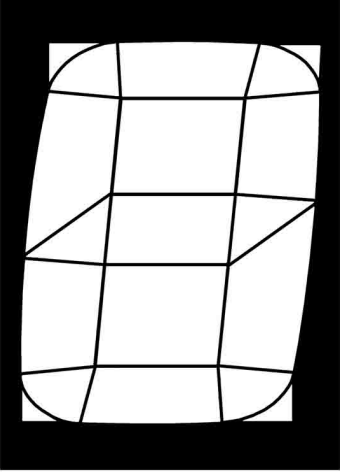
All of the types of multi-segment display have a specific order of segment names and positions that correspond to the bits that encode them. These are shown in Table 7. (Madison, 2019; Burke & Bentley, 1989)

**Table 7. Segment order labels for typical types of multi-segment alphanumeric display** (Madison, 2019, Figure 5. images licensed under the creative commons attribution 4.0 license – see: https://creativecommons.org/licenses/by/4.0/)

For each set the segments are ordered sequentially. Bit '0' corresponds to segment 'A', bit '1' corresponds to segment 'B', and so-on. Here are the ordered segments for each display:

- 7 Segment: DP-G-F-E-D-C-B-A
- 14 Segment: DP-N-M-L-K-J-H-G2-G1-F-E-D-C-B-A
- 16 Segment: DP-U-T-S-R-P-N-M-K-H-G-F-E-D-C-B-A

(Madison, 2019)

Due to the gyronny configuration of its radial central segments in relation to its overall rectangular shape, the 14-segment display is sometimes known as the 'Star Burst' or 'Union Jack' display. (Silabs, 2013, p.11)

With increasing processing and memory capacity it is possible to produce more complex display systems. I have called these 'atypical' multi-segment alphanumeric displays as – although they are quite widespread and computing systems continue to become ever more powerful – they are still not encountered in the field as often as the lower bit-value types. They retain the principal of a

fixed set of illuminated solid panes making up all of the characters, but their arrays are much more complex than the earlier ones. My reference redrawings of some atypical displays observed in the field are shown in Table 8.

**Table 8. Atypical multi-segment displays observed in the field**



The third drawing in the top row of Table 8 appears to be a version of Christopher Tuason's innovative 'HIX8' mosaic pattern, which is a high resolution multi-segmented alphanumeric character display unit. This was developed in order to increase legibility and resolution without the cost of increased processing requirements. The amount of 'dead space' in relation to the activatable display segments in the mosaic is less than 25% of the surface of the screen pattern and the array as a whole is capable of showing a wide variety of characters in Roman, Greek and Cyrillic alphabets, as well as accented characters, descenders, diphthong ligatures and special characters [Figure 73.]. (Tuason, 2005, pp.1-3)

**Figure 73**. Christopher Tuason (Tuason, 2005, Figures 1A-B, 3, 4, 5A-D & 6, sheets 1, 3, 4 & 5) Available at: https://patents.google.com/patent/US20050104803A1/en (Accessed: 21 July 2021)
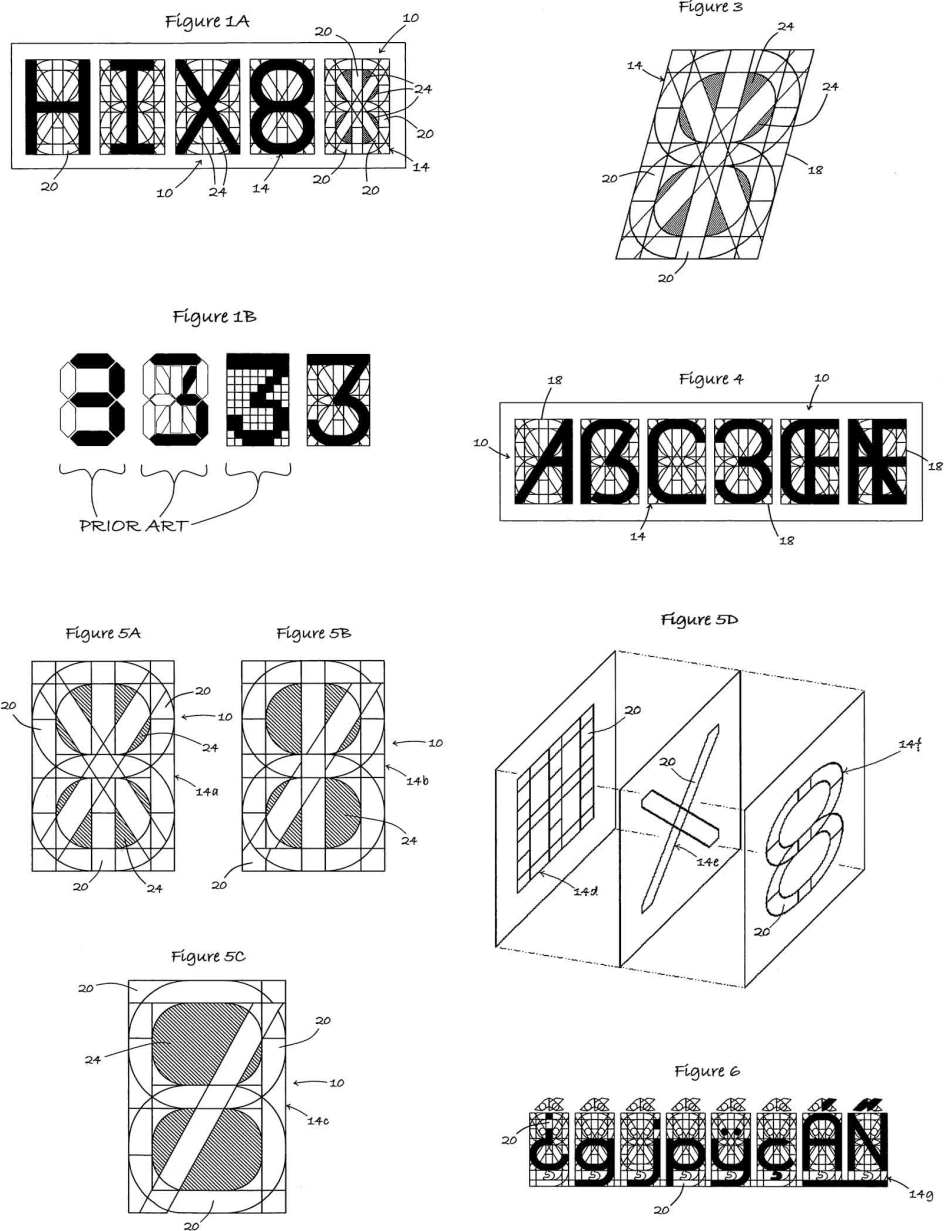
FIG. 1A is a schematic representation of five display units, each with a mosaic of display segments for a 100-segment display unit of the present invention.

FIG. 1B is a comparison of prior art 7-segment, 14-segment and dot matrix display examples with the present invention. […]

FIG. 3 shows a schematic representation of an alternative display unit configuration enabling an alternative character font.

FIG. 4 shows examples of display units of the present invention depicting an alternative screen mosaic configuration of display segments for presenting the characters "A", "B", "C" and "3" in an alternative font along with a representation of the "OE" and "AE" diphthong ligatures. The depicted mosaic for the character "B" can alternatively be used as a German sharp-s (also known as "scharfes s" or "eszett").

FIG. 5A is a schematic representation of an alternative display unit configuration,having a reduced number of display segments relative to that of FIG. 1A.

FIG. 5B is a schematic representation of a further alternative display unit configuration having a reduced number of display segments relative to that of FIGS. 1A and 5A.

FIG. 5C is a schematic representation of an alternative display segment mosaic for a 45-segment display unit that can produce all digits 0-9 among other characters.

FIG. 5D is a partly perspective exploded view of a three-layer LCD-type alternative method for a display unit configuration having a reduced number of display segments relative to that of FIG. 1A.

FIG. 6 is a schematic representation of an alternative display segment mosaic for presenting a character set that includes accent segments and segments that extend below the baseline ("descender" segments). (Tuason, 2005, p.2)

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### 3.5.3 Dot matrix displays

'Dot matrix' is a term used in computing to describe a grided array capable of producing printed or electronically displayed characters, symbols and pictograms. Different types of 'dot matrices' more generally have been used to create varied patterns since prehistory. The most obvious example of this is in textiles, where rows of embroidered and knitted stitches, drawn threads or patterns of weaving are used in grids to create designs of various kinds [Figure 74.]. These are all further examples of the co-ordinate plane, as previously described in sections 3.1.9-12.

**Figure 74.** Alighiero Boetti (1970) *EMME I ELLE ELLE E…* [crocheted lace] 27 x 27 cm (10 1/8 x 10 1/8 in), Private collection. Available at: https://www.archivioalighieroboetti.it/scheda/emme-i-elle-elle-e-1970-pizzo-a-filet-27x27cm/ (Accessed: 22 July 2021) Photo courtesy and © Archivio Alighiero Boetti © DACS, 2022
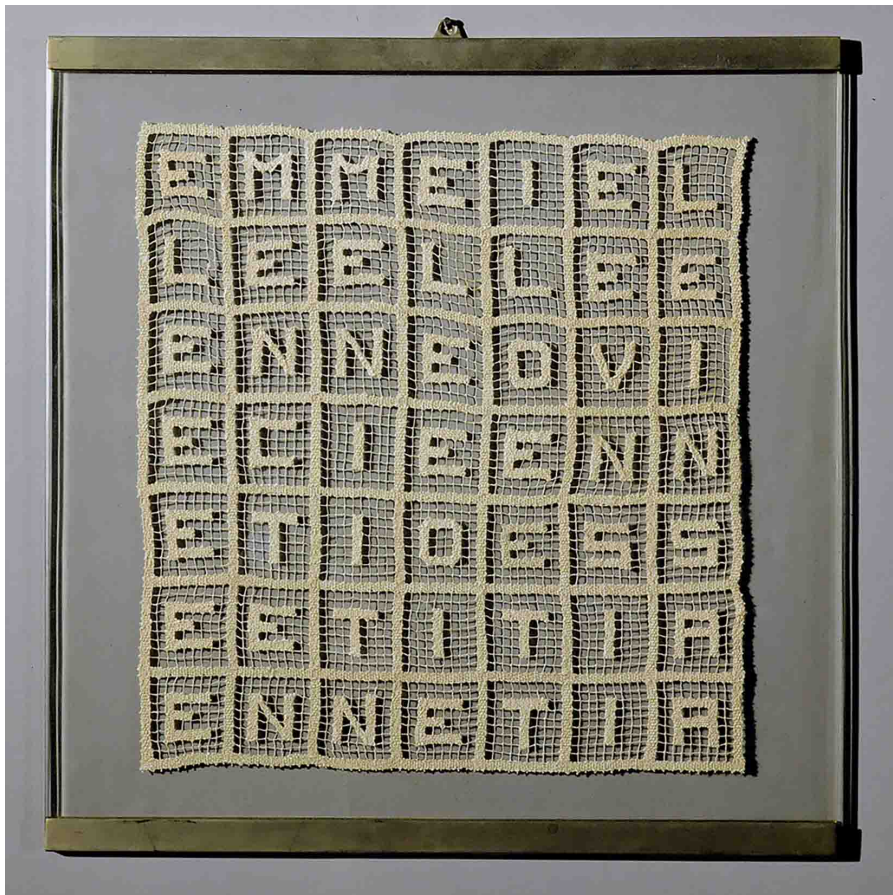
The earliest use of an array of 'dots' to display letters was an illuminated electrical signal patented by Lucian Crandall in 1895, which had sets of lamps arranged in rows on a rectangular frame divided by a vertical cross. This 'monogram', however, was more akin to a multi-segment display. The first true dot matrix capable of encoding alphanumeric characters and generating typescript was developed in the 1920s by Rudolf Hell in his teleprinting machine, which was adopted by the German army in 1930. The character set was refined by Fritz Karl Preikschat for the teletypewriter he developed in 1954-56 [Figure 75.]. This device was able to send printed words, symbols and pictures. In his working papers, he describes how a 'picture' of a character is transmitted by a dot matrix and he specifies that the characters are composed of a grid of 5 x 7 dots. (Preikschat, 1961, pp.1-2, 11; Crandall, 1895)

**Figure 75.** Fritz Karl Preikschat (Preikschat, 1961, Figure 1, p11). '5 x 7 dot matrix' Preikschat, F. K. (1961) *Working papers on dot matrix teletypewriter*, Available at: https://web.archive.org/web/20161031121145/https://upload.wikimedia.org/wikipedia/en/f/f6/ Working_papers_on_dot_matrix_teletypewriter%2C_1961.pdf (Accessed: 22 July 2021)
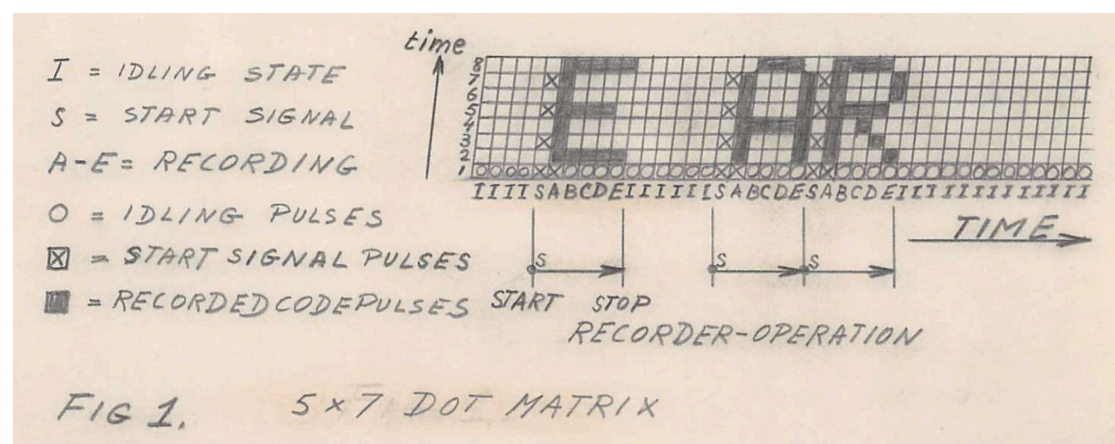


The 5 x 7 dot matrix array [Figure 76.] is the most common alphanumeric system for electronic displays and is still in wide use today. In strict terms, every visual pattern in information technology that is displayed using a grid of pixels is a dot matrix display. These arrays are technically known as bitmaps, where each point on the grid can encode various numbers of bits of information. In common usage, the term 'bitmap' usually refers to an image that contains one bit per pixel. Higher resolution images, with many bits per pixel, are commonly referred to as 'raster'

images and, as mentioned in section 3.1.5, they are now the principal mode of image capture, production, storage and display. (Goswami and Shah, 2015; Burke & Bentley, 1989)

**Figure 76.** Jonathan Parsons (2020) *Field Notes (Dot Matrix Alphanumeric Display)* [inkjet print on coated paper mounted on card with acrylic] 9.7 x 7cm. (Practice Research Catalogue number 046)
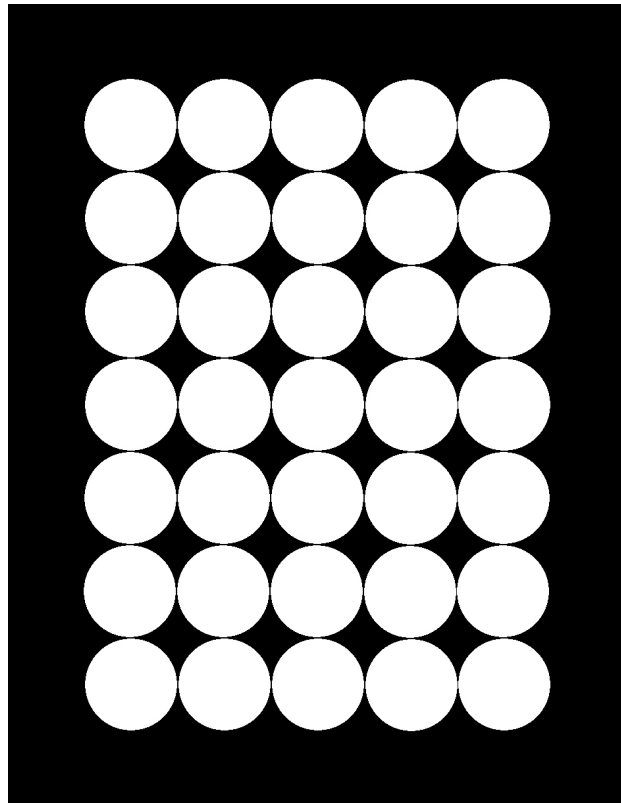
Pixels work as signifiers. A single pixel, taken in isolation, depicts nothing in particular – merely 'light thing' or 'dark thing'. But when a pixel is seen in context with other pixels, which narrow the range of likely interpretations, then its significance becomes more precise…If a pixel, taken in context, has a value that cannot be interpreted in this way, then it is usually seen as visual 'noise' and ignored.

(Mitchell, 1992, in Manghani, Piper & Simons, 2006, p.230)

The 5 x 7 dot matrix display encodes one bit per pixel using 7 rows of 5 dots each. The information required for every pattern it can display therefore takes up

a very small amount of memory compared to large scale bitmaps capable of displaying complex images and fonts, such as those that make up this current document (this is true only when we see the animated bitmap images of the font displayed via the graphical user interface of the computer, or when the document is printed; the actual font files are comprised of algebraic sets of geometrical vector data). Notwithstanding the limitation of encoding small numbers of bits, the 5 x 7 dot matrix is able to generate a very large number of different symbols with low processing and display requirements and, as such, constitutes an incredibly economical font system.

> Dot matrix displays…are hampered by the aliasing problem where curved character features can only be produced in a stairstep fashion [creating a] 'block-curve' appearance. (Tuason, 2005, p.1)

When dot matrix pixels are circular, the problem of aliasing is reduced somewhat as perceptual 'blobs' of light are merged in vision. I have observed that characters displayed using circular dot matrix pixels actually increase in legibility the smaller they appear in the visual field. Table 9 shows my own dot matrix character set that I have been compiling since 2005, which is derived from observations in the field. This handmade digital image set was completed in 2020 for the current study.

**Table 9. 5 x 7 Dot Matrix Character Set** (Parsons, 2021, Practice Research Catalogue number 032, 2020)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | à | Ä | Å | Æ | B | C | D | E | F | G | H | I | J | K | L | M | N | O | Ö | ø | P | Q | R | S | T | U | Ü |
| V | W | X | Y | Z | _ | - | — | · | . | , | ; | : | ! | ? | ° | ° | ' | ' | , | " | " | " | ( | ) | [ | ] | { |
| } | ~ | § | ¶ | @ | * | * | * | & | # | % | † | ‡ | ` | ^ | · | " | ° | ° | ← | → | ↑ | ↓ | ↵ | + | ÷ | × | < |
| = | ≠ | > | \| | ¦ | √ | ∞ | ≤ | ≥ | ■ | ◆ | ◇ | ○ | ● | ♩ | ♪ | $\underline{\times}$ | — | ¢ | $ | £ | ¥ | £ | \ | / | 0 | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | a | á | Å | ä | æ | b | c | ç | d | e | f | g | h | i | j | k | l | m | n | ñ | o |
| ö | ø | p | q | q | r | s | t | u | ü | v | w | x | y | z | α | β | ε | θ | ϑ | μ | π | ρ | Σ | σ | Ω | ァ | ア |
| ィ | イ | ゥ | ウ | ェ | エ | ォ | オ | カ | キ | ク | ケ | コ | サ | シ | シ | ス | セ | ソ | タ | チ | ッ | ツ | テ | ト | ナ | ニ | ヌ |
| ネ | ノ | ハ | ヒ | フ | ヘ | ホ | マ | ミ | ム | メ | モ | ャ | ヤ | ュ | ユ | ョ | ヨ | ラ | リ | ル | レ | ロ | ワ | ヲ | ン | 万 | 円 |

Although dot matrix systems are low resolution, they continue to be used for printing in robust commercial applications. They are often used in industrial environments – or for high volume outputs – that would be challenging for other printing systems. Modern dot matrix printing uses mechanical pins to impact a fabric or film ink-bearing ribbon, which transfers the ink onto a variety of surfaces. Sometimes the pins are used on their own to pierce a printed array into the surface of a soft substrate such as cardboard. (Huskinson, 2010)

All alphanumeric displays are essentially designed to emulate pre-existing symbol systems. As an artist, I am interested in their own inherent visual properties and what these demonstrate about the nature of visual perception, comprehension and communication.

## 3.6 Artists and alphanumerics

The use of letters and numerals in art is as old as the symbol systems themselves. Artworks have borne inscriptions, dates and other textual information since the earliest times and calligraphy has been independently developed as a sophisticated art form in many cultures worldwide. The use of non-calligraphic text as a subject matter in its own right has its origins in early Modernism, such as in Cubist collage and the experimental forms of Dada. René Magritte's 'word-image' paintings of the 1920s and 30s demonstrated that depictions using supposedly neutral systems of iconic semblance were just as artificial and conceptually abstract as a string of letterforms. Coinciding with a general repudiation of the protocols of Modernism by artists, text as an artistic medium expanded significantly in the 1960s, as used in early feminist work, Pop Art, Fluxus and Neo-Dada, for example, and with practices such as Concrete Poetry. A singular example is Ed Ruscha, whose entire pictorial practice is focused on words and lettering, and is as much about the material processes of painting and sign writing as it is about linguistic meaning. The conceptual work of artists such as Marcel Broodthaers, Bruce Nauman, Joseph Kosuth and Lawrence Wiener used text as the primary vehicle for the content and meaning of their works. Artists in the 1980s, such as Barbara Kruger and Mary Kelly, consolidated the claim to

language conceived of primarily as art, rather than literature. (Petry, 2018, pp.8, 10-11, 12, 16, 20; Harrison & Wood, 1998, p.989)

The precedent for artwork concerned with alphanumeric displays is perhaps Jasper Johns' series of alphabets and numbers from the 1950s and 60s. Johns' *Zero Through Nine* series of drawings, paintings and editions from the early 1960s particularly seem to anticipate the idea of display technology as both subject matter and medium [Figure 77.]. (Williamson, 2017)

Alighiero Boetti used the kind of dot matrix fonts produced by impact and piercing printers in many of his works. In *I VEDENTI* ('The Sighted') (1967), he presented the title of the work as an upper-case dot matrix text made from holes gouged into the surface of a roughly hewn plaster slab. He presented the same text as a multicoloured embroidery piece in 1973. In his monumental embroidery *I mille fiumi più lunghi del mondo* ('The Thousand Longest Rivers in the World') (1976-82), he listed the river names as lines of upper-case lettering placed in order of decreasing river length, with each name preceded by its number on the list and separated from the next entry by three equilaterally spaced punctuation dots. (Cooke, Godfrey and Rattemeyer, 2012)

Commercially fabricated electronic dot matrix displays have been used as a medium by a number of artists. The most well-known is probably Jenny Holzer, who uses sculptural installations of scrolling LED signs in both gallery settings and public spaces to present her aphoristic and slogan-based texts. These kinds of scrolling, data-driven displays – ordinarily employed in such contexts as public transport systems, advertising displays and stock exchanges – feature in the work of James Balmforth and have also been used by Aristarkh Chernyshev to produce what he calls 'Info-Sculptures'. Ceal Floyer's *Monochrome Till Receipt (White)* (2000) is a simple dot matrix till printout listing all of the purchases she made on 3 July of that year from the Whitechapel branch of Sainsbury's. All of the products she bought were white (Petry, 2018, pp.90, 138, 160).

Since 2006, I have developed a series of ephemeral installations, sculptural pieces and land art using the 5 x 7 dot matrix pattern. I have taken the concept of the circular pixel and constructed arrays of mostly lowercase letterforms comprised of pixels made from various physical phenomena that naturally have a circular appearance. These include: pools of water, votive candles, drill holes, scorch marks, airgun pellets, reflectors, mirrors, ferromagnetic powders, heat tempering and holes burnt with focused sunlight. In all of the dot matrix works I seek to make a conceptual or humorous connection between the materials or methods of their construction and the meanings of the word that they represent [Figure 78.]. I have also constructed sculptural assemblages and installations that use arrays of fabricated discs to embody the pixels, which are mounted on various types of frameworks and scaffolds [Figure 79.]. In these works, the discs are painted in order to contrast with their surroundings and produce varying visual effects. These works are usually arranged with each letter 'stacked' one behind the other in a spaced linear formation that allows changing views of a particular 'heteropalindrome' to unfold in space and time as the piece is seen from differing viewpoints (heteropalindromes are words that can be read in either direction producing two different meanings). *Fossil Ocean Floor* (2018) is a work of this kind and was completed during this current research. It is the largest-scale project I have ever individually realised [Figure 80.].

**Figure 78.** Jonathan Parsons (2012) *Permanent Rainbow* [heat tempered mild steel] 36 x 124 x 0.3 cm.
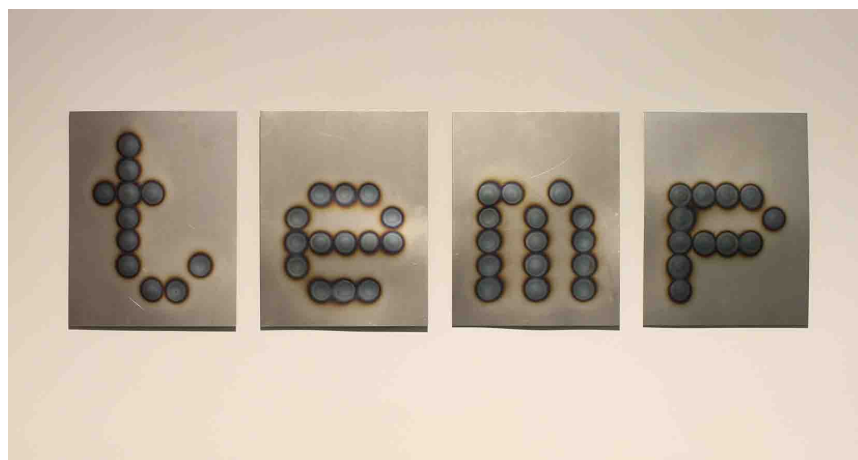
**Figure 79.** Jonathan Parsons (2013) *All Is Vanity (Paintcatching Scaffold)* [oil, enamel and varnish on wood] 175 x 122 x 50 cm.
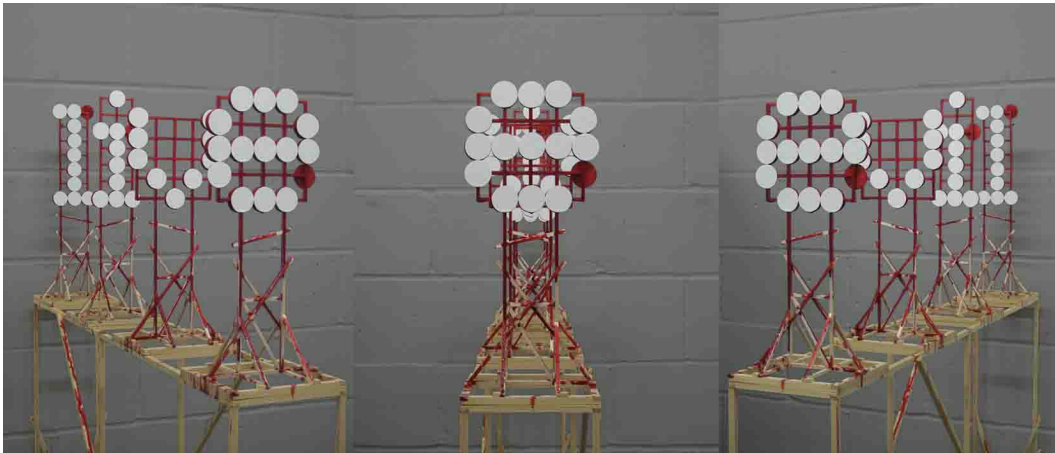


**Figure 80.** Jonathan Parsons (2018) *Fossil Ocean Floor* [painted wood] 700 x 200 x 6500 cm. Photography © Jonathan Miller

Continuing my research during the first English lockdown of 2020, I explored some visual effects of the full dot matrix character set I that had compiled. This resulted in a painting installation entitled *Code and Image (Travellers in a*

*Breeze)*, which is an ongoing project which will ultimately consist of 42 small acrylic on canvas paintings arranged across a painted wall. 36 of the panels are complete at the time of writing [Figure 81.]. Each 21 x 14 cm panel is a single dot matrix character made up of painterly impasto dots that have been applied in a non-expressive, detached way. When each of the panels are viewed in extreme close-up their legibility breaks down, hence the 'code and image' part of the title. The second part of the title is taken from the print *Travellers Caught in a Sudden breeze at Ejiri* (c.1832), by Katsushika Hokusai from his famous portfolio *The Thirty-six Views of Mount Fuji* (c. 1830-1832), which shows travellers on the Tōkaidō way in a gust of wind that sends a hat, tree leaves and a pack of papers flying into the air. Part of the installation's content is to suggest that electronic characters are like billions of tiny pictures constantly travelling all around the world on a super-fast digital breeze.

**Figure 81.** Jonathan Parsons (2020) *Code and Image (Travellers in a Breeze)* [Acrylic on 36 canvas panels mounted on painted wall] overall dimensions: 300 x 530 cm. (Practice Research Catalogue no. 105 (1-36)) *Installation view: Hardwick Gallery, Cheltenham, 2021*.

Comparatively few artists have used the forms of multi-segment alphanumeric displays in their work. The most notable is Tatsuo Miyajima, who has almost exclusively been using the 7-segment display in his installations, painting and sculpture since the late 1980s. The 7-segment display is strictly classed as alphanumeric even though its resolution is more suited to displaying numerals than letterforms [see Figure 72.].

Miyajima's art is founded on a number of key concepts, which stem from humanist thought and the Buddhist teachings and practice that are a central part of his life. His core Three Concepts are: 'Keep Changing', 'Connect with Everything' and 'Continue Forever'. These operate in conjunction with the concept of 'Art in You', where a work of art only 'exists in interaction with the human mind', the artwork 'is a device that inspires people's artistic mind' and 'there is no clear division between artist and observer'.

Central to his practice is the electronic LED counter, which he has incorporated into a wide variety of formats and settings. The counters read out various cycles of numerals from 1-9, which represent the passage from life to death. The cycles used depend on the particular concept for each work and are not necessarily sequential. Miyajima never uses zero, because, he says: 'Zero is a Western concept. There is no physical zero.' His work encompasses a range of high-tech materials, circuits, software and hardware, as well as works incorporating traditional techniques, such as painting, cut paper and bamboo. His latest series of works are a new series called 'Painting of Change', which display a number from 1-9 using seven movable individual panel segments. The technicians responsible for the display of the works determine a random number each day using a polyhedral dice and re-format the painting accordingly [Figure 82.]. (Lisson, 2019; Miyajima, 2014a, 2014b & 2021)

**Figure 82.** Tatsuo Miyajima (2020) *Painting of Change – 000* [gold leaf on 7 individual movable panels] 340 x 242 x 6 cm *Installation view at SCAI THE BATHHOUSE, 2020*. Availbale at: https://tatsuomiyajima.com/news/uncertain/ (Accessed: 4 August 2021) Image courtesy and © 2022 Tatsuo Miyajima by kind permission of Tatsuo Miyajima Studio.

In 2005, I produced the city-wide installation *Alphanumeric Flags* for the exhibition *Art Out of Place*, which was part of the *Contemporary Art Norwich CAN.05* festival [Figure 83.]. I had noted that the way electronic multi-segment displays employed divisions of the rectangle was very similar to the gyronny configuration seen in the Union Flag. A new large version of *Achrome* was also commissioned especially for the show and was exhibited separately at Norwich Castle Museum and Art Gallery. It had again been banned – this time from flying from the castle flagstaff – so I instead decided to show it crumpled up in a vitrine.

*Alphanumeric Flags* is a series of six brightly coloured flags made to be flown from prominent flagpoles across the centre of Norwich…The result is a truly public work of art, a network of flags leading to Norwich Castle for the duration of *Art Out of Place*…Their designs are based on alphanumeric configurations – the horizontal, vertical and diagonal lines used in digital displays. In this way *Alphanumeric Flags* brings together two disparate forms of communication: the flag as traditional signal and the information systems of the digital age. (Thornton, 2005)

**Figure 83.** Jonathan Parsons (2005) *Alphanumeric Flag (Natural)* [appliquéd polyester flag, wood, rope] 175 x 236 cm (69 x 93 in). *Installation view: Norwich City Hall, 2005*

**Figure 84.** Tauba Auerbach (2006) *The Whole Alphabet, From the Center Out, Digital V* [gouache and pencil on paper mounted to wood panel] 76.2 x 55.9 cm (30 x 22 in). © Tauba Auerbach (Photo: B and C from Philip Maisel). Image courtesy of Paula Cooper Gallery

Tauba Auerbach's practice is highly diverse, but is mainly concerned with various imaginative approaches to conventional forms of painting, graphic design, typography, book construction and cartography. An important part of her 'mission' is 'to make artworks in the form of publications', which 'are affordable and their value defined by what one might get out of owning them, rather than from reselling them.' She has extensively explored the handwritten and printed word through a wide variety of mostly two-dimensional processes. She has designed a number of typefaces – including her *Fossil Font*, which is composed of a matrix of 3 x 5 tromp l'oeil globes – that are available as 'Type Specimen' prints at her shop and online store Diagonal Press. In 2005-6, she made a series of gouache and pencil paintings that explored all the numerical and alphabetical iterations of the 7- and 14-segment displays [Figure 84.]. (Auerbach 2021a & 2021b)

# Chapter 4: Children's scribble

## 4.1 Background

It was not until well into the 19<sup>th</sup> century that children's drawings were considered worthy of serious study.

> As soon as one searches for a history of children's art and examines the attitudes toward it in earlier epochs, one discovers how recently the scribblings of children have entered into public consciousness. No doubt children have always drawn; and no doubt proud parents have looked admiringly at their youngsters' marks on the sand, daubings on windowpanes, or scribbles upon rocks. Yet one looks in vain through prehistory, classical accounts, and even writings at the time of the Renaissance for conclusive evidence that children drew, let alone that such drawing mattered. (Gardner, 1980, p.9)

John Ruskin had dealt with children's drawings in his 1857 book *The Elements of Drawing* and Charles Darwin had included children's drawings in his observations in 1877. Ruskin's work inspired Ebenezer Cooke to write two articles on education and children's spontaneous imaginative drawing, which were published in winter 1885. These are widely considered to be the first studies that solely dealt with children's drawings. Ten months before Cooke's articles were first published, however, the Italian archaeologist and art historian Corrado Ricci delivered a lecture on children's drawings that was subsequently published as *L'arte de Bambini* in 1887. The booklet was richly illustrated with 49 charming figures of children's drawings and sculptures in clay, almost all including the human figure in various stages of development and depicted in a variety of situations [Figure 85.] (Machón, 2013, p.33-4; Cox, 1993, p,1; Gardner, 1980, pp.9-10; Ricci, 1887). In a scene that calls to mind Balla's (1902) *Fallimento*, Ricci recounts how he was originally inspired by the graffiti drawings he had encountered by chance in a doorway:

One day in the winter of 1882-83, returning from the Certosa di Bologna, I was forced by pouring rain to shelter under the portico that leads to the Meloncello. I did not know that under those arches there was a permanent literary and artistic exhibition, of little aesthetic value…but on the other hand largely adorned with a modesty rare for the times […] The sadness of the day, of the place and of the soul…reconciled me with the naïve art of children and suggested the idea of this study.

(Ricci, 1887, p.p.3-4, author's translation)

**Figure 85.** Corrado Ricci (1887, Figure 30., p.43) *'le persone che popolano il treno'* ('the people who populate the train') Image in the public domain, see: https://archive.org/details/lartedeibambini00riccuoft/page/42/mode/2up



Fig. 3o.
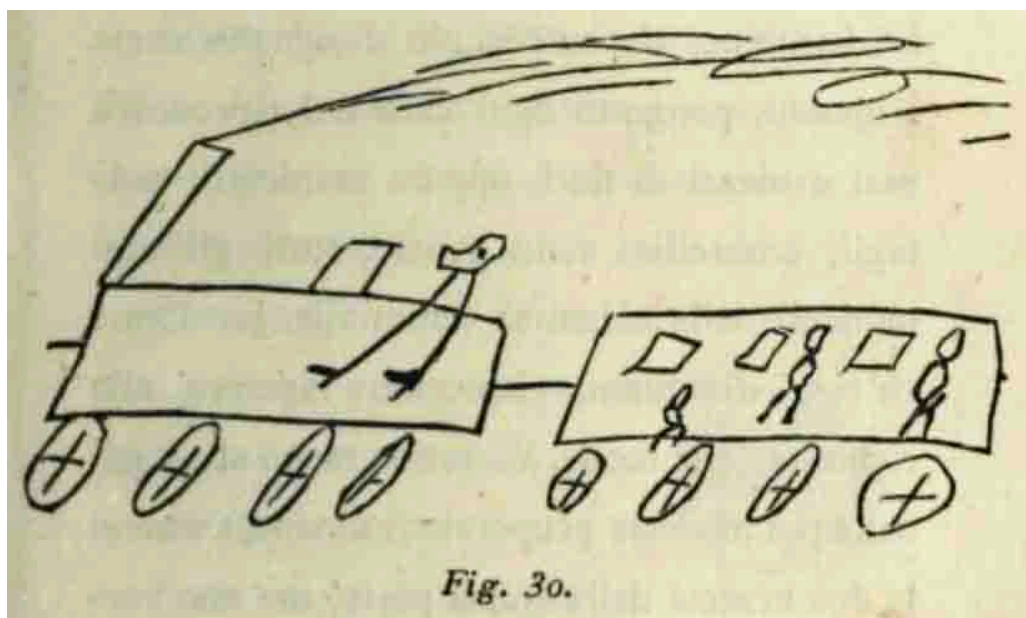
Ricci describes four stages in the development of the representation of the human figure and suggests that children do not represent objects of reality artistically, but in an enumerative way. He emphatically states that 'children are unaware of what true art is and that their sense of beauty and artistic creation does not develop until the teenage years' (Machón, 2013, p.34).

The growing interest in children's drawings coincided with growing opportunities for them to draw, in the form of the increasing availability and affordability of paper

and types of graphic tool. This also increased the durability of their productions. By 1960, the bibliography of books and articles relating to studies of children's drawings contained more than 600 references (Machón, 2013, p.31; Gardner, 1980, p.10).

In a survey of the best known of these publications, Machón (2013) identified eleven distinct approaches to studies on children's drawing. He set out their characteristics in detail alongside some of the most significant authors. The approaches are: Anthropological (studies of drawing in relation to primates and developing cultures); Genetic-developmental (studies of the co-evolution of drawing patterns and stages of child development); Perceptive-formal (studies of the emergence and development of form in drawing through the psychology of visual perception); Neuromotor (studies of the development of upper limbs in relation to drawing and writing); Psychometric (uses drawing tests to study cognitive maturity); Projective (studies drawing as a projection of the unconscious in order to diagnose personality disorders); Psychopathological (studies mental pathologies through drawing); Psychoanalytical (uses drawing to study the unconscious mind through classical psychoanalysis); Pedagogic (uses drawing to formulate tailored educational approaches for specific age groups); Semiotic (considers the signification of drawings); Artistic (regards children's drawings as an artistic activity, defines them as 'child art'). In all the bibliographical references, the greatest interest in children's drawings has come from three fields of science: Pedagogy, Anthropology and Psychology (Machón, 2013, pp.31-2, 36).

A review of the literature indicates that a consideration of six of the approaches identified by Machón is relevant to this research. These approaches are, in order of decreasing importance: Perceptive-formal; Neuromotor; Semiotic; Artistic; Genetic-developmental; Anthropological. The focus of this literature review – in direct response to research question 1 – will therefore be upon those studies that have formulated typologies of scribble.

## 4.2 Rhoda Kellogg

The American educationalist Rhoda Kellogg produced the first ever selection and classification of scribble types. Her approach is Artistic, Genetic-developmental and Perceptive-formal (Machón, 2013, p.187).

### 4.2.1 What Children Scribble and Why

In her modestly produced 1955 typescript book *What Children Scribble and Why*, Kellogg describes how she studied more than 100,000 drawings and paintings made by children aged 2-4 years. The works were collected by her in her role as the supervisor of the Golden Gate Nursery Schools in San Francisco. All the drawings were made spontaneously and were not the result of any instruction or coaching. In Kellogg's view, drawings made by children were works of art. She asserts that, in early pictorial drawing, the child 'definitely is trying' to integrate appearances of objects seen in reality with forms of rhythmic scribbling that are familiar to them (Kellogg, 1955, pp.1,5-6). One of her aims was to produce the first organised terminology to describe the graphic production of infants:

> There is no scientific terminology for children's art, but only such words as smear, scribble, smudge, design or picture…For adult art there are many more specific terms…a whole vocabulary for communication about adult art, but there is no such general vocabulary in relation to preschool art. There is a need for this, and I am attempting to begin the development of one in this book. (Kellogg, 1955, p.6)

Kellogg was wary of the systems learned by adults for interpreting visual data and wanted to 'record the facts of line structure' by making an effort to analyse the drawings in a purely structural way, rather than making an interpretation of any possible meanings (1955, pp.7 & 9). She made the bold claim that:

> The system given in this book for classifying the structural content is applicable to all the products of preschool children…It is likewise applicable to all children the world over, ancient or modern. (Kellogg, 1955, p.9)

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### 4.2.2 Kellogg's methodology

Over the course of 25 years of working life, Kellogg had personally witnessed approximately 8,000 different children making 'scribblings, finger paintings and easel paintings.' Her sample of 100,000 works in the study were made by 300 children. She states that she endeavoured to conduct the study 'objectively and scientifically, making no subjective, personal interpretations of any given child's work'. She began by ordering the scribblings that shared similar structures into specific piles and, in this way, gradually produced her system of classification for categorising all the work. She argues from the point of view that 'seeing is believing' and writes that 'While the Classification System is not perfectly satisfying, it has been built up out of the drawings themselves'. Precise statistical evidence for the claims of development made throughout the book is not given. Instead, Kellogg argues that the few statistics she is able to present 'are not satisfactory…nor are they available…because they cannot be reliably collected'. She continues 'One hundred thousand products made by three hundred children is too small a sample to *prove* anything…My work deals with evidence and not proof.' She claimed to have no preconceived theory and no vested emotional interest for the objects of her study to conform to one, 'but I am eager to see a sequence, if there be one. I am convinced that there is one and that I have begun to understand it…preschool art products…have now become another impressive bit of evidence that all human activity has unity with the physical universe'. She was pleased to find that there was an order and sequence to preschool drawings and that other individuals who had inspected the material for themselves corroborated what she had seen (Kellogg, 1955, pp.5, 9-11, 123-4). She argues at length for the validity of her approach:

> I have now done a beginning description and count of actual structures used. As for statistical quantities of each structure produced, reliable data can never be obtained. It is almost impossible to collect all the work of even one child…children may 'draw'…leaving no permanent record…structures are often covered over beyond detection…It will always be impossible to get

a vast quantity of product which is uncorrupted by the adult's influence…and formal instruction. My own sample is unusually free of these influences due to the excellent conditions in our schools as they relate to spontaneous performance…the most unsatisfying aspect of the statistical problem is the fact that once a Structure is learned, it can occur from then on for the rest of one's life. (Kellogg, 1955, pp.124-5)

She argues that the only satisfying statistics are negative ones that definitively show that particular line structures are absent from drawings by children under a certain age, or that no typically able child from a given age group failed to produce a certain structure. 'The inner consistency of the material I have already examined is sufficiently impressive for me to want to pass it on to others' (Kellogg, 1955, pp.125).

Kellogg's book is illustrated throughout with photographic reproductions derived from her personal collection of over 50,000 crayon drawings. Specific drawings were selected to clearly illustrate a particular structure under discussion and each is shown in its entirety and in relation to the full sheet of paper used. The reprographic technology of the 1950s presented its own peculiar challenges, meaning that Kellogg was occasionally obliged to retouch the photoprint negatives and, in a few cases, make tracings or copies of the drawings in order to make their structures clearly visible (Kellogg, 1955, pp.1-2).

### 4.2.3 The 20 Basic Scribbles

In chapter 2, *From first scribble to first picture*, Kellogg describes 20 Basic Scribble types.

> Scribbling behaviour is natural to children…between the ages of two and three, most children learn to make, over and over again, a number of definite marks which I have identified and called the Basic Scribbles…they are the natural self-'taught' markings made by all children, and not the result of instruction or copying…In my collection there are examples of each Scribble being made by itself on one piece of paper, but for the most part, the child puts several Scribbles (up to 12) on one sheet. (Kellogg, 1955, p.14)

This is illustrated using reproductions of children's actual scribble. Kellogg then presents her own sketches of the 20 Basic Scribbles, which are reproduced on a larger scale in chapter 12 at the end of the book. She also illustrates 9 examples of 'Scribble Mixtures'. For the purposes of clarity and consistency in my current study, I have redrawn and presented the 20 Basic Scribbles in Table 10. Documentation of my mixed media installation based on this typology can be seen in Figure 86. Kellogg states that her classifications are not listed in the order in which they appear in children's work, as 'I am not sure of the order in which the child is capable of making them' (Kellogg, 1955, pp.15-17).
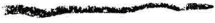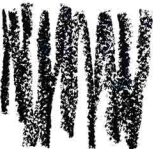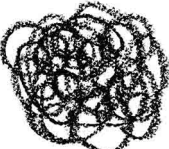
| | | | |
|---|---|---|---|
| **Table 10. The 20 Basic Scribbles** (my synthesis of Kellogg, 1955, pp.15, 17 & 131) Adaptation authorised by kind permission of the Golden Gate Kindergarten Association | | | |
| **1.** Dot | | **11.** Roving Enclosing Line | |
| **2.** Vertical Line | | **12.** Zigzag or Waving Line | |
| **3.** Horizontal Line | | **13.** Single Loop Line | |
| **4.** Diagonal Line | | **14.** Multiple Loop Line | |
| **5.** Curved Line | | **15.** Spiral Line | |
| **6.** Multiple Vertical Line | | **16.** Multiple Line Overlaid Circle | |
| **7.** Multiple Horizontal Line | | **17.** Multiple Line Circumference Circle | |
| **8.** Multiple Diagonal Line | | **18.** Circular Spread Out | |
| **9.** Multiple Curved Line | | **19.** Single Crossed Circle | |
| **10.** Roving Open Line | | **20.** Imperfect Circle | |

**Figure 86.** Jonathan Parsons (2017) *The Basic Scribbles S1 – S20 (Kellogg)* [Acrylic reverse painting on glass with wall mounted fixtures] Each panel: 20 x 20 x 0.2 cm. Overall dimensions 180 x 140 x 2 cm (Practice Research Catalogue no. 011)
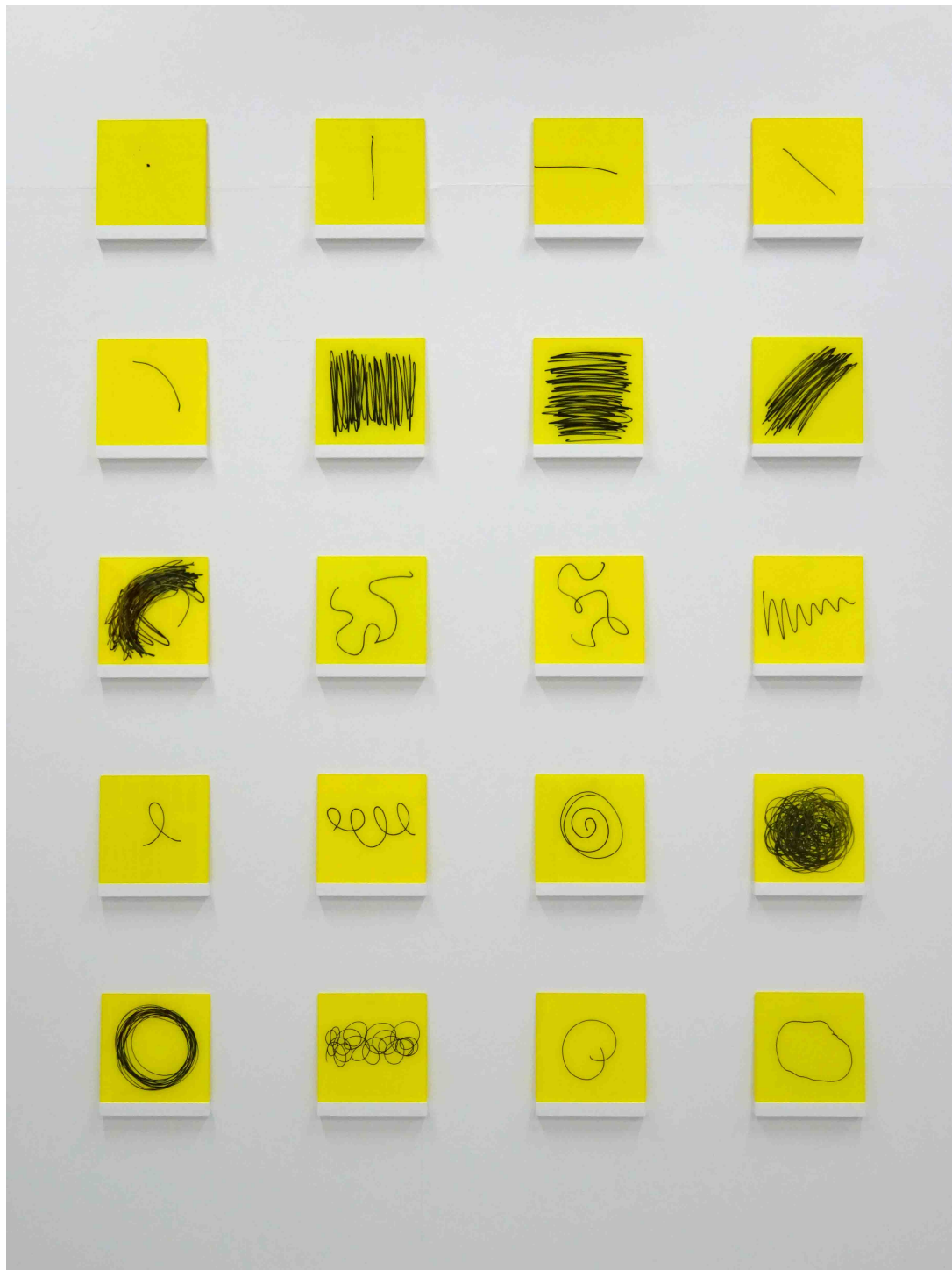
The various combinations of Scribbles actually made…reveal that certain ones are definite favourites…Some of the most beautiful and esthetically satisfying drawings made by children and adults are nothing but Scribbles skilfully put together, for these markings in themselves have permanent intrinsic artistic merit. (Kellogg, 1955, p.16)

### 4.2.4 The six basic Diagrams

In the same chapter, Kellogg goes on to describe how children begin to make six definite and distinct forms out of the Basic Scribbles at about the age of three years. She calls these the Diagrams. For the purposes of clarity and consistency in my current study, I have redrawn and presented the six Diagrams in Table 11. Documentation of my mixed media installation based on this typology can be seen in Figure 87. She describes how they are made from the Basic Scribbles:

Diagram:
1. Greek Cross, from Scribbles 2 & 3.
2. Square or Rectangle, from Scribbles 2 & 3.
3. Circle or Oval, from Scribble 5.
4. Triangle, from Scribbles 2, 3 and 4.
5. Odd-Shaped Area, from Scribbles 10 and 11.
6. Diagonal Cross, from Scribble 4.

Many of the Diagrams are made singly but, like the Basic Scribbles, many more are overlaid or adorned with other scribblings. The first to be made is the Greek Cross, then the Square and / or Circle at the same time as the Odd-Shaped Area. The Triangle is rarely made and the Diagonal Cross is the last to develop. 'Correct reading of the drawing involves detecting the Diagram when it is overlaid with Scribbles'. The confused appearance of some drawings 'to the adult eye' is due to the endless 'possibilities of combinations of these Scribbles and Diagrams' (Kellogg, 1955, pp.16-19).

| Table 11. The six basic Diagrams (my synthesis of Kellogg, 1955, pp.16-19) Adaptation authorised by kind permission of the Golden Gate Kindergarten Association | | |
|---|---|---|
|  **1.** Greek Cross |  **2.** Square or Rectangle |  **3.** Circle or Oval |
|  **4.** Triangle |  **5.** Odd-Shaped Area |  **6.** Diagonal Cross |
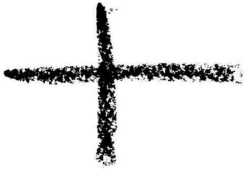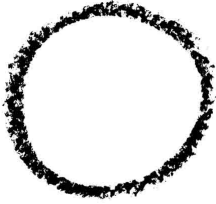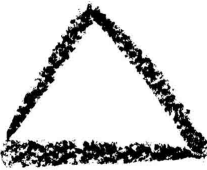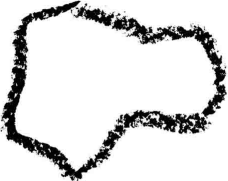
**Figure 87.** Jonathan Parsons (2017) *Diagrams D1-D6 (Kellogg)* [Acrylic reverse painting on glass with painted birch ply wall fixings] Each panel 30 x 30 x 0.2 cm. Overall dimensions: 81 x 130 x 8 cm. (Practice Research Catalogue no. 008)
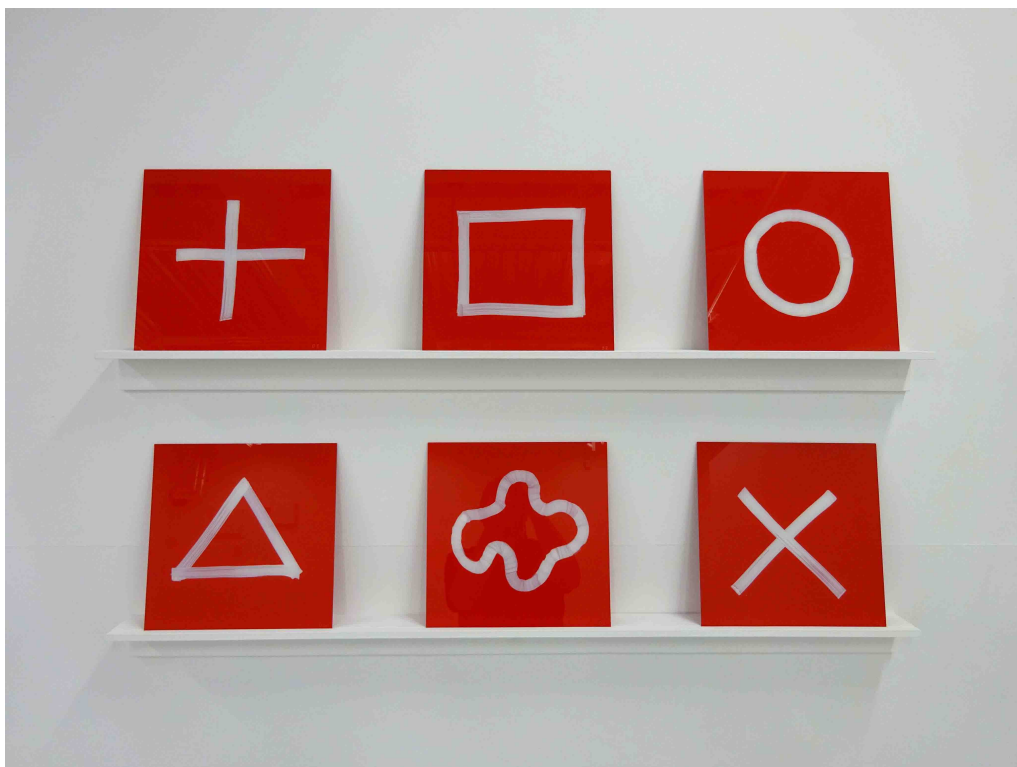
### 4.2.5 Combines and Aggregates

Kellogg calls two Diagrams used together a Combine and three or more an Aggregate. 'From age one to four, the child is absorbed with his Scribbles, Diagrams, Combines and Aggregates'. From as early as three and a half years, she writes, the child becomes 'interested in introducing more representational features that the adult has learned to recognize as such'. The first of these usually represents a human figure and this is followed by the categories: flowers, animals, houses and vehicles (Kellogg, 1955, p.20). She continues:

> Pictorial representations of children aged five to eight, which are spontaneous and not influenced by adult suggestions, often reveal much more similarity to their previously made abstractions than they do to the reality objects they may be intended to depict…The drawings themselves clearly show…that all results come more from adaptions of previous abstractionist work than they do from copying reality…any person who will look carefully at a mere 10,000 drawings will find it difficult to conclude otherwise. (Kellogg, 1955, p.20 & 22)

My current study is focused on the typologies of scribble pattern, so a full analysis of the evolution and developmental stages of iconic pictorial imagery goes beyond its central aims. However, the extent to which children's drawings are truly representations and the mechanisms of how they signify are highly relevant and will be discussed more fully in sections 4.3.6-10.

### 4.2.6 The phenomena described in detail

In the succeeding chapters, Kellogg goes on to describe each of her numbered categories in detail. The following overview gives some details of her analysis that are relevant to my subsequent discussion.

In chapter 3, *The Twenty Basic Scribbles*, Kellogg states that her reason for 20 categories of scribble is that 'they seemed to me to be adequate for analyzing the drawings, yet differentiated enough to avoid conflict and confusion among

observers'. She emphasises that detection and naming of the scribble types in any given drawing does not describe the developmental level or meaning of the work, but that 'identifying them correctly does give a basis for observers to reach agreement on what they see'. She is clearly here describing a morphological correlation between her categories and the structures observed in children's drawings. 'Mostly the marks seem to be the result of whole-arm movement, though some of them reveal wrist work'. She makes it clear that she has no knowledge of the sequential order in which learning takes place in relation to scribblings. (Kellogg, 1995, p.31-2). Scribble 1, The Dot, can be made through light pounding or careful pressing movements. Violently pounded dots 'have a tail and look something like a comma'. There are dots that look like very short lines and 'the studied dot which is so clear and round that it is almost a miniature Scribble 16'. In Scribble 2, The Straight Vertical Line, '"vertical" means to and from the child's body as he works, a kind of north and south on the map'. Scribble 3, The Straight Horizontal Line 'goes the long way of the paper'. Scribble 4, The Straight Diagonal Line 'goes cornerwise on the paper'. Scribbles 6-9, The Multiple Line Scribbles 'are probably the first Scribbles made'. Once Scribble 12, The Waving or Zigzag Line, is first learnt it 'is a favourite for all subsequent use and is made by itself in drawings more frequently than any other' [Figure 88.]. Scribble 16, The Multiple-Line Overlaid Circle 'is the old familiar one to which two-year-olds graduate after making No. 6-9. It and Scribbles 17 and 18 are very popular'. Concluding this chapter, she writes that the Scribbles 'are always present, both inherent to structure in the drawings and as pure embellishment…Once achieved…children use them freely' (Kellogg, 1955, pp.32-6).

In chapter 4, *The Six Diagrams*, she details the emergence of the Diagrams out of the Basic Scribble types and charts their evolution. She asserts that they are already inherently present in the earlier scribblings and her evidence for this is based on her belief that she can see these forms in scribbled drawings. This is accompanied by illustrations showing her own outlining of the forms overlaid on various all-over scribblings, which are less convincing than other illustrations of

**Figure 88.** Jonathan Parsons (2005) *Zigzig* [white pastel on blue paper] 48 x 65 cm, private collection, Los Angeles.
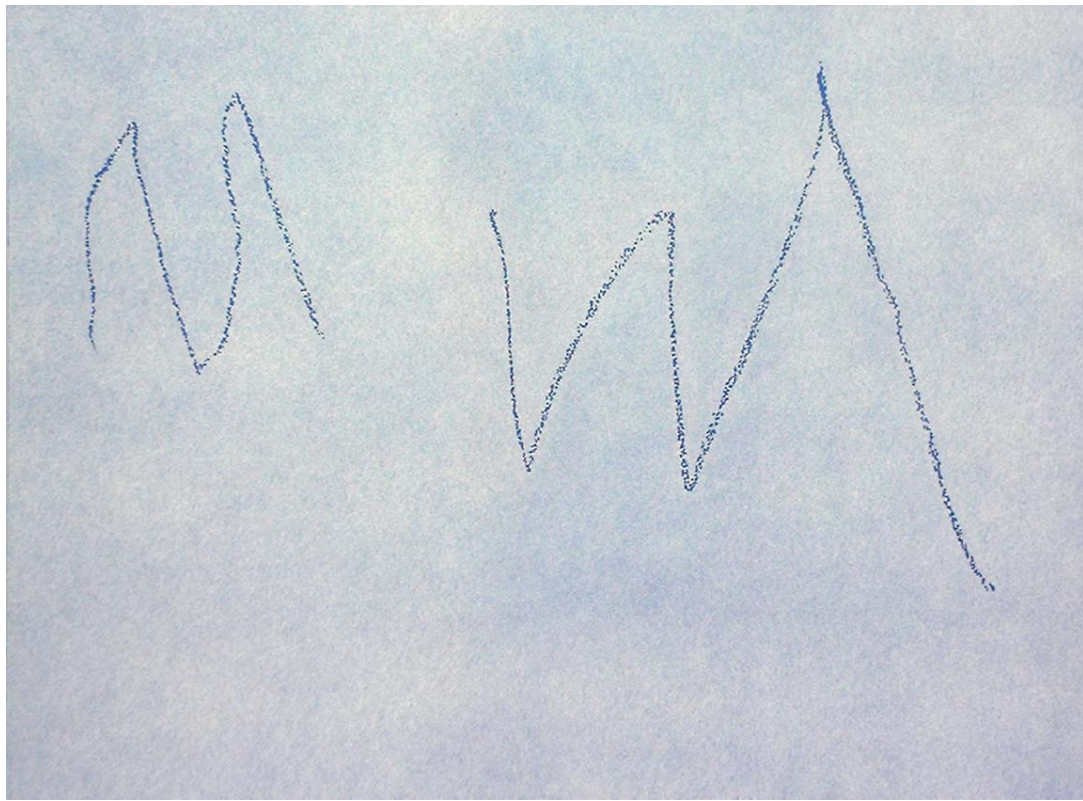
children's drawings showing the fully formed Diagrams as separate singular entities. She shows various constructions of crosses (Diagrams 1 and 6) and how these are combined with Diagram 2 (The Square or Rectangle) and singular crossing lines to form the Multiple Crossed Single Line and the Ladder Cross square or rectangle [Figure 89.]. These 'do not come until after Diagram 1 has been clarified, and therefore I look upon it not as a simple Scribble combination, but as an outgrowth of Cross and Square Diagrams'. Diagram 3, The Circle or Oval 'comes out of early circular scribbles'. Children demonstrate an awareness of both the circumference and the centre of circular structures and often make deliberate 'centredness' markings inside them. Diagram 4, The Triangle, 'like the diamond shape, appears inherently in scribblings, but the Triangle is seldom made and the diamond shape never…The Triangle develops later, and is used usually after age four'. Diagram 5, The Odd-Shaped Area, 'is by far the most frequently made Diagram…The child has only to close up any lines to make an

area that qualifies for the label of this Diagram'. Diagram 6, The Diagonal Cross, 'is not drawn as often as the Greek Cross'. She concludes that the Diagrams partly result from imagery reflected back to the child's eye and brain from their earlier scribblings and that the drawings themselves give little evidence that the child is drawing from externally observed objects, other than their own marks previously made on paper. 'In my work I have simply accepted the Scribbles as facts of nature and proceeded on from there' (Kellogg, 1955, pp.38-47).

**Figure 89.** 'Structured' picture space: configurations drawn by the author's infant daughter, c. 2005 (aged 3) comprising: 1. Kellogg's (1969) classification Aggregate A7: Multicrossed areas (with Diagrams D2: square or rectangle; D3: circle or oval; D5: odd shape) and 2. Machón's (2013) classification Division and intra-figural fragmentation



Chapters 5 and 6 present an exhaustive collection of illustrations showing Combines of two Diagrams and the 'innumerable' Aggregates of three or more. She also explores Aggregates derived from Roving Enclosing Line scribble. She

concludes:

> My system of classification, by gradations of development, has now been presented. The purpose has been twofold: one to get the reader away from the idea of reading into drawings adult pictorial imagery; the other to establish a factual basis for adult communication regarding the developmental sequence which children's art products reveal. (Kellogg, 1955, p.66)

Her system is summarised in the chart reproduced in Figure 2.

### 4.2.7 The evolution of pictorial work

The following chapters chart how certain Combines and Aggregates seem to have a dominant influence on children's later work. Kellogg reports that 'the bulk of the scribbling done by young children seems to give either a circular overall effect, or one of crossing lines'. What she calls the Inherent Crossed Circle give rise to the Mandala [Figure 90.], which she believes 'is the dominant image influencing the art work of young children'. She states that 'inasmuch as young children do not "copy" other designs present in the environment, I feel that the Mandala is inherent scribbling. It originates biologically out of human scribbling movements…it is a spontaneous product of normal physiological movement of earliest childhood' (Kellogg, 1955, pp.68-70).

**Figure 90.** Author's sketch of Kellogg's hypothetical construction of the Mandala. 'The child may be trying to combine all six Diagrams into one drawing'. When the Greek and Diagonal Crosses are combined with a Square/Rectangle three Diagrams are combined, but when they are combined with a circle this has 'the effect of six Diagrams because the paper gives the square effect. Segments of the circle are quite triangular, and the sections outside the circle are odd shaped. Thus the Mandala is a Structure in which it is possible to combine all six Diagrams rather easily' (Kellogg, 1955, p.72) Adaptation authorised by kind permission of the Golden Gate Kindergarten Association
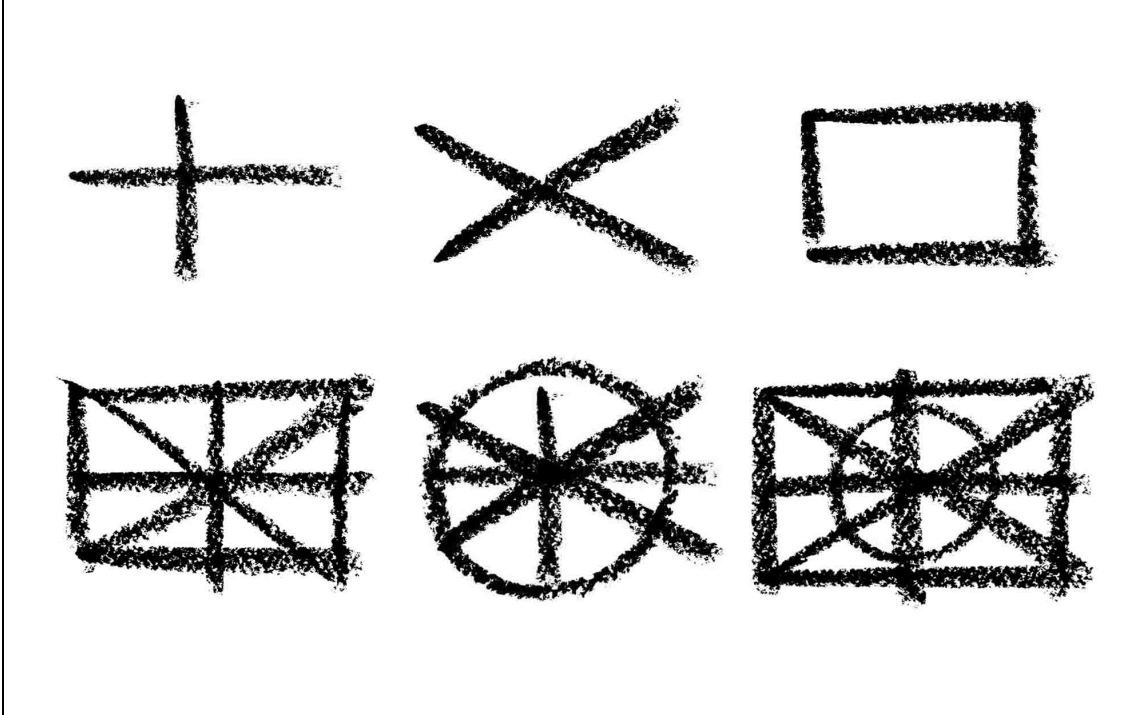
The first human figure appears after the Sun image is drawn. The Sun figure consists of a large area made out one of the closed Diagrams (Square, Circle, or Odd-Shape) with lines radiating out of its circumference. She believes that it is possibly a derivative of the Mandala. The Sun is a type of what Kellogg calls a Radial image, although fully achieved radials 'are not too frequently made by young children'. The Sun image 'seems to be drawn spontaneously and later recognized as a commonly accepted sign…this structure is a favourite for years to come'. It firstly has an empty centre, which is later marked with centredness markings, eventually becoming a face. When the number of rays of this Sun Face are reduced, it is modified into what is considered to be the first reality object depicted and clearly represents a Human [Figure 91.]. 'It is my impression that the Human is the first true pictorial drawing of all children' (Kellogg, 1955, pp.72, 76, 78, 80, 90 & 108).

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**Figure 91.** Author's sketch of Kellogg's proposed evolution of the human figure from the Mandala (synthesis of Kellogg, 1955, pp. 80 & 90) Adaptation authorised by kind permission of the Golden Gate Kindergarten Association
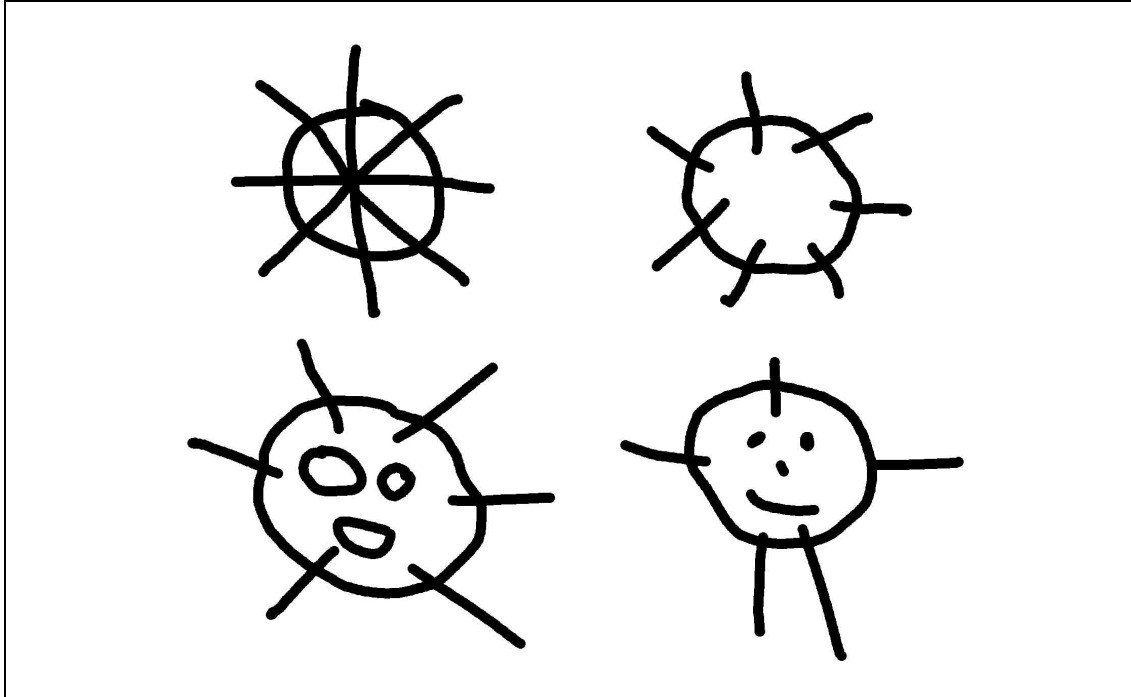


The rest of the book is devoted to carefully describing and exhaustively illustrating the further pictorial development of the Human figure and other pictorial drawings. These are variously categorised as Animals, Creatures, Houses, Autos, Boats, Flowers and Airplanes. All of her categories (I – The Basic Scribbles; II – The Diagrams; III – The Combines; IV – The Aggregates; V – Pre-Pictorial and Pictorial Drawings; VI – Build-ups / Fill-in Work; VII - Miscellaneous) are listed in detail at the end of the book along with 195 finely divided sub-categories.

In her concluding chapter *Understanding Preschool Art*, she argues for educators to appreciate the work that the child is doing and to allow them to draw spontaneously. Any adult influence on what or how the child draws has the worst possible effect on an individual's creative ability. 'Once the child is released to go back to the Scribbles, he is again able to function, and will do beautiful work, for all children are artists when they feel free to fall back on the Scribbles'. She writes that 'teaching' young children art, should really be called 'supervising' them as they do art. (Kellogg, 1955, p.126)

> I look upon the Structures in preschool art as the natural and universal first unspoken, written language of the human race. This I conclude in part from the drawings I have collected from various parts of the world.
> (Kellogg, 1955, p.127)

She states that she does not want the subjectivity of her own reactions to the Structures to detract from the objectivity of their existence. She cautions against interpreting the meanings of children's drawings and especially against using a Psychoanalytic approach as it entails 'subjectivity of very special bias'. She writes of her hope that the research she began can continue on a much larger scale in order to 'confirm or deny many of the subjective statements [made] about the meaning in children's work'. (Kellogg, 1955, p.127-8)

> So far as scribbling and drawing are concerned, children are more alike than different, when it comes to making certain Structures at certain ages. Objective analysis shows this clearly, but subjective interpretation is quite another matter. Interpreters see style, analyzers see content. How valid can an interpretation be when Structure content is ignored?
> (Kellogg, 1955, p.128)

She asserts that both typical and disturbed children draw the same structures as 'they are of biological rather than of psychological origin' and that 'drawing ability is more closely related to chronological age than almost any other behavior'. She concludes by suggesting that all parents and educators should let children draw as much as possible, give them plenty of paper with crayons to best preserve the linear structures and, above all, never suggest what to draw. 'Let the child have material, for all scribblers are artists…scribbler artists draw first, label afterwards, if at all. Adults must learn not to demand labels' (Kellogg, 1955, pp.128-9).

### 4.2.8 Analyzing Children's Art
In 1969, Kellogg published a revised and much expanded account of her findings entitled *Analyzing Children's Art*. This is by far her best-known book and is widely

cited in the literature. She remarks that nothing stated in her earlier 1955 study 'is negated by my present findings. Rather, my intervening study has extended the scope of my conclusions. Particularly…the developmental meaning to be seen in the scribblings of two-year-olds'. The book is a description of the mental development of children taking place as they work in art and is based on the examination of approximately a million drawings collected by Kellogg. 200,000 of the drawings were made at the Golden Gate Kindergarten Association's nursery schools in San Francisco and were filed under children's names, along with a record of the date made, a sequence number and the child's age in months. 200,000 of the drawings were collected by Kellogg during her teaching from 1953-1960 and from her international travel in 1954, 1960 and 1961. Her collection included 5,000 drawings from 30 countries. She states that 'the collection appears large enough for statistical analysis' and she provides three tables of statistical findings. These record the frequency of named pictorial items occurring in a sample of 99,964 drawings made by 250 children related to age, the number of Placement Patterns observed in a sample of 104,000 of these drawings and the number and percentage of drawings made in categories of the classification system in a sample of 33,742 drawings made by 150 children. (Kellogg, 1969, pp.1-5, 192-3)

The book is structed in a similar way to *What Children Scribble and Why* (1955), with the early chapters adopting the same methodology of 'seeing is believing' and showing the reader examples of what Kellogg herself has seen. She again describes the 20 Basic Scribbles using her own sketches of them as previously published along with new photographs of children's finger paintings. A new addition to her categories are the Placement Patterns:

> Any drawing may be analyzed into Basic Scribbles. The same drawing may also lend itself to a different sort of analysis, that of the placement of markings on the sheet of paper regarded as an area to be marked. A pattern analysis cannot be applied as widely as an analysis into Basic Scribbles. The Scribbles apply to all line formations in any medium, but a Placement

> Pattern requires a well-defined perimeter, a 'frame' of some kind. Further, line formations within a frame do not always show definite patterning. Another difference between Basic Scribbles and Placement Patterns is that the Scribbles do not require eye control…Placement Patterns, though, require both seeing and the eye's guidance of the hand.
> (Kellogg, 1969, p.23).

She continues:

> There is strong evidence that the child frequently sees the paper as a unit and reacts to it…[this] is provided by the many children I have observed in the act of patterning their scribbling. The Patterns themselves are good evidence, particularly when many lines show a relatively precise limit of placement…These seventeen Placement Patterns can be assigned to drawings without knowledge of the orientation of the paper to the child. It does not matter which edge of the paper was used as a base line in this analysis. Thus [Placement Pattern 4], the vertical half, is vertical in relation to the proportions of the paper, and a line going from one long side of the paper to the side opposite is always classified as vertical. In my experience, children prefer to place the paper so that one of the longer edges is toward them and the paper is wider than high. (Kellogg, 1969, p.26).

These observations have never been independently verified. Their validity and the methodology behind them have been questioned by some authors and this will be discussed more fully in section 7.3. Kellogg's 'base line' of the rectangle of any given orientation – as well as children's apparent preference for the 'landscape' orientation of the page – suggests a connection to the phenomenological origin of 'vertical' and 'horizontal', as elucidated by Klee (1961) and Tversky (2011) where the percipient's body is positioned in the world in relation to the downward force of gravity and to the horizon (Merleau-Ponty, 2002, pp78-79 & 116-117).

Kellogg refers to the Placement Patterns and the Basic Scribbles as the 'Pattern Stage' of drawing development. She then goes on to describe scribble patterns called Emergent Diagram Shapes that precede the Diagrams in the 'Shape Stage'. The Combines and Aggregates mark the beginning of the 'Design Stage', where children make 'drawings that are always abstract and frequently balanced'. She admits that, with the theoretical distinctions she has made 'categories may be piled on categories and the possibilities of analysis soon outstrip any likely developmental significance'. Documentation of my wall painting based on Kellogg's sketch of 'Thirty-six possible Combines' (1969, p.49) can be seen in Figure 92. Her discussion of the Design Stage includes an expanded analysis of Mandalas and Suns. The emergence of the Mandala is seen as highly significant: 'If my observations are correct, Mandalas are a key part of the sequence that leads from abstract work to pictorials'. The emergence of the Human figure marks the beginning of the 'Pictorial Stage', where combinations of previously developed line structures lend their appearance to 'all subsequent pictorialism'. (Kellogg, 1969, pp.12, 14-21, 33, 48-63, 65, 94)

Within these developmental stages, Kellogg detailed 19 comprehensive classifications and 212 discrete types, summarised in Box 11. All of her categories are listed in detail in Appendix 4. 'Any drawing may be viewed under the heading of at least one classification, and by "drawing" I mean any surface containing marks made by a human hand' (Kellogg, 1969, p.269).

Kellogg did not present her findings in this way, but, for the purposes of clarity and consistency in my study, I have redrawn examples of all of her line structure categories prior to the Pictorial Stage and presented them in Tables 12 and 13.

**Figure 92.** Jonathan Parsons (2017) *Thirty-Six Possible Combines (Rhoda Kellogg)* [Site-specific temporary wall painting: vinyl emulsion and acrylic on wall] Overall image size: 205 x 205 cm. (Practice Research Catalogue no. 009).
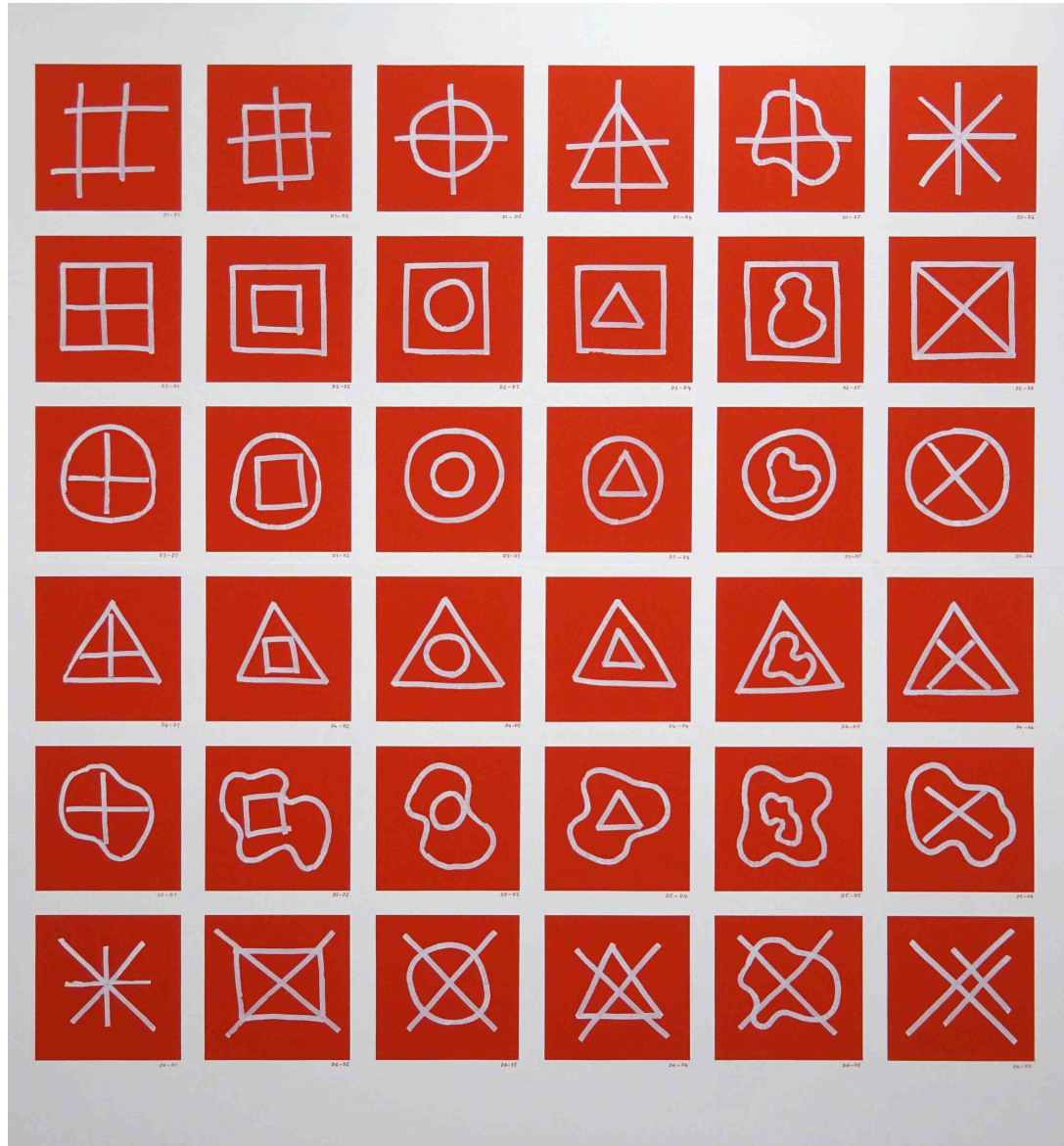
**Box 11: General developmental stages in self-taught art** (my synthesis of Kellogg, 1969, pp.39-40. & pp.268-277)
Adaptation authorised by kind permission of the Golden Gate Kindergarten Association

**Pattern Stage**

      Basic Scribbles S1-S20 ➜ Placement Patterns P1-P17

**Shape Stage**

      Emergent Diagram Shapes E1-E17 ➜ Diagrams D1-D7

**Design Stage**

      Combines C1-C11, Aggregates A1-A22, Mandala Aggregates M1-M13, Suns S1-S13, Radials R1-R7

**Pictorial Stage**

      Humans H1-H30, Animals K1-K8, Buildings B1-B6, Vegetation V1-V4, Transportation T1-  T6, Joined Pictorials J1-J7, Learned from Others L1-L14, Formal Designs F1-F3, Works of Advanced Scribbling W1-W5, Individual Work I1-I2

**Table 12. Visual key to Kellogg's (1969) typologies of line formations**
Pattern Stage and Shape Stage (my synthesis of Kellogg, 1969)
Adaptation authorised by kind permission of the Golden Gate Kindergarten Association

## Pattern Stage

| Basic Scribbles | | Placement Patterns | |
|---|---|---|---|
| S1 Dot | | P1 Over-all coverage | |
| S2 Single vertical line | | P2 Centred | |
| S3 Single horizontal line | | P3 Spaced border | |
| S4 Single diagonal line | | P4 Vertical half | |
| S5 Single curved line | | P5 Horizontal half | |
| S6 Multiple vertical line | | P6 Two-sided balance | |
| S7 Multiple horizontal line | | P7 Diagonal half | |
| S8 Multiple diagonal line | | P8 Extended diagonal half | |
| S9 Multiple curved line | | P9 Diagonal axis | |
| S10 Roving open line | | P10 Two-thirds division | |
| S11 Roving enclosing line | | P11 Quarter page | |
| S12 Zigzag or waving line | | P12 One-corner fan | |
| S13 Single loop line | | P13 Two-corner arch | |
| S14 Multiple loop line | | P14 Three-corner arch | |
| S15 Spiral line | | P15 Two-corner pyramid | |
| S16 Multiple-line overlaid circle | | P16 Across the paper | |
| S17 Multiple-line circumference circle | | P17 Base-line fan | |
| S18 Circular line spread out | | | |
| S19 Single crossed circle | | | |
| S20 Imperfect circle | | | |

## Shape Stage

| Emergent Diagram Shapes | | Diagrams | |
|---|---|---|---|
| E1 Multiple line crossings | | D1 Greek cross | |
| E2 Multiple line crosses | | D2 Square or rectangle | |
| E3 Small crossings | | D3 Circle or oval | |
| E4 Crisscrossing lines | | D4 Triangular Shape | |
| E5 Parallel line crosses | | D5 Odd Shape | |
| E6 Multicrossed line and T-cross | | D6 Diagonal cross | |
| E7 Added line crossings | | D7 Diagrams in Placement Patterns | |
| E8 Squares from crossing lines | | | |
| E9 Ladder cross squares | | | |
| E10 Border, base or sky lines | | | |
| E11 Implied square shape | | | |
| E12 Centeredness markings | | | |
| E13 Implied circular shape | | | |
| E14 Concentric markings | | | |
| E15 Implied odd shape | | | |
| E16 Implied triangular shape | | | |
| E17 Pre-diagrams | | | |

# Table 13. Visual key to Kellogg's (1969) typologies of line formations
## Design Stage (my synthesis of Kellogg, 1969)
Adaptation authorised by kind permission of the Golden Gate Kindergarten Association

**Design Stage**

| Combines | Aggregates | Mandala Aggregates | Suns | Radials |
|---|---|---|---|---|
| C1 Cross with square, circle or odd shape | A1 Circles only | M1 Inherent one-line center crossings | S1 Pre-sun scribblings | R1 Inherent Radials in circular scribbling |
| C2 Greek cross and diagonal cross | A2 Squares only | M2 Inherent multilined half-crossed circles | S2 Attempted suns | R2 Lines crisscrossing at a point |
| C3 Divided square | A3 Crosses, circles and squares | M3 Inherent multilined crossed circles | S3 Suns with center Markings | R3 Circumference marks on circular scribbling |
| C4 Two squares | A4 Odd shapes only | M4 Mandaloid scribblings | S4 Clear-center suns | R4 Lines radiating from a point |
| C5 Square with circle or odd shape | A5 Squares and odd shapes | M5 Mandaloid structuring | S5 Sun faces | R5 Complete Radials |
| C6 Two circles | A6 Circles and odd shapes | M6 Cross mandalas | S6 Sun humans | R6 Radials in Aggregates |
| C7 Triangle and other diagrams | A7 Multilined areas | M7 Cross and square mandalas | S7 Suns in Aggregates | R7 Radial Designs |
| C8 Odd shape and circles | A8 Multicrossed areas | M8 Cross & circle or odd shape mandalas | S8 Suns with loop rays | |
| C9 Two odd shapes | A9 Three diagrams in combination | M9 Cross & circle & square mandalas | S9 Suns with other rays | |
| C10 Combines as implied diagrams | A10 Aggregates as implied squares | M10 Concentric mandalas | S10 Sun designs | |
| C11 Combines in Placement Patterns | A11 Aggregates as implied circles | M11 Little mandalas | S11 Enclosed suns | |
| | A12 Aggregates as implied triangles | M12 Imperfect mandalas | S12 Suns as implied diagrams | |
| | A13 Aggregates as implied odd shapes | M13 Mandalas in Placement Patterns | S13 Suns in Placement Patterns | |
| | A14 Aggregates in Ps 1,2 &3 | | | |
| | A15 Aggregates in Ps 4,5 & 6 | | | |
| | A16 Aggregates in Ps 7 & 8 | | | |
| | A17 Aggregates in P9 | | | |
| | A18 Aggregates in Ps 10 &11 | | | |
| | A19 Aggregates in P12 | | | |
| | A20 Aggregates in P13 | | | |
| | A21 Aggregates in P14 | | | |
| | A22 Aggregates in Ps 15 &16 | | | |

### 4.2.9 Abstracts, Gestalts and pictures

It is noteworthy that she includes 'Formal Designs' and 'Works of Advanced Scribbling' in the 'Pictorial Stage' of development. This suggests that, for her, pictures that were non-iconic designs, or that were purely gestural had the same status and value as pictures predicated on intentions of iconic semblance.

> If abstract concepts are a condition of abstract art, then the child is not an abstractionist. However, I doubt that adult abstractionists spend much time in this sort of conceptualizing. (Kellogg, 1969, p.61)

Kellogg believed that all art has a self-contained visual order that can be understood and that children naturally organise their drawings into aesthetically pleasing, balanced shapes without being taught how to do so. In her discussion of the Aggregates, Mandalas and Suns she begins to use the term 'Gestalt' to describe these self-contained line structures (Kellogg, 1969, pp.31, 61-2, 66, 74). Gestalt ('form, shape') is a term used in Psychology to describe a perceptual configuration forming a specific whole inexpressible in terms of its constituent parts. (Colman, 2001, 306-7; Onions, 1973, 1990, p.2631).

Following a detailed discussion of Radial structures, she describes how the child proceeds from abstract formations to pictorial work. She states that children autonomously develop a 'biological esthetic taste', which is more aligned with the structures they have already spontaneously produced than it is with any observations the child has made of objects in reality. This may be in conflict with the wishes and expectations of surrounding adults, who have acquired a 'cultural taste' (Kellogg, 1969, p.93).

> Schemas transmitted by the culture…are strange to the child. They seem less definite than the formations of his own art, and they are hard to learn…adult schemas are largely based on visual Gestalts of objects, but the schemas of child art result from Gestalts based on line balance, proportion and shaping. (Kellogg, 1969, p.93)

Later chapters are devoted to the development of early pictorialism and she sets out detailed classifications and developmental stages of drawings of Humans, Animals, Buildings, Vegetation and Transportation. She expands on her previous description of the development of the human figure, stating that 'the Human comes first in the prevailing sequence of child art.' The Sun and 'face Aggregate' are drawn first, then an area 'with a few rays extending from it (classification H2)', followed by the 'Human with Head-top Markings…(H3)'. The 'armless human (H5)' comes next, then humans with varied torsos and arms attached to the torso. Finally, relatively complete humans are achieved [Figure 93.] (Kellogg, 1969, pp.79, 94-6, 101, 109). She writes at length on the mostly negative influence that adults can have on children's art. 'Adults seldom realize how arbitrary and artificial their judgements of pictorialism are' (Kellogg, 1969, p.174). She discusses the problems associated with using children's art as a mental test and argues against assessing any products of art in a numerical or quantitative way (Kellogg, 1969, p.196).



**Figure 93.** Author's sketch of Kellogg's proposed 'probable evolution of Humans from earlier scribbling': 1. Basic scribble; 2. Diagram 3. Aggregate; 4. Sun; 5. Sun faces and figures; 6. Humans with head-top markings and with arms attached to the head; 7. Armless humans; 8. Humans with varied torsos; 9. Humans with arms attached to the torso; 10. Relatively complete Human images, (author's sketch, adapted from Kellogg, 1969, p.109) Adaptation authorised by kind permission of the Golden Gate Kindergarten Association
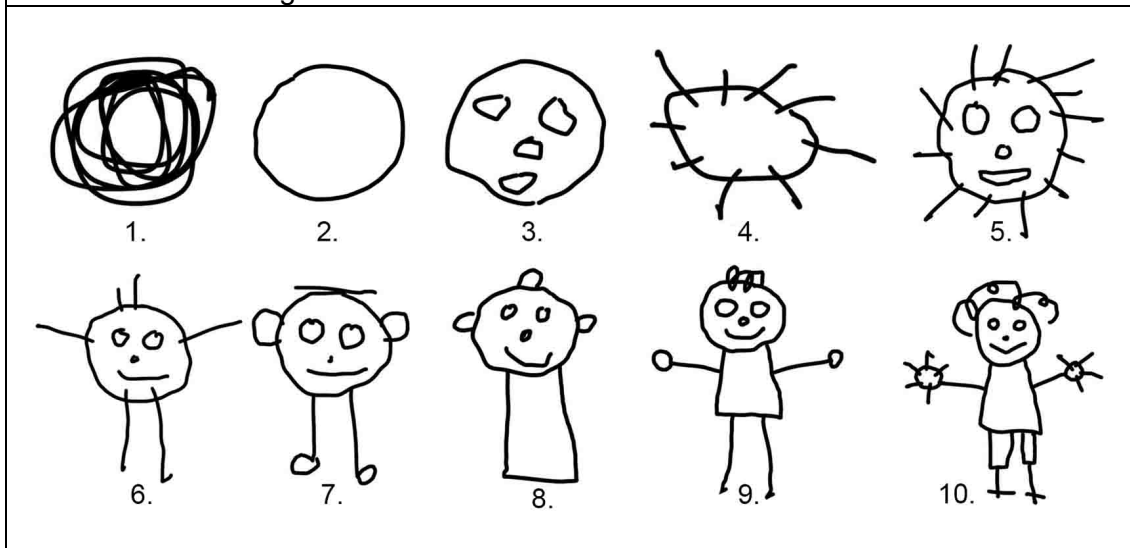
**4.2.10 Universality**

In the chapter entitled *Universal Aspects of Children's Art*, Kellogg presents 12 sets of sketches of basic designs and line formations from archaic and indigenous art from 17 different world cultures. She compares their structures with those spontaneously produced by children and asserts that the abstract and pictorial motifs used in these contexts are the same as those found in self-taught child art.

> My aim in showing the similarity of child art and the art of ancient or remote adults is not merely to illuminate the sources of mankind's artistic development, but also to raise the reader's estimation of children's art. The illustrations in this chapter represent art that commands the respect of scholars, and child art should be accorded the same respect.
> (Kellogg, 1969, p.209)

She criticises the assessment of archaic art in terms of the relatively modern Western developments of realism and perspective, as these are not universal characteristics of art. She asserts that scholars should look for the Gestalt structures of spontaneous work, which are appealing in themselves, rather than relying on interpretations of pictorial or symbolic meanings. Gestalts produced by children, she writes, are the dominant motifs in archaic art (Kellogg, 1969, pp.210 & 212).

> Because no adult can escape childhood, we cannot say that all ancient art reflects adult religions or cultural development. Nor can we assume that each generation's art Gestalts are learned only from adults, for certain art Gestalts are produced anew by each generation of children…art-making is as natural as movement for human beings and hence that art has its archetypal or universal aspects. (Kellogg, 1969, pp.212-15)

She recommends that interpretations of adult art should be based on the child art motifs found therein. This would enable researchers to appreciate the significance of child art and 'the carryover it has in the adult mind'. Human self-

understanding would be enhanced by a comprehensive documentation of the Gestalts found in children's art and the 'possible bearing they have on the adult art of all times and places' (Kellogg, 1969, p.218). She asserts that her own search for child art motifs in archaic, traditional and modern art demonstrates that 'they do abound in all places and periods' (Kellogg, 1969, p.220). She writes that some researchers have indeed noted these similarities, 'but no satisfactory explanation has been offered for these coincidences' (Kellogg, 1969, p.220). She believes that no adult artist is able to completely eliminate the Gestalts of childhood from their mind and recognises that Western Modernist artists have rediscovered structures from child art and used them in serious adult work:

> Contemporary painters draw upon motifs known to them through their own art activities in childhood…modern art historians, like other scholars, are far from recognizing the possible significance of child art as a guide to human self-understanding. To interpret archaic or primitive man's mind through his art in terms of modern man's attitudes toward art is to make a serious error. Certain connections between adult art and child art should be studied systematically. Child art has never been and can never be completely absent from a culture because it is 'biological art', or art natural to the species…The symbols of art are ancient because the co-ordinations of eye, hand and brain which first produce them are as ancient as the human race. (Kellogg, 1969, pp.223-5)

### 4.2.11 Theories of child art

Kellogg presents an overview of the contemporaneous theories that relate to children's art. She is clear that theories about art should be firmly rooted in experience and that any theory about child art should directly result from the extensive study of work made by children. She argues that children's drawings all possess similarities of line and shape, regardless of the many varied labels that have been applied to them. The evidence that she presents supports her view that children's drawings are the product of 'the esthetic nature of the child' and that the interrelationships between the forms that they present are significant.

The pictorial elements that she has identified are connected to 'the abstract forms commonly made by young children throughout the world'. She states that the concepts of the personal and collective unconscious in Jungian Psychology are meaningful in relation to child art. When she visited Carl Jung in 1954, he explained the Mandalas she described as 'inborn images which appear at various times in consciousness'. However, Kellogg explains them as 'images that each individual develops through scribbling experiences.' She believed that Mandalas are widely used for magical or spiritual purposes by adults simply because they are a natural balanced aesthetic form whose 'origin in personal life goes back to an age when little that happened is remembered by the conscious mind'. She denies that the hidden abstract forms of art are psychosexual in nature. The idea that implied or concealed Gestalts demonstrate the sexual significance of all pictorial works, she writes, is 'pure theory'. She reasserts that children's art is fundamentally aesthetic, self-satisfying and non-competitive in nature and that 'the Scribbles and the prepictorials of child art are the *prima materia* of all art'. Child art should be taken seriously, but, because most adults no longer work in art at all, it is not. 'The study of art in general would benefit if scholars gave systematic attention to the works of children' (Kellogg, 1969, pp.226, 229, 230-1, 232-3, 235, 238 & 245).

### 4.2.12 Meanings

Kellogg concludes her study by examining the meanings of children's art. She argues that the value of any individual work of art depends on the viewer's judgement and its meaning is therefore open to interpretation, difficult to state precisely and open to controversy. However, 'the meaning of art objects in general does lend itself to analysis. The early chapters of this book provide such an analysis.' In the wide context of a multiplicity of drawings, any particular line formation can be compared to many other graphic structures and so be seen as either commonplace or unusual in relation to the entire sequence in which it is found. Her analysis, she writes, has focused on the visual aspects of children's production, but the line formations of early scribbling are the result of 'the motions that children make when they handle art materials.' Movements that produce art

'aid in the co-ordination of moving and seeing' (Kellogg, 1969, pp.246-8; 250).

> When the hand moves to make the scribbling gestures characteristic of early childhood, a record of the hand's movements is left on some surface…[consisting] of images that can be variously described. They can be defined and classified as line formations…or as products of the movement of the child's hand and eye…What mental association exists between the flow of lines on a surface and the movements of the body I do not know, but I suspect there is one. Adults, after all, commonly interpret vertical lines as 'standing', diagonal lines as 'leaning' and horizontal lines as 'lying down'. Art Gestalts seem to have physiological effects on us and seem to enable us to feel movement, even though our bodies are motionless. (Kellogg, 1969, p. 253)

Children's art combines visual judgement and bodily movement, with the whole body contributing to the processes of vision. This is connected to 'the development of the vision and movement that help the child to survive and learn.' Scribbling gives pleasure and helps to develop the hand-eye coordination required for later tool use and for writing. The early pleasures of gestural work may help the child to enjoy subsequent learning. It also encourages habits of self-reliance as the self-taught nature of scribbling provides positive experiences of internal motivation. Thinking for oneself requires doing activities for oneself. (Kellogg, 1969, pp.255, 260, 262 & 263)

Kellogg surmises that certain sign-stimuli may be culturally determined, but she believes that all truly universal imagery is traceable to child art, with images arising out of aesthetic experiences above all. (Kellogg, 1969, p.265)

> Child art integrates movement and vision, the perception of over-all shapes and the perception of details, familiar line formations and new ones, stimulation and reaction, esthetic pleasure and muscular satisfaction. This integration is not supplied by the mere contemplation of art. To be effective,

it must be experienced through one's own muscles, those of the hand as well as those that control the eye. Child art integrates not through communication from artist to viewer, but through the self-stabilization of the esthetic activity itself. (Kellogg, 1969, p.265)

The main value of 'spontaneous art', she asserts, lies in the activity of doing it, not in its products. She states that 'every child is a born artist who should be allowed to scribble without oppressive guidance in art education' and that 'the acceptance of abstract art helps adults to feel free to make childlike – as opposed to childish – works of art.' If we allow ourselves to respect and participate in self-initiated art activity, we may bring greater well-being into our lives. (Kellogg, 1969, pp.266 & 267)

### 4.2.13 In conclusion

The final chapter is devoted to a summary of Kellogg's Classification System. All of her categories are listed in detail in Appendix 4. Consideration of these, she states, requires an awareness of particular meanings she has assigned to certain words:

> 'Horizontal'…refers to a line going from one short side of the paper to the side opposite…'vertical' refers to a line going from one long side of the paper to the other…'balance'…is in relation either to the area of the paper or to the area of the Gestalt…'centredness' designates balance in relation to the centre of the paper or to the centre of the Gestalt.
> (Kellogg, 1969, p.268)

She makes clear that 'horizontal' and 'vertical' lines are, in her analysis, determined in relation to the format of the paper 'regardless of the paper's position when the child draws on it'. Furthermore, the 'base line' of a drawing determines its bottom edge in a 'presumed position in front of the child'. She notes that, although her classifications are not mutually exclusive, her categories are comprehensive. (Kellogg, 1969, pp.268-9)

She concludes the section detailing her classifications of line structures with one further set of classifications, that of 'phosphenes' (Kellogg, 1969, p.277-8). Phosphenes, also called 'form-constants' (Klüver, 1966), are geometrical patterns perceived in the absence of external light stimulus to the eyes, often during altered states of consciousness or when physical pressure is applied to the eyeball. These are termed 'entoptic' phenomena (Greek: 'within vision'), meaning that their origins are not external in origin, but ocular and neurological [Figures 94 & 95.] (Lewis-Williams, 2004, p.126-7; Clottes, & Lewis-Williams, 1998; Lewis-Williams & Dowson 1988, p.202; Siegel, 1977, pp.132, 138-9). In a 1965 paper in the journal *Nature*, Kellogg and co-researchers compared the form groups of 520 phosphenes induced electrically in 313 adult subjects to 329 scribblings by one child. They found a high degree of morphological correlation (ranging from 60-100%) between 15 of the form groups and the corresponding Basic Scribble categories (Kellogg, Knoll & Kugler 1965, pp.1129-30).



**Figure 94.** Jonathan Parsons (2021) *Sleeper's Wake: Hypnopompical Entoptic Diary* [inkjet print on laminated panel] 34 x 50 cm (Practice Research Catalogue no. 110).

Small circular figures

Large circular figures and radiations

Parallel figures

Grids and filigrees          Wavy lines, amorphous specks

Bilateral duplication     Reduplication      Drift      Rotation

Kellogg's work is empirical and ultimately interpretivistic in character, as she indicates in the first chapter of *Analyzing Children's Art*: 'The statements and conclusions in the following pages are the result of my seeing' (Kellogg, 1969, p.9). As such, it may be unsatisfactory for anyone looking for hard, numerical statistical evidence. Her study fluctuates between objectively analysed material and boldly stated conclusions, some of which are unverifiable from the standpoint of her methodology. Her work is, nonetheless, born out of a sincere, wide ranging and long-standing commitment to the lives of children and to the value and importance of their production. Kellogg's studies, and her typologies, remain the most well-known and cited work on children's scribble patterns in the literature. As I will show, the majority of the line structures first discovered and described by Kellogg have been independently identified and described by later researchers.

## 4.3 Antonio Machón

The most comprehensive and far-reaching study of this topic is, without doubt, Antonio Machón's (2013) *Children's Drawings: The Genesis and Nature of Graphic Representation*, first published in Spanish in 2009. Machón taught as a professor of Art Education in Valladolid and Madrid from 1969-2003 and had been a gallery director and publisher since 1973. He first exhibited children's art in 1968 and his extensive research into children's drawings began in 1971 and was completed in 1992. Sadly, he died in April 2022 just as this present study was nearing completion. Hopefully, his work will become much more widely known and cited now there is also an English language version.

### 4.3.1 Aims of the study

In the book, Machón sets out two main research aims. Firstly, to contribute to the scientific knowledge of the graphic development in children and, secondly, to examine and understand the processes of representation that take place in drawing during this period of development. His study sets out, in a comprehensive way, to answer the broad question: 'How does graphic representation emerge in human graphic development?' He states that very few authors have studied the origin and nature of graphic representation, although many studies have been made of the developmental stages in children's graphic activity. It is 'a problem that has not even been conclusively solved today.' His overall aim is to provide educators with knowledge of these processes so they can creatively devise appropriate case-by-case methodologies for children of different age groups. The only way to achieve this is to 'begin by conducting a detailed study of this long and complex process.' (Machón, 2013, pp.19-21)

Line and form, rather than colour, are directly related to the cognitive process, so this is Machón's principal focus. Children instinctively enjoy sensations of colour, but it 'is a seductive distraction' related to the 'sensible unconscious'. He unequivocally eschews the comparison between adult or archaic art and children's art and writes that it is:

an endeavour which leads nowhere…Children's art and adult art have no more in common than their appearance…the similarities between these two types of creations, when they occur, are so superficial that they relate only to appearances and not at all to their underlying motivations. If they resemble each other in anything, it is in the fact that both, children and artists, are incorrigible investigators. (Machón, 2013, p.22)

### 4.3.2 History

He begins with outlining the discovery of children's art by Western Modernist artists in the late 19th and early 20th centuries. He then provides a history of the studies of children's drawings originating in the human sciences and surveys the literature that has had the greatest influence on his study. He sets out the eleven distinct doctrinal approaches to the studies, as previously discussed in section 4.1, and characterises his own study as being Genetic-developmental. He then goes on to discuss the bibliography in chronological order and looks in detail at each of the key works. He focuses on the most significant studies that have specifically produced classifications of the developmental stages of children's graphic activity and, in summary, presents them in a detailed chart.

Their authors are: J. Sully (1895), H.Lukens (1896-1900), Kerschensteiner (1909), G. Rouma (1913), Burt (1921), G.H. Luquet (1927), R. Prantil (1937), Lowenfeld (1957), Kellogg (1969), Osterrieth (1976) and Machón (1992). Seven of the authors use 'scribble' as a categorical term in their classifications, which are summarised in Box 12. (Machón, 2013, pp.27-72 & 73)

| Box 12. Studies of developmental stages of graphic development that refer to 'scribble' (derived from Machón, 2013, p.73) | |
|---|---|
| <u>Publication</u> | <u>Classifications</u> |
| **J. Sully** (1895) | **1. Formless Scribble as Play** |
| **Burt** (1921) | **1. Scribble** (2-3 years)<br>    a) Purposeless pencilling, simple motor pleasure<br>    b) Purposive pencilling<br>    c) Imitative pencilling; copying of adult movements<br>    d) Localised scribbling. Attempts to reproduce certain parts of the object |
| **R. Prantil** (1937) | **1. Meaningless Scribble**<br><br>**2. Scribble with Arbitrary Names**<br><br>**3. Interpreted Scribble**<br>    Recalling a similar thing |
| **Lowenfeld** (1957) | **1. Period of Scribbling** (2 to 4 years)<br>    a) Disordered scribble (2 to 3 years)<br>    b) Longitudinal scribble (2;06 to 3;06 years)<br>    c) Circular scribble<br>    d) Naming scribble (3 to 4 years) |
| **Kellogg** (1969) | **1. Pattern Stage**<br>    The child makes the Basic Scribbles and some of the Placement Patterns |
| **Osterrieth** (1976) | **Level I Scribble** (2-3 years)<br>    a) Lines without a figurative intention<br>    b) Appearance of figurative elements |
| **Machón** (1992) | **I. Formless Period Scribbling** (from 1;11 to 3;03 years)<br>    1. Pre-scribble stage (from 0;11 to 1;04 years)<br>    2. Stage of uncontrolled scribble (from 1;05 to 1;08 years)<br>    3. Stage of coordinated scribble (from 1;09 to 2;07 years)<br>    4. Stage of controlled scribble (from 2;08 to 3;03 years) |

In his review of the literature, Machón makes some important observations concerning differing interpretations of the morphology of line formations.

### 4.3.3 Arnheim

The Gestalt Psychologist Rudolf Arnheim published *Art and Visual Perception: a psychology of the creative eye* in 1954. Arnheim states that children are satisfied with making drawings from simple line structures because these fulfil their requirements for a picture. Machón agrees that children are satisfied with their own work, but this is merely a consequence of the fact that they draw the way they do 'because their drawing is shaped from the formal repertoire of that age and they have no other resources.' Arnheim recognises that an important representational factor in children's drawing is motion and motor behaviour. One of Arnheim's most interesting analyses, for Machón, is that of the *primordial circle*. It is the simplest visual pattern and has a 'centric symmetry'. Arnheim makes two statements about this that Machón considers to be absolutely true. The first is that, at the earliest stage in children's depictions, the primordial circle becomes the original representation of the whole human figure, with later human representations genetically developing out of it. The second is that primordial circles do not represent 'roundness' per se, but the general quality of 'thingness'; a self-contained entity in relation to the undifferentiated ground of the paper. Arnheim also defines a developmental event which is fundamental in Machón's study: 'the recognition that shapes drawn on paper can stand for other objects in the world, to which they are related as the signifier to the signified.' (Machón, 2013, pp.63-5)

### 4.3.4 Kellogg

Machón reviews Kellogg's *Analyzing Children's Art* (1969) in depth because of the 'favourable reception this book has enjoyed in educational circles'. Machón is critical of its simple conceptual structures and states that 'many of her statements appear to be the product of fantasy because…they lack the scientific rigour required of any publication of this nature.' He notes the influence of Gestalt and Jungian Psychology on her writings, possibly through the 'misleading scholarship' of the English art critic Herbert Read, to whose oeuvre Kellogg refers throughout her book. Machón does note, however, that Read's theories are 'thought provoking' and that his claim that children's drawings provide evidence supporting the theory of Jungian archetypes is both 'exciting and shrewd'. He describes Kellogg's selection of the proposed twenty Basic Scribble types as 'arbitrary' and this is a subject he returns to later, which will be discussed further towards the end of section 4.3.7. He notes that the concepts of Placement Patterns and Emergent Diagrams rely on the principle that children 'view a piece of paper as a whole and react to it' and that Kellogg 'points out with sound judgement that the "sceptical reader" may have reservations about the implied shapes which the author finds in these scribblings.' In her discussion of the Diagrams, Combines and Aggregates, Machón infers that 'the quantifications she proposes, accompanied by eye-catching illustrations, are mere speculations.' He is particularly dissatisfied with Kellogg's identification and description of the Mandala 'of which she believes she sees hundreds in children's drawings' (Machón, 2013, pp.61, 65-6).

> Throughout the more than forty years we have been studying children's drawings our attention has never been drawn by the presence of this fascinating configuration and rarely have we found any mention of it in studies by other authors, except for H. Read. (Machón, 2013, p.67)

Intrigued by Kellogg's assertions, Machón presents a statistical analysis of the presence of the simplest mandala she describes (the cross and circle) in a sample of 5,920 drawings made by children of both sexes aged 2-5 years. He

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concludes that 'the presence of this configuration in children's drawings is totally insignificant: not a single one is found between 2;06 and 3;05, the ages at which the circular form is found in more than 30 per cent of drawings.' Machón believes that the mandala cannot appeal to children because it breaks down the unity of the circular form, which is 'a primordial shape in children's drawing…the symbol of unity and individuality, senses of form which constitute the basis and beginning of the processes of representation.' (Machón, 2013, p.67) He discounts Kellogg's surmise that the Mandala inspires the Sun as, according to his own research, 'the latter is not only much more common but also appears considerably earlier than the mandala…In view of these results, we cannot help wondering on what studies the author bases these assertions'. He also questions her categorisation of the Radials as, again according to his own research, 'this radial formation is even rarer than the mandala…It is therefore illogical to try to find a developmental sequence from the radial to the mandala and then to the sun because, as we have shown and as will be seen throughout our study, this is not the natural course followed by children's graphic development.' (Machón, 2013, p.68) He then summarises Kellogg's proposed developmental stages and concludes that:

> the most positive feature of her study is the emphasis of the formal processes of drawing. However, so much attention on formal aspects leads her to neglect the other fundamental aspect: representation and its origins and processes. (Machón, 2013, p.68)

### 4.3.5 Lurçat

For Machón, one of the most interesting works in his review is *L'activité graphique à l'école maternelle* (1979) by Liliane Lurçat, which he refers to as a 'fundamental study' (Machón, 2013, p.69). Lurçat's longitudinal study of her own children takes a neuromotor approach and tracks the development of the skills and processes that allow graphic activity to take place. She describes three levels of such activity: motor, perceptive and representational. The motor level involves the development of arm movements, their spatial configurations and graphic consequences, along with:

proximal and distal movements and the forms they generate; and the maturation of thumb flexion that makes fragmented strokes possible, a milestone essential to fine motor development that allows fine lines to be drawn (Machón, 2013, p.70)

At the perceptive level, visual control of stroke making progresses along with profound changes in hand-eye coordination allowing graphic intention to develop. 'We start to see strokes being divided, intentional discontinuity and slowing down, which give rise to the first geometric shapes'. At the level of representation, the 'symbolic function' comes into play and the child is better able to accurately render specific morphologies. It is at this point that the distinction emerges between drawing and writing. (Machón, 2013, p.70)

Concluding his literature review, Machón states that the criteria and formulations of the various proposals for stages in children's graphic development made over a period of more than 125 years 'have become increasingly close'. (Machón, 2013, p.72)

### 4.3.6 Machón's study and its methodology

Machón introduces his methodology by firstly discussing the 'Genesis of Graphic Representation'. His study is necessarily genetic and process-based, examining every element of children's graphic development step by step. He gives a brief critique of previous researchers into developmental stages, stating that 'most merely describe these stages without explaining the processes behind them.' With regard to the central question of the emergence of representation, they 'avoid committing themselves and, glossing over the issue, present this transition as if it were a miraculous fact.' (Machón, 2013, pp.75-6) He defines 'graphic representation' as:

The depiction of an object, situation or event which may or may not be present using a stroke, shape or graphic configuration which receives the name of signifier and stands for it. (Machón, 2013, p.77)

He defines 'graphic symbol' as: 'any motivated graphic signifier – i.e., one which has some kind of connection with the signifier', but not one whose most salient feature is necessarily perceptual in nature. Before graphic marks and spaces become stable and coherent permanent forms that are capable of operating as referents, the only representations that are possible in the early 'scribbling period' are those that imitate physical actions. Machón calls these 'graphomotor representations.' (Machón, 2013, pp.77 & 79) He states that he has observed and will attempt to prove that, in children's drawings, there are four early modes of graphic representation that precede, and are very different from, fully developed figurative representation. These are:

1. **Graphomotor Representation**
   Graphic action and gesture signifying real actions in the world (appearing at around 2;09 years)
2. **Graphic-Symbolic Representation**
   Scribbles and Formal Units used as signifiers and referents, confirmed by the child through the use of language (appearing at around 3 years)
3. **Ideographic Representation**
   Graphic structures linked to their referents by functional and / or structural analogies (appearing at around 3;09 years)
4. **Figurative Representation**
   Iconic graphic structures that formally represent external objects in a recognisable way for any observer (appearing between 4 and 5 years)
   (Machón, 2013, p.82)

Machón's methodology and work plan began with the premise that drawings change according to age. Two traditional methods of observation were used: the longitudinal (following the long-term graphic development of individual children)

and the cross-sectional (collecting the drawings of a large group of children at a specific moment). The longitudinal method is most suited to studying the early stages of drawing, when the determining factor is motor behaviour. It also allows the observer to ask questions and intervene where appropriate. Machón, and his team of teachers and teacher trainees, conducted longitudinal case studies on 71 children of both sexes, aged 1;04 – 5 years, collecting a total of 2,610 drawings. In the case of one child, a detailed behavioural diary was kept for five years in parallel with their drawings and in another, video recordings were made of all their drawing sessions over a period of two and a half years. Complementing the longitudinal studies, Machón and his team conducted cross-sectional studies by collecting drawings from a broad sample of children, as part of their teaching during 35 years at the universities of Valladolid and the Autónoma in Madrid. In order to make meaningful comparisons across the samples, and to create a homogenous archive, a number of drawing tests were designed to standardise the situations in which the drawings were made. These involved collecting the results of three exercises conducted using standardised themes, instructions, materials and order of activities. The tests for children aged 4 and 5, for example, were as follows (in a very simplified form):

1. **First drawing.**    Free theme: 'Draw whatever you want'
2. **Second drawing.**  Given theme: 'Going Shopping'
3. **Third drawing.**    Instruction: 'Draw a boy or a girl'
   (The full test protocols can be found at the project website: www.childrendrawing.net)

The back of each resulting drawing was inscribed with the child's name, the test number, the date of the drawing and the child's date of birth. The child's age in years, months and days was then calculated and added to this data. The resulting archive comprised 26,233 drawings made by 9,478 children aged 1;06 to 10 years. 13,700 were made by boys and 12,533 were made by girls, with all the drawings almost evenly split across the three tests. The archived drawings were all made in controlled situations and the tests are repeatable for the purposes of

possible future comparative studies in any geographical or cultural context. (Machón, 2013, pp.83-8)

The first analysis of the sample was of drawings made in tests 1 and 2. A detailed examination of the drawings revealed a total of 97 discrete items in five groupings, which were working hypotheses:

- General features (scribbles, forms, pre-schemas and schemas)
- Period of scribbling (pre-scribble, uncontrolled, coordinated, controlled)
- Period of form (units, combinations and ideograms)
- Pre-schematic stage (pre-schemas)
- Schematic stage (schemas)

Test 3 was analysed separately using a template specifically devised for the human figure. (Machón, 2013, pp.88-9)

The analysis of the first grouping 'General features' gave results that allowed, for the first time in the history of studies of children's drawings, the verification of the average ages for particular developmental stages and the timespan for each period of development. These were presented in a graph as 'graphic development curves'.

> Scribbling, which, as our graph shows, disappears as a drawing activity at 4;06 years, ends as a period of development at 3;03, which is when a new one begins as scribble is replaced by forms and what we have termed the *period of form*. Forms, which reach their peak at 3;10 years and disappear from drawing at 5;03, are followed at 4;02 by pre-schemas, which reach a peak at 4;09. They usher in the *period of schematisation* with the initial *pre-schematic stage*, which is followed by the *schematic stage* when, starting at 5;02 years, schemas become prevalent. (Machón, 2013, pp.90-1)

Analysis of the data showed that girls are significantly ahead of boys and remain so over five and a half years. (Machón, 2013, p.91)

Machón ends the discussion of his methodology with a developmental proposal for the stages of graphic development. He gives an overview of the debates concerning children's developmental stages and concludes that 'the process of development of children's drawings is at its most natural and unspoilt during the first four years of life, after which children receive decisive influence from the school and the developmental bias of their culture.' (Machón, 2013, p.94) He notes that what he has called 'the stage of the graphic symbol' is 'the most important in the entire graphic development'. Prior to his study, it has gone 'unnoticed even to many scholars.' The literature demonstrates that, even though the authors employ a diversity of approaches and methodologies:

> the sequences described by many scholars…have shown remarkable agreement over time, even though the 'universals' of this fascinating process have yet to be determined conclusively. (Machón, 2013, p.95)

He presents a chart setting out his new developmental proposal, which was first formulated in 1992, and this is reproduced as Table 14. It includes substantial aspects of development not explored in previous studies. The ages given are statistical averages for both sexes and are not intended to be absolute, as individual children have their own rates of development.

> The most significant novelties we propose are…the consideration of a new stage of scribbling which we have termed the *coordinated scribble stage* and a whole new period that comes between the scribbling and schematisation periods found in the traditional classifications and which we have termed the *period of form*. We also consider and study separately the two sides of graphic development: the formal aspect and the representational aspect. (Machón, 2013, p.95)

| Table 14. Children's graphic development: 1 to 10 years (Antonio Machón, 1992) (Machón, 2013, Chart 12, p. 94) courtesy Margarita Sastre, 2023 | | |
|---|---|---|
| AGES | FORMAL-GRAPHIC DEVELOPMENT | REPRESENTATIONAL DEVELOPMENT |
| **1–3**<br><br>0;11–1;04<br><br>1;05–1;08<br><br>1;09–2;07<br><br>2;08–3;03 | **I. FORMLESS PERIOD**<br>SCRIBBLING<br><br>0. Pre-scribble<br><br>1. Stage of uncontrolled scribble<br><br>2. Stage of coordinated scribble<br><br>3. Stage of controlled scribble | GRAPHOMOTOR REPRESENTATIONS |
| **3–4**<br><br>3;03–3;09<br><br>3;09–4;03 | **II. PERIOD OF FORM**<br><br>1. Stage of units<br><br>2. Stage of operations (combinations) | GRAPHIC-SYMBOLIC REPRESENTATION<br><br>1. The graphic symbol<br><br>2. The ideogram |
| **4–7**<br><br>4;03–5;03<br><br>5;03–7;00 | **III. PERIOD OF SCHEMATISATION**<br><br>1. Pre-schematic stage<br><br>2. Schematic stage | FIGURATIVE REPRESENTATION (THE ICONOGRAM)<br><br>1. The pre-schema<br><br>2. The schema |
| **8–10** | **IV. PERIOD OF SUBJECTIVE REALISM** | BEGINNING OF GRAPHIC NARRATION |

### 4.3.7 The formless period

In the earliest stages of drawing development, during the first three years of life, action and movement predominate and children spontaneously experiment with strokes and the graphic space. This activity is governed by internal universal laws of development 'that give rise to similar strokes in the drawings of all children at the same stage of development regardless of place, race and social status.' Children quickly and intuitively realise that there is a symbolic correlation between the graphic space, their strokes upon it and themselves in the environment. Before they can draw children 'scribble' by gesturing with their arms, but this is not with any intention of transforming a medium, or leaving a trace. Scribbling is defined as: 'the *action* performed with any drawing implement…on a support…with the intention of making a mark on it…Scribble is the lasting *mark* or trace left by scribbling.' Children scribble for motor pleasure, but mainly to see the results on paper. Marks are external, visible and durable and play a determining role in graphic development. They are externalisations of the self. Actions are initially predominant to vision, which takes over at around three years of age. At this stage vision – and specifically form – becomes the most significant and central interest for the child, but scribbling never disappears completely. (Machón, 2013, pp.113, 115, 117, 119, 123-4, 126-7)
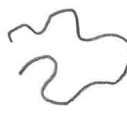
> The practice of scribbling accompanies the individual throughout his entire lifetime. The gestural schemas developed by the child throughout the scribbling stage become automatic and part of later graphic conduct. (Machón, 2013, p.127)

Machón identifies four stages of scribbling. The preliminary stage is 'pre-scribble', occurring until around the age of one year. The child attempts to imitate the adults around them and the first graphic forms they make are violent jabs and generally curved oscillating strokes spread over the surface of the paper. In the stage of 'uncontrolled scribble' (1;05 – 1;08 years) the child recognises that the marks made on the paper are traces of their own actions. This is '*scribbling* in the true sense of the word', where the blank sheet symbolises an environment to be

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transformed and the effects of scribbling actions are predicted and its results anticipated. 'The possibility of leaving a mark at will is, without doubt, one of the earliest and most elementary manifestations of creative awareness'. There is still no awareness of the 'graphic space' and the uncontrolled motor actions are not constrained by the edges of the paper. At around 1;06 years, the motions become more fluent and produce the first stable record of graphic activity: the back-and-forth scribble. This progressively becomes gentler and more curved and the child perseveres and pays more attention to their activity. At the same time the child also scribbles by pounding the paper, producing 'dots and commas'. (Machón, 2013, pp.130-3, 136-7)

The third stage is 'coordinated scribble' (1;09 – 2;07 years), where increased continuity, fluidity and rhythm of movements in mark making is reflected in the forms of the strokes. A new rotational motor movement gives rise to circular strokes and, smaller, 'cycloidal' strokes. 'Graphic cycles' occur, 'which are continuous strokes drawn without lifting the pencil from the paper'. The implicit symbolic nature of motor activity becomes evident in the strokes of this period and they can become associated with a variety of motions in the real world. These are known 'graphomotor representations', where the actions and sounds of scribbling are likened to external phenomena and the child begins to describe them verbally. Intentional representations begin at this stage, although their meanings disappear when their generative action ceases. When representations cease to rely on motion and the graphic traces left behind begin to function as referents of other objects, they become symbolic representations. This process takes place between 2;09 and 3;06 years. (Machón, 2013, pp.138-143, 145-9)

Throughout the stage of coordinated scribble, children 'progressively perfect the coordination of their movements and pay increasing attention to the morphology of the strokes'. (Machón, 2013, p.173) Eighteen discrete morphological types of scribble are developed during this stage. For the purposes of clarity and consistency in my current study, I have redrawn and presented them in Table 15.

| GRAPHIC STRUCTURES | NAMES | PEAK OCCURRENCE | PEAK OCCURRENCE | NAMES | GRAPHIC STRUCTURES |
|---|---|---|---|---|---|
| | | **Table 15. Graphic repertoire of coordinated scribble – motor-level strokes**<br>(Machón, 2013, Chart 13, p.174, *Source*: Antonio Machón, 1992.)<br>courtesy Margarita Sastre, 2023 | | | |

| GRAPHIC STRUCTURES | NAMES | PEAK OCCURRENCE | | PEAK OCCURRENCE | NAMES | GRAPHIC STRUCTURES |
|---|---|---|---|---|---|---|
| | **Angular back-and-forth (sweeping)** | 1;06-2;02<br>39% | | 2;00-2;02<br>14.4% | **Concentric round-and-round** | |
| | **Rounded back-and-forth** | 1;08-2;02<br>27.7% | | 2;06-2;08<br>13.5% | **Spread-out round-and-round** | |
| | **Oval back-and-forth (bean)** | 1;08-2;02<br>15.2% | | 2;00-2;02<br>8.6% | **Directional round-and-round** | |
| | **Spread-out back-and-forth** | 2;06-2;08<br>18.5% | | 2;02-3;05<br>3.5% | **Round-and-round with inner circle** | |
| | **Directional back-and-forth** | 3;00-3;02<br>21.7% | | 2;03-2;05<br>13% | **Brief round-and-round** | |
| | **Small obliteration** | 2;00-2;11<br>35.2% | | 2;03-2;05<br>39% | **Circular Stroke** | |
| | **Longitudinal stroke** | 2;00-2;02<br>35.2% | | 2;03-2;05<br>32% | **Loop** | |
| | **Angled strokes** | 2;00-2;05<br>16.2% | | 2;00-2;02<br>16% | **Arc-shaped strokes** | |
| | **Dots and commas** | 2;06-2;08<br>20.5% | | 2;03-2;05<br>51% | **Roving line** | |

Machón sets out his analyses of each of the scribble types in great detail. There are five basic types of back-and-forth scribble, which are rarely found singly. It is the 'most elementary and instinctive of all the types' and 'also the most frequent and longest lasting'. (Machón, 2013, pp.151-2)

Its original structure survives almost intact throughout the individual's life in common strokes such as crossings-out in texts and manuscripts and in the colouring of drawings and designs. (Machón, 2013, p.151) [see Figure 96.]

**Figure 96.** Jonathan Parsons (1999) Digital template for the cross-stich embroidery panel *Sampler*, executed in spring 1999.
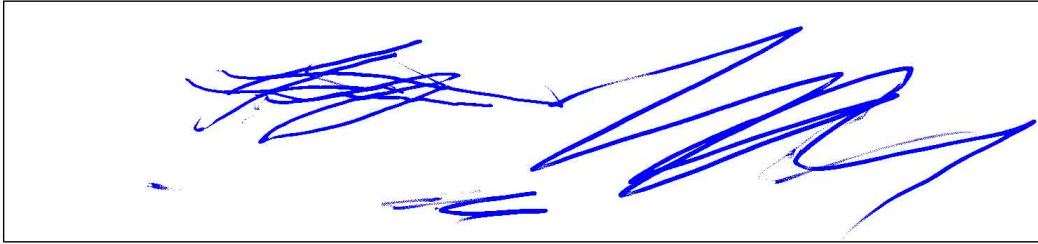


There are six types of circular scribble. Rhythmic and cyclical rotational movements produce graphic cycles, which 'represent scribbling at its height – they might be described as pure scribble'. In rotational scribbling, the eye begins to guide the hand. The strokes open out to expand and occupy the sheet of paper, with movements directed towards blank areas and corners. As the child gains more control and their marking progressively slows, single cycles are made resulting in separate circular graphic units (the 'circular stroke'), which herald 'a new period characterised by the predominance of perceptive and formal interests over motor interests'. Pounding scribble results in dots, commas and flicks and they are usually made in a context of joyful play, where the sounds of the marking add to the child's satisfaction in making them. Longitudinal scribbles result from increasing motor control and 'sight begins to anticipate the course of the hand'. They are difficult to make and are the most complicated produced by the child so far. They first emerge when children carefully make lines parallel to the edges of the page in rotational scribble and, when they are practised repeatedly, they gradually give rise to 'framing' strokes on all four sides of the paper. They are sometimes directed towards the corners of the sheet and small markings are often made in all four corners. Longitudinal strokes are the first that indicate the child's growing voluntary control over their mark making. Angled strokes are a reduced, single gesture of back-and-forth scribble. Arc-shaped strokes result

from the fragmentation of circular strokes. A very common type of stroke is the roving line, which seems to combine playful pleasure with the satisfaction of increasing control: 'the hand follows the path of the eye, which roams across the blank spaces. These strokes…can remain open or be closed'. The study identifies one of the most common scribble types made in this period for the first time, which are named small obliterations. They are a type of tightly controlled back-and-forth scribble. (Machón, 2013, pp.156, 158, 161, 165, 167-9, 170-2)

In the fourth stage of controlled scribble, vision increases in importance and strokes begin to become independent from actions as the child progressively gains more control over their movements and markings. More attention is given to the calligraphic aspect of the strokes than their specific positions in space, with the sheet of paper sometimes resembling a sampler of marks, as Kellogg had found (1955, p.14), rather than a composition [Figure 97.].

Machón cautions that 'we should not mistake the natural tendency…towards regulation and the pursuit of order…for "composition" which, as an expression of artistic activity, presupposes the existence of an aesthetic intention that is not yet found in children of these ages'. The fact that children seem to prefer 'calligraphy over composition' confirms that the processes of graphic development in children are cognitive in nature and that any 'aesthetic sense' is simply the pursuit of order. This lack of attention to space exemplifies a 'general law' of children's drawing: 'when interest and attention are devoted to some new aspect of drawing…this occurs to the detriment of others'. At this stage, the first 'awareness of form' emerges and there are the beginnings of a 'transition from the *formless period* to the *period of form*'. New strokes appearing at this time are imperfect circles and ovals, helicoidal strokes, bows, the spiral, zigzags, waves, Ms and short longitudinal strokes. At this stage, children also make the first important 'graphic-spatial operation', which is to draw *closed* forms that contrast the enclosed space with undifferentiated external space. This introduces new concepts to the child, such as *containment* and *inclusion* and the spatial awareness of *inner space*. The interiors of closed forms are often marked with 'certain scribbles like dots and
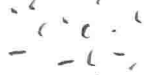
commas, obliterations and small spots that we have classified as spatial indicators.' (Machón, 2013, pp.175, 176-7, 179, 180-4, 185-6, 188)

**Figure 97.** Sampler of controlled scribble marks drawn by the author's infant daughter on 19 August 2005, aged 3;01 years.

Some formal units can be seen, such as circles, closed irregular curved-lined, cycloids, bows, zigzags and loops, along with many of the basic scribbles, such as arcs, roving lines, circular strokes, small round-and-round, small spots, small obliterations and angular back-and-forth. Formal operations such as surrounding (containment), the marking and characterisation of intra-figural space and division and intra-figural fragmentation are also present. There is also one example of Matthews' (1984) *co-linearity* or *shared pathways* (see section 4.4.3). Drawing collected and dated by Y. de Carné-Parsons.

The graphic repertoire of controlled scribble consists of sixteen morphological types, some of which have been perfected from the previous stage and others that, as the result of progressing motor control, are entirely new. For the purposes of clarity and consistency in my current study, I have redrawn and presented them in Table 16.
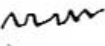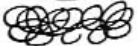
| Table 16. Graphic repertoire of controlled scribble – motor-level strokes (Machón, 2013, Chart 14, p.188) courtesy Margarita Sastre, 2023 | | | | | |
|---|---|---|---|---|---|
| GRAPHIC STRUCTURES | NAMES | PEAK OCCURRENCE | PEAK OCCURRENCE | NAMES | GRAPHIC STRUCTURES |
| | **Circular Stroke** | 2;06-2;08 39% | 2;00-2;11 35% | **Small obliteration** | |
| | **Spiral** | 2;09-2;11 11.8% | 2;09-2;11 20% | **Small spots** | |
| | **Imperfect circles and ovals** | 2;06-2;08 26% | 2;09-2;11 25.7% | **Zigzags** | |
| | **Helicoidal stroke** | 3;03-3;05 5.9% | 2;06-2;08 20.5% | **Dots and commas** | |
| | **Loops and bows** | 2;06-2;08 8.2% | 2;09-2;11 4.8% | **Flicks** | |
| | **Waves and Ms** | 2;06-2;08 10.2% | 2;09-2;11 25% | **Long longitudinal** | |
| | **Roving Lines** | 2;03-2;05 51% | 2;03-2;05 23.5% | **Short longitudinal** | |
| | **Arc-shaped strokes** | 2;00-2;02 16% | 2;00-2;02 16.5% | **Angled strokes** | |

In proposing a new taxonomy of scribble, Machón concedes that 'R. Kellogg must be credited with making the first selection and systematic classification of the most significant strokes form this important period.' He reproduces Kellogg's proposed categories of Twenty Basic Scribbles [Figure 98.] and notes that they do not fulfil her aim of allowing 'a detailed and comprehensive description of the work of young children.' This is because of 'the arbitrary nature of some of the selection criteria, such as the direction of the strokes, and the neglect of others such as motor factors and their functional aspects in relation to the graphic space'. He asserts that Kellogg's selection of strokes that differ from one another only in direction (as in the Basic Scribbles 2, 3 and 4) does not 'take into account that…during the period of scribbling the graphic space has not yet attained a stable direction and position', even though he has already described how longitudinal strokes are developed in relation to the boundaries of the paper and Kellogg had defined their directions in terms of the page. He criticises how she seems to ignore the dynamic, space exploring properties of strokes, but does not mention her proposed Placement Patterns. He writes that back-and-forth movements are varied in practice and criticises Kellogg's single category of 'multiple line', whereas she actually identified four different types, including the curved multiple line, which is very close in form to his 'rounded back-and-forth'. He also asks: 'and what is the difference between scribbles 19 and 20, which she terms "crossed circle" and "imperfect circle"?', despite the fact that his own illustration of the 'circular stroke' shows a mark with starting and ending points that cross over one another and that he has included a category of his own named 'imperfect circles and ovals', both of which are morphologically identical to the categories that Kellogg describes. (Machón, 2013, pp.187-9) He concludes:

> In our view, R. Kellogg's 'Twenty Basic Scribbles' which, as we have stated, could be significantly reduced, are not a thorough selection of the strokes produced by children during the scribbling period and, contrary to what the author claims, nor do they constitute and entirely valid system for classifying them. (Machón, 2013, p.189)
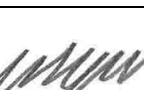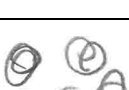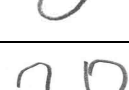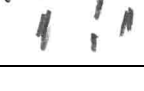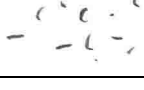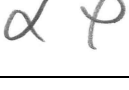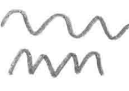
**Figure 98.** Rhoda Kellogg (1969, p.15) 'The Basic Scribbles' By kind permission of the Golden Gate Kindergarten Association

THE BASIC SCRIBBLES

| | | |
|---|---|---|
| Scribble 1 | | Dot |
| Scribble 2 | | Single vertical line |
| Scribble 3 | | Single horizontal line |
| Scribble 4 | | Single diagonal line |
| Scribble 5 | | Single curved line |
| Scribble 6 | | Multiple vertical line |
| Scribble 7 | | Multiple horizontal line |
| Scribble 8 | | Multiple diagonal line |
| Scribble 9 | | Multiple curved line |
| Scribble 10 | | Roving open line |
| Scribble 11 | | Roving enclosing line |
| Scribble 12 | | Zigzag or waving line |
| Scribble 13 | | Single loop line |
| Scribble 14 | | Multiple loop line |
| Scribble 15 | | Spiral line |
| Scribble 16 | | Multiple-line overlaid circle |
| Scribble 17 | | Multiple-line circumference circle |
| Scribble 18 | | Circular line spread out |
| Scribble 19 | | Single crossed circle |
| Scribble 20 | | Imperfect circle |

Considering these views and the results of his analysis, Machón proposes a new classification entitled the *graphic repertoire of scribbling*, which lists a total of 26 *basic scribbles* made by children in this period. (Machón, 2013, pp.189-90) For the purposes of clarity and consistency in my current study, I have redrawn and presented them in Tables 17 and 21.
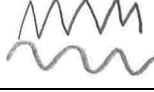
| Table 17. Graphic repertoire of the 26 basic scribbles. Antonio Machón 1992 | | | | | | | |
|---|---|---|---|---|---|---|---|
| (Machón, 2013, Chart 16, p.191) courtesy Margarita Sastre, 2023 | | | | | | | |
| GRAPHIC STRUCTURES | No. | NAMES | PEAK OCCURRENCE | PEAK OCCURRENCE | NAMES | No. | GRAPHIC STRUCTURES |
|  | 1 | Angular back-and-forth | 1;06-2;02 2;00: 39.04% | 1;06-2;02 2;00: 11.42% | Concentric round-and-round | 14 |  |
|  | 2 | Rounded back-and-forth | 1;08-2;02 2;00: 27.61% | 2;03-2;06 2;07: 13.52% | Spread out round-and-round | 15 |  |
|  | 3 | Spread-out back-and-forth | 2;00-2;09 2;04: 18.44% | 2;06-3;03 3;01: 3.53% | Round-and-round with inner circle | 16 |  |
|  | 4 | Directional back-and-forth | 2;03-3;06 3;01: 21.73% | 2;00-3;02 2;00: 8.57% | Directional round-and-round | 17 |  |
|  | 5 | Large longitudinal stroke | 2;00-2;09 2;00: 35.23% | 2;00-2;06 2;04: 12% | Small round-and-round | 18 |  |
|  | 6 | Small longitudinal stroke | 2;00-2;09 2;04: 23.5% | 2;03-2;09 2;07: 38.93% | Circular stroke | 19 |  |
|  | 7 | Small obliterations | 2;03-3;06 2;09: 34.54% | 2;03-2;09 2;04: 26% | Imperfect circle and oval | 20 |  |
|  | 8 | Small spots | 2;03-3;00 2;10: 20% | 2;03-2;09 2;10: 11.81% | Spiral | 21 |  |
|  | 9 | Dots and commas | 2;03-3;06 2;07: 20.49% | 2;02-2;09 2;03: 32% | Loops | 22 |  |
|  | 10 | Flicks | 2;03-3;00 2;10: 4.84% | 2;00-2;06 2;00: 16.19% | Arc-shaped strokes | 23 |  |
|  | 11 | Angled strokes | 2;00-2;06 2;02: 16.19% | 2;03-3;00 2;07: 10.24% | Waves and Ms | 24 |  |
|  | 12 | Zigzags | 2;06-3;00 2;10: 25.75% | 2;06-2;11 2;07: 8.19% | Bows | 25 |  |
|  | 13 | Roving line | 2;03-2;09 2;04: 50.5% | 3;03-3;09 3;04: 5.89% | Cycloids | 26 |  |

The left-hand columns show marks made by back-and-forth, pounding and spreading movements and the right-hand columns show marks made using rotational movements. 'These scribbles constitute the graphic skills that see [children] through to the following period, which we have called the period of form.' (Machón, 2013, p.190)

Given Machón's vociferous criticisms of Kellogg's categories and methodology, it is important to note that seventeen of his named basic scribble categories are morphologically identical to Kellogg's prior classifications. My redrawings of these are summarised in Table 18. On seven occasions, Machón uses the same terms as Kellogg to describe the graphic structures he has found. As previously mentioned in section 4.2.6, Kellogg also described how violently pounded dots 'have a tail and look something like a comma' and that there exists 'the dot which has more length than breadth' and 'the studied dot which is so clear and round that it is almost a miniature Scribble 16' (Kellogg, 1955, p.32). These sound very much like Machón's flicks, small spots or small round-and-round strokes and, although Kellogg did not include them or commas in her Basic Scribble categories, they seem to accord closely with Machón's subsequent findings.

In the period of scribbling, the notion of the graphic space develops. During uncontrolled scribbling an awareness of the material support emerges, but graphic-spatial organisation is chaotic and page boundaries are regularly overshot. During coordinated scribbling, awareness of the graphic space is gradually acquired and results in 'the appearance of the first spatial order.' There is an increased interest in keeping within the boundaries of the paper and spatially organised strokes are distinguished from those arising from motor action. Rotational strokes delimit inner spaces and distinguish between areas. Graphic marks become external traces of an inner reality distinct from the surrounding space. During controlled scribbling, graphic marks and space become separate concepts and the child becomes aware of their interrelationships. The first closed forms are produced. (Machón, 2013, pp.190, 192-3)

| KELLOGG'S CATEGORIES | GRAPHIC STRUCTURES | MACHÓN'S CATEGORIES |
|---|---|---|
| **Table 18. Comparison of 17 Basic Scribble Categories** | | |
| **S1**<br>**Dot** | | **9**<br>**Dots and commas** |
| **S3**<br>**Single horizontal line** | | **5 & 6**<br>**Large and small longitudinal strokes** |
| **S5**<br>**Single curved line** | | **23**<br>**Arc-shaped strokes** |
| **S6**<br>**Multiple vertical line** | | **3**<br>**Spread out back-and-forth** |
| **S8**<br>**Multiple diagonal line** | | **1**<br>**Angular back-and-forth** |
| **S10**<br>**Roving open line** | | **13**<br>**Roving line** |
| **S12**<br>**Zigzag or waving line** | | **12 & 24**<br>**Zigzags and Waves** |
| **S13**<br>**Single loop line** | | **22**<br>**Loops** |
| **S14**<br>**Multiple loop line** | | **26**<br>**Cycloids** |
| **S15**<br>**Spiral line** | | **21**<br>**Spiral** |
| **S16**<br>**Multiple-line overlaid circle** | | **14**<br>**Concentric round-and-round** |
| **S17**<br>**Multiple-line circumference circle** | | **16**<br>**Round-and-round with inner circle** |
| **S18**<br>**Circular line spread out** | | **14**<br>**Spread out round-and-round** |
| **S19**<br>**Single crossed circle** | | **19**<br>**Circular stroke** |
| **S20**<br>**Imperfect circle** | | **20**<br>**Imperfect circle and oval** |

Spatial aspects of drawing, the form of strokes and the pursuit of order is the central concern at this stage. These are the result of cognitive explorations and development. Colour is less important and Machón accepts research suggesting that colour use is related to personality types. He writes that 'colour is directly related to instinctive, emotional and aesthetic aspects.' He suggests that introducing painting materials too early can limit and challenge children's motor development if they have not yet had sufficient practice at drawing strokes and lines. (Machón, 2013, pp.193-4)

### 4.3.8 The period of form

In this period, occurring between the ages of 3;03– 4;03 years, graphic-symbolic representation develops and it 'is characterised by the predominance of *forms* or shapes.' Graphic structures cease to be visible traces of action and achieve an autonomy, regularity, simplicity and perfection. New forms are added to the graphic repertoire of scribbling and this becomes 'an alphabet as soon as these images begin to be used by the child as signifiers'. The most important and predominant are 'the *closed circular form* and the *line segment*, which we will call *basic formal units*.' When these are combined in complex configurations, Machón calls them 'Gestalts consisting of two or more of them joined together' [this is essentially the definition of Kellogg's proposed 'Combines', 1969, pp.48-51]. The combinations are 'the result of graphic and spatial *operations* that children perform deliberately' in order to establish graphic spatial relationships. These give rise to the first appearance of *graphic-symbolic representation*. (Machón, 2013, pp.197, 200-1) There are three tendencies in formal development:

1. The construction of *formal units*, which are simple, regular geometrical shapes incapable of being broken down into simpler forms
2. Bringing together two or more units through various formal operations giving rise to *combinations* or *Gestalts*
3. Playful experimentation with roving lines, without any particular formal intentions, resulting in *graphic fantasising* (Machón, 2013, pp.202 & 229)
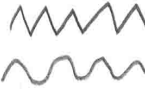
These establish two stages in formal development, which correlate with the development of representational interests, summarised in Box 13.

| | | |
|---|---|---|
| **Box 13. The period of form: formal development and representational development. Drawings made by children aged between 3;03 and 4;03 years** (Machón, 2013, Chart 18, p.202) courtesy Margarita Sastre, 2023 | | |
| AGES | FORMAL DEVELOPMENT (formal processes) | REPRESENTATIONAL DEVELOPMENT (symbolic processes) |
| 3;03 3;06 | 1. Stage of units. | 1. Stage of the graphic symbol Graphic-symbolic representation. |
| 3;06 4;03 | 2. Stage of operations and combinations. | 2. Stage of the ideogram Ideographic representation |

The first formal units produced – the closed circular form and the line segment – belong to two categories of forms that are functionally and perceptually distinct: *closed units* developing out of circular and irregular forms and *open units* developing out of straight lines, flowing lines and segments. These represent complementary symbolic concepts of unity and individuality and they are immediately likened to beings and objects in the world and begin to perform the functions of signifiers and referents. (Machón, 2013, p.204)

Sixteen types of formal units are produced in this period and Machón discusses each in detail, outlining their genesis, age of peak occurrence and symbolic character. He concludes that 'some writers on children's drawings have recognised some of these forms and figures' and that they correspond to Jung's 'primordial images', Read's 'primordial forms' and Kellogg's 'diagrams'. For the purposes of clarity and consistency in my current study, I have redrawn the complete repertoire of formal units, which is summarised in Tables 19 and 21. The earlier scribbles also continue to be used throughout this period. (Machón, 2013, pp.208-9)

**Table 19. Repertoire of forms and figures. The 16 formal units. (3;03-4;03)**
(Machón, 2013, Chart 19, p.209 *Source*: Antonio Machón, 1992.)
courtesy Margarita Sastre, 2023

| | CLOSED | | | OPEN | |
|---|---|---|---|---|---|
| STRUCTURES | NAMES | PEAK OCCURRENCE | PEAK OCCURRENCE | NAMES | STRUCTURES |
|  | **Circle** | 3;05-4;03 <br><br> 3;10: 31.43% | 2;06-4;00 <br><br> 3;02: 7.88% | **Straight line** |  |
|  | **Oval** | 3;01-3;07 <br><br> 3;04: 20.86% | 3;04-4;03 <br><br> 3;10: 7.92% | **Segment** |  |
|  | **Closed irregular curved-lined** | 3;01-4;03 <br><br> 4;00: 0.89% | 3;03-3;07 <br><br> 3;04: 5.89% | **Cycloids** |  |
|  | **Rectangle** | 3;06-4;03 <br><br> 4;01: 1.98% | 2;06-3;08 <br><br> 2;08: 8.2% | **Bows** |  |
|  | **Square** | 3;08-4;08 <br><br> 3;10: 12.37% | 3;03-4;08 <br><br> 3;10: 11.63% | **Zigzag and wavy line** |  |
|  | **Closed irregular straight-lined** | 3;09-4;06 <br><br> 4;00: 5.66% | 3;05-4;08 <br><br> 4;00-4;02: 6.31% | **Angle** |  |
|  | **Triangle** | 3;10-4;06 <br><br> 4;00: 8.93% | 3;06-4;03 <br><br> 3;10: 6.18% | **Crosses and diagonal crosses** |  |
|  | **Semicircle** | 3;11-4;08 <br><br> 4;03: 1.9% | 3;00-3;11 <br><br> 3;10: 2.72% | **Arc** |  |

Documentation of my mixed media installation based on Machón's categories of formal units can be seen in Figure 99.

**Figure 99.** Jonathan Parsons (2018) *The Basic Formal Units (Machón)*
[Acrylic reverse painting on glass with wall mounted fixtures]
16 panels, each: 27.9 x 27.9 cm. (Practice Research Catalogue no. 025)



Kellogg's diagrams do indeed seem to be an incomplete description of this stage, although she did describe the 'Square or Rectangle' and the 'Circle or Oval' (Kellogg, 1955, p.18). She also stated that 'the odd shape serves as a catchall classification for any deliberate line formation that encloses an irregular area.' (Kellogg, 1969, p.45) If we take this to mean that irregular areas could include

the curved- and straight-lined varieties, then the number of Kellogg's diagram categories could theoretically be expanded to eight.

The development of closed forms and individuated units is followed by the stage of operations, where they are combined and connected in various ways, making entirely new Gestalts. (Machón, 2013, pp.208-10)

> The operations and resulting combinations, and the notions derived from them…give rise to a graphic and spatial semiotic system which…leads to ideograms, the first representational images in children's drawings. (Machón, 2013, p.211)

Although the operations are graphic-symbolic and representational, Machón initially analyses the most common combinations in terms of their genetic formal configurations. These are summarised in Box 14 and the redrawn visual configurations are summarised in Table 20. (Machón, 2013, pp.213 & 228)

| **Box 14. Formal operations and their combinations**<br>(Machón, 2013, Chart 20, p.213) courtesy Margarita Sastre, 2023 |
| --- |
| 1. SURROUNDING (encircling)<br>2. MARKING AND CHARACTERISATION OF INTRA-FIGURAL SPACE<br>3. ADDITION OF UNITS:<br>    a) Combination of closed units<br>    b) Mixed combination of open and closed units<br>    c) Mixed combination by inclusion and addition<br>    d) Combination of open units<br>    e) Addition of units which generate growing closed structures<br>4. DIVISION AND FRAGMENTATION OF INTRA-FIGURAL SPACE<br>5. BASIC INTER-FIGURAL COMPOSITIONS |

## Table 20. Operations and their combinations. Period of form
(Machón, 2013, Chart 21, p.228, *Source*: A. Machón, 1992)
courtesy Margarita Sastre, 2023

| OPERATIONS | | CONFIGURATIONS | NOTIONS AND EFFECTS | PEAK OCCURRENCE |
|---|---|---|---|---|
| **1. Surrounding (containment)** | |  | Surrounding, encircling, containment, protecting | 2;06-3;11 <br><br> 3;01: 16.03% |
| **2. Marking and characterisation of intra-figural space** | |  | Interior-exterior, thingness, objectification, corporeity and texture, substance, smell, taste etc. | 3;03-4;06 <br><br> 3;10: 15.09% |
| **3. Addition of units** | **A. Combination of closed units** |  | Containment, linking, inside-outside, large-small, quantity, relating etc. | 3;09-4;08 <br><br> 4;07: 8.44% |
| | **B. Mixed combination of open and closed units** |  | Connections: inside and outside, dynamisation, vitalisation, continuity, symmetry etc. | 3;02-4;06 <br><br> 4;01: 16.55% |
| | **C. Mixed combination through inclusion and addition** |  | Dynamisation, vitalisation, cephalisation | 3;03-4;02 <br><br> 3;10: 15.59% |
| | **D. Combination of open units** |  | Order, continuity, quantity, right-angularity, spatiality, proportionality | 3;06-4;11 <br><br> 4;01: 5.01% |
| | **E. Growing closed structures** |  | Continuity, succession, linking, proximity, enlargement | 3;06-4;11 <br><br> 4;01: 18.3% |
| **4. Division and intra-figural fragmentation** | |  | Division, compartmentalisation, fragmentation, succession, symmetry | – |
| **5. Inter-figural spatial compositions** | |  | Order, continuity, succession, neighbourhood, distance, symmetry etc. | – |

'Surrounding' is related to the spatial operation of closure and consists of one or more strokes encircling others that were made earlier, giving rise to the notion of containment. The 'marking and characterisation of intra-figural space' differentiates the interior of closed forms from exterior space and affirms their 'thingness', leading them to become referents of real objects. The 'addition of units' includes all the various operations of combining several of the same or different open or closed forms. Closed units often become used as notional 'containers' and are frequently associated with real-world beings or objects that perform similar functions or display similar structures as the drawn configurations and are regularly named as such by the child. The most common combination of open and closed units is the 'sunburst pattern' [Kellogg's 'Suns: S1-13', 1969, pp.74-85], which are often associated with living creatures [Figure 100.]. The line segments radiating outwards from the interior of the closed form provide links between its interior and exterior spaces. When combinations of closed units have segments added to the perimeter, cephalisation takes place and children label their suggestive structures with names such as: 'sun', 'spider', 'boy', 'crab' etc. Combinations of open units have 'a markedly spatial emphasis that evidence a keen interest in order and series, such as zips, grids, ladders and meshes' [these are what Kellogg identified as 'E9: Ladder cross squares', 1969, p.35]. 'Growing closed structures' are often given the names of real-world objects that have compartmentalised geometric formations, such as buildings, boxes or vehicles. 'Division and intra-figural fragmentation' occur when closed forms are divided into cells or grids by crossing straight lines [Kellogg's 'A7: Multi-lined Areas' and 'A8: Multi-crossed Areas', 1969, p.53]. 'Inter-figural spatial compositions' are where units are serially grouped together in space to form a coherent whole whose elements are not necessarily in physical contact with each other. (Machón, 2013, pp.213-7, 220, 222-3, 225-7) Machón's study of this stage of formal operations is a simpler, more comprehensive and convincing analysis than Kellogg's – albeit pioneering – 'Design Stage', with its proliferation of named morphological categories.

**Figure 100.** 'Sunburst pattern' (Machón, 2013), or 'S4: clear-centre Sun' (Kellogg, 1969) with longitudinal lines and overlaid with coloured back-and-forth scribblings. Drawn by the author's infant daughter on 10 November 2005, aged 3;04 years. 'I'm making the sunshine', she said as she drew it. Drawing collected, dated and annotated by Y. de Carné-Parsons.
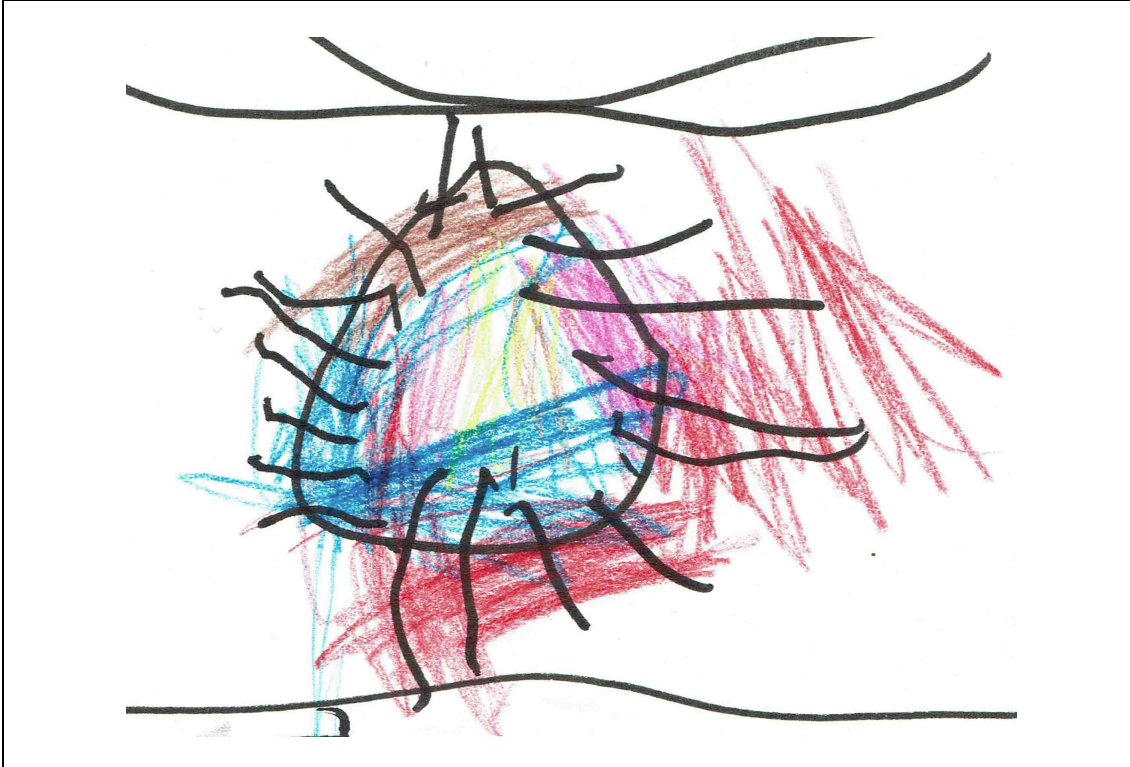
The cephalic sunburst configurations are *proto-schemas*, upon which the child projects their 'biopsychological energy'. They are suffused with a dynamic vitality and routinely named after living creatures.

> These are not initially early figurative representations…but a reinterpretation *a posteriori* of internal images from the deep unconscious to which the child gives these names owing to their structural similarity to…living beings…The best example of the foregoing is the pattern…they label as a 'sun'; in our view this image, far from representing the sun, is simply the primordial formal unit, the circle, imbued with dynamism and life. (Machón, 2013, p,234)

Symbolic graphic representation is the most significant characteristic to emerge in the period of form. Representations evoke absent real-world entities, situations

and events and are signified by graphic structures spontaneously invented and selected by the child. This is the development of the symbolic or semiotic function, which 'is the action or ability to use symbols, that is, signifiers, in place of the signifieds and in their absence.' This stage is a transitional period of motor play, when the child is not yet making imitative likenesses. (Machón, 2013, pp.237, 238-9)

> it is precisely when drawing begins to be 'imitative'…that the forms of the drawing cease to be symbols and become icons…In our view, the possibilities of *symbolisation* and *iconic representation* that graphic images offer are two different, mutually exclusive functions. (Machón, 2013, p.239)

The child uses names of real-world objects to define the morphological qualities of their linear structures, such as angularity and roundness, and they begin to recognise resemblances between simple formal characteristics of objects in the world and the simple forms in their own drawings. The drawings therefore acquire the significance of those objects and their meanings. These formal graphic symbols are effectively '*gestaltic* configurational analogies'. They are 'whole things' in themselves; externalisations of inner thoughts and feelings that have a communicative power. This potential for communication will later develop into the 'iconic function' of the graphic image. The graphic symbol is 'the most primitive and original unit of this language that is neither verbal nor conventional and is both private and universal'. The basic scribbles continue to be used throughout this development and they are also objectified as referents and signifiers. Graphomotor representations develop from the simple effects caused by performing the actions of drawing into true, intentional, enactive representational devices that symbolise the actions and motions of real-world events, such as the movements of animals, mechanisms or physical tasks performed by humans. Intentional strokes themselves become signifiers of other actions. (Machón, 2013, pp.239-40, 248, 249, 265-6, 269)

The child – by recognising simple resemblances between the external world and intentionally produced patterns that already belong to its own graphic repertoire of scribbles, units and combinations – begins to recognise external objects within the images of the drawing itself. They intentionally create drawings that are analogies, where the object 'begins to survive independently in the image.' The analogies are not always visual. Some are based on functional similarities and some are based on visual perceptual similarities. The perceptual analogies can be structural, configurational or morphological. These 'likenesses' are not figurative resemblances, but an externalised thought or idea about the qualities of the depicted object, being or situation. This is known as ideographic representation, where 'the object, more than a subject of visual perception, is to the child the subject of an experience.' Ideograms are symbolic graphic structures that represent specific ideas. (Machón, 2013, pp.270-1, 274, 276-7)

> An ideogram is the notion or idea the child has of the object and its image, an intermediate stage between symbol and iconogram, between abstraction and figuration, and is related to the object by qualitative and initially configural links. (Machón, 2013, p.279)

Because they do not visually resemble the objects they represent, ideograms are difficult to distinguish from simple combinations of formal units and difficult to interpret unless the child verbally communicates what they are thinking. (Machón, 2013, p.283)

> As they originate from the graphic and spatial devices experimented with by children in operations and are therefore part of the natural graphic process, ideograms, like graphic symbols, are an absolutely original mode of representation devised by the child. (Machón, 2013, p.286)

Ideographic representation will eventually give rise to figurative representation through a slow and complex process whereby structural or configurational analogies are used to make intentional drawings into 'equivalents' of known

objects. When the drawn image finally loses its symbolic nature, it 'ends up taking on the double role of signifier and signified that is characteristic of the figurative image' and the communicative aspects of the icon come into play. Due to the external influence of prevailing adult culture, with its demands and expectations for 'acceptable' kinds of figurative depictions, the symbolic mode of ideographic representation is the last stage in children's graphic development that is fully natural and spontaneous. Before children gain knowledge of the symbolic notation systems of their own particular cultural traditions, their graphic development evolves through the periods of scribbling and of form, which are characterised by sensorimotor and symbolic types of knowledge that 'are found in individuals of all cultures'. (Machón, 2013, pp.276-7, 286, 288-9)

### 4.3.9 The period of schematisation

The transition from symbolic to figurative representation occurs in the period of schematisation. Adults and educators regard drawing as one of several symbolic notation systems – including reading, writing, numbers and letters – and this, along with the multiplicity of images in the immediate environment, has a determining influence on children's graphic development. Children's drawings shift from the ideographic mode to the iconographic mode. They make simple structural 'equivalents', as previously mentioned, which are immediately named and associated with objects and can be intentionally repeated [Figure 101.].

**Figure 101.** Jonathan Parsons (2020) *Study for 'Equivalents'*
[Acrylic on archival coloured paper] 18 panels, each: 14.8 x 10.5 cm (A6 portrait)
(Practice Research Catalogue no. 094) – *these are based on descriptions and illustrations of children's work by Machón and sketches by Kellogg (1969, pp.126-7)*
Adaptation authorised by kind permission of the Golden Gate Kindergarten Association

They differ from symbols in that, rather than relying on the privately construed meanings of the forms themselves, their analogies are external, perceptual and can be recognised by any independent observer. These equivalents do not arise by chance, 'but from the intentional and progressive perfecting of configural analogies between drawing and object.' (Machón, 2013, pp.313, 314, 321, 322, 326)

> Figuration…consists in creating wholes formed by the addition and combination of structured units in accordance with the structure or configuration of the object…Figuration is therefore a cognitively enumerative, perceptually structural, procedurally additive and formally schematic and geometric process. (Machón, 2013, p.326)

The structures children draw originate not from them trying to imitate what they see in the world, but from their own experiments in graphic form. What they see originates from what they draw: they use their fully developed graphic repertoire of scribbles, units and operations to apply what they already know about formal and spatial structure to what they see in real-life situations. 'Drawing…prevails over the reality of what is visible.' (Machón, 2013, p.330-1)

The earliest figurative images are known as 'schemas' due to their geometrical simplicity and lack of dynamism and movement. Schematic drawings are 'images that fully represent the object.' The long period of schematisation lasts from about 4 to 7 years of age and has two stages. The *pre-schematic stage* is the transition away from ideographic representation towards iconograms: 'images which are sufficiently iconic to bring to mind themselves the objects they represent' and show the external configurations of the real world. Children use a variety of strategies for developing iconograms: generalisation, juxtaposition, decorative geometricism, colour and borrowing standardised stereotypical models from the environment. It is at this stage that an aesthetic sense emerges, with 'an intuitive and natural tendency towards composition…that mirrors the conception of the adult artist.' The most common figurative representations preferred by children – in decreasing frequency of occurrence – are: the human figure, houses, suns, polymorphous natural elements, trees, clouds, cars, flowers, birds, mammals and transport (Machón, 2013, pp.332, 333, 334, 335-7, 338-57). The *schematic stage* is characterised by the representation of space reduced to two dimensions and the mastery of figurative images that 'have achieved a certain level of iconic stability'. Single outlines of form-contour appear for the first time. Children express experiences and emotions, with important schematic aspects being exaggerated and unimportant parts neglected. The primitive concept of the graphic space is succeeded by a new concept of *topological space*, which is a two-dimensional relational space entirely represented on the horizonal plane of the paper. This gradually develops into an opaque vertical picture plane presenting a completely two-dimensional frontal elevation that is the precursor to the transparent projection plane of linear perspective and 'in which all the events

of the drawn space will take place from now on until the adoption of perspective space in the teenage years.' A horizontal 'ground line' is used to represent the ground level and extends from one side of the picture to the other and 'is often replaced by the lower edge of the sheet.' The end of schematisation and the beginning of realism is marked by a number of developments: images are no longer built by addition and combination; outlines and contours are used; drawings become less static and rigid; the picture plane becomes transparent, opening up the third dimension. A new developmental period of children's drawing begins with the emergence of a mode of narrative realism. (Machón, 2013, pp.358, 361, 363, 364-7, 369, 379-80)

### 4.3.10 Representation of the human figure

Machón's study concludes with an in-depth analysis of the development of the human figure. This has a special status in the corpus of children's drawings, as children prefer drawing human figures above all other subjects and, as a genuine representation, it occurs early on in graphic development. The processes of the human figure's structural genesis are universal and its appearances are the most original (Machón, 2013, pp.381 & 394). The graphic sequence that gives rise to the human figure correlates with 'the emergence of the notion of the self'. Closed circular forms develop into sunburst patterns that are imbued with the vitality of living beings and are called 'cellular configurations'. They seem to project the psychobiological energy and dynamism of the drawing's maker. Machón interprets the closed circular form as 'a symbol of the unitary nature and individuality of the self' and the search for this 'takes place…in every spontaneous act of drawing. […] Human figure representation…can be considered the driving force of all the child's drawing and therefore the origin, beginning and end of all representational processes.' He emphasises that the human body is the only object in the child's world that is sensed from the interior and perceived through its interface with the rest of reality. The production of a drawing is felt as well as seen. Machón sets out in detail the processes that give rise to developmental stages of human figure representation, from the circle to the cell, through anthropomorphic cephalisations and suns to the famous

'tadpole' stage [Kellogg's 'armless Human'], which is recognised throughout all the literature on the subject. He gives an overview of the debates and interpretations of this stage of development and outlines its pre-schematic development into the *little man*.  Finally, he describes the representational stage of the full human schema (Machón, 2013, pp. 387, 395, 396-7, 400, 401-9, 412-16, 417-20). These stages are summarised in Box 15 [Figure 102.]. The principal graphic structures and developmental stages of his entire study are summarised in Tables 21-23.

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**Box 15. Periods and stages in human figure representation. A. Machón 1992**
(Machón, 2013, Chart 25, p.401) courtesy Margarita Sastre, 2023

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I.　　PERIOD OF GRAPHIC-SYMBOLIC REPRESENTATION: from 3 to 4 years

    1. Stage of the circle or of representation of the psychological self
    2. Stage of the cell or of representation of the psychobiological self
    3. Stage of the tadpole or of representation of the psychobiophysical self

II.　　PERIOD OF SCHEMATISATION: THE PHYSICAL SELF: from 4 to 7 years

    1. Stage of the pre-schema or little man: representation of the physical self
    2. Stage of the schema or of the complete human figure

**Figure 102.** Machón's proposed evolution of the human figure:
1. Circle; 2. Cell; 3. Face and sun face; 4. Tadpole with legs; 5. Tadpole with torso;
6. Little man without torso; 7. Little man with torso; 8. Human schema
(Author's sketch, adapted from Machón, 2013, Table 15, p.420)
courtesy Margarita Sastre, 2023
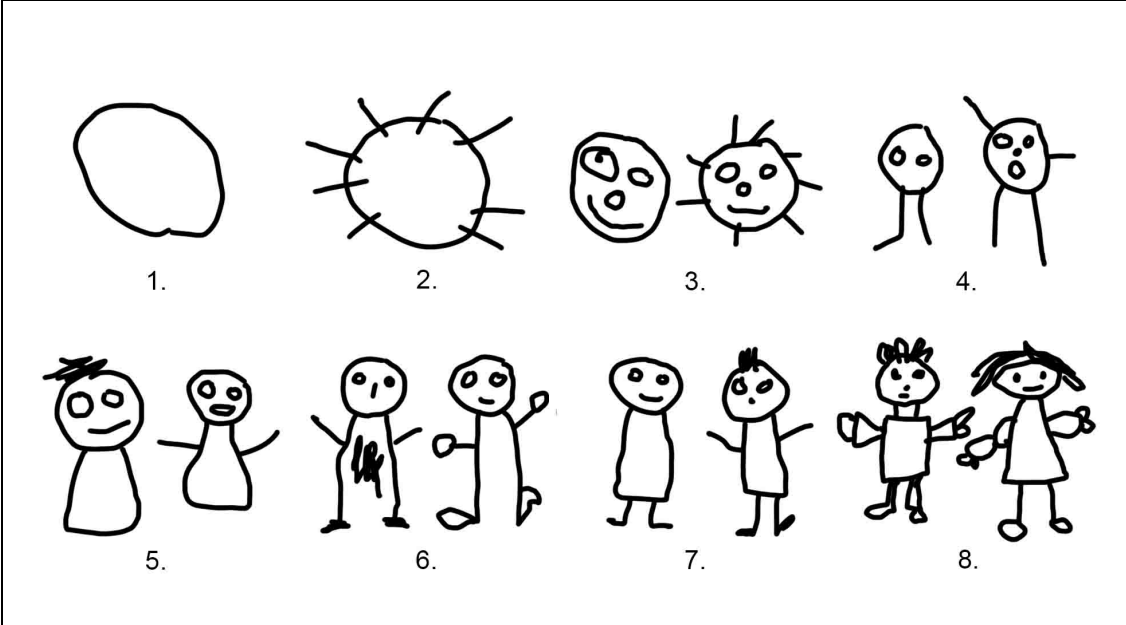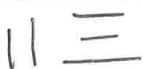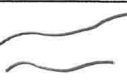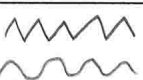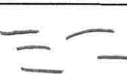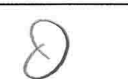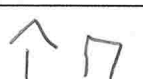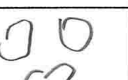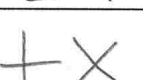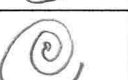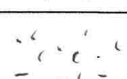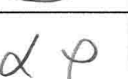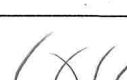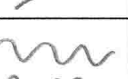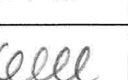
**Table 21. Visual key to Machón's (1992, 2013) typologies of line formations**
(Adapted from Machón, 2013, Chart 16, p.191 and Chart 19, p.209)

Visual key to Machón's (1992, 2013) typologies of line formations

**Graphic Repertoire of the 26 basic scribbles**

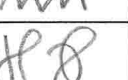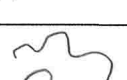| # | | # | |
|---|---|---|---|
| 1 Angluar back-and-forth | | 14 Concentric round-and-round | |
| 2 Rounded back-and-forth | | 15 Spread out round-and-round | |
| 3 Spread-out back-and-forth | | 16 Round-and-round with inner circle | |
| 4 Directional back-and-forth | | 17 Directional round-and-round | |
| 5 Large longitudinal stroke | | 18 Small round-and-round | |
| 6 Small longitudinal stroke | | 19 Circular stroke | |
| 7 Small obliterations | | 20 Imperfect circle and oval | |
| 8 Small spots | | 21 Spiral | |
| 9 Dots and commas | | 22 Loops | |
| 10 Flicks | | 23 Arc-shaped strokes | |
| 11 Angled strokes | | 24 Waves and Ms | |
| 12 Zigzags | | 25 Bows | |
| 13 Roving line | | 26 Cycloids | |

**Repertoire of forms and figures. The 16 formal units**

| CLOSED | | OPEN | |
|---|---|---|---|
| Circle | | Straight line | |
| Oval | | Segment | |
| Closed irregular curved-lined | | Cycloids | |
| Rectangle | | Bows | |
| Square | | Zigzag and wavy line | |
| Closed irregular straight-lined | | Angle | |
| Triangle | | Crosses and diagonal crosses | |
| Semicircle | | Arc | |

**Table 22. Visual key to operations and combinations in the period of form (Machón 1992, 2013)**
(Adapted from Machón, 2013, Chart 21, p.228) courtesy Margarita Sastre, 2023

| Operations and their combinations. Period of form | | |
|---|---|---|
| **OPERATIONS** | | **CONFIGURATIONS** |
| 1. Surrounding (containment) | |  |
| 2. Marking and characterisation of intra-figural space | |  |
| 3. Addition of units | A. Combination of closed units |  |
| | B. Mixed combination of open and closed units |  |
| | C. Mixed combination through inclusion and addition |  |
| | D. Combination of open units |  |
| | E. Growing closed structures |  |
| 4. Division and intra-figural fragmentation | |  |
| 5. Inter-figural spatial compositions | |  |

# Table 23. Children's graphic development from 1 to 10 years
(Machón, 2013, Chart 26, p. 421) *Source: Antonio Machón, 1992*
courtesy Margarita Sastre, 2023

| AGES | FORMAL-GRAPHIC DEVELOPMENT | REPRESENTATIONAL DEVELOPMENT | HUMAN FIGURE REPRESENTATION | DRAWING AS A LANGUAGE | REPRESENTATION OF SPACE |
|---|---|---|---|---|---|
| **1–3** | **I. FORMLESS PERIOD** SCRIBBLING | | | | **I. GRAPHIC SPACE** |
| 0;11–1;04 | 0. Pre-scribble | | | | |
| 1;05–1;08 | 1. Stage of uncontrolled scribble | | | | 1. Absence of the notion of space |
| 1;09–2;07 | 2. Stage of coordinated scribble | GRAPHOMOTOR REPRESENTATIONS | | 1. Building of the GRAPHIC REPERTOIRE | 2. Acquisition of the notion of graphic space |
| 2;08–3;03 | 3. Stage of controlled scribble | | | | 3. The graphic mark and space become separate concepts |
| **3–4** | **II. PERIOD OF FORM** | GRAPHIC-SYMBOLIC REPRESENTATION | | | |
| 3;03–3;09 | 1. Stage of units | 1. The graphic symbol | 1. THE CIRCLE (Consciousness of the self) | 2. Formation of the GRAPHIC ALPHABET | |
| 3;09–4;03 | 2. Stage of operations (combinations) | 2. The ideogram | 2. THE CELL (The psychobiological self) | | |
| | | | 3. THE TADPOLE (The psychobiophysical self) | 3. Transition from ALPHABET TO VOCABULARY | **II. TOPOLOGICAL SPACE** |
| **4–7** | **III. PERIOD OF SCHEMATISATION** | FIGURATIVE REPRESENTATION (THE ICONOGRAM) | | | |
| 4;03–5;03 | 1. Pre-schematic stage | 1. The pre-schema | 4. THE LITTLE MAN (The physical self) | 4. Beginning of VOCABULARY | **II. TOPOGRAPHIC SPACE** |
| 5;03–7;00 | 2. Schematic stage | 2. The schema | 5. THE HUMAN SCHEMA (Complete human figure) | 5. Consolidation of VOCABULARY | **III. FRONTAL OR ELEVATION SPACE** |
| **8–10** | **IV. PERIOD OF SUBJECTIVE REALISM** | BEGINNING OF GRAPHIC NARRATION | 6. BEGINNING OF CHARACTERISATION (the dynamised body) | 6. Graphic Language | **V. SCENOGRAPHIC SPACE** |

## 4.4 John Matthews

Artist and education lecturer Professor Dr John Matthews made detailed longitudinal studies of his own three children aged 1;06-11 years, supplemented by cross-sectional and longitudinal studies of other children between the ages of 0 and 7 years. These resulted in a number of publications dealing with children's early experimentations in two-dimensional topological and configural representation (Matthews, 1984, pp.1-2). In the second edition of his 2003 book *Drawing and Painting: Children and Visual Representation*, he focuses on his eldest son Ben's development because 'he, especially, used drawing continuously throughout his childhood and adolescence as a way of making meaning.' Rather than analysing 'configural end products', Matthews used the longitudinal approach in order to focus on the *process* of developmental change. This is distinct from the 'statistical pictures derived from large samples of children', which 'do not show *development*', but what Matthews describes as 'highly generalised (and ultimately misleading) *stages* of development.' His focus is upon 'children's spontaneous drawing; the "art" that children do by themselves and for themselves.' He mostly avoids the word 'art', however, because children's developing conceptions, intentions and understandings of media and how they use them 'are not captured by *any* adult definition of art.' (Matthews, 1984, p.1; 2003, pp.3, 5-6, 8)

> In actions they can make with…drawing and painting media, children learn how to form representations, symbols and signs. This forms the basis for all thinking…far from being at the periphery of education, what adults call 'children's art' has a central role to play in cognitive development.
> […]
> As a rough rule of thumb, *everything* that very young children do, unless proven otherwise, is art.
> (Matthews, 2003, pp.1 & 201)

Matthews' methodology involved detailed daily written diaries of naturalistic observations along with video recordings made from multiple viewpoints. His

approach was as unobtrusive as possible. His observations of drawing activity were made 'within its context of a family of emergent representational modes.' The majority of the drawings and paintings studied 'were produced on flat horizontal surfaces'. (Matthews, 1984, p. 2; 2003, pp. 6-7)

### 4.4.1 Action representations

Matthews asserts that children's drawing 'has organisation and meaning all the way from the beginning' and that 'right from the onset of marking behaviours – from drawing in vomit or spilt milk – experiments in symbolisation are occurring.' Early explorations of these actions lead to later discoveries of drawing and painting actions. Babies learn that basic axial trajectories of bodily movement can be practiced and presented for their own sake in three-dimensional space. They are then presented and represented in two-dimensional space to produce three of what he calls First Generation Actions. 'All of the other marks and shapes will, during babyhood and early childhood, come out of these three marking actions.' They are the *Horizontal arc*, *Push-pull* and *Vertical arc in space*. When they are applied to mark making materials they record and define the trajectories and dynamism of the body, making 'visible a normally invisible vector of body movement.' Once a child addresses their actions towards a blank sheet of paper, they have already gained some insight into modes of representation, as 'a blank sheet of paper is a product of a theory about space and representation developed over many years by a society.' Other important painting and drawing actions that soon develop are the *Continuous rotation*, which gives rise to the *Closed shape*. Very young children have formed these 'powerful approaches to representation and expression during the time when they are supposed to be merely scribbling.' From this point of view, 'scribble' is a purely morphological term. Some of these representations are nothing to do with their visual appearance, but are representational enactions of the movements of real-world objects, known as *Action Representations*. (Matthews, 1984, 3-4, 5-6; 2003, 13, 16-17, 24, 34)

### 4.4.2 The first three mark making gestures

The horizontal arc, vertical arc and push-pull can be described separately, but they derive from interrelated axial movements of the body. The vertical arc is related to the child understanding objects in the world as targets for investigation or reaching out. It is an excitation response and marks the beginning of pointing out objects. Importantly, it is used for playful rhythmic beating of the hands and feet. When this action is later used with a marking instrument, blobs, spots or dots are produced [Figure 103.].

**Figure 103.** Author's marginal sketch in Matthews (2003) in response to the caption for Figure 6, p.18: 'A vertical arc in space produces dots'
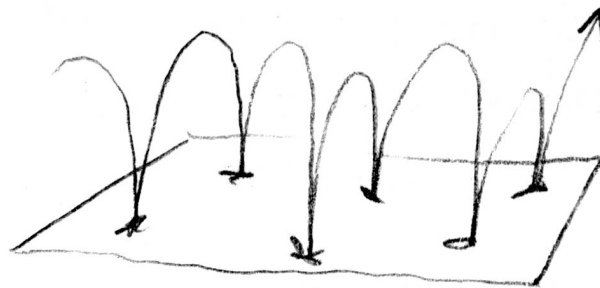


*A vertical arc in*
*space produces dots*

The horizontal arc develops as the baby begins to reach and explore horizontal surfaces with a wiping gesture, back-and-forth in front of the chest. Vertical and horizontal arcs are used to contact, gather and scatter objects. Matthews describes how his 13-month-old toddler spilt some milk on a smooth concrete floor. The child watched the spreading white shape with interest, then put both his hands into it and smeared them back-and-forth in synchrony using the horizontal arcing motion, making two sectors of a circle that met at the mid-line

of his gestures. When the horizontal arc is used in drawing and painting, the marking implement is swung in a back-and-forth motion, with the hips moving and the arm swinging almost at full reach from the shoulder. The enaction of this movement produces a trace which is the exact equivalent of Kellogg's Scribble 9, the Multiple Curved Line [Figure 104]. Once the baby can confidently grasp and manipulate an object, the push-pull gesture appears. It is a more advanced movement, as it is usually made with an object on a surface and its movement involves the use of the elbow. Because the child is investigating visual and dynamic structures in their own right, as well as exploring the representational possibilities of mark making, Matthews claims that the beginning of marking actions are very different from conventional theories of the 'scribbling stage'. (Matthews, 2003, pp.17-18, 42, 44-6, 48, 49, 54)

**Figure 104.** Matthews' 'Horizontal Arc' is the exact equivalent of Kellogg's 'Scribble 9: Multiple Curved Line'. This figure appears in Kellogg, 1969, p.16, with the caption: 'Scribble 9 made by a boy with sand as the art medium (photograph courtesy of Malka Haas)' By kind permission of the Golden Gate Kindergarten Association

### 4.4.3 Making shapes

Children learn that different movements result in different shapes by the age of two years. The beginnings and ends of lines become significant for them and they are 'increasingly attracted to making angular and criss-cross shapes.' At this point, they 'begin to separate out and to classify lines and actions.' 'Push' lines are separated from 'pull' lines to create single lines, known as 'proto-verticals', which are 'the start of the mapping, onto the drawing surface, of a vertical axis.' They also make little star-like shapes (equivalent to Machón's 'small spots' or 'small obliterations') and begin to separate shapes from one another. Matthews claims that children also use a change of colours to differentiate individual painting actions from one another. He states that 'for many children…it is clear that their organisation of shapes, colours, marks or objects is driven and guided by an aesthetic sense, involving feelings and intuitions about harmony, balance, composition and design.' The pushes, pulls and arcs become more controlled and the child is able to make prolonged continuous rotations of their marks. These use 'the edges of the paper as very strong landmarks' and are often used to cover an area of the paper. Repetitive rotational drawing sometime results in closed shapes. The child also makes the 'continuous-contact line' (equivalent to the 'roving line') and this, in conjunction with clearly defined closed shapes, enables the child to make fluent drawings. Marks are placed inside closed shapes, establishing centredness and the representation of an inside-outside relationship. Marks are often grouped according to type, with different types of marks placed in different locations inside closed shapes. In the context of this kind of drawing, 'vertical' marks result from actions made to and from the body and 'horizontal' marks result from actions made from side to side across the midline of the chest. The emergent vertical lines are properly understood as 'longitudinal' and the emergent horizontal lines as 'lateral' to the child's body. When lateral and longitudinal lines are joined *right-angular attachment* occurs. Children also use lines to 'join two separate marks or patches together.' At the age of around two years new shapes are created by separating out, or combining, different parts of shapes and movements. In this way *travelling zigzags*, *travelling waves* and *travelling loops* are created. All of these structures are morphologically identical

to basic scribble and formal unit categories described by Kellogg and Machón. If, as Matthews suggests, 'scribble' is not necessarily a developmental term, these examples show that it is nonetheless valid as a distinguishing morphological concept. In all of Matthews' observations, these 'travelling' marks are made in a context of actions that create a narrative meaning to the picture that is supplemented by verbal descriptions from the child. The next important visual form to appear is the *core and radial*, where lines are attached to the closed shape, which Matthews describes as 'a special case of right-angular attachment', out of which develops 'the *tadpole figure*'. The core and radial is the equivalent of the 'sun' image. There are two graphic structures identified by Matthews that are not mentioned by other researchers. The first is called the *U shape on a baseline* and is another form of closure developing out of right-angular attachment. Related to this is the second, called *co-linearity* or *shared pathways*, where lines or dots are intentionally coincided, or follow one another. This is very much like Klee's description of the 'companion line' [see Figure 9, 1-5 and Figure 97.] (Matthews, 1984, p.12; 2003, pp.61-2, 64-5, 66, 68-79, 80, 82, 83, 89). Although Matthews eschews 'configural end products', he does emphasise the importance of morphological characteristics:

> Early drawings are about shapes; the shapes on the paper and the shapes of the movements which produced them and their relationship to objects and events in the world. (Matthews, 2003, p.89)

### 4.4.4 Configurative representation and space

Children deliberately enact patterned sequences of movement that share characteristics with the outside world in order to make representations. These can be dynamic, as in action representations, or they can imitate the shapes of entities and events and are what Matthew's calls *configurative* representations. These can be visual semblances or physical correspondences. Dynamic aspects guide and enrich the configurative aspects, incorporating the principal features of whatever the child wants to represent. Geometrical knowledge of the true shapes of objects and enacted movements are mixed with a developing understanding

of topological space, which has qualities such as up-down, above-below, inside-outside, boundaries, closure, over-under, moving around, hollowness, connectivity etc. The child learns about an angular *moment-of-turn* in space and makes the distinction between objects viewed edge-on and those viewed frontally. When the top edge of the paper is used to represent higher parts of depicted entities and the bottom edge represents lower parts, the picture plane is 'tilted' in the child's imagination, giving it an intermediate status. The location of shapes and their movements (their vectors) become a means for representing the identities of objects and situations [Figure 105.].

**Figure 105.** Author's marginal sketches in response to Matthews (1984 & 2003): Some action and configurative representational vectors; Angular moment-of-turn; The integrated picture plane.
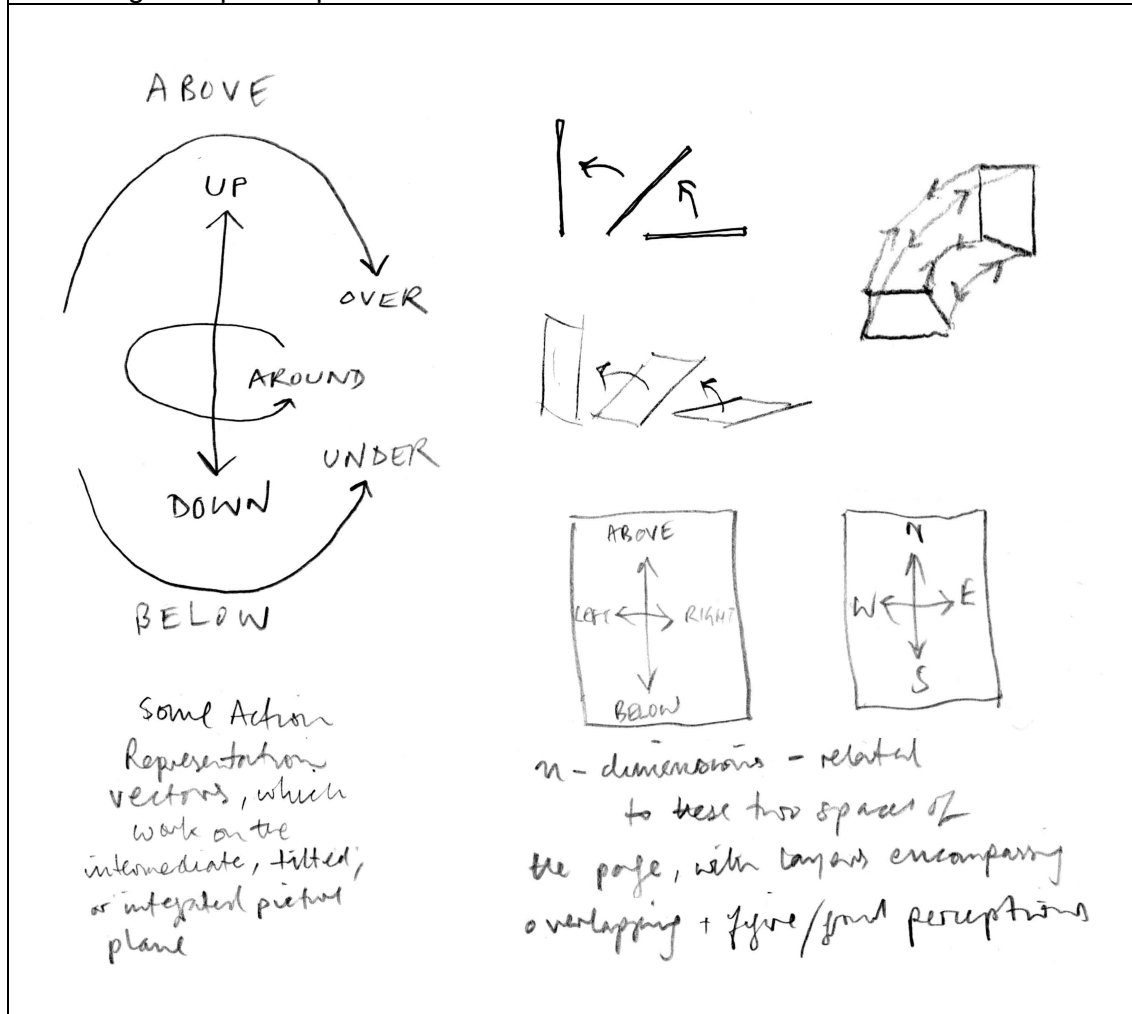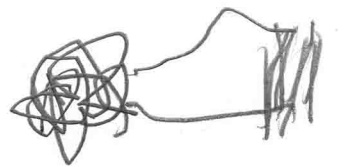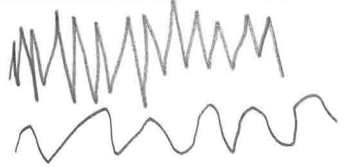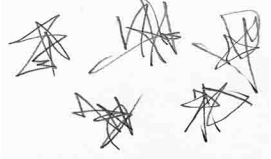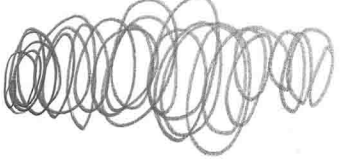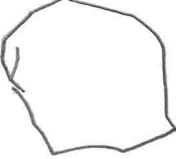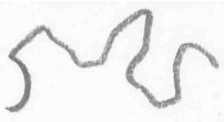
Changing the sizes of depicted objects can represent degrees of significance and, eventually, this becomes a representation of apparent optical size in space. The child represents objects irrespective of a fixed viewpoint and, at the same time, with particular viewpoints in mind. Later, the edges of the paper become important and objects rest on a line representing the ground. This marks the beginning of notions of complex projective systems, which integrate the picture plane with enactive and configurative vectors in three-dimensional space. (Matthews, 1984, pp.26, 29, 34-5; 2003, pp.105-6, 109, 111, 120, 124-5, 127)

Matthews rejects 'stage' theories of development as an illusion created by statistical analysis. Children's drawing development is 'a continuum which undergoes transformations woven together in dynamic, co-operating, perceptual-motor systems.' There is no predetermined 'end point' of development and it is certainly not characterised by various notions of 'visual realism', which are 'forms of representation approved of and deemed correct by the society.' What is most important for Matthews is the continuing processes of development, which never reach an end point. (Matthews, 2003, pp.109 & 191)

> It can be seen how one type of representation is not merely abandoned and superseded by another 'more advanced' one, but actually forms the basis for a new 2D construction, plus the new and vast perceptual and conceptual developments which accompany such construction. (Matthews, 1984, p.30)

For the purposes of clarity and consistency in my current study, I have redrawn the complete repertoire of graphic structures described by Matthews and presented them in Table 24. Even though he never tabulated or presented them graphically in this way, they are accurately derived from the many photographic examples of children's work that illustrate his 2003 text.

| | | | |
|---|---|---|---|
| **Table 24. Visual key to Matthews' terminology of children's spontaneous drawing and painting phenomena and their morphological counterparts** (my synthesis of Matthews, 1984 & 2003) | | | |
| **Horizontal arc** |  | **Right-angular attachment** |  |
| **Vertical arc in space** |  | **Connecting line joining two separate marks or patches** |  |
| **Push-pull – leading to 'proto-verticals'** |  | **Travelling zigzags and travelling waves** |  |
| **Star-like shapes** |  | **Travelling loops** |  |
| **Continuous rotation** |  | **Core and radial: lines attached to a closed shape, which develops into 'tadpole' figure** |  |
| **Closed shape** |  | **U shape on a baseline** |  |
| **Continuous-contact line** |  | **Collinearity or shared pathways** |  |
| **Angular and criss-cross shapes** |  | **Moment-of-turn; angular variation (in physical space)** |  |
| **Different types of mark inside closed shapes** |  | **Parallel grouped lines** |  |

## 4.5 Howard Gardner

Developmental psychologist Howard Gardner's 1980 book *Artful Scribbles: The Significance of Children's Drawings* provides a thorough overview of the relationship between the development of children's drawings and the emergence of the phenomenon of adult artistry in wider culture. As mentioned in sections 2.1.1 and 4.1, he places the study of children's drawings in a clear historical context. He identifies the latter half of the 19th century as the point when they were first taken seriously and he points out that the ready availability of sheets of paper and markers were a decidedly modern factor in their increasing presence in the world and in the literature. Many of his findings accord with later studies and they are instructive as they are set out using the methodology and language of psychology. He describes the 'emerging consensus', that, during the second year of life, the child enjoys motor sensations of pounding and sweeping markers on paper, followed by a recognition that their gestures produce dark traces that contrast with the white surface. In the third and fourth years, the child is able to contrive certain geometric forms and bring them together to form 'the basic building blocks of graphic language which…eventually combine into meaningful referential units.' These become recognisable depictions through which 'the pre-schooler evolves fixed patterns, or schemas, for the familiar objects of his world…and once he has mastered such graphic strategies and has gained some understanding of the spatial possibilities offered by the paper, he produces organised scenes'. These can depict either familiar objects or abstract geometrical configurations and designs. The 'often striking products [that result] reinforce a general notion of the child at this age as a young artist'. (Gardner, 1980, pp.10-11)

> Following common terminology in psychology, the word 'schema' is used to refer to the basic graphic forms for depicting objects. In contrast, the word 'scheme' is used to denote any repeatable behavioural act. Children use a variety of perceptual and motor schemes to produce a schema of a human being. (Gardner, 1980, footnote, p.19)

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He states that drawing should not be considered separately from the rest of the child's development. He considers the question of 'the artistic status of the works of children' through a cognitive perspective on what constitutes artistic activity. He admits that he will 'not solve the issue of what is – and what is not – art', or prove whether or not children's works are art, but simply posing the question will enable progress to be made 'in assessing the significance of the child's graphic activity.' Children's work is neither identical to, nor entirely separate from, that produced by adults, but 'in its sources, its processes, its ultimate significance, it possesses distinct and specifiable parallels to the artistry of gifted adults.' (Gardner, 1980, pp.14, 15-16)

He describes the early developmental progression of first scribbles using examples from longitudinal observation of his own children's processes of drawing. This is followed by a detailed analysis of the developmental course of scribbling whereby early drawings 'give way to the control of geometric form'. He describes the motor schemes that give rise to continuous circular forms, dotted patterns and 'twisted writing like lines.' He states that the development of early drawing seems to provide a model of how an individual progresses in 'the various domains provided by his society' and that drawing is linked to communication and 'a ritualised social exchange', where the child's 'capacity to produce lines on a page shows that he can wield the tools of his culture to create a trace that matters.' However, because behavioural developments cannot be understood in 'an antecedent-consequent [i.e., causal] frame of reference', all we can realistically expect from studies of children's graphic development is 'an increasingly accurate description of what happens' and for them to offer the most faithful model of this in all its manifold complexity. (Gardner, 1980, pp.18-24, 25-6, 31, 36, 37)

> If nothing else, the reprinting of drawings from one two-year-old child reveals that no simple set of factors is likely to provide a satisfactory, let alone exhaustive, accounting of how drawing skills develop. (Gardner, 1980, p.37)

He reviews Kellogg's (1969) study and inclines to her view that children's graphic development is 'a sequence marked by a search for order and harmony.' He also fully accepts her conception of the mandala, but states that neither she nor Jung had 'adequately taken into account the extent to which a form like the mandala reflects the most pervasive developmental processes at work in the young child.' He goes so far as to state that, in his own view, 'the mandala appears universally and has awesome significance because its occurrence is overdetermined' by the child's predisposition to produce it. He describes in detail the increasing sophistication of the 'graphic moves' that give rise to increasingly controlled marks, which allows the child to discover how to make finite 'enclosures' of various shapes. These will eventually lead to 'that important mental leap which recognises the enclosures of his own pen as isomorphic to the bounded forms of the real world.' (Gardner, 1980, pp.38-43, 44-46, 53)

Gardner discusses how 'graphic equivalents' for entities in the environment are developed, starting with the reliable production of bounded shapes that 'can stand on their own…which, like the objects of the world, have a limited shape, operate as a "figure" against a background' and create an impression of 'thingness'. These eventually lead to 'tadpoles as things' and the first human representation. These structures may seem limited, but 'each discovery of a basic schema actually constitutes a significant achievement.' (Gardner, 1980, pp. 59-60, 67)

In considering children's drawings as works of art, Gardner states that, in order to credit a child with artistic understanding, they must firstly have deliberately sought to produce particular effects. If the child possesses some awareness of how their work appears to others – an empathy with another's view of the world – 'then it seems reasonable to attribute to him some control over his artistry.' As they master a basic schematic vocabulary and produce intentionally structured depictions, there exists an awareness of the possibility of purposely achieving (and being able to repeat at will) varied, alternative outcomes. However, the

simplicity of children's drawings is not of the same order as an adult artist's self-conscious and deliberate achievement of simplification: 'in this very opting for elements, the artist is making a far more complex statement…the use of great powers in the service of simplicity.' The 'flowering of child art is real and powerful' and the 'magic years' in which children's songs, language and drawings appear with such spontaneity and joy 'do not last – indeed they begin to evaporate almost as soon as school begins'. After this point, the child becomes preoccupied by the pursuit of culturally conditioned systems of 'realism' and those aspects of the world that are 'literally true'. (Gardner, 1980, pp.136-7, 140-1, 142)

After an analysis of what constitutes 'realism' in any particular culture and its influence on the graphic development of children aged over five years, he recounts how the graphic imagination later reasserts itself in manifestations of adolescent doodling, which are so reminiscent 'of the scribbles, forms and designs of the pre-representational child.' These are also found in the work of young experimenting artists and are 'perhaps even the key to creative breakthrough.' These forms will only survive within the youngster's and adult's daily repertoire if they continue to be used in the arts, which provide the most effective graphic outlet for expressing concerns, feelings, fears and aspirations. However, 'the pressures against involvement in the arts as a profession are sufficiently stringent…to require that an individual possess tremendously powerful motivation if she is to remain a practising artist. […] Within our own culture it does seem that those individuals likely to select themselves as artists…are those for whom the graphic domain provides a unique outlet.' (Gardner, 1980, pp.149, 159, 167, 212, 220, 231)

> Given the generally precarious position in which artists are placed and the various pressures that militate against such a life, it is difficult to remain involved in the arts in our society. It does not suffice to want to be an artist: society ultimately exercises the determining vote. To become a practising artist is in itself an achievement, even as the attainment of great artistry is a rare and perhaps inherently unpredictable process.

(Gardner, 1980, p.233)

Gardner concludes his study by looking in greater depth at the parallels between the stages, sequences, and processes of children's graphic development and the events and processes found in other realms of innovative graphic creation. The youngest children are the least influenced by their surrounding culture and proceed most identifiably on the basis of their 'own inherent tendencies'. (Gardner, 1980, pp.258, 260)

> We have seen that the general results of this early exploration are quite similar across populations…the child during this period is developing many of the behaviours…which constitute the raw material on which any artistic achievement of later times must be based.
> […]
> For even as the scribbling and exploring of earliest life serve as models for the experimentation that is the lifeblood of mature artistry, so too the vision of a balanced graphic symbol constitutes an unequivocally central aspect of any aesthetic development. (Gardner, 1980, pp.260 & 261)

It not possible, however, to claim that the productions of all cultures throughout history parallel the normal development of an individual child. It cannot be assumed that 'surface similarities invariably reflect underlying homologies in process.' What can be stated with confidence is that 'there are *some* surface and *some* underlying similarities in the drawing processes of diverse groups, but that the case for deeper similarities remains to be proved.' Gardner asserts that artists continue to grow and develop longer than most other individuals in society and, because artistic abilities of formal organisation and conception may take a lifetime to be fully perfected, art practice 'is inherently a developmental phenomenon'. For this reason, it is important not to overstate the analogies between children's developmental sequences and those occurring in wider culture. (Gardner, 1980, pp.262-3, 269)

And yet, despite the many intervening years, the analogies between the art of the child and the art of the master seem worth cherishing. For it is in the activity of the young child…that we find the crucial seeds of the greatest artistic achievements. (Gardner, 1980, p.269)

## 4.6 Other researchers

Scott M. Clare (1988) conducted a longitudinal case study and four experiments into drawings made by preschool children. The experiments examined:

1. Scribble Patterns
2. The Effect of Paper Size on Children's Drawings
3. Order Drawn and Relative Sizes of Figures
4. Tadpoles or Torsos

The first two of these experiments are relevant to this current study. Clare states that 'children are well aware of the boundaries of the paper' and that, in his opinion, 'patterns formed by the child's scribblings are accidents that result from handedness, his or her orientation to the drawing surface and the pendulum motions of the arm and wrist. The anatomical make-up of the elbow, shoulder and wrist enhance the possibility of curved scribbling motions.' (Clare, 1988, p.211) In the first experiment, he taped a sheet of paper horizontally to a table top and randomly seated the child subjects towards the left- or right-hand side of this. They were asked to freely 'draw a picture', which was subsequently analysed using an overlaid grid of squares. His findings were unequivocal: 'The Left Group drew in more squares to the left of the vertical axis on the grid, while the Right Group drew in more squares to the right of the vertical axis. In fact, just three of 20 children…failed to produce a scribble pattern according to their orientation.' (Clare, 1988, p.212) In the second experiment, drawings made on large sheets of paper were consistently found to contain a greater number of details than those made on sheets one third of the size. This seemed to confirm Clare's hypothesis that smaller sizes of drawing paper inhibit children's drawing abilities 'because their movements are not yet refined or controlled enough for the confines of a

small drawing surface.' Larger drawing surfaces provide more space for the 'gross motor movements' of the 'arms, legs and body, producing drawings that appear more skilled and detailed.' (Clare, 1988, p.214) He concludes that: 'It seems unlikely that young children control their scribbles in a purposeful, geometric pattern as Kellogg (1969) suggests. Evidence in the present study shows that the child's scribble patterns are, for a large part, accidental and can be manipulated.' (Clare, 1988, p.218)

> Considering that the development and aesthetic aspects of children's art are so often discussed as well as theories and conjecture regarding the nature of children's art, it is puzzling to me that there is a comparably small body of research. Gardner (1980) suggests that those interested in children's art may not be very knowledgeable in human development, but it is also likely that child psychologists are not interested enough in art or art education. (Clare, 1988, p.220)

In her 1993 study *Children's Drawings of the Human Figure*, Maureen V. Cox reviews the literature on 'scribbling' and provides an evaluation of Kellogg's theories, among others. She agrees with other researchers that 'most children are not taught how to draw but appear to discover or invent recognisable schemas for themselves'. A shift towards 'visual realism', however, is not universal. Cox points out that much of the research on children's drawing has a Western bias and she says that, in relation to the human figure, 'in non-Western cultures we see very different styles and different patterns of progress.' Her review of the cross-cultural data demonstrates a 'diversity of styles worldwide' and she questions 'the universality of the cognitive explanations for the way that children draw'. (Cox, 1993, pp.5-6) In relation to Kellogg's (1969) study, Cox states that there is little evidence that all children progress through the stages Kellogg proposes, nor is there compelling evidence that the mandala appears with any significant frequency in children's drawings. This calls into question its importance as a precursor to the sun schema and the human figure. In fact, she writes, 'the sun schema and the first human figure appear at the same time…a

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finding which contradicts the notion of a stage-like progression.' Cox states that when Golomb (1981) and her co-researchers attempted to classify basic scribbles made by 2- to 4-year-olds, the reliability of the same classifications being made by different researchers was 'extremely low'. When the researchers observed the process of the drawings being made, however, the inter-reliability of their classifications hugely improved, but they were still only able to identify two broad categories of scribble: '(1) whirls, loops and circles and (2) multiple densely patterned parallel lines.' (Golomb, 1981, p.38) Cox writes that evidence does not support the 'building-block notion of the development from scribbles to recognisable representational forms' and that the 'representational intentions' of the scribbling child are non-pictorial. She endorses Matthews' (1984) conception of action representations as well as his description of figurative representations, where there is an emergence of visual-spatial correspondence between drawings and the entities they represent. She states that 'different ways of representing objects on a page…should not be seen as mutually exclusive and stage-like, since children continue to use and to develop a number of different systems'. Cox recognises that the process of constructing visual likenesses is a 'search for equivalents' and that closed shapes and single lines are important elements in the intentional depictions of objects. She describes how children extend their repertoire of graphic 'denotation forms', such as 'dots, lines and regions' to further discriminate different parts of their drawings and how their depictions subsequently develop away from the use of segmented parts to the use of continuous form contours. Eventually, children are able to employ occluding contours in order to depict volumetric and receding space. (Cox, 1993, pp.8-14, 15, 19-21)

In her 1998 book on art therapy for children *Understanding Children's Drawings*, Cathy Malchiodi discusses Kellogg's (1969) identification of the mandala and states that 'in my own practice with children of this age, I have rarely seen the diagrammatic and design-like forms that Rhoda Kellogg notes in her work.' In her early career as an art therapist, Malchiodi 'observed the drawings and art-making activity of approximately 100 children between the ages of 3 to 4 years in a

preschool setting.' She did not observe the forms defined by Kellogg, but instead noted that 'expression included both scribbles and representational forms, moving directly from disordered scribbling to longitudinal and circular scribbling to forms such as rudimentary people. Mandalas in the form of well-developed circular scribbles are plentiful…but ones that combine various shapes are possibly not as common as reported.' (Malchiodi, 1998, pp.79-80)

Susan Rich Sheridan (2002) argues for the neurological significance of scribbling. Drawing, she writes, is a substantive mental activity that establishes mark making as the defining language instinct. She suggests that 'as the child persists in the adult, so drawing persists phylogenetically and ontologically in writing as its underlying mark-making impulse.' Recalling Klee's observations, she states that scribbling is where both drawing and writing begin and it 'is the wellspring from which speech, reading and writing flow across sign systems.' (Sheridan, 2002, pp.107-8). Sheridan posits four hypotheses for the neurological reasons behind the phenomenon of scribble:

1. Very young children's scribbling trains the brain to pay attention and to sustain attention, setting up a self-organising, dyadic feedback loop between the eye/hand and the interhemispheric brain.
2. Very young children's scribbling stimulates individual cells and clusters of cells in the visual cortex for line and shape.
3. Very young children's scribbles help them practice and organise the shapes or patterns of thought.
4. Very young children's scribbling encourages an affinity for marks, preparing the mind for its determining behaviour: literacy. (Sheridan, 2002, pp.108, 110, 112, 119)

She concludes that 'geometry is an early and persistent visual language' and that literacy 'must be biologically adaptive'. Children move from scribbles to representational drawings without any instruction. Their spontaneous drawings represent meaning and follow logical, syntactical rules. We should not think of

children's drawings as meaningless, or representationally inadequate. From a neurological point of view, they demonstrate what is special about human visual and linguistic consciousness. Intentional, representational mark making is a behaviour unique to humans. (Sheridan, 2002, pp.110, 120, 122)

In their studies of the differentiation between writing and drawing, Adriana Bus and Iris Levin's (2003) findings indicate the primacy of drawing over writing as a representational-communicative system. They describe both drawing and writing as notational systems originating 'from a common core of indistinguishable nonrepresentational graphic products.' These scribbles, typically produced before the age of 3, 'should be conceived of neither as drawings nor writings.' The meanings of children's drawings only become evident once they are recognised as being depictions of external objects. This implies that a general scheme of drawing only emerges when specific referents are intentionally drawn. When children begin to draw referentially, they 'write' by making drawings of 'print'. As they make progress in drawing depictions of objects, their drawings of 'print' also develop and become more writing-like. However, children in this age group draw shapes that have only some features resembling writing. They typically ignore the meaning of the letter-like forms they can produce and also neglect features of writing that they are already aware of. When they draw both objects and print, they are 'detecting and producing graphically salient features that communicate meaning'. The authors conclude that writing develops phonetically out of drawings of writing-like forms. (Bus and Levin, 2003, pp.891, 903, 904)

In his paper *Towards a New Taxonomy of the Scribble*, Mehdi Naimi (2006) examines the 'spontaneous scribble art' of preschool children from a phenomenological perspective. He briefly reviews the literature of studies of children's art up to Matthews (1984). Naimi adopts Matthews' conception of 'action representation', where scribble represents the child's experience, through their own body, of a 'total participation' in the process of art making and an exploration of the self. (Naimi, 2006, pp.12 & 14) He states that:

> Phenomenological analysis is the understanding of the essence of the experience of the participants in the research through extraction of meanings and themes in the art process and products. (Naimi, 2006, p.15)

Naimi classifies scribbles into four main groupings of motifs, based on their morphology as well as on 'the essence of the physical action that produced them.' These are summarised in Box 16.

| **Box 16. New scribble terms and themes** (my synthesis of Naimi, 2006, pp.15-6) | | |
|---|---|---|
| Terms | Summary | Examples |
| **Bounds** | Movement from self / body toward the surface which results in mark making; limits of that movement | Bang-dots; finger prints; hand prints; foot prints; hitting clay with a tool; throwing pieces of clay onto a surface; splashing paint |
| **Events** | Representations of actions taking place in time and space, either participated in, or observed by, the scribbler | Continuous Loops; Zigzags |
| **Travels** | Movement between two points on a surface; going to a new place | Simple line; complex line with variations; a spiral; a circle |
| **Frames** | Containment of scribbles within a visual frame; communicative of a sense of containment | Scribble surrounded by dots or a line (positive space); scribble surrounded by a blank margin (negative space) |

Naimi suggests that the advantages of this simplified classification system are that: it inherently considers the *processes* giving rise to art products; it classifies scribbles as records of actions in three-dimensional space; it makes possible various combinations of scribble forms; it includes the scribbler's kinaesthetic *experience* during the process of scribbling; it greatly simplifies the categories of scribble. (Naimi, 2006, pp.15-16)

Mona Sakr (2017) considers children's intentional destruction of their own works using scribble, from the perspective of social semiotics. This theory regards all actions as meaningful, because of the impact they make on unfolding interactions. Rather than being seen as a negative action, destruction is as meaningful as production. It can even be a creative act, in a similar way to how deskilling, for example, provokes a deeper engagement with the phenomenon it sets out to critique. Social semiotic theory emphasises how affective and social relations are shaped by the visible outcomes of actions in the moment. Children do not always want to display their work and, indeed, they sometimes want it to remain private or even secret. Destruction or effacement is one way this can be achieved. Children use 'networked' semiotic resources, where meanings are made through physical actions as well as material substances and digital tools. This meaning making occurs in a specific social and material context, so the relationship between signifiers and signified is complicated by these factors. It is not enough to merely examine the material outcomes of children's drawing activity, as signifiers are not necessarily 'securely attached' to the elements they signify. (Sakr, 2017, pp.227, 228, 229, 230)

> When signifiers are liberated from a secure attachment to signified elements, this lends a greater significance to the specificities of the materialities of the signifier. Thus, how meanings are materially made is the other major concern of social semiotics. (Sakr, 2017, p.230)

When children scribble over their artwork, they sometimes have in mind an 'other', who usually is someone with particular standards or expectations relating to the acceptability of 'visual realism.' In so doing, the child takes control of influence in the situation and the act of scribbling 'does the important social work of strengthening immediate relationships and…disinheriting the expectations of a more distant other.' Attitudes towards destruction are one important way that research into children's art making can be better understood. 'Destructive' acts are not a 'failure' on the part of either the child or the supervising adult. When diverse acts of destruction are engaged with more generally, the full diversity of

children's art making can be celebrated more generally and this challenges researchers to 'move away from a strictly developmental perspective on children's art making.' In this way, 'a rich post-developmental dialogue around the richness of children's art making' can be developed. (Sakr, 2017, pp.236-7)

Kristine Sunday (2017) argues that children's drawing is best understood as a relational event. Meaning is an emergent property that is made 'in the in-between spaces of talk, gesture, mark-making and artifact.' Children's drawing is 'an embodied experience' in which thoughts, activity and objects are 'intra-connected.' Meaning making is therefore considered to be a 'multimodal practice.' The performative qualities that characterise children's drawings make the contexts in which they were created essential to their full interpretation. Considering the drawings themselves as 'stand-alone artifacts' misses much of their richness and complexity. Rather than solely being interpreted as a 'noun', the communicative aspects of drawing activity are more accurately understood when drawings are considered as a 'verb', through listening and watching them being made. This provides an opportunity for a more thorough analysis than merely 'speculating about the residual artifact that remains, after the act of creation is complete.' As a performative event, graphic representation resists fixed and stable meanings as it moves through a process of inscription and re-inscription. It is a social practice and a relational space which is 'always under construction'. One particular mode of representation within this multimodal activity cannot be considered in isolation from all the others. Understanding the relational nature of children's drawings allows us to see that the activity is both produced by the social spheres it emerges from and produces new meanings within them. (Sunday, 2017, pp.87-88, 92, 95, 101, 103)

# Chapter 5: Methodology

## 5.1 The primacy of art practice as a means of enquiry

This written review of the principal phenomena under study is complementary to my practice-based analysis that uses specific techniques of drawing, painting, construction and forms of display to interrogate my research questions. It is an extension and development of my established Fine Art practice methodology as outlined in section 1.5.1. The practical work I have undertaken over the course of five years of study has become an integral part of my professional practice and is not just simply a supplementary academic exercise. It is consistent with the established diversity of my practice, which includes installation, sculpture, found objects, drawing, painting and fabrication. By using both preparatory work and final art forms presented as findings [Figure 106.], I have been able to investigate the encounter between maker and exhibition visitors in a more involved and discursive way than would be the case when presenting an exhibition consisting only of 'finished' artworks to a largely unknown and anonymous audience.

I wanted to be ambitious regarding the final outcomes of my physical practice research. Tables of data, plans and sketchbook pages are perfectly adequate research outcomes, but – from the outset – I wanted to explore my research questions through the production and exhibition of fully realised objects and large-scale installations. The physical workings-out, sketches, plans and test pieces were, nonetheless, an essential part of making the final large-scale works and exhibitions, which is why I carefully displayed almost all of my entire practice research archive in the final exhibition *Scribble and the Structures of Depiction* (2021), as detailed in Volume 1. The archive is reproduced again here as Figures 107-109.

**Figure 106.** a) My workspace in the gallery during my research residency 'Scribbles, Diagrams + Combines' at Hardwick Gallery, 20 November – 5 December 2017.
b) 'Making Findings' solo display at the Crush Hall cabinets, UoG, 21 February – 15 May 2020, which presented a series of works based on my preliminary research findings



a



b

**Figure 107. Practice research archive – 1** (2017-21) Presented in 'Scribble and the Structures of Depiction', Hardwick Gallery, 29 November – 5 December 2021
Including: literature review of heraldry; heraldic drawings and plans; the proportions of the shield; 'Crescent and Mullet'; silverpoint drawings of Mullet, Etoile and Roundel; posters showing the simple geometrical charges, field divisions and partition lines; 'Abject /Rarefied' (hand prints).

**Figure 108. Practice research archive – 2** (2017-21) Presented in 'Scribble and the Structures of Depiction', Hardwick Gallery, 29 November – 5 December 2021
Including: literature review and field drawings of alphanumeric displays; installation plans; character sets; comparative morphology of all the studied phenomena; material test pieces; painting templates; etymologies of the heraldic tinctures and roundel names; top left: 'Sleepers Wake: Hypnopompical Entoptic Diary' (2021); middle left: 'The Most Basic Line Formations' (2021).

**Figure 109. Practice research archive – 3** (2017-21) Presented in 'Scribble and the Structures of Depiction', Hardwick Gallery, 29 November – 5 December 2021 Including: literature review of typologies of children's scribbling; correlational analysis of scribble typologies; my correlated typologies of scribbles and formal units; installation plans; children's ideographic 'equivalents'; on shelves: 'Two Very Rare Configurations' (2021); mirror writing templates; canvases: 'Four Ordinaries (2020); work from my research residency at the gallery in 2017.



The core of the written work in relation to practice context is the 'artists' literature review' (see sections 1.3.7, 3.1, Chapter 2 and Appendix 2). This has specifically examined artist-generated theories of mark making, the status of gesture and pictorial structure. It has also reviewed artists' varied approaches to physical practice, production and subject matter directly in relation to the phenomena under study. The emphasis on art practitioners' own analyses establishes the premise that a practice-based study must privilege what practitioners actually have said about their own practices. It puts artists and art practice at the centre of the research [Figure 110.].

My own research-led physical practice relies on a compilation of a variety of data sources. These are visual, textual and technical. The numbered tables presented in this thesis contain the principal *visual data* from the literature that underpin my practical analysis. Each phenomenon also has its own attendant specialist nomenclature, and surrounding theoretical discourse, which is important for developing the typologies, categories and codes that lead to a full understanding of all the phenomena. The specific practical techniques that I have used are outlined in section 5.9.



**Figure 110.** The author at work in the studio, London, April 2014.

The starting point for my practical work is the data derived from pre-existing knowledge in the literature. This is supplemented by my own data gathering in field work, the correlational analysis discussed in section 5.5, practical investigations, material experimentation and insights gained in the studio. When using physical processes in studio practice, 'pure play' and experimentation – without any constraining pre-conceptions – is a highly important method. Irrational moments of 'inspirational' understanding and 'whimsical' ideas and solutions must be allowed for and indeed encouraged. I am unapologetic about

emphasising this, as it is a typical way of gaining insights in independent professional practice outside of an academic context. For example, making judgments 'by eye' about the satisfactoriness of outcomes during the production of a work is largely an intuitive activity informed by prior knowledge and experience. It is entirely a judgement of how visual percepts are experienced in consciousness, how they are presented to awareness and finally apprehended as significant or otherwise.

Making judgements by eye is an example of how 'intelligence' is brought to bear in art practice. The etymology of 'intelligence' is to 'choose among'; to 'read'; it is the faculty of understanding (Onions, 1973, 1990, p.1089). Intelligence constitutes the ability to learn to recognize and decode visual and linguistic information and to make decisions based upon this in relation to a model of reality [Figure 111.] (Hassabis, 2017).

There is also an emphasis in my work on non-verbal craft processes, which gives rise to 'tacit' knowledge that is primarily graphomotor and haptic in nature and relates to physical actions that have been repeatedly practised over a long period of time. These become completely deconceptualised and 'non-thinking', if not quite automatic. These kinds of real-world experiences are essential to any application of practice-based research and for developing better understanding of core subjects in wider culture. For example, legislators and policy makers need to learn from the experience of practitioners in order to best design and implement effective policies in relation to specific subjects.

**Figure 111.**
a) 'Unstructured' picture space: ink droplets on paper created by the author, 12 May 2017
b) Map of the constellation *Canis Major*, Adapted by the author from a map drawn by Wil
Tirion (Ridpath & Tirion, 1985, Map 14, p.65). Adaptation kindly permitted by Wil Tirion, 2022
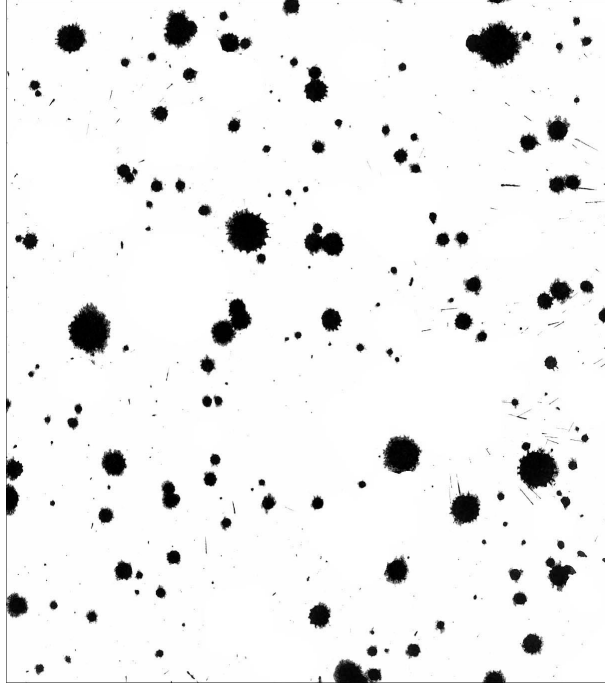


a
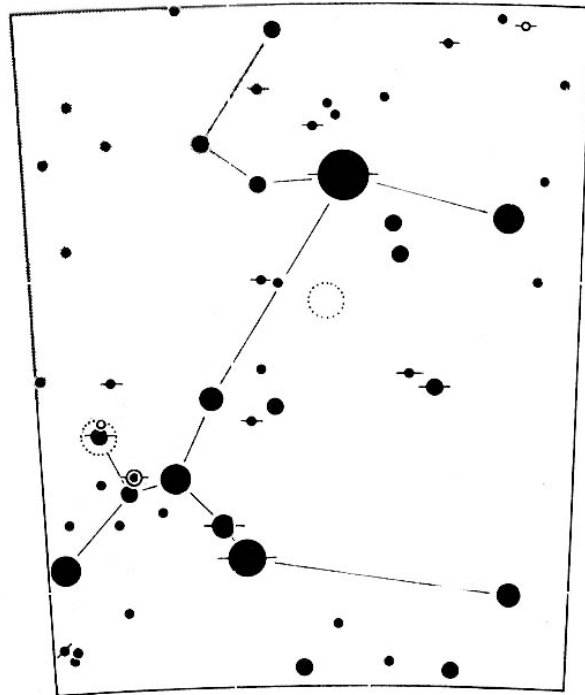


b

## 5.2 Redrawing and remaking

The content of the numbered tables presented throughout this study demonstrates my own re-creation of pre-existing visual data for the purposes of clarification and detailed analysis. Some of this content already exists as 'common knowledge' within subject specialisms, i.e., the tables showing the basic scribble types, heraldic partitions and typologies of alphanumeric displays. However, some of these phenomena have not been presented in exactly this way before. My rationale for the use of a rectangular shield boundary in heraldry is one obvious example of this (discussed in section 3.3.5 and illustrated in Figure 59.). Redrawing and remaking further develops a key part of my established practice methodology, which is quotation and material transformation (as previously discussed in sections 2.4.9-11).



**Figure 112.** Initial graphite line drawings for *The Primary Line Formations* (made in 2019).
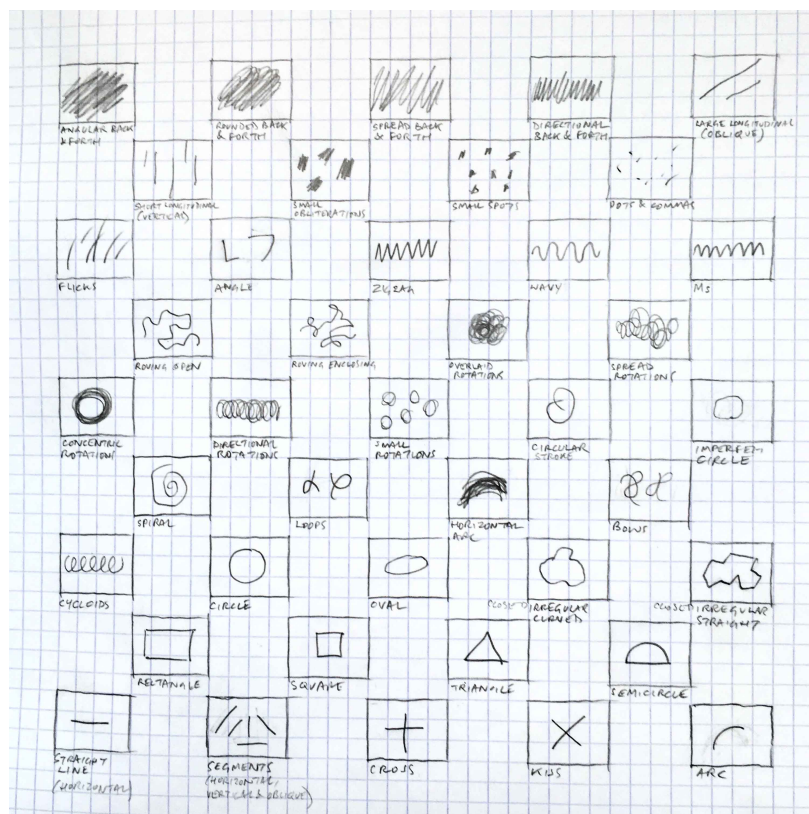
The basic methods I have used for initial redrawing and remaking are as follows: simple graphite line drawings using a technical pencil on squared paper [Figure

112.]; coloured liners and marker pens for hatchings and areas of solid colour; black pastel on rough paper to produce a 'crayon-like' mark to emulate some characteristics of children's drawings; silverpoint on prepared paper; sgraffito on prepared card; acrylic paint on canvas and card; acrylic markers on a variety of surfaces including paper, card, glass and twinwall polypropylene; digital drawing and inkjet printing.

One of the purposes of re-making is 'to fix the image in memory' – as the title of a seminal work by Vija Celmins puts it – in order to better assimilate, analyse and understand the wide range of varied phenomena and terminology arising out of a study of this kind (Celmins, 1977-82). Just as the act of noting things down in writing helps one remember them, so the act of drawing patterns impresses them upon one's consciousness. Re-making takes time and allows one to 'slow down' and experience the phenomena in an intimate, first-hand way. Re-presenting the original phenomena in a mediated way (such as modular installations or as digital objects) is also an embodiment of a very different kind to how they would have typically been experienced in their originating context (both in the way that they are originally made and how they are subsequently seen). This allows the presentation of the re-made phenomena to be hugely simplified and removes any confusion that may be present in the original literature, for example. Making and exhibiting new artforms is intended to provoke a deeper engagement with the data and findings than might otherwise occur. Through this method, contexts of origin and modes of production and existence for the particular phenomenon in question are dislocated, allowing for their reappraisal or – in some cases – seeing them 'anew' (as discussed in section 1.3.2).

## 5.3 Re-enactment

This refers to me physically acting out a particular phenomenon under study, for example, making my own versions of specific basic scribble types, such as the 'roving line', 'kiss' or 'rotations' [Figure 113.].

**Figure 113.** Hardwick Gallery residency workspace (2017) showing examples of 'rotation' and 'kiss' scribble types.

This emphasises the primacy of physical action and working as a practitioner. Physical actions can only be *known* through one's own personal enactment – phenomenologically speaking, they represent a return to the phenomena. As a practitioner, I am unable to sufficiently analyse and understand the data and findings without acting them out. When it comes to first-hand knowledge of a particular physical activity, personal practical experience of it transcends any possible theoretical preconceptions. It is not possible to anticipate, or theoretically model, the actual bodily feeling of an activity without having first experienced it for oneself. For me, this approach can lead to new understanding, such as my own recent conception of the 'biomechanics of graphomotor development' [Box 17].

| Box 17. The Biomechanics of graphomotor development |
|---|
| 1.      Bodily movement and touch |
| 2.      Shoulder and arm movement |
| 3.      Elbow arc |
| 4.      Wrist control |
| 5.      Hand control |
| 6.      Fine finger movement |
|         (Deskilling is finding a route back from this development) |

## 5.4 External realisation

This activity is central to my methodology. I need to externalise my own thoughts and concepts in order to capture, organise and understand them for myself and then to prepare them in a 'fixed' way that I can show to others. As someone who readily understands material in a visual way, I cannot merely conceptualise or imagine the phenomena under consideration in this study. Due to their variety, specificity and complexity, I need to see and experience them. Additionally, imagined visual forms, along with the entoptic phenomena discussed in section 4.2.13, are the last frontier for manual depiction. They are the only optical sensations and structures that cannot yet be captured mechanically. They necessarily have to be depicted by hand [see Figures 64 & 94.].

## 5.5 Correlational Analysis

Correlational research examines the strength of observed relationships between phenomena (Teddlie, 2009, p.332). In this study, the primary visual data has firstly been collated and redrawn in standardised way for the purposes of clarity and consistency. For me, the only way of sorting the correlations is graphically and through re-enactment. They cannot merely be conceptualised, imagined or verbally described. This method allows me to better comprehend and cross reference the various different sets of data specific to this research. All of my findings are presented in detail in Chapter 6.

The first correlational analysis I undertook was to compare the primary data sets for the individual phenomena presented by each author in the literature. I began by carefully redrawing all the data sets. I was then able to physically display my

redrawings of each set of data side by side on the studio wall, or cross-reference them as electronic files of handmade digital images [Figures 114 & 115.].

**Figure 114.** Various data sets on my garden studio wall – studio view April 2020.
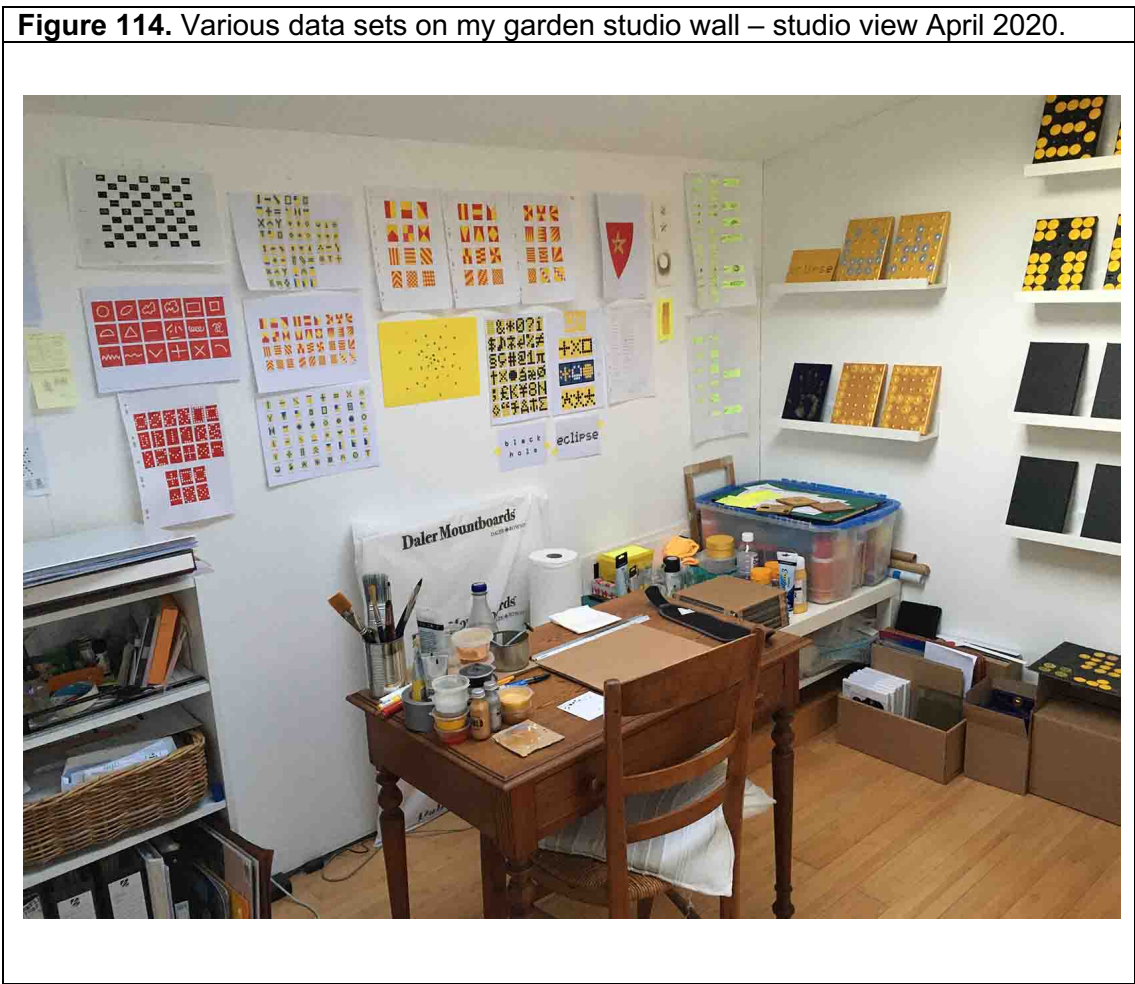


In the case of basic scribble types and their subsequent combinations, this allowed me firstly to produce the set of correlations set out in Table 18, which shows how seventeen of Machón's named basic scribble categories are morphologically identical to Kellogg's prior classifications. I later cross referenced all the basic scribble data sets presented in Tables 10, 11, 17, 19, 21 and 24 [Figure 116.] to produce definitive compilations of all the phenomena that have been identified and documented. These are outlined in section 6.2.

**Figure 115.** Screenshots from my computer showing folders of electronic files of handmade digital images.

345
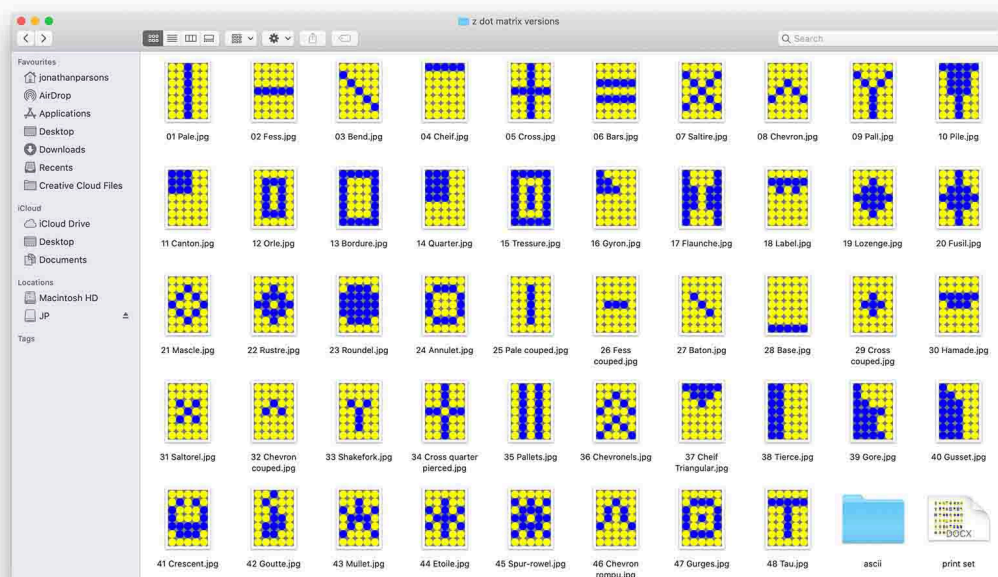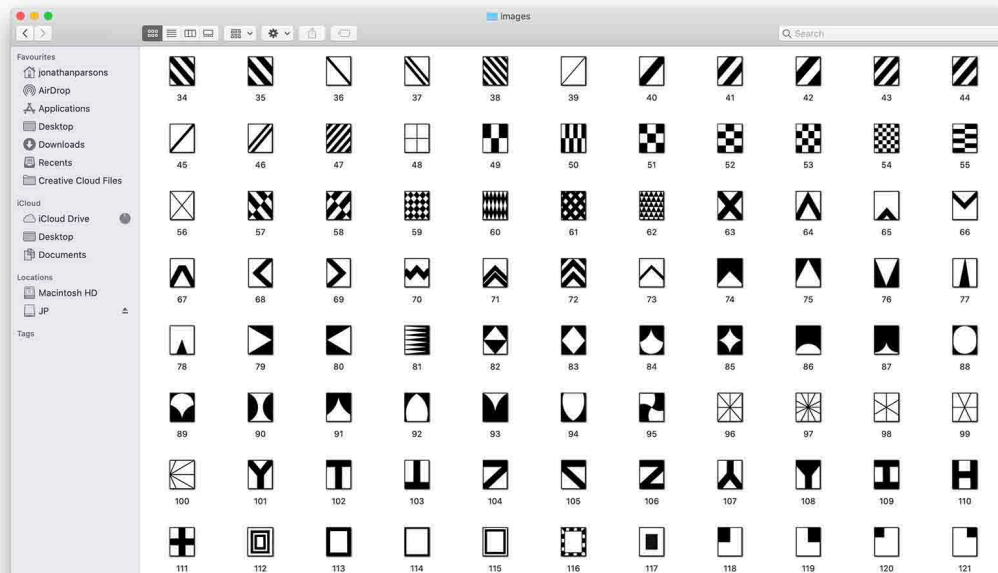
**Figure 116.** First correlational analysis method.
a) Visual keys to primary typologies of basic scribble patterns and linear forms
b) Studio wall chart showing morphological correlations of basic line formations

a

b

346

In the case of heraldic partitions, the initial correlation between the data sets outlined between each author was total. They were all presenting the same set of 'common knowledge' phenomena, with varying degrees of completeness. The only significant differences between the authors were the precise order in which each phenomenon was elucidated and the degree of significance or otherwise that was ascribed to them. Many later authors were simply paraphrasing – or directly quoting – earlier authorities. My redrawing and categorisation of the primary data allowed me to extract it from the literature and present it in a way that I found more readily comprehensible [Figure 117.]. I was specifically interested in showing how, in heraldry, the field divisions were named after the geometrical charges, thus being readily comprehensible as a genealogy of derived terms. In the literature the divisions are nearly always laid out and discussed prior to the charges, which I found potentially confusing in terms of the nature of representation and abstraction present in the terminology.

The primary data concerning alphanumeric displays required no initial correlational analysis as it simply constitutes a compilation of all the basic types of display system found in the literature and in fieldwork. The main value of this data is the degree to which it correlates with the previous two sets of phenomena data (see section 6.3).

The final stage of data analysis examines any correlations that occur across all three sets of phenomena (in this case, they are morphological, representational and operational). In all of the analyses, I made comparisons between particular configurations by removing them from their original contexts and transforming their contingent meanings through re-making. This enabled me to, firstly, examine the various visual morphological relationships between them and then to uncover how this was related to the way they operated as representational units. The merging of visual data with theoretical studies from the literature review allows a deeper understanding of the relationships between phenomena to emerge through the process of analytical writing alongside my own theorising. This will be discussed more fully in Chapter 7.

**Figure 117.** Redrawing the heraldic geometrical charges and field divisions in the garden studio, March & October 2019
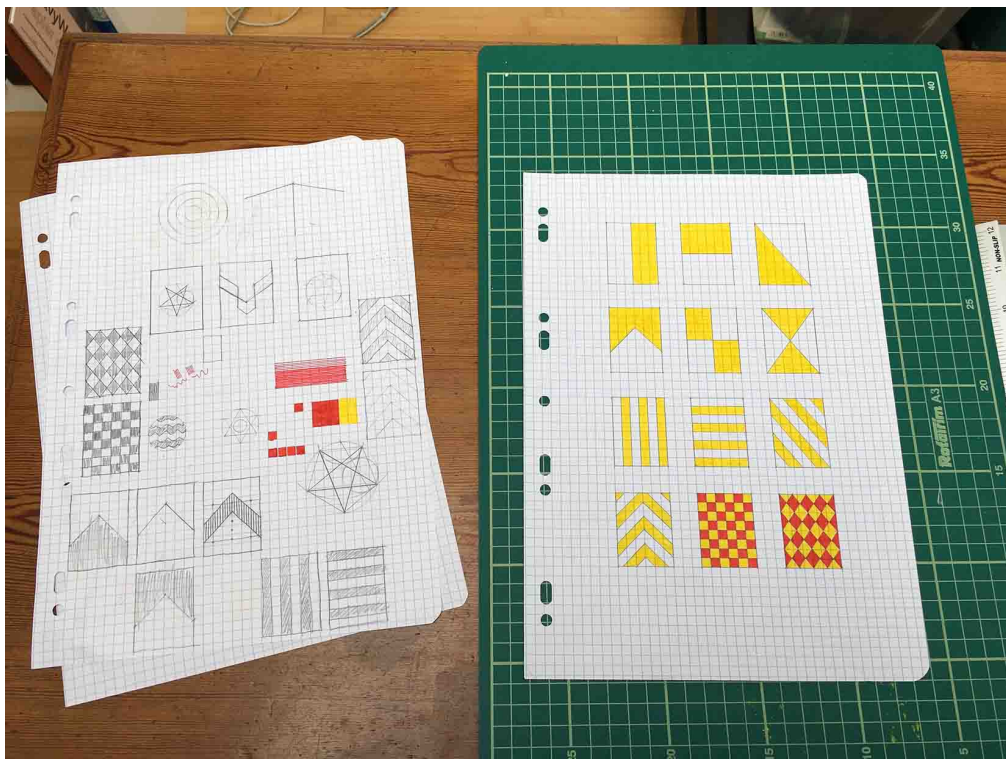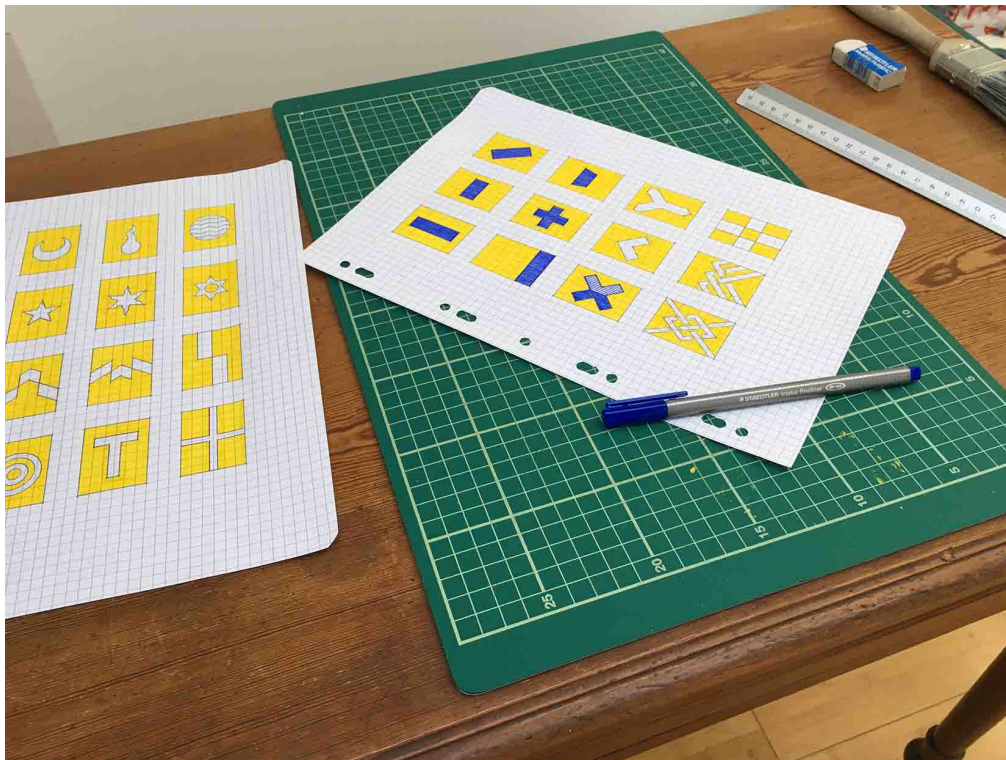
## 5.6 Making and showing

What artists have in common is that whatever is produced – and however it is realised – is shown *and seen*: the act of engagement that constitutes the 'art event' where 'seeing' is interlinked with 'understanding'. The figures showing my marginal sketches in response to textual concepts [Figure 118.] demonstrate my reliance on visual thinking for comprehension, as in: 'I see!' (Parsons *et al*. 2003, p.34).

Initially, findings are made, analysed and understood through personal enactment and production and they are brought into even clearer focus by showing them in exhibition displays. Showing products of realisation is more impactful than merely reporting on them and showing is the key consideration in exhibition making. The finished artworks embody findings by targeting specific research questions and their production is important because the dry presentation of a simple table, figure or graph is not necessarily immediately engaging. Artworks are potentially intriguing, difficult, or even opaque. It is these qualities that are so engaging and may connect, even for a moment, with a more diverse and disinterested audience than any impassionate, clinical journal article, or conference paper. Showing and seeing makes all the difference between trying to explain a phenomenon to someone and them experiencing it for themselves.

Exhibition production is the most powerful and impactful way of showing discrete objects. My research design relates to critical methods developed by artists in the late 20th century to account for conditions determining the readings and organisation of artistic artefacts. In exhibition, art operates as a category within a complex system of meanings that extends beyond the physical site or institution where individual works are shown. The artwork functions as a 'text' and the exhibition as an inter-textual discursive practice, which is documented through material techniques – such as photography, catalogues, reviews, monographs and websites – that preserve some of its emergent meanings. Exhibitions constitute a type of discourse in the form of a group of interrelated verbal, visual

**Figure 118.** Author's marginal sketches: 1. note in response to Tversky, B. (2011) 'Visualizing Thought', p.526; 2. questioning the pictorial relationship between a gridded co-ordinate plane and a 'checky' ordinary blazon; 3. marginal sketch in Matthews (2003) in response to the caption for Figure 6, p.18: 'A vertical arc in space produces dots'; 4. marginal sketches in response to Matthews (1984 & 2003): Some action and configurative representational vectors; Angular moment-of-turn; The integrated picture plane.

1.



2.



3.



*A vertical arc in space produces dots*

4.
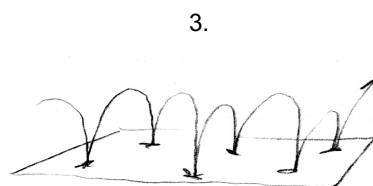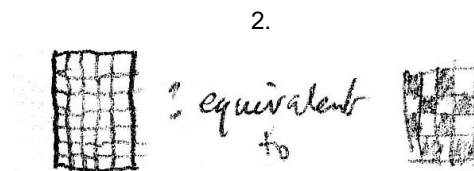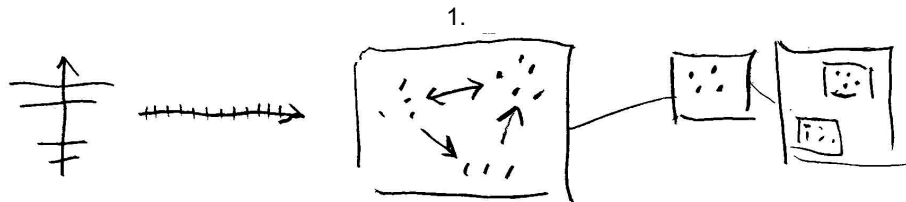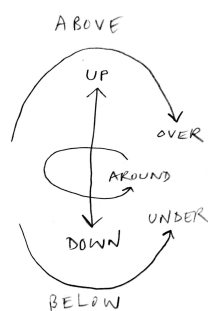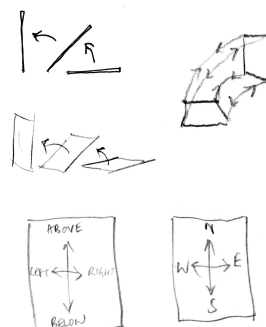
and spatial statements and events, which are eventually dispersed and exceed the duration of their original display (Kelly, 1981). The wider cultural dissemination of meanings emerging from exhibition practice today takes a multitude of discursive forms, particularly through platforms of social media, and in the long-term has an online temporal durability that remains untested. (Parsons in Bick *et al.*, 2017, p.38).

'Art' is a process of using objects, actions and signs to establish relationships between ontological positions. The contemporary artist undertakes this activity by navigating between signs and manipulating them as a producer. 'The most common denominator shared by all artists is that they *show* something.' (Bourriaud, 2002, pp.107-8, p.113). The 'art event' of showing therefore sets up a relational as well as a discursive encounter (Parsons *et al*. 2003, p.34). Such an encounter could be quantified by, for example, collecting numerical data derived from questionnaire responses provided by participants. However, one of the most powerful functions of encounters with art practice is, specifically, to engage with ambiguities and provoke questions and uncertainties. Contingent meanings emerge from the discursive process in a variety of undirected and unpredictable ways. These can arise simultaneously during a specific encounter, or more slowly over time. It is this variability coupled with the shifting nature of complex emergent meanings that suggests the most appropriate approach for this research is essentially qualitative. Any data generated by the art encounter is relational in nature. This research is sensitive to precisely *how* the findings are shown, in order to intentionally produce a non-didactic encounter and to encourage meanings to be discursively constructed. The outcome is intended to be a shared, autoptic correlational experience emphasising open-ended findings.

The exhibition encounter is managed through careful prior selection and editing in the studio and is facilitated by the ongoing compilation of my Practice Research Catalogue (see Volume 1, Section 2). It is also managed through the discursive development of various displays via negotiation with exhibition venues,

colleagues and programme directors. Examples of this are my research residency and exhibition 'Scribbles, Diagrams and Combines' [Figure 119.]

**Figure 119.** Installation views of my research residency exhibition *Scribbles, Diagrams + Combines*, Hardwick Gallery, December 2017 (Practice research Catalogue no. 017).
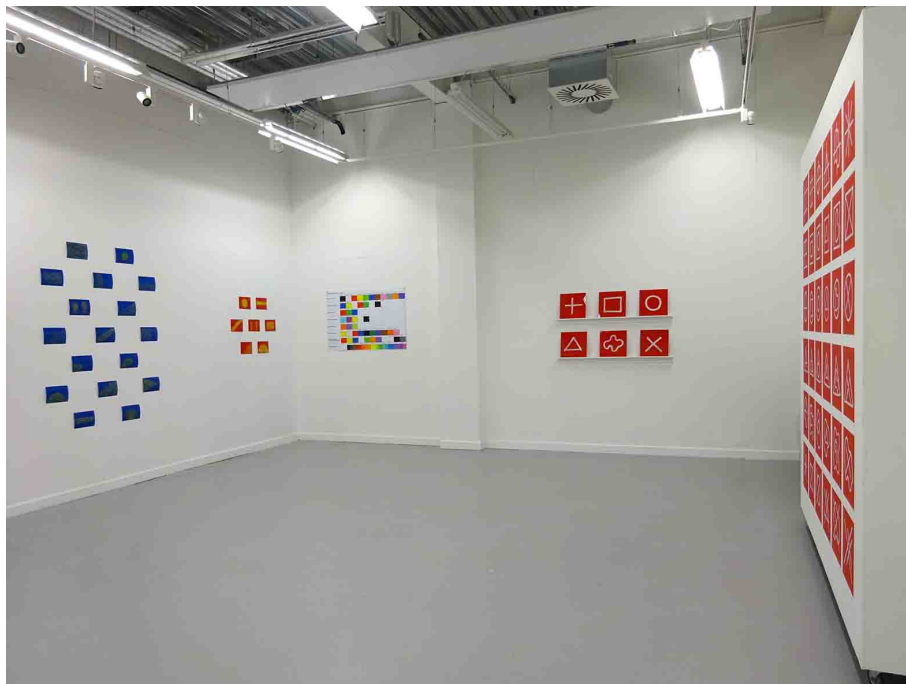
and my 'Making Findings' display, [Figure 106b.] both produced in collaboration with Hardwick Gallery (Practice Research Catalogue nos. 017 and 054a). Physically testing out display solutions in the studio beforehand provides technical insights that cannot have simply been imagined or preconceived. In unplanned installations there are always unforeseen technical issues.

## 5.7 Textual analyses

Under exhibition conditions, each artwork functions as a 'text' – a material trace of a sense-making practice. A text is anything we can make meaning from by producing an interpretation of it. The term implies a post-structuralist approach to understanding the variety of different ways in which human beings make sense of the world in particular times and places. Texts are evidence of these practices, which allow for an empirical form of critical interrogation. Textual analysis can be applied to any texts to answer any question about sense-making. This is of central importance to my work, which is focused on an analysis and interpretation of a variety of texts (artefacts) from geographically and temporally separate origins that are re-created and analysed through showing (McKee, 2003, pp.1-33). Exhibitions are a complex of texts, which themselves are a complex of signs. This research also characterises signs as a complex of sub-semiotic elements. The art event is not passive and meaning is produced somewhere between text and percipient. In everyday life, texts are always approached interpretivistically. If it is possible to uncover any intended information, encoding or meaning in an exhibited artwork (text), this would require a dynamic interaction between the interpreters' varied bodies of knowledge and how close the text can come to accommodating them. (Jennings, 2017, Parsons *et al.* 2003, p.34-5). Box 18 summarises the elements considered in my research design and exhibition concepts [Figure 120.].

1.  sub-semiotics (picture elements: the rectangle; line formations; partitions)

2.  the operating sign (pictorial structure; typologies of gesture placement pattern; designed scheme; notations)

3.  material production of a complex of signs (the fully operating artwork / 'text' encoding data and providing information using plastic substance)

4.  showing of multiple and interrelating physical texts (selection; curation; display modes; exhibition presentation and dissemination)

5.  'autoptic encounter' / 'reading' / interpretation of empirical phenomena (meanings discursively constructed; dynamic interaction of information and intelligence)

**Figure 120.** From undifferentiated data to final exhibition through research.
Sketches showing:
a) Visualization of undifferentiated data, John Hockey, MR401 taught session, 26 February 2017.
b) Author's contemporaneous note during MR401 taught session showing undifferentiated data and the identification of patterns within it, 25 February 2017.
c) Author's marginal sketch showing the process of theory elaboration focusing on one satellite concept from the elaboration of core concepts deriving from data. This sketch strongly resembles Kellogg's (1969) classifications S8: Sun with Looped Rays and S10: Sun Designs.
d) Author's marginal sketch visualising research: focusing on key concepts in depth; following up references and finding cross referenced interconnections; pursuing new sources from references.
e) Author's sketch: 'ANALYSIS OF MODEL EXHIBITION PROCEDURE', 26 May 2017.
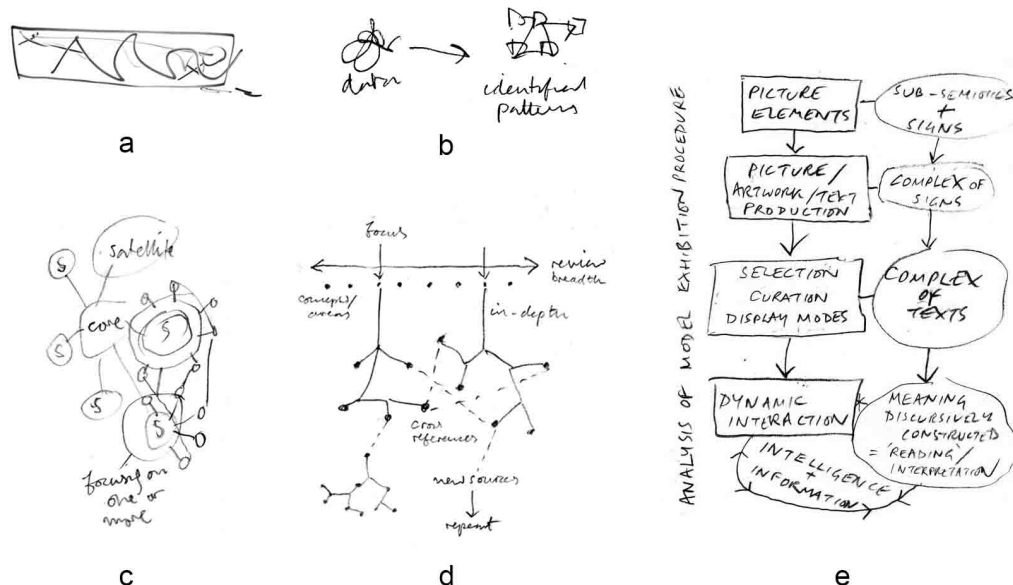
## 5.8 Rationale for production processes

Transforming my primary responses to data and findings into three-dimensional physical materials is a key practice method. It places researcher-produced artworks at the centre of the art encounter and deliberately goes beyond a stack of sketchbook pages, or a conventional display of paintings. Showing the reified embodied objects of my observations and insights as artist-researcher is an explicit demonstration of the intent to interrogate my specific research questions. This approach is consistent with my conception of the visual artist's intellectual autoptic position as set out in Box 19.

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**Box 19. The visual artist's intellectual autoptic position** (Parsons 2013a, 2014a)

Autoptical / intellectual stages:

**Vision:** the physiological processes of retinal-cortex function; optical sensation.

**Looking:** paying attention to variations in the visual field (movement, colour, brightness etc.).

**Seeing:** arriving at an understanding of what is being looked at.

**Observation:** active, knowing seeing; a predetermined intervention in the physical world.

Levels of 'Meaning':

**Uncertainty:** how the brain constructs meaning by making sense of uncertain information

**Pattern Recognition:** ascribing significance to random configurations in order to navigate the environment; the most efficient evaluation of visual information.

**Behavioural Value:** testing whether certain responses are 'successful'; whether recognised patterns are useful to survival or not; re-detecting patterns that were meaningful before.

**Enhanced Perception:** perceiving the 'meaning' of the pattern that has been 'successfully' recognised; the significance of the actions it enables; current experiences projected into the future; making rapid sense of new information; reification and depiction.

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The involved facture of physical production allows a wider set of associations and references to be encoded for interaction and engagement. It integrates making, showing and discursive interpretation. The production methods for different categories of phenomena and the scale of individual objects and panels refer to the sizes and textures of finger paintings and electronic touch screens. Their specific physical and optical qualities are central to the construction of meanings, so I will outline some key material and perceptual considerations.

## 5.9 Specific techniques

### 5.9.1 Drawing and painting

The core of my technical practice is drawing and painting in the studio. For this study, therefore, my primary technique is the handmade graphic image (one made using drawn line formations). This is supplemented by various additional types of handmade image, which includes CGIs, manually manipulated digital photographs and 'wet' or 'dry' physical materials [Figure 121.]. In the studio, and at site-specific locations, various procedures were tested to determine the most appropriate physical realisation of concepts, according to my intuitive decisions informed by my prior knowledge and long-term experience [Figure 122.]. A number of specialist methods were considered for the resolution of practical pieces, including engraving, water gilding, manual screed box marking, adhesive strips, decals, offset imprints and various approaches to temporary wall drawing.

### 5.9.2 Reverse glass painting

One important method that has come to the fore in my practice research is reverse painting on glass, traditionally known as Verre églomisé or Hinterglasmalerei. Reverse glass painting is as old as the technology for producing panes of glass and it has been used since the Middle Ages for devotional and folk art (Britannica, 1998b). For this method, I drew on the horizontal surface of 'float glass' panes that had been carefully prepared beforehand by having their edges and corners ground smooth with a diamond abrasive sponge and their surfaces cleaned with ethanol (float glass is a very flat and uniform material made using a comparatively recent technological process developed in the 1950s). For greatest adhesion to the smooth glass surfaces, I used specialist acrylic paint markers for the drawn marks and then, using an aerosol spray containing the same formulation of paint, applied a 'ground' of colour across the marks. This is a process of simultaneously drawing and painting and results in what Maclagan (2014, p.145) calls 'painting-drawings'. I have used specialist graffiti 'drip-stick' markers to make the drawn elements, employing round-nibbed markers for curving shapes and customised square-nibbed markers for angular forms. The final panels emphasise the visual image and

**Figure 121.** Author's drawing. Plan for *Code and Image* painting installation (Practice Research Catalogue no. 105 (1-36)). Multi-layered handmade digital image printout annotated by hand with graphite.
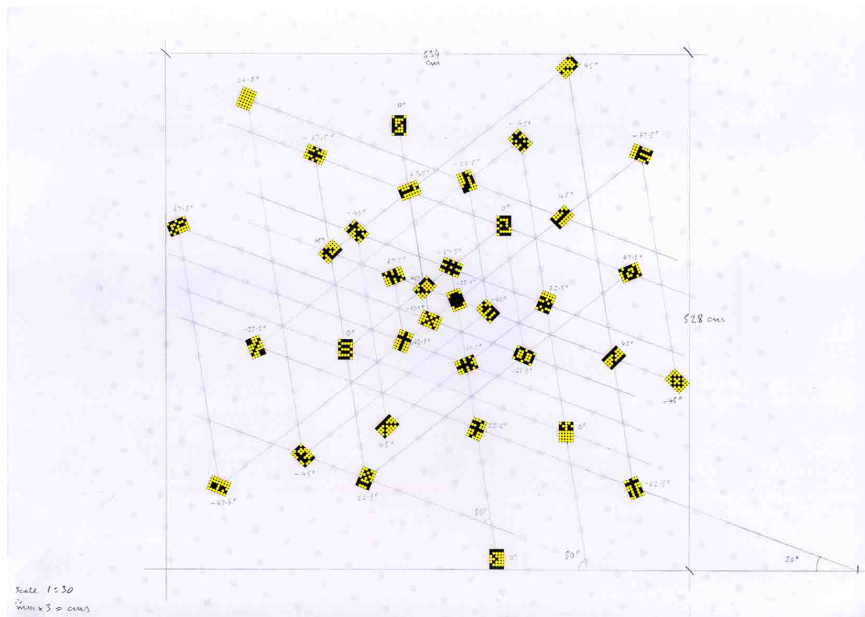


**Figure 122.** Detail of (2017) wall drawing *Thirty-Six Possible Combines* (Practice Research Catalogue no. 009) – Figure 92. – showing how the zen calligraphic acrylic strokes preserve the texture of the underlying vinyl wall painting.

curiously resemble printing technologies and the interactive screen [Figure 123.].

**Figure 123.** Video still of me holding completed demonstration zen calligraphic glass panel (studio view September 2020).
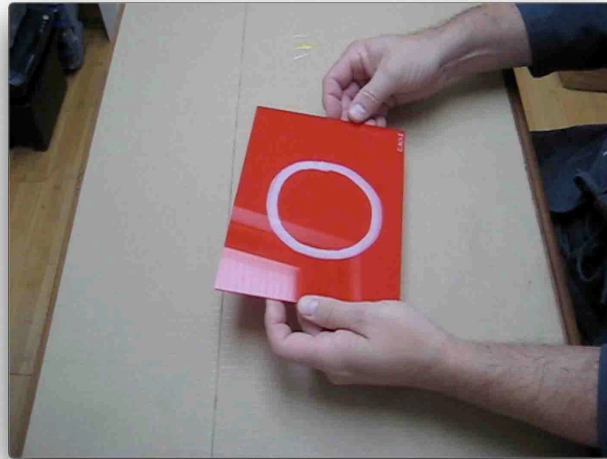


Because the drawn and sprayed colours abut one another against the surface and lie in the same plane behind the pane of glass, the concepts of 'figure' and 'ground' are negated and both marks are integrated with the surface and fused together [Figure 124.].

**Figure 124.** Author's sketch – a diagram of a cross section of a reverse glass painting. The image is manifested at the junction of the painted elements and the reverse surface of the glass panel. The colours abut one another in a single plane and there is no distinction between 'figure' and 'ground'.
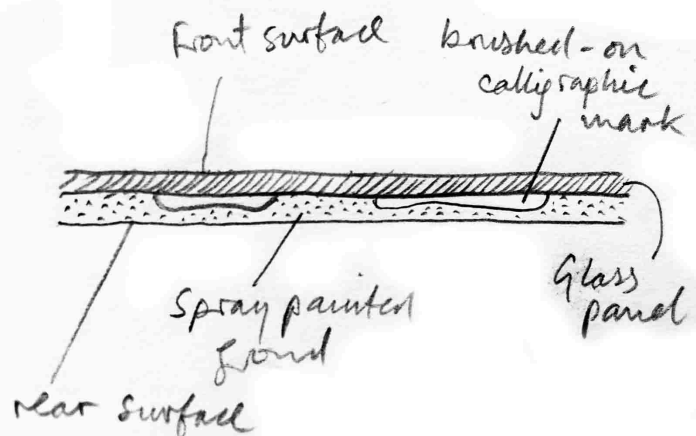
This indicates their intentional and considered status and differentiates them from the typical mode of mark making, which is decidedly a physical trace made, and sitting upon, the front surface of the support. The way in which the drawn marks are made deliberately evokes concepts developed in Zen calligraphy and the discipline of attaining a 'detached gesture' in contradistinction to the supposedly 'expressive' gesture of Western painting (as discussed in sections 2.1-4 and 7.2).

### 5.9.3 Zen calligraphy

I had been interested in Zen calligraphy for many years, but my understanding of it deepened when I assumed the task of sourcing various examples of historical Japanese art for the curatorial project *Seeing Round Corners* (Parsons & Ward, 2016). I was particularly keen on securing the loan of an early example of an Ensō for the exhibition [Figure 125.].

> *Ensō* is a Japanese word meaning circle and a concept strongly associated with Zen. *Ensō* is one of the most popular subjects of Japanese calligraphy even though it is a symbol and not a character. It symbolises the Absolute, enlightenment, strength, elegance, the Universe, and the void.
> (Baker, 2015)

Informed by my research, I was drawn to the use of Zen calligraphy as a practical discipline due to it having a very different rationale to the conceptions of brush painting in the Western canon. I deliberately used it as an antithesis to the idea of gesture as authorial, emotional, spontaneous and expressive. I was attracted by the fact that there is no theoretical concept or discourse of 'abstraction' in Zen calligraphy (and in traditional Japanese painting and calligraphy more generally) and that it is not considered to be 'art' by its practitioners. It directly embodies the critique of both gesture and originality that is my general artistic position and simultaneously allows me to simply make straightforward marks, without using my usual methods of re-making. The method also allows me to continue to emphasise the quotation and material transformation inherent in my practice and discussed in sections 2.4.7, 2.4.10, 6.4 and 7.2.

**Figure 125.** A Zen calligraphy Ensō (c.1918) by Nakahara Nantenbō (1839-1925).

Object description: A paper *kakemono* (hanging scroll) painted in ink with an *ensō* (circle) containing calligraphy. Inscribed: *Yo no naka no maruki ga nakani umarete wa hito no kokoro mo maruku koso mote* ('Born within the ensō | of the world | the human heart must | also become an ensō'). Signed: *Nanajyūkyū ō Nantenbō sho* (Painted by Nantenbō at the age of 79). Seals: Right: Nantenbō; Upper Left: Tōshū; Lower Left: Hakugaikutsu. Japan 20ᵗʰ century Taishō period *1918. Dimensions: Scroll: H.43¾" x W.12½" (110.5cm x 31.5cm); Painting: H. 12½" x W.11¾" (31.5cm x 29.5cm). Nakahara Nantenbō (1839-1925). Priest name: Tōjū Zenchū. *Gō* (art name) Hakugaikutsu. Image and description

My presentation of the reverse glass painting installations in the exhibitions of my physical practice research findings (detailed in Volume 1) are the first time I have exhibited my own directly made marks since a series of four paintings I made in 1999 and 2000, collectively entitled *Cipher* [Figure 126.].



**Figure 126.** Jonathan Parsons (1999) *Cipher 1/2 - 2* [oil on linen] 71.4 x 71.4 cm.

Zen calligraphy, or Zen brush painting, is also known as *Hitsuzendō* ('the way of the brush'). It is a practice in and of itself, a method of meditatively embodying Zen Buddhist teachings. Its primary purpose is practice, rather than the creation of artworks (Mirzaei, 2021).

> While meditation is very important, in Zen Buddhism we also place great emphasis on practical tasks such as tidying the gardens and cooking. If you are just taught things, you are only acquiring knowledge, but by putting them into practice you can realise those lessons. So, through rigorous ascetic training, you can find insight from within yourself. This is the key characteristic of Zen Buddhism. Our philosophy is characterised by a search for understanding; it's a search that will never end. I think that's why we value the unknowable.
>
> Daiko Matsuyama, Deputy Cheif Preist, Taizo-in Temple, Kyoto
> (Harding, 2017)

> Zen brush painting…teaches the painter to release control of the outcome, to go beyond the ego, to simply allow what is and accept whatever the outcome may be; this is a core aspect of a Zen way of life.
>
> (Mirzaei, 2021)

The meditative approach to mark making in *Hitsuzendō* involves an awareness of being in the present moment and controlling one's breathing throughout the process of making each mark. I have assimilated this approach to mark making for my reverse paintings on glass. As the brush (or marker in my case) is taken and held vertically in a gentle grip, a deep inward breath is taken. During exhalation, the brush (marker) is brought to the horizontal (glass) surface and the stroke, or strokes are made. The actions of marking are meditatively timed to coincide with the total duration of exhalation [Figure 127.] (Mirzaei, 2021).

**Figure 127.** Video still showing demonstration of Zen calligraphy on glass.
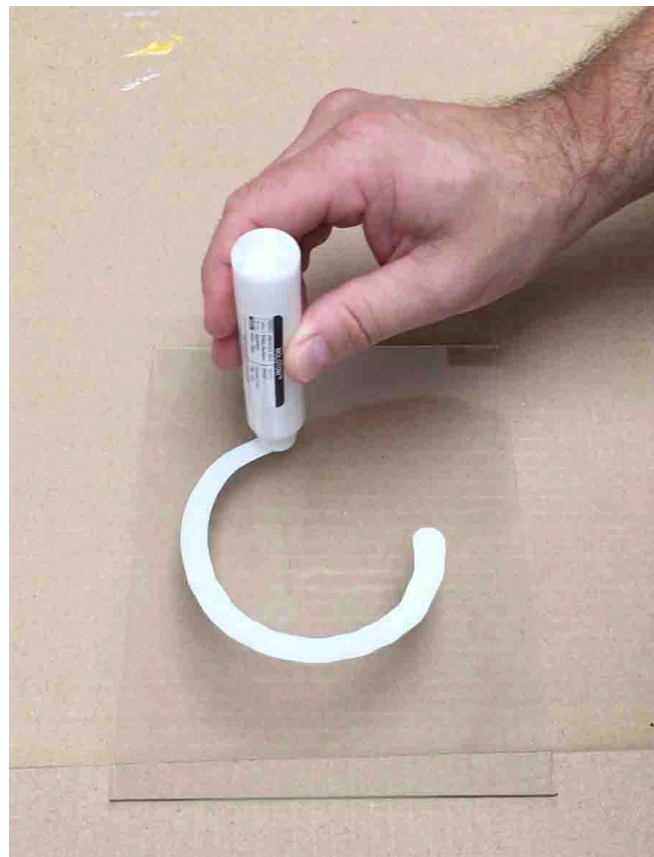
I have found that, as I more deeply concentrate on my breathing whilst marking, the marks themselves attain more regular and fluid forms [Figure 128.].

**Figure 128.** Detail of 'fluid' mark forms. Zen calligraphic work in progress in the studio. Studio view: May 2020.



The resulting glass panels are exhibited with each panel leaning against the wall on a custom-built wall-mounted fixture [Figures 129-131.]. The images are thus presented between the horizontal and vertical, what Matthews (1984, pp.26, 29-30) described as the 'tilted', 'intermediate' or 'integrated picture plane' [Figures

**Figure 129.** Jonathan Parsons (2021) *The Primary Line Formations*
[41 reverse acrylic painted glass panels with wall mounted fixings]
overall: 173.2 x 229 x 6.8 cm (Practice Research Catalogue no. 111)

**Figure 130.** Jonathan Parsons (2021) *The Basic Scribbles*
[29 reverse acrylic painted glass panels with wall mounted fixings]
overall: 205.7 x 297.1 x 7.2 cm (Practice Research Catalogue no. 113)

**Figure 131.** Jonathan Parsons (2021) *The Formal Units*
[18 reverse acrylic painted glass panels with wall mounted fixings]
overall: 86 x 188 x 12 cm (Practice Research Catalogue no. 114)
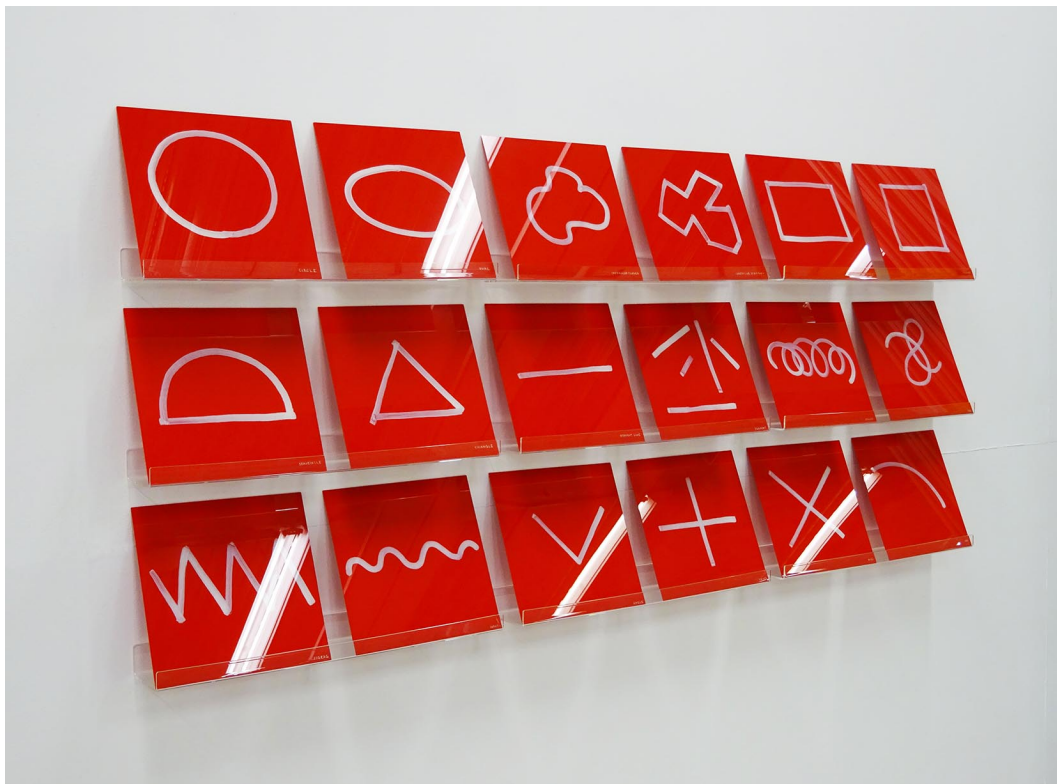
118.4 & 105.]. They suggest the possibility of a 'scriptorium' style installation method for preparatory as well as final works. My wall paintings, by contrast, are in the traditional orientation of Western installation (as in site specific wall-based works by Sol LeWitt or Bridget Riley, for example).

### 5.9.4 Other ways of mark making

In my practice research I have also explored other methods for 'detached' mark making in keeping with my critique of gesture and originality. Key among these is the offset imprinting of circular impasto 'blob-dots' of acrylic paint applied with custom made tampers [Figure 132.]. These were directly inspired by my own close viewing of various paintings by Bernard Cohen (see Appendix 1), who has used a specific technique for painting dots in acrylic since the 1960s. I wanted to employ a method that enabled me to present very painterly but non-gestural marks, which preserved the appearance of wet, viscous paint as it sat ready for use upon the palette. I made specific tools to make these marks at a scale that was determined by each particular work I was making. For example, the tamper used to make the 'blob-dots' for the many and varied installations of dot-matrix paintings on arrays of small canvases was scaled fit the marks onto each individual canvas surface in a consistent 5 x 7-dot pattern. Similarly, the tamper made to apply the circular marks of paint on *Roundels in Tincture* [(2021), Practice Research Catalogue number 108, Figure 61.] had a very much larger diameter to correspond to the scale of the canvases used and the preparatory drawings made for their specific layouts. Differently sized 'bullet-pointed' clay shapers were used for the dot matrix texts on this work, as well as the tiny dots used for the texts on *Roundels in Tincture (Miniature)* [(2021), Practice Research Catalogue number 109]. All of the dot matrix works were laid out using graphite pencil traced onto a coloured ground through a custom-made paper stencil template unique to each canvas [Figure 133.].

**Figure 132.** a) the process of applying impasto colour to a new series of dot matrix acrylic paintings, March 2020    b) tamper used for the principal marks in *Roundels in Tincture* (Practice Research Catalogue number 108 (1-9)), February 2021
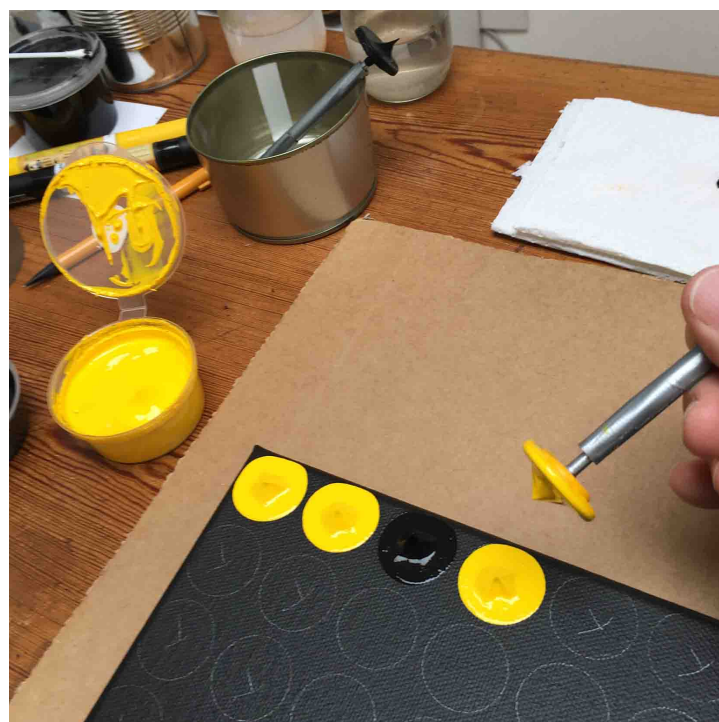
a
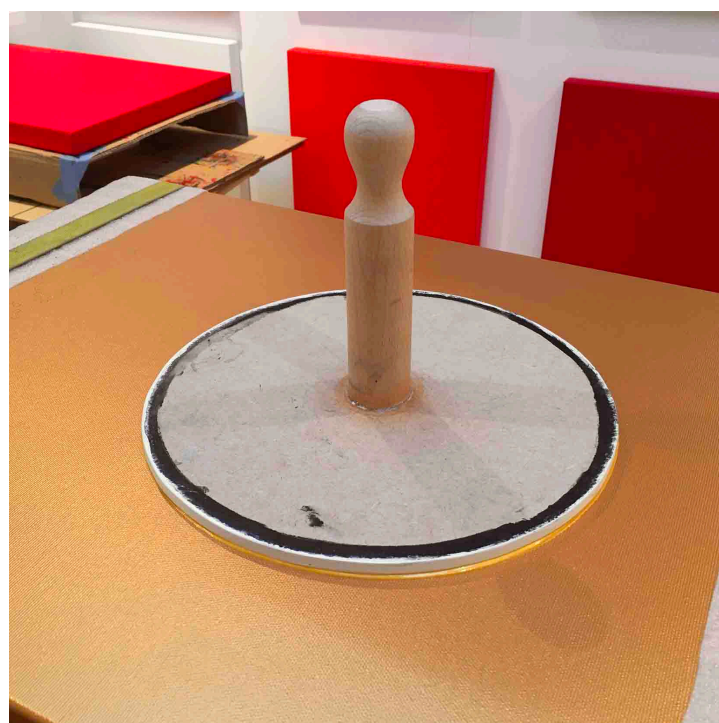
b

**Figure 133.** Use of custom-made paper template for laying out the graphite drawing on the panel 'Pomme' for *Roundels in Tincture (Miniature)* [(2021), Practice Research Catalogue number 109]. January 2021
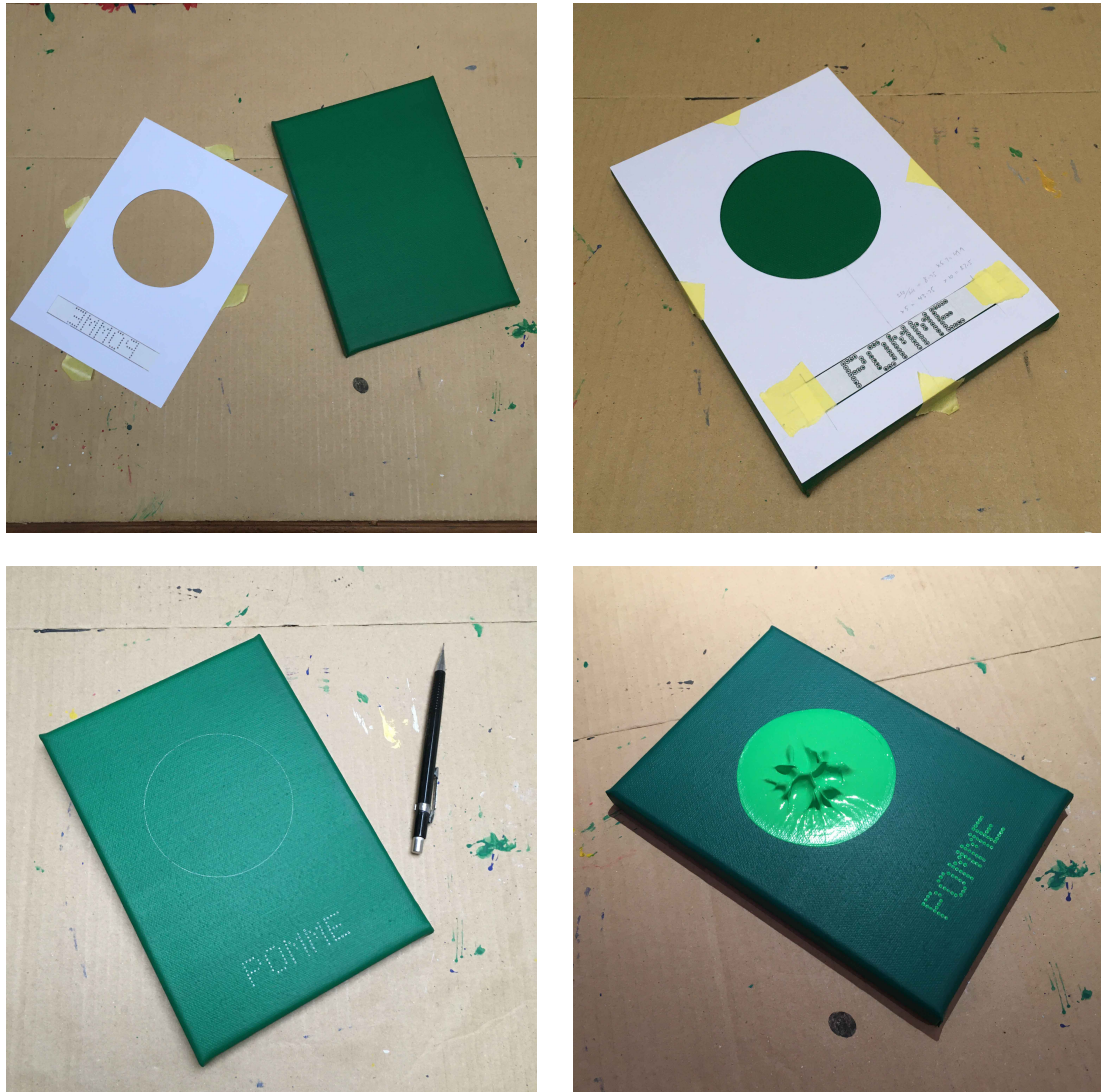
Another method I have explored for making marks in a 'detached' way, and one that also integrates the mark with the surface, is controlled sgraffito [Figure 54.]. This is where a coloured coating is carefully scraped away whilst it is still wet to reveal a differently coloured ground beneath. It is a method that takes careful planning and is time limited. Its successful use very much depends on the drying time and viscosity of the top coat and the texture and adhesiveness of the ground. The techniques I have experimented with so far were directly inspired by the experiments made with ink on gold by Hisao Dōmoto in the 1950s and a specific

suite of acrylic paintings made by Mary Heilmann in the early 1970s [Figures 134 and 135.].

**Figure 134.** Author's photograph showing an installation view of the exhibition *Mary Heilmann: Looking at Pictures*, Whitechapel Gallery, 8 June – 21 August 2016. Three paintings can be seen, from left to right: *Jalousie II* (1974), *The First Vent* (1972) and *Little 9 x 9* (1973) all acrylic on canvas © Mary Heilmann, Courtesy of the artist, 303 Gallery, New York, and Hauser & Wirth

**Figure 135.** Mary Heilmann (1973) *Little 9 x 9* [acrylic on canvas] 21.875 x 21.875 x 1.75 inches © Mary Heilmann, Photo: Stephen White, Courtesy of the artist, 303 Gallery, New York, and Hauser & Wirth
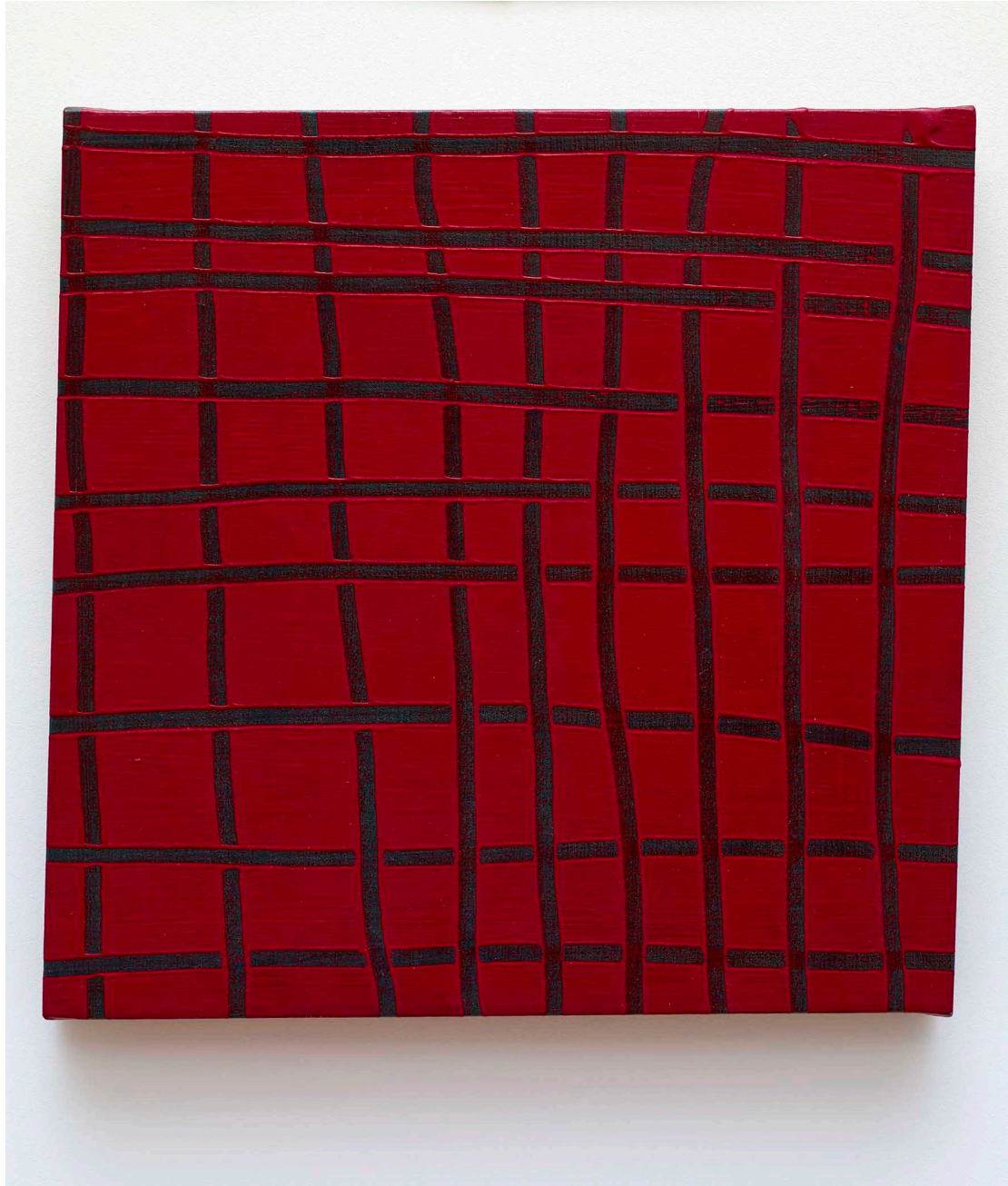
The image [of the 1972 painting *The First Vent*] was made by scraping away the paint with a small rubber squeegee and my fingers, like the way kids do finger-painting. I was actually teaching little guys at that time, so I was inspired by what they were doing.

[…]

We discussed child psychology quite extensively. So using my fingers to paint a piece like *Little 9 x 9* [1972], which has an intricate or tricky structure, combines mathematical with childlike thinking with making art. Those elements came together and influenced my work of this period.

(Mary Heilmann in Yee and Rashid, 2016, pp. 121 & 122)

I have mostly used acrylic paints in my physical practice research. This was due to its suitability for working on glass and its low toxicity and water-solubility, which was an important consideration for working in my small garden studio during the lockdowns of 2020 and 2021. The innovations in the use of acrylic paint that I have discovered for myself in this research are methods that I intend to develop further in future work.

### 5.9.5 Finger-painting

I have explored light-touch finger-painting and transient 'action representations' captured as permanent marks on the reverse of glass. The use of finger-painting was intended to refer to what are perhaps the first types of developmental markings ever made by children (as described by Matthews (1984 & 2003), see section 4.4.1). My first test piece of this nature, *Abject/Rarefied* (2020) [Figure 136.], was included in an online exhibition hosted by The University of the Creative Arts MA Fine Art Instagram account in May 2020. It was called *Under(cover)* and the aim was to showcase art made during lockdown. This disruptive period had the potential to become a psychologically disturbing time, whilst I was trying to maintain my focus and continue with meaningful work in my garden studio at home. The caption accompanying my submission was the following:

Touch is the origin of mark making. Dirt is simply ordinary matter that is unwelcome when it is deemed to be in an inappropriate place. The alchemy of painting can turn shit into gold. In this time of heightened awareness of the potential contamination of our hands, I wanted to reach out from behind the picture plane to illuminate the act of touching whilst transforming messy materials into gilded funerary treasure.

One of my research notes reads: 'Reverse glass turns abject into slick...'

**Figure 136.** Jonathan Parsons (2020) *Abject/Rarefied* [Acrylic reverse painting on glass] 21 x 14.8 cm. (Practice Research Catalogue no. 070)



### 5.9.6 The one-shot approach

All my principal methods involve some form or variant of digital, or physical, studio painting and are very much concerned with what might be termed 'one-shot', 'one pass', or 'all or nothing', actions. This stems from the non-gestural brush markings that I have developed for making my 'Grid Painting' series (ongoing since 1995 – see section 2.4.11) [Figure 137.], for which I use specialist 'dragger' brushes.

**Figure 137.** Jonathan Parsons (2004) *Freebase* [oil on linen] 71 x 71 cm.
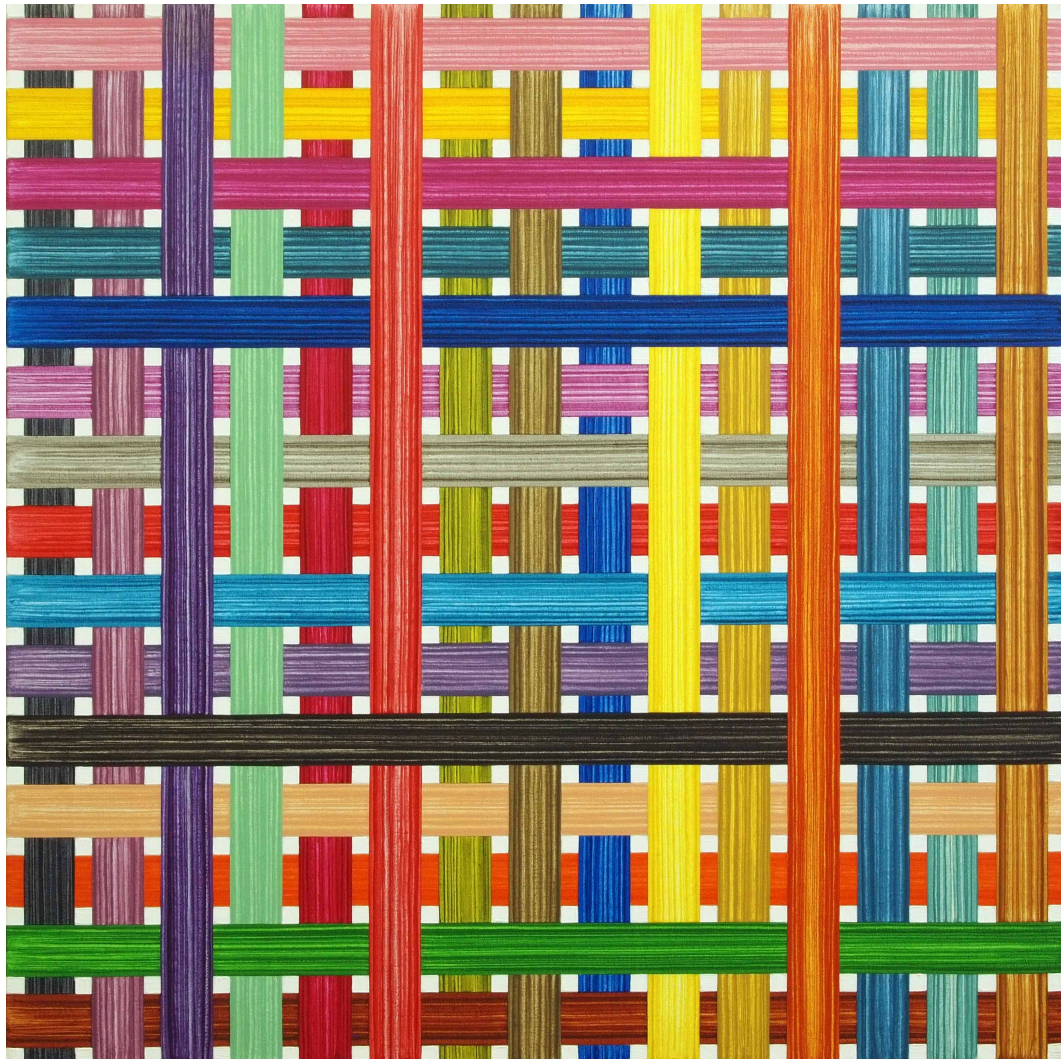


In order to make some of these marks – especially those on a large scale – it is necessary to be in a state of mind that enables me to make very long, straight strokes in 'one go', without making any major errors. In preparation for the painting sessions for these strokes, I have to be highly mentally focused in order to produce what are, in fact, very controlled whole-body actions. As Lee Ufan has stated:

> Artists train themselves in the same way as athletes do. […] My painting is a game, with the canvas as my opponent. There is a tension between myself and the canvas, and the brushstroke is the product of that tension.

(Gayford, 2015)

The development of this brush marking method is probably what ultimately provoked my interest in Zen calligraphic techniques. In many calligraphic traditions – which were perfected at a time when paper, silk cloth or parchment were incredibly expensive high-tech materials that could not be wasted or squandered – it was imperative that scribes could write and illuminate manuscripts with as few errors as possible. Incidentally, 'One-Shot' is the name of a brand of enamel paint that is specifically formulated for use in for sign-writing, which is another direct painting method that allows almost no leeway for slip-ups.

Notwithstanding the final materials I employ, in all my work I am trying to create a correspondence between the digital and the physical, or a dialogue between them. My experiments are a search for a precise methodology that demonstrates intentionality and the analysis of particular external phenomena.

### 5.9.7 Scale

The scale of my physical practice research outcomes was dictated by a number of factors. As mentioned in section 5.8, one of these was the distinct nature of the differing categories of phenomena under study. The scale of the panels in the reverse glass painting installations, for instance, refer to the sizes and textures of finger paintings and electronic touch screens. They also refer to the standard sizes of sheets of paper that are likely to be used in typical children's drawings. The installations (using both multiple glass panels and canvases) were deliberately modular in nature in order to be impactful as large-scale layouts in an exhibition setting. The dot matrix painting installations (with the exception of the large version of *Roundels in Tincture*) were all made using multiple A5-sized canvases. This scale allowed the panels to be viewed from a distance in the exhibition space at a 'sight size' in the visual field comparable to that of a typical electronic display. They were also at a scale large enough to facilitate close inspection of their entire fabric, i.e., both paint and support.

## 5.10 Framing the picture

Any kind of framing is always carefully considered in my work. Self-contained panels – like the glass panes, individual canvases or wall-painted sections – create an 'already made' relationship between the marks they contain and the rectilinear boundaries that frame them. Where one frame ends another one begins. In making discrete works and planning their installation, one must consider the edges of the picture, the edges of the fixture, the edges of the wall, the extent of the exhibiting space and the limits of the built or natural environment in which the display takes place.

In the anti-compositional method that I have used since the 1990s to make drawings and paintings, as described in section 2.4.8, it was important that the found marks I recorded already had frames of reference in the situations where they were found, providing me with a ready-made template. Where this framing was incomplete, I used a technique of 'frame extrapolation' to determine the pictorial proportions and placement of elements. This was always governed by some detail or cue in the photographic source material and produced 'given' non-compositional formats that I could work from [Figure 138.].

## 5.11 Colours

The rationale for my colour choices derives from my analyses of various systems that are used to name sets of colours and they are detailed in Table 25. I have worked on these for more than a decade and they were formalised in this particular way for the purposes of the present study.

The Basic Colour Terms are connected to the varying complexities of colour terminologies in different linguistic systems (Berlin & Kay, 1999). The opponent process is a contested colour theory of the human visual system asserting that there are three antagonistic channels consisting of opposing colours arising from

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**Figure 138.** Frame extrapolation:
a) Photographic sources for *One Forty* (2004) [oil on linen], 115 x 115 cm (45¼ x 45¼ in) [Figure 4.].  b) Photographic source for c.  c) Final painting: *Red Sails* (2005) [oil on linen] 111.5 x 96.5 cm



a



b
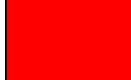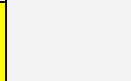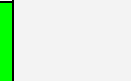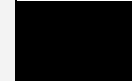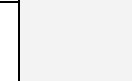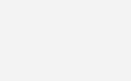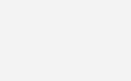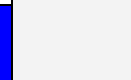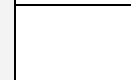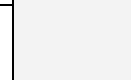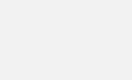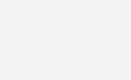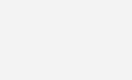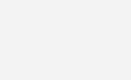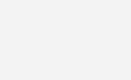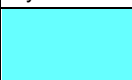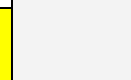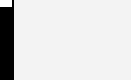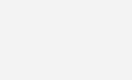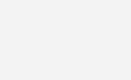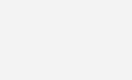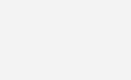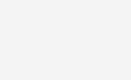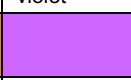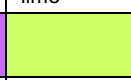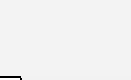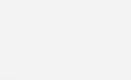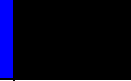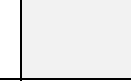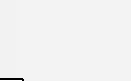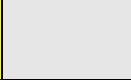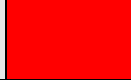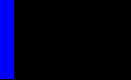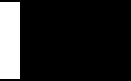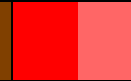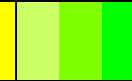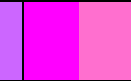


c

signals produced by the photoreceptive cells of the retina (Hering, 1964). The additive primaries are used in light-emitting display systems (such as computer or smartphone screens) to produce a varied gamut of colours and the subtractive primaries are used in four-colour printing systems and some methods of easel painting, also to produce a variable colour gamut (a 'gamut' is the full range of possible colours able to be produced by any given imaging system). The colour names of fruits and flowers are my own deduction. The SMPTE colour bars comprise a standard test pattern that is generated and used for correctly setting the luminance and chrominance of RGB monitor systems and to calibrate video signals (SMPTE, 1990). The heraldic tinctures have been described in detail in section 3.3.4. The traditional painter's primaries and secondaries are an archaic version of the subtractive primaries. They were established by the historical availability of various pigments and through trial and error on the palette.

I have used these various colour term sets in different series of my work over many years as ordering devices – they demonstrate, show or display particular hues to which a name can be ascribed. They are not making any particular statement about colour theory, nor are they trying to define the unclassifiable. They are, however, intended to highlight the inherent problems with labels and the discursive nature of signification. The names given to perceptual phenomena will always carry a degree of ambiguity (Parsons, 2016). I have also developed a studio palette for my grid paintings that orders these various terms into a quasi-spectral sequence: White, Black (including Grey), Brown, Red (including Red-Pink), Orange, Yellow, Green (including Lime), Cyan-Turquoise, Blue, Violet, Magenta (including Magenta-Pink).

The rationale for the various approaches to ascribing colours in the practice research for this study is set out in Box 20.

**Table 25.** Typologies of colour names (Parsons, 2017c)

| basic colour terms | black | white | red | yellow | green | blue | brown | pink | grey | orange | purple |
|---|---|---|---|---|---|---|---|---|---|---|---|
| opponent process pairs | blue | yellow | | red | green | | black | white | | | |
| additive primaries | red | green | blue | | white | | | | | | |
| subtractive primaries | cyan | magenta | yellow | | black | | | | | | |
| fruits and flowers | orange | violet | lime | | | | | | | | |

| SMPTE colour bars | grey | yellow | cyan | green | magenta | red | blue | black | white |
|---|---|---|---|---|---|---|---|---|---|

| heraldic tinctures (* denotes name variants from European heraldry) | or | argent | gules | azure | sable | vert | purpure | tenné* | orangé* | rose* |
|---|---|---|---|---|---|---|---|---|---|---|

| traditional painters' primaries & secondaries | red | yellow | blue | | green | orange | violet | | white | black | grey |
|---|---|---|---|---|---|---|---|---|---|---|---|

| JP palette colours | white | black / grey | brown | red / pink | orange | yellow | green incl. lime | cyan-turquoise | blue | violet | magenta / pink |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Box 20. Rationale for ascribing colours to artworks | |
|---|---|
| <u>Colour terms</u> | <u>Usage</u> |
| **Primary Colours** | Primary Phenomena |
| **Black** marks; **Yellow** ground | Basic Scribble Studies |
| **White** marks; **Red** ground | Formal Unit Studies |
| **Yellow** marks; **Black** + **Blue** grounds | Individual conclusions (JP *Primary Line Formations*; RK *Placement Patterns*; AM + RK *Equivalents* etc.) |
| **Other colour terms** | More fanciful conclusions and 'whimsical' ideas (e.g., *Hypocycloids and Epicycloids*) |
| **Blue** elements; **Yellow** ground | Geometrical Charges |
| **Red** and **Yellow** | Field divisions |
| **Black** and **Yellow** | Partition Lines; *5 x 7 Dot Matrix Character Set*; *7- 14- & 16-segment Alphanumeric Character Sets (ASCII)* |
| **Heraldic Tinctures** | *Roundels in Tincture* and *The Heraldic Tinctures* |

# Chapter 6: Findings

## 6.1 Introduction

This chapter presents a summary of my findings. Each research question will be addressed in turn, with findings presented in a simple tabular form. They are accompanied by short explanations where necessary. The findings will be discussed more fully in Chapter 7.

## 6.2 Research Question 1

| Box 21. Research Question 1 and summary findings |
| --- |
| **Question**<br>What are the typologies of scribble pattern made by children and the designed schemes of pictorial structure occurring in heraldic partitions and alphanumeric displays? |
| **Summary Findings**<br><br>1. **Types of Scribble Pattern:**  [these are shown in **Tables 26-9**.]<br>    a. The Basic Scribbles<br>    b. The Formal Units<br>    c. The Primary Line Formations<br>    d. The Placement Patterns<br><br>2. **Heraldic Partitions:**  [these are shown in **Table 30**.]<br>    a. Simple geometrical charges (also known as Ordinaries, Sub-ordinaries and Diminutives)<br>    b. Field Divisions<br>    c. Partition Lines<br><br>3. **Alphanumeric Display layouts:**  [these are shown in **Table 31**.]<br>    a. Multi-segment displays (typical and atypical – all employ similar divisions of the rectangle)<br>    b. Dot matrix displays (rectangle divided into co-ordinate plane sets – this excludes largescale bitmaps, i.e. complex fonts) |

The results of my correlational syntheses of the basic scribbles and formal linear structures commonly found across the literature are shown in Tables 26 and 27.

**Table 26. Visual key to the commonly found Basic Scribbles**
(My correlational synthesis of Kellogg, 1955 & 1969, Machón, 2013 and Matthews, 2003, accompanied by my revised nomenclature)

**The Basic Scribbles**
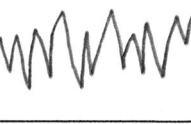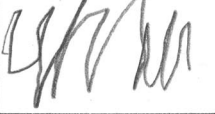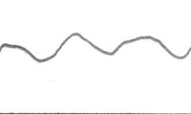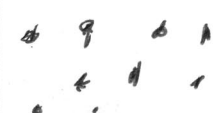
| | | | | | |
|---|---|---|---|---|---|
| **1** Horizontal arc | | **11** Flicks | | **21** Directional rotations | |
| **2** Angular back-and-forth | | **12** Angle | | **22** Small rotations | |
| **3** Rounded back-and-forth | | **13** Zigzag | | **23** Circular Stroke | |
| **4** Spread back-and-forth | | **14** Wavy | | **24** Imperfect circle / oval | |
| **5** Directional back-and-forth | | **15** Ms | | **25** Spiral | |
| **6** Large longitudinal (here: oblique) | | **16** Roving: open | | **26** Arc | |
| **7** Small longitudinal (here: vertical) | | **17** Roving: enclosing | | **27** Loop | |
| **8** Small obliterations | | **18** Overlaid rotations | | **28** Bow | |
| **9** Small spots | | **19** Spread rotations | | **29** Cycloid | |
| **10** Dots and commas | | **20** Concentric rotations | | | |

**Table 27. Visual key to the commonly found Formal Units**
(My correlational synthesis of Kellogg, 1955 & 1969, Machón, 2013 and Matthews, 2003, accompanied by my revised nomenclature)

**The Formal Units**
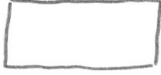
| | | | |
|---|---|---|---|
| **1** Circle | | **10** Segment (horizontal, vertical and oblique) | |
| **2** Oval | | **11** Cycloids | |
| **3** Closed irregular curved | | **12** Bows | |
| **4** Closed irregular straight | | **13** Zigzag | |
| **5** Rectangle | | **14** Wavy | |
| **6** Square | | **15** Angle | |
| **7** Semicircle | | **16** Cross | |
| **8** Triangle | | **17** Kiss | |
| **9** Straight line (here: horizontal) | | **18** Arc | |

**Table 28. The Primary Line Formations**
(My synthesis of the Basic Scribbles and Linear Forms taking into account that the Scribbles continue to be used throughout subsequent graphic development. This is also a study for the multi-panel reverse glass installation shown in Figure 129.)

| | | | | |
|---|---|---|---|---|
| Horizontal arc | Angular back-and-forth | Rounded back-and-forth | Spread back-and-forth | Directional back-and-forth |
| Large longitudinal (oblique) | Small longitudinal (vertical) | Small obliterations | Small spots | |
| Dots and Commas | Flicks | Angle | Zigzag | Wavy |
| Ms | Roving: open | Roving: enclosing | Overlaid rotations | |
| Spread rotations | Concentric rotations | Directional rotations | Small rotations | Circular stroke |
| Imperfect circle / oval | Spiral | Loop | Bow | |
| Cycloid | Circle | Oval | Closed irregular curved | Closed irregular straight |
| Rectangle | Square | Semicircle | Triangle | |
| Arc | Straight line (horizontal) | Segment (horizontal, vertical and oblique) | Cross | Kiss |

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Table 29. The Placement Patterns (Derived from Kellogg, 1969, pp.24-5. This is also a study for a multi-panel reverse engraved and painted cast acrylic sheet installation. It was drawn after my (2017) *Test Piece: The Placement Patterns P1-P17* (Practice Research Catalogue no. 012) [Figure 15.]



P1. Over-all

P2. Centered

P3. Spaced border

P4. Vertical half

P5. Horizontal half

P6. Two-sided balance

P7. Diagonal half

P8. Extended diagonal half

P9. Diagonal axis

P 10. Two-thirds division

P11. Quarter page

P12. One-corner fan

13. Two-corner arch

P14. Three-corner arc

P 15. Two-corner pyramid

P16. Across the paper

P17. Base-line fan
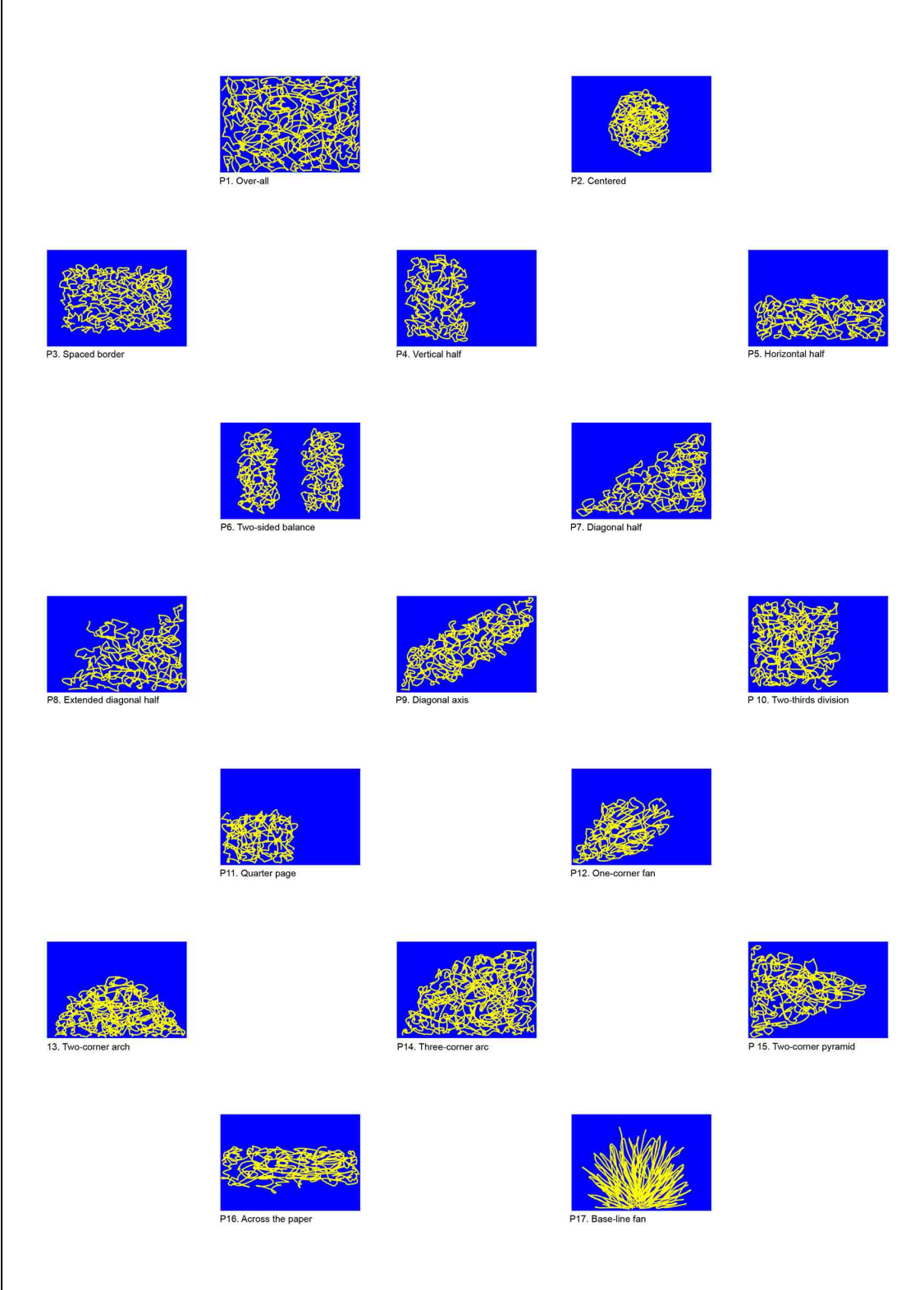
**Table 30. The Heraldic Partitions** (Showing the visual configurations only. My synthesis of Veðardóttir, Þ., et. al, 2017; Mackinnon, 1980; Scott-Giles and Brooke-Little, 1963; Rogers, 1955; Fox-Davies, 1909; Blome 1684)
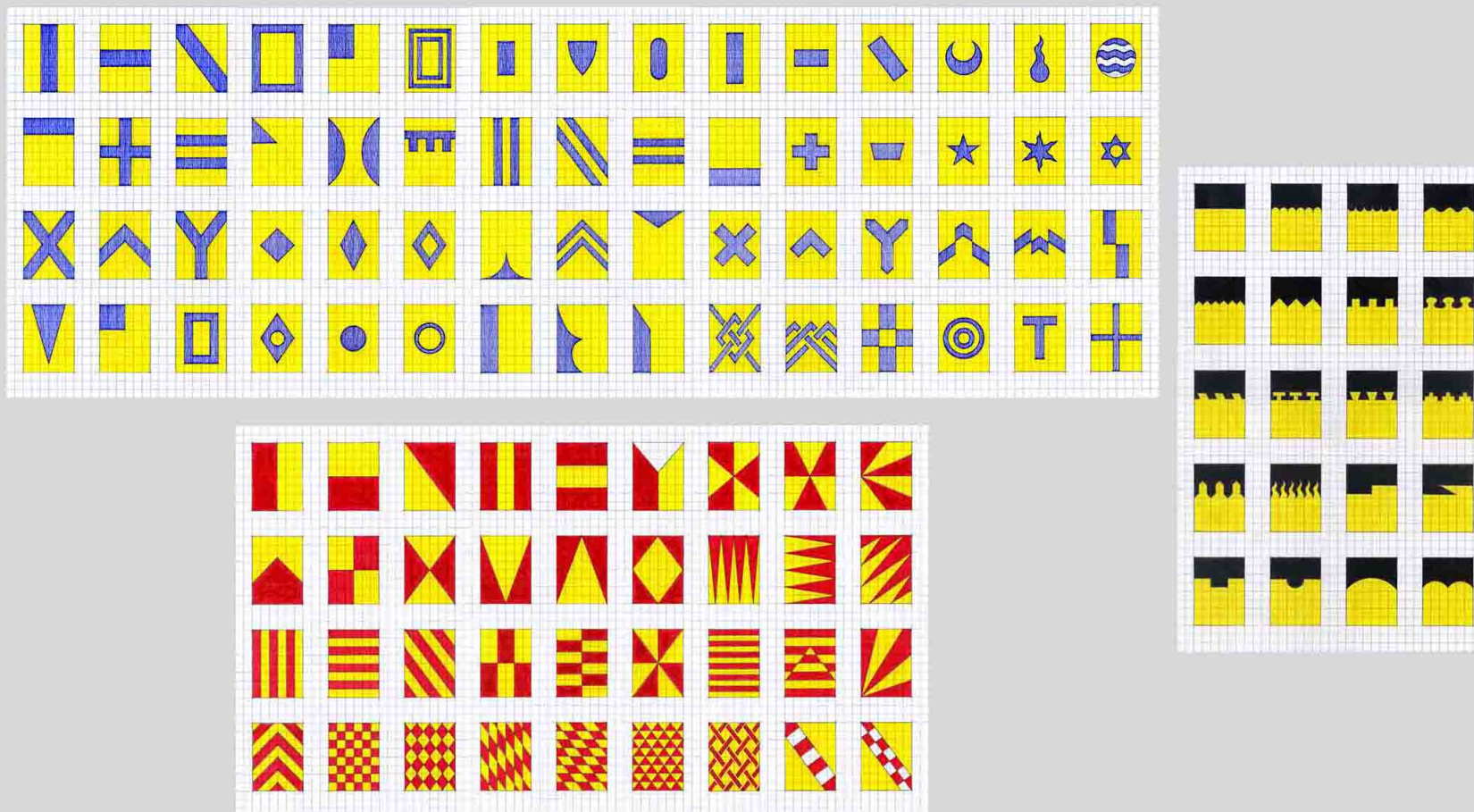
**Table 31. Alphanumeric Display layouts** (Field drawings showing a) Typical multi-segment displays; b) atypical multi-segment displays; c) 5 x 7 dot matrix display)
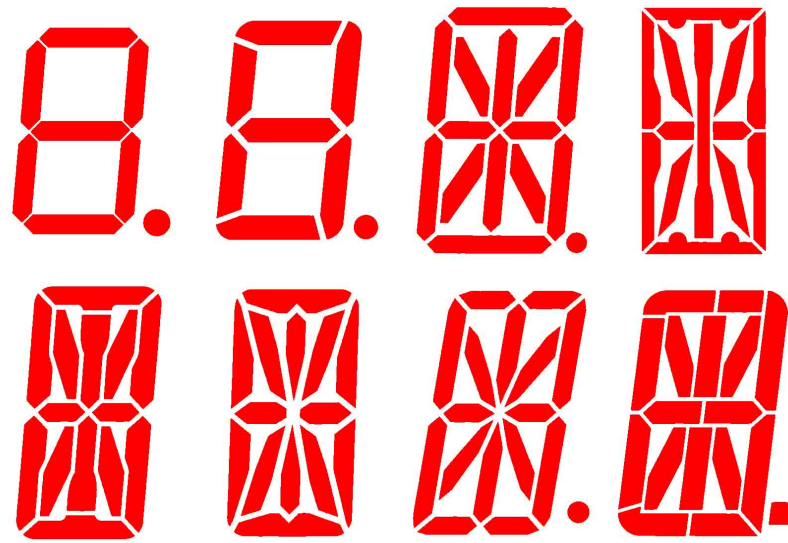
a
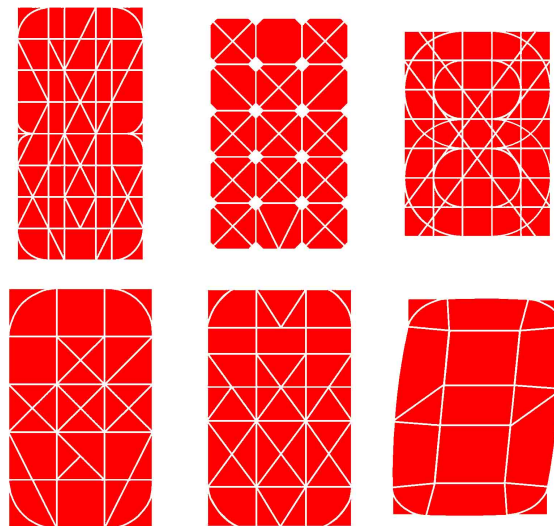
b
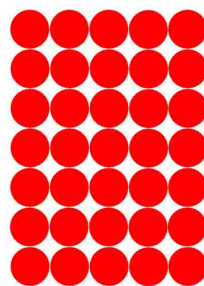
c

# 6.3 Research Question 2

| Box 22. Research Question 2 and summary findings |
|---|
| **Question**<br>What are the relationships between typologies of scribble pattern and the specified designed schemes of pictorial structure in the context of the rectangle? |
| **Summary Findings**  [these are fully discussed in **sections 7.5.1-10**.]<br><br>1. **Phenomena are related by configural morphology and how this is perceived**<br>• A fully cross-referenced comparative morphological analysis is shown in **Table 32**.<br>• There is likely to be a developmental connection between the shapes of the phenomena (e.g., the potential persistence in adulthood of Basic Scribble types), but this study cannot conclusively demonstrate this.<br>• The relationships probably arise from: the psychology of visual perception and how this is related to physical action; the phenomenology of the picture plane and page; traditions of the panel and frame; origins of the rectangle; physical structures; 'field forces' of geometric figures; attribution of arbitrary and / or experiential significance to shapes; traditions of pictorial configuration and placement of picture elements on or within the rectangle.<br>• The perception of morphology is related to definitions of meaning (uncertainty; pattern recognition; behavioural value; enhanced perception) and optical sensation (vision; looking; seeing; observation).<br>• Nomenclature of different phenomena is important for categories, typologies and understanding.<br>• All phenomena have a high degree of legibility. For example, they remain clearly legible even when they appear at a very small scale in the visual field.<br><br>2. **The phenomena are related by modes of representation and types of abstraction**<br>• There is a continuum of graphic development: action and gesture develop into enactive / symbolic / ideogrammatic geometrical representation and then into depictions embodying abstractions and / or iconic semblance.<br>• Types of sign: The semiotic function in scribbling occurs when action and index are spontaneously ascribed symbolic value. Linear structures later develop into ideograms and iconograms, |
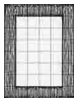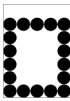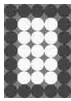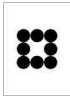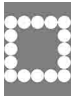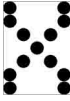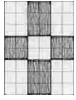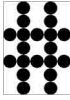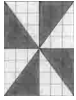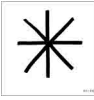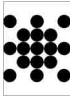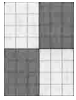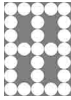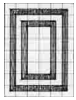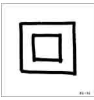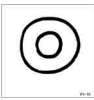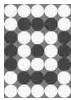
> which, along with symbols themselves, are common across all three primary phenomena.
> - Abstraction due to the limitations of media occurs in all the phenomena (e.g., segment shape in alphanumeric displays, or properties of implement and surface in spontaneous drawing).
> - Systems of abstraction present in the phenomena:
>     i. Non-iconic abstraction
>     ii. Iconic abstraction
>     iii. Iconic semblance
> - Heraldic geometrical charges are schematisations from models in perceived reality. They are structural or configurational equivalents that embody 'abstraction from' external visual stimuli. As such, they are iconic abstractions that are always laid out within the specified boundaries of a field with a particular shape.
> - Alphanumeric displays employ various 'picture element' systems to produce pre-determined sets of symbolic configurations.
>
> **3.    Modular relationship**
> - All of the phenomena have finite sets of basic elements that can be combined in an almost infinite set of variations.
> - This is related to the combinations and operations of linear forms in children's graphic development.
> - It is also related to particular categories within the phenomena (e.g., 'Ordinaries' or 'ASCII').
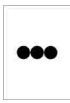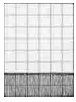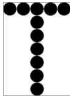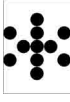
The comparative morphology set out in Table 32 cross-references all the correlations between the configurations in the visual data. This shows the pictorial equivalence of the various categories, despite any 'topological transformations' of their forms, as discussed in section 3.1.10. Part of this task involved consciously ignoring the potential meaning of the alphanumeric displays and heraldic devices and apprehending their content in a purely morphological way in order to see letters, numbers and symbols simply as 'pictures'. The morphology is not entirely exhaustive in terms of orientation, as I have omitted some phenomena that would be identical to others in terms of their rotational symmetry.

# Table 32. Comparative Morphology
(Results of a correlational analysis across all categories of phenomena)

| Code | Category 1: Basic Scribbles (Primary Line Formations) | Category 2: Formal Units (Primary Line Formations) | Category 3: Heraldic Partitions | Category 4: RK Combines | Category 5: RK Placement Patterns | Category 6: 16-Segment ASCII and custom characters | Category 7: Dot Matrix ASCII characters | Category 8: Custom Dot Matrix characters |
|---|---|---|---|---|---|---|---|---|
| 1 |  |  |  | |  |  | |  |
| 2 |  |  |  | |  |  |  | |
| 3 |  |  |  | |  |  |  | |
| 4 |  |  |  | | |  |  |  |
| 5 |  |  |  | | | | |  |
| 6 |  |  |  | | | |  |  |
| 7 |  | |  | | |  |  |  |
| 8 |  | |  | |  | |  | |
| 9 |  |  |  | | |  |  |  |
| 10 |  |  | | | |  | |  |
| 11 | |  |  | | | | |  |

| 12 | | | | | | | | |
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| 14 | | | | | | | | |
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| 25 | | | | | | | |
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| 32 | | | | | | | |
| 33 | | | | | | | |
| 34 | | | | | | | |
| 35 | | | | | | | |

| 36 | | |  | | | |  | |
|----|----|----|----|----|----|----|----|----|
| 37 | | |  | | |  |  | |
| 38 | | |  | | |  |  | |
| 39 | | |  | | |  |  | |

The custom dot matrix characters (Category 8) were created out of curiosity to see how far it was possible to capture specific line formations within the limitations of the format of 5 x 7 dots. If equivalent characters already exist in the standard ASCII table, they are shown under Category 7 and are not duplicated.

Box 23 summarises the numbers of coded configurations and categories of phenomena in order of decreasing incidence.

> Conceptual art doesn't really have much to do with mathematics, philosophy or any other mental discipline. The mathematics used by most artists is simple arithmetic or simple number systems. The philosophy of the work is implicit in the work and is not an illustration of any system of philosophy. (LeWitt, 1967)

| Box 23. Incidence of codes and categories in the Comparative Morphology |||||
|---|---|---|---|---|
| Code number and name | | Number of correlations | Categories | Occurrence in correlations |
| 1. | Arc | 6 | 3. Heraldic Partitions | 37 |
| 2. | Horizontal line | 6 | 6. 16-segment display | 28 |
| 3. | Oblique line | 6 | 8. Custom dot matrix | 27 |
| 4. | Angle | 6 | 7. ASCII dot matrix | 23 |
| 9. | Circle | 6 | 2. Formal Units (Primary Line Formations) | 15 |
| 12. | Rectangle | 6 | 5. RK Placement Patterns | 13 |
| 6. | Wavy line | 5 | 1. Basic Scribbles (Primary Line Formations) | 10 |
| 7. | Ms | 5 | 4. RK Combines | 7 |
| 15. | Triangle | 5 | | |
| 16. | Cross | 5 | | |
| 17. | Kiss | 5 | | |
| 18. | Double or quarter cross | 5 | | |
| 30. | Pile | 5 | | |
| 5. | Zigzag | 4 | | |
| 8. | Disc | 4 | | |
| 10. | Loop | 4 | | |
| 13. | Square | 4 | | |
| 14. | Semicircle | 4 | | |
| 19. | Gyronny | 4 | | |
| 20. | Quarterly | 4 | | |
| 22. | Per Saltire | 4 | | |
| 25. | Per Pale | 4 | | |
| 26. | Per Fess | 4 | | |
| 27. | Tierced in Pale | 4 | | |
| 28. | Per Bend | 4 | | |
| 29. | Quarter | 4 | | |
| 32. | Pall | 4 | | |
| 11. | Oval | 3 | | |
| 21. | Tressure | 3 | | |
| 23. | Gurges | 3 | | |
| 24. | Fret | 3 | | |
| 31. | Bars | 3 | | |
| 35. | Etoile | 3 | | |
| 37. | Base | 3 | | |
| 38. | Tau | 3 | | |
| 39. | Gyronny of 6 in Pale | 3 | | |
| 33. | Lozenge | 2 | | |
| 34. | Mascle | 2 | | |
| 36 | Fess couped | 2 | | |

# 6.4 Research Question 3

| Box 24. Research Question 3 and summary findings |
| --- |
| **Question**<br>Which methodologies can be developed for analysing, understanding and demonstrating those relationships using multiple methods of art practice, exhibition production, curation and writing? |

**Summary Findings**      [these have been fully discussed in **Chapter 5**.]

1. **The primacy of art practice as a means of enquiry**
   - Practice-based research is overarching methodology.
   - A practice-based study must privilege what practitioners actually have said about their own practices; practitioners' own analyses.
   - Artists and art practice placed at the centre of the research.
   - My compilation of a variety of sources for research-led physical practice: texts, images and techniques.
   - The importance in practice of non-thinking 'tacit' craft processes.

2. **Redrawing and remaking**
   - This further develops a key part of my established practice methodology: quotation and material transformation. One of the purposes of re-making is 'to fix the image in memory'.
   - Re-presenting phenomena in a mediated way is an embodiment of a very different kind to the way they would typically be experienced (made and seen); a dislocation of contexts of origin and modes of production and existence is intended to provoke deeper engagement than might otherwise occur.

3. **Re-enactment**
   - This emphasises the primacy of physical action and working as a practitioner researcher.
   - Physical actions can only be *known* through one's own personal enactment, which represents a 'return to the phenomena'.
   - Data and findings cannot be sufficiently analysed and understood by me without being acted out.
   - Experience transcends theory.

4. **External realisation**
   - This is central to my methodology.
   - The phenomena under consideration cannot merely be conceptualised or imagined, they need to be seen and experienced.

- Entoptic phenomena and imagined visual forms are the last frontier for manual depiction; they are the only optical sensations and structures that cannot yet be captured mechanically.

5. **Correlational Analysis**
   - This examines the strength of observed relationships between phenomena.
   - The correlations are sorted graphically.
   - Firstly, the primary data sets for each phenomenon are cross-referenced.
   - The final stage is a correlational analysis across all phenomena.

6. **Making and Showing**
   - What artists have in common is that whatever is produced – and however it is realised – is shown *and seen*: the act of engagement that constitutes the 'art event' where 'seeing' is interlinked with 'understanding'.
   - My findings are analysed and understood through personal enactment, production and showing.
   - Showing products of realisation is more impactful than merely reporting on them.
   - Showing is the key consideration in exhibition making.
   - Exhibition production is an effective way for artist-researchers to define and determine the conditions under which selections of specific artefacts are encountered; it is the most powerful and effective way of showing discrete objects.

7. **Textual analyses**
   - Artworks function as 'texts' in exhibition conditions.
   - A text is anything we can make meaning from by producing an interpretation of it.
   - Textual analysis can be applied to any texts to answer any question about sense-making practices.

8. **Rationale for production processes**
   - Transforming my own personal responses into 3D physical materials is a key practice method.
   - Researcher-produced artworks are placed at the centre of the art encounter.
   - Reified objects of my observations demonstrate an intent to address research questions.
   - Facture integrates making, showing and discursive interpretation.

9. **Specific techniques**
   - Handmade graphic images using drawn line formations.

- Other handmade images – including CGIs or manually manipulated digital photographs as well as 'wet' and 'dry' physical materials.
- Testing various procedures for the most 'appropriate' physical realisation of concepts – engraving; manual screed box; adhesive strips; wall drawing etc.
- Reverse painting on glass: a process of simultaneously drawing and painting, but emphasising the visual image and referencing the interactive screen.
- Integrating the mark with the surface – making them as one, indicating their intentional and considered status. This differentiates them from the typical mode of mark making, which is decidedly a physical trace made, and sitting upon, the front surface of the support.
- 'Zen Calligraphy' – the discipline of attaining a 'detached gesture' in contradistinction to the supposedly 'expressive' gesture of Western painting.
- Panels displayed as tilted, 'integrated' picture planes.
- Other methods for making 'detached' marks are explored: offset imprinted impasto dots; controlled sgraffito.
- Finger-painting.
- 'One pass' actions.

## 10. <u>Framing the picture</u>
- All types of framing devices are carefully considered in the works.
- There is an 'already made' relationship between marks in and of the surface and the boundaries that enclose them.

## 11. <u>Colours</u>
- Analysis of various systems used to name sets of colours.
- Colour term sets used in different series as ordering devices.
- This is not making a statement about colour theory or definitions, but highlighting the discursive nature of signification.

# Chapter 7: Discussion

## 7.1 The primary phenomena

A study of this nature, with its narrow scope and limited duration, relies primarily on knowledge produced by other researchers. In the case of the development of children's drawings, detailed studies of the phenomena took place over a period of many decades. The central research undertaken by both Kellogg and Machón, for example, took more than 20 years to complete in the context of observations made during careers spanning more than 40 years. Even considering widely differing methodologies across all of the studies, as well as their separation in time and place, it has been fascinating to discover that researchers into children's drawings have found and described broadly similar phenomena. In the case of heraldic partitions, the common knowledge of the 'science' of heraldry is a closed system that has very little, if any, variance across the literature. In the case of the various types of alphanumeric display, they each represent a set of purely technical solutions to the problem of encoding and transmitting the maximum possible amount of information for the smallest amount of processing power given the technology available to their developers.

## 7.2 My personal approach to methods

The selection of phenomena and collection of data in this study is the result of my core artistic methodology of finding visual sources through field work and reformulating them into new means of picturing and art making. I actively seek out source material that appeals to me on a formal or conceptual level and that I find most suited to the processes of material transformation and remaking. I have therefore treated the raw data as subject matter in and of itself, regardless of whether or not it is wholly verifiable. As empirical evidence, I find the initial correlations as compelling as any other set of visual categories that has been carefully compiled – such as the most commonly occurring entoptic forms – and, as an artist, it is my responsibility to respond to any stimuli that I consider interesting, useful or important to my own practice. Working independently, there

is no imperative to justify any of this if it leads to artworks that I consider successful, and others find engaging. As an artist-researcher within the context of doctoral research, however, it is my duty to do justice to the phenomena under study and examine as fully as possible their significance. My studio practice is a process of continuous verification and assessment.

Overall, I continue to consider that a critique of both gesture and originality is defensible as a general artistic position. There are many ways of being an artist, all of which can have value. Unbridled gesture is still revered by some and pursued as a means of personal 'expression', which Bell (1999) describes as a way of 'pressing or forcing out' interior mental states. Somehow, gesture supposedly translates invisible emotions into 'visual language' and is an intense 'way of *experiencing* the act of representation.' (Bell, 1999, p.133) For Tracey Emin, it is a profound method for exploring 'the soul':

> I'm just going mad, I'm just throwing the paint around…I don't sit down and map out my painting…like, some people, they actually do everything on computer first…and paint it up on the canvas. I mean, that's like designing something. (Emin in Diament and Tovey, 2020)

> Like *visual language, visual* or *pictorial syntax* tends to be used so loosely that it means almost nothing. (Elkins, 1999, p.164)

I continue to pursue methods of pre-planning, non-composition and working with 'given' configurations. Rather than deskilling, or completely succumbing to the activities of 'scribble' – with all its varied implications as set out in Chapter 2 – I have only used scribble as a highly controlled method, as previously described in section 2.2 [Figures 12-14.]. Contrary to deskilling, my position since the early 1990s has always been one of 'upskilling', where I push myself to the limits of my abilities as a maker and producer. This has resulted in highly developed and meticulous crafting methods, which are used to embody the particular phenomena I am examining [Figure 139.]. The main new developments I have

**Figure 139.** 1. Jonathan Parsons (2015) *Black Drawing for FB: Rash Trash* [graphite pencil on white paper], 57 x 75.5 cm.   2. Jonathan Parsons (2022) *Black Drawing for DEP: Amer* [graphite pencil on white paper], 57 x 75.5 cm.

1.



2.

personally made during this study are the techniques for producing 'detached' gestural marks, integrating the mark with the surface and the various approaches to display that I previously described in Chapter 5. These new approaches to materials and mark marking and how they are subsequently shown are methods that I intend to continue to explore in my future work.

In particular, the use of approaches akin to Zen calligraphy (as described in section 5.9) is a very deliberate stance that, whilst still embodying a trace of material contact and movement made by the hand, is intended to challenge the widespread and ongoing Western celebration – if not outright fetishization – of wild, irrepressible gesture. My hope is that, by fusing this most pared down and ancient traditional approach to mark making with the highly technological materials of float glass and the latest acrylic paint formulations, I can refer to both established tropes of painting practice as well as screen-based picturing technologies. Through this, my aim is to contribute in a new way to the discourse surrounding existing paradigms and approaches to mark-making. However, it is important to recognise the particular limitations of such an endeavour. As Lee Ufan has stated, for example: 'Nowadays, it is meaningless to distinguish between Asia and the West.' (Goodman, 2021) When Lee was asked whether there was any connection between his use of materials and traditional Zen practices, he replied: 'as far as my work is concerned, it's totally distinct. It is the result of my questioning how artists should express themselves in a contemporary world – nothing to do with Zen' (Gayford, 2015).

## 7.3 Typologies of scribble

The commonly found basic scribble and formal unit typologies set out in section 6.2 (Tables 26 and 27) were derived from my analyses of the structures found by Kellogg (1955 & 1969), Matthews (2003) and Machón (2013). Their studies into the development of children's drawings are effectively the only ones that produced comprehensive sets of such categories. The typologies are my own compilations based on a correlational analysis of the particular sets of structures the researchers described. Their differing use of nomenclature reflects their

different methodologies. For example, 'horizontal arc' derives from Matthews' observations of the earliest marking behaviour (as described in section 4.4.2). This correlates with Kellogg's observations of the 'multiple curved line' and it is the 'most elementary' of Machón's 'back-and-forth' types, which he describes as 'the result of the swinging movements of the forearm pivoting at the elbow' (Machón, 2013, p.151). Matthews' categories (Table 24) include basic scribbles, basic linear forms, combinations and operations, but because he does not recognise discrete stages of development, they are not significantly differentiated from one another, nor enumerated sequentially. Kellogg described dots and commas, flicks, small spots and small rotations without explicitly naming them or including them in her typologies. Similarly, she describes up to eight distinct forms of 'diagram', but only includes six in her typologies. Machón's dissatisfaction with Kellogg's approach, along with the congruence of some of their findings, has been fully discussed in sections 4.3.7 and 4.3.8. I will add here that Kellogg's 'shape stage' is analogous to Machón's 'period of form'. What Kellogg describes as 'centredness markings', for example, Machón categorises as 'surrounding / containment'. Additionally, because Kellogg did not explicitly describe the relational actions of mark making, other authors have criticised her in this regard. However, close reading of her studies show that she had indeed noted some of these, but did not formally include them in her categories or stages (see, for example, Figure 104 and the discussion in section 4.2.6 where she describes axial and pounding actions). Kellogg wrote that children's art combines visual judgement and bodily movement, with the whole body contributing to the processes of vision. This is connected to 'the development of the vision and movement that help the child to survive and learn.' Thinking for oneself requires doing activities for oneself. (Kellogg, 1969, pp.255, 260, 262 & 263)

> Child art integrates movement and vision…To be effective, it must be experienced through one's own muscles, those of the hand as well as those that control the eye. Child art integrates…through the self-stabilization of the esthetic activity itself. (Kellogg, 1969, p.265)

None of the basic linear structures found by the researchers have been omitted from my compilations, as they are commonly found across all the studies. I have not included any of the combinations and operations in my findings as these are outside the scope of my research question. My final nomenclature was selected from those terms that I considered best suited to describe the phenomena they represent. For example, I prefer Matthew's descriptions of 'rotations' to that of Machón's 'round-and round', so have substituted these terms in my compilations. Because basic scribble patterns continue to be used throughout subsequent graphic development and into adulthood (see section 7.5.3), I created the typology named 'The Primary Line Formations' (Table 28), which combines all of the most basic linear structures of early children's drawings without any duplications.

Kellogg's Placement Patterns (1969, pp.24-5, Table 29) have not been observed or described by any other researcher. Machón only mentions them once, in reference to her (1969) study:

> Children view a piece of paper as a whole and react to it claims Kellogg. This is the principle which underpins her *placement patterns* and her *emergent diagrams*…She describes seventeen of these *patterns* and warns that there may be others…[she] points out with sound judgement that the 'sceptical reader' may have reservations about the implied shapes which the author finds in these scribblings. (Machón, 2013, p.66)

Clare (1988) studied the placement of scribble patterns on sheets of paper, as previously discussed in section 4.6, and concluded that the geometric patterns Kellogg described were unlikely to have been the result of purposefully controlled scribbling. The Placement Patterns, then, are contested phenomena and may even be the result of Kellogg's own personal seeing. Perhaps they are projections suggested by geometrical phenomena that she has previously observed. They certainly conform to her view of children's drawings as being fundamentally organised by a self-contained aesthetic visual order. It must be noted that it is

very difficult indeed to observe and recognise a previously undescribed phenomenon. In this particular case, it may be necessary to ascribe a status of 'real' to the phenomenon 'Rhoda Kellogg Placement Patterns', rather than to her observations as a verifiable unequivocal reality of children's drawings. My hunch is that her overall model is too perfect, general and universal to be completely 'real'. However, the fact that the majority of the line structures first discovered and described by Kellogg have been independently found and described by later researchers is highly significant and this alone demonstrates that her sometimes unverifiable observations should not simply be dismissed.

## 7.4 Heraldic and alphanumeric typologies

For the reasons previously given in section 7.1, I do not consider these two typologies to be controversial in any way.

Because of the almost infinite number of modifications and combinations available in heraldry, my particular selections of these phenomena are limited to some extent. In the case of simple geometrical charges (Table 1), I have shown all of the most basic examples. However, I have also included some charges that have been modified in particular ways, such as the chevron and pale rompu, the chief triangular and the chevron fracted. These modifications can be applied to many of the simple linear charges, but I have chosen not to enumerate every single possible combination as this would be outside the scope of a study of this nature. Similarly, all the principal field divisions are shown in Table 2, along with the most common combinations of them. I have included a bend compony and a bend counter compony, but these divisions can be applied to any charge. I have also included other less commonly used combinations (pily bendy, for example) to demonstrate the variety of possible combinations. The potential number of these is limitless, but in practice only a few are commonly found. Table 3 shows only the most traditional forms of partition lines. In recent times, partly due to new developments in national flag and logo design, many other partition lines have been invented [see Figure 6.]. However, they are not representative of a general typology as many of them only appear in one singular example of arms. My

rationale for redrawing heraldic devices within a rectangular shield is set out in sections 3.3.2 and 3.3.5-6.

My typologies of alphanumeric displays are not completely exhaustive. As my field drawings show, there are many variations of multi-segment display and it is highly likely that many more exist than I have shown. However, I am confident that my selections are fairly representative. Basing my typologies on field drawings is possibly too simplistic and it would perhaps have been better to have had a technical catalogue of all possible types, but I could not find such a document during my literature review. The dot matrix display shown is the most commonly used format. There are other types in existence, such as displays consisting of a large field of dots that allows for bitmaps to be generated that are far more complex than singular 5 x 7 dot characters. In addition, alternative new designs have been proposed, as in Burke & Bentley (1989, p.18), but these are not in public use and do not add significantly to the discussion of how co-ordinate plane series are able to generate pictorial structure.

## 7.5 Relationships

### 7.5.1 Morphological correlations

The first, and most obvious, relationship between all my selected categories of phenomena is a morphological one. Visual comparisons across the categories (as presented in Table 32) show that many of them share common configural qualities. The way shapes are perceived has an impact on any significance that is ascribed to them.

Kellogg is clear throughout her writings that she is studying spontaneous creations that are uninfluenced by adult input. Her study emphasises the morphological rather than the relational nature of children's work. Matthews wrote that early children's drawings are 'about shapes' and how these are related to objects and events in the world. He called this 'configurative representation'. Nonetheless, he was sceptical about analysing what he called 'configural end products' (Matthews, 1984, p. 1; 2003, pp.89 & 111). In many cases, though –

and in the history of art of almost every context – configural products of picture making are sometimes the only empirical evidence available.  As Hockney states: 'pictures…are primary documents' (Hockney, 2001, pp.15-16).

Out of all the primary phenomena, only 39 are shown to have configurations that are visually similar to one another (Table 32). The greatest number of correlations across categories occur for the Arc, Straight line, Angle, Circle, Rectangle, Wavy Line, Ms, Triangle, Cross, Kiss, Double Cross and Pile. The categories that occur with the highest frequency across the correlations are the Heraldic Partitions and the Alphanumeric Displays, with dot matrix characters encompassing all 39 coded configurations [Box 23]. These most frequent correlations include the Horizontal Arc, which is the first scribble to appear according to Kellogg (1955 & 1969) and Matthews (2003), the Straight Line and the Circle, which are identified by Machón as the initial, and most basic, formal units (Machón, 2013 p.204) and five of Kellogg's six Diagrams (1955). The so-called 'Honourable Ordinaries' (named for their widespread usage), i.e., the Pale, Fess, Bend, Chief, Cross, Chevron and Saltire (Rogers, 1955, p.37), are also included in these most frequent correlations.

It is tempting it is to ascribe some wider significance to these results, but they are not the result of a positivist methodology and therefore cannot be used to assert any particular causal connections between the phenomena. From a positivist point of view, they are not a true statistical analysis, nor do they constitute a theory about the laws of nature. From an interpretivist viewpoint, they are a discursive enumeration of my hunches and considered observations. The table of numerical incidences of the phenomena cannot be used to 'prove' any particular assertion, except – as Kellogg might have written – the results of 'my own seeing'. However, working methodically from an initial hunch towards a particular way of seeing is a perfectly viable research method, particularly when it is evidenced by the results of practical processes.

As previously stated, Kellogg's Placement Patterns – as well as her later Combines [Figure 92.] – are contested phenomena, but I have nonetheless included them in my analysis for the sake of completeness. Both of these categories correlate closely with other geometrical structures, lending credence to the assertion that they are possibly her own projections.

Some of the correlations, though, are much more convincing than others. For me, the most instructive morphological correlations are between the Primary Line Formations and the Heraldic Partitions. They correlate strongly with one another, suggesting that they possibly share attributes of the neuropsychological origins of picture making. Part of heraldry's significance is due to its antiquity. The fact that it began to be codified in the 12th century suggests that it probably reflected already established – and much more ancient – usage of certain morphological types. Clearly structures like 'quarterly', 'per saltire' and their combination 'gyronny' are very simple physical and visual ways of dividing up a rectangle, which constitute the same set of operations in all cases (as discussed in section 3.1.14). It would probably be possible to construct all of the heraldic devices using combinations and operations of all the basic linear structures. For example, a field semé could be constructed from small spots, or a fountain from a circle with wavy lines. It also makes me wonder whether it is possible to use solely heraldic devices to represent any conceivable thing. It is less significant, however, that the Primary Line Formations and the Heraldic Partitions also both entirely correlate with configurations produced by alphanumeric displays, as the latter are specifically designed to emulate existing structural systems for making up symbols, which is what the first two typologies of phenomena actually are. The fact that dot matrix characters are able to represent all of the coded configurations is an example of the incredible flexibility and economy of this system.

### 7.5.2 Developmental connections

The continuum of graphic development [Box 7] strongly suggests that there is a developmental connection between the shapes of early drawings and their use as enactive, symbolic and ideogrammatic representations. It is likely that there is

also a developmental connection between these modes of representation, their shapes and other configural phenomena used later in life. However, it is not possible for this study to conclusively demonstrate this. My hunch is that spontaneous graphic development in childhood, coupled with being taught how to inscribe various types of symbols, has a significant effect on the subsequent development of an individual's later graphic abilities.

Considering all the evidence I have collated from the literature, there seems to be a developmental progression that precedes in the following way:

1. Motor driven action
2. Action representation
3. Visual feedback
4. Preferences of placement and structure
5. Deliberate pattern formation
6. Preconceived design

One interpretation of the comparative morphology is that it is like an 'evolutionary' sequence from primal marks to the technological bitmap. One graphical system certainly appeared before the other in human history, and the later system emulates the former. This interpretation comes from the point of view of the intuitive, sometimes whimsical, artist and cannot constitute 'proof' in any terms other than it is a genuine account of a new way of looking. In this sense, my selections, methods and interpretations also constitute new forms of knowledge.

### 7.5.3 Persistence in adulthood

Machón is unequivocal that a comparison between adult and children's art is 'an endeavour which leads nowhere' and that the two forms of art 'have no more in common than their appearance'. He goes further when he states that 'the similarities between these two types of creations, when they occur, are so superficial that they relate only to appearances and not at all to their underlying motivations' (Machón, 2013, p.22). His position on these points is not entirely

consistent, however. He later writes that 'scribbling accompanies the individual throughout his entire lifetime' and that 'gestural schemas developed by the child throughout the scribbling stage become automatic and part of later graphic conduct' (Machón, 2013, p.127). He also states that the elementary back-and-forth scribble 'survives almost intact throughout the individual's life' and continues to be found as crossings-out strokes 'and in the colouring of drawings and designs.' (Machón, 2013, p.151) He goes even further when he states:

> The spiral is…the most original…characteristic stroke of this stage of development…and requires great concentration and particular eye-motor skills which imbue this formal stroke with a notable aesthetic sense. It is no co-incidence that it is one of the archetypical images which, as a universal symbol of expansiveness and dynamism, runs the course of formal graphic development of the history of mankind (Machón, 2013, p.182).

I would also argue that, in some cases, the 'underlying motivations' of both childhood and adult graphic formations are related to the use of exactly the same modes of representation. Configurational equivalents (as in the so-called ordinaries) are one example of this. The 'ordinaries' are precisely what Machón terms 'gestaltic configurational analogies' (Machón, 2013, p.248). Additionally, a mark defined as only existing in relation to a ground and a geometrical charge thought of as an object superimposed upon the field are almost identical conceptions. As previously discussed in sections 3.1.3 and 3.1.8, evidence from visual communications studies and information visualisation demonstrates that the concepts of inclusion and containment, as well as operations and combinations, continue to figure strongly in adult productions. This suggests that my comparison of scribble patterns to the seemingly unlikely models of heraldry and alphanumeric formats may, in fact, lead to a true visual lineage of pictorial understanding.

Gardner asserts that children's work 'possesses distinct and specifiable parallels to the artistry of gifted adults' in terms of its sources, processes and significance.

(Gardner, 1980, p.16) He states that the earliest exploratory scribblings 'serve as models for the experimentation that is the lifeblood of mature artistry' and that 'the vision of a balanced graphic symbol constitutes an unequivocally central aspect of any aesthetic development.' (Gardner, 1980, p.261) He regards the analogies between child and adult art as worth appreciating, because 'it is in the activity of the young child…that we find the crucial seeds of the greatest artistic achievements.' (Gardner, 1980, p.269)

Kellogg was never in any doubt that adult production was connected to the forms of children's drawings. She wrote that some of the most beautiful and satisfying drawings made by both children and adults 'are nothing but Scribbles skilfully put together, for these markings in themselves have permanent intrinsic artistic merit.' (Kellogg, 1955, p.16)

> An interpretation based on the child-art motifs found in adults' work is not beyond question. Thorough examination of child art is needed in order to appreciate its significance and the carryover it has in the adult mind. (Kellogg, 1969, p.218)

> It is doubtful that any adult could eliminate child-art images entirely from his mind…contemporary painters draw upon motifs known to them through their own art activities in childhood. (Kellogg, 1969, p.223)

An example of a basic scribble type in continuous use by a contemporary painter is the characteristic m-shaped brushstroke that Johns has used throughout his career. Similarly, Mehretu consistently employs arcs, zizags, wavy lines, variously oriented large and small longitudinal strokes, angles, dots and flicks [Figure 10.].

### 7.5.4 Physiology and Psychology of visual perception

The relationships between the phenomena probably arise from how and what we see: the physiology and psychology of visual perception and its interconnection with bodily action.

Visual perceptions are built up out of separate and fragmentary qualities of the visual field. Single cells in the visual pathways of the brain respond only to very specific formal stimuli (such as boundaries, orientation or movement) and these are processed individually before being brought together. These are then combined with the semantic content of the known visual world before being registered as a conscious visual experience. What we know is inextricably bound up with what we see. Exactly how these modular processes of vision present the entire perception to consciousness, however, remains a mystery (Bill, 2016b, pp.14, 16 & 18).

Recent research suggests that consciousness is a 'controlled hallucination', where the brain makes predictions about what it expects to perceive. 'The brain is barraged by a sea of sensory signals coming from the world and it uses those to calibrate its perceptual predictions.' Sensory signals act as 'prediction errors' that very rapidly and constantly update the brain's expectations. The idea that 'sensory signals report the difference between what the brain expects and what it gets at any moment…totally inverts the intuition that perception is just a reading out of sensory data'. What is actually happening is that the brain's perceptual predictions are projected out into the world and 'are calibrated by this data.' Optical illusions are a vivid demonstration that what we subjectively perceive is not quite what is actually there in external reality. They show us that what we perceive are the brain's predictions of what sense data is telling us. We are unaware of the entirety of these processes in the moment in which they occur. Rather, we simply experience a subjective consciousness, which is the 'only one space of experience for each of us.' (Seth, 2021; Sutcliffe, 2021)

This new research accords with my intention to disrupt audiences' visual expectations through my methods of presenting art practice. It suggests that artworks can indeed be deliberately conceived as stimulus patterns that interfere with the brain's predictions of what is being seen. As Simon Bill states, 'We can consciously abstract…[the artwork] proffers this invitation to notice some things and (temporarily) disregard others by doing some of that already for you.' (Bill, 2016b, p.19)

Despite the hallucinatory nature of consciousness and the fact that the neuropsychology of vision is fragmentary, we experience perceptions as a simultaneous totality 'because the conscious mind always functions as a whole.' (Arnheim, 1974, p.5) This totality of conscious experience was described by Merleau-Ponty (1945), for whom an individual, pure sensation was not possible:

> The perceived thing (be it a patch of colour) is always perceived as having a certain figure or form against a background. […] Assuming that experience is made up of sensations is a prejudice which must be removed before we can do true phenomenological description of perception. […] We are not able to separate clearly the world from our experience of the world…The different sensory paths are all experienced as part of the one body, and I have no experience of the senses working separately; rather the senses overlap and 'transgress' each other's boundaries. (Moran, 2000, pp.421-2)

Merleau-Ponty's conception of the unitary bodily experience of perception cannot take into account the later neuroscientific understanding of the modular nature of brain function, nor should it. What we actually *experience* is the most important thing and is, therefore, the central focus of this current study. A drawn line is always made by the body; a configuration, diagram or picture is constituted and apprehended through physical actions in relation to visual perception. Empirical evidence cannot be separated from our experience of it. Merleau-Ponty asserted that, in psychology, causal explanations are not possible and that, instead, *reasons* should be sought to account for behaviour (Moran, 2000, p.420). This

view is entirely consistent with an interpretivist research position.

Arnheim (1974) reminds us that one of the most fundamental features of a manual depiction is that it is produced sequentially. When a picture is finished, all of its constituent parts are available to be viewed simultaneously. This demonstrates a profound difference between the dynamic, physical experience of making an artefact and the experience of seeing 'the static final product, from which much of this dynamics has vanished.' (Arnheim, 1974, p.173)

The figure and ground invoked by Merleau-Ponty is a concept that comes from Gestalt Psychology, where perception is regarded as identical with cognition (Arnheim, 1974, p.5). Gestalt Psychology may not be a precise reflection of the neurological mechanisms of brain function, but it is an accurate and thorough explanation of how visual phenomena are perceived experientially. The 'new' version of Arnheim's *Art and Visual Perception* (1974) examines 'what can be seen by everybody'. Arnheim suggests that an adequate conception of reality would contain 'a common core of truth' and he elucidates the remarkable results of numerous scientific experiments into perception. Vision, he writes is 'the apprehension of significant structural patterns.' Looking at works of art would be more fully understood if it could be demonstrated that 'a well-organised line figure imposes itself upon all observers as basically the same shape'. Balance, shape, scale, location, colour and spatial relationships are perceived as a whole. Perception begins with 'the grasping of outstanding structural features' and there is good evidence that shape recognition occurs in all species with complex eyes. The bounding line of a figure (the apprehension of its form contour) induces additional internal structures to be perceived. (Arnheim, 1974, pp. 6, 7, 10-12, 44)

> Perceptual inductions differ from logical inferences…they are completions deriving spontaneously during perception from the given configuration of the pattern. (Arnheim, 1974, p.12)

In the case of a square, for example, we are immediately aware of its four boundary edges and of its centre. We are also simultaneously aware that each edge has a central point and that the square has four corners [Figure 43.]. This gives rise to a stimulus pattern that creates an inter-crossed framework of 'directed tensions', which he calls 'the structural skeleton of the square.' [Figure 140.] (Arnheim, 1974, pp.11, 12-13) This structure strongly evokes the gyronny field division of 'kisses and crosses' discussed in section 3.1.14. His description of the dynamic interplay of tensions within plane figures is identical to what Klee described as 'the tensions underlying the basic forms considered according to their inner coherence' [Figure 141.] (Klee, 1961, p.32). Arnheim's explanation of how gravitation affects perception similarly accords completely with Klee's evaluation of the subject, as previously discussed in section 3.1.5.

> The force of gravity dominating our world makes us live in anisotropic space, that is, space in which dynamics varies with direction…It follows from this unevenness of space that different locations are dynamically unequal…The objective, physical vertical direction…is 'environmental orientation'…the top of…a picture lying flat on [a] table…is in fact the top of our visual field. This is 'retinal orientation.' (Arnheim, 1974, p.30)

In the Primary Line Formations, straight (longitudinal) lines and line segments can occur in vertical, horizontal or oblique orientations. These are named as such in relation to the edge of the rectangular sheet of paper nearest to the child who is drawing them and are an example of 'retinal orientation' within a horizontal plane of physical action. When a sheet of paper or an unmarked canvas is hung on a wall its 'vertical position on the wall influences the distribution of visual weight, and so do colours, shapes and pictorial space when the canvas has a picture painted on it.' (Arnheim, 1974, p.19) I personally think that typographic characters have a 'vertical' aspect due to a combination of the environmental and retinal orientations of the origins of the written word: i.e., vertical and horizontal letter-cutting in stone and the horizontal and tilted writing surfaces in the scriptoria of early scribes.

**Figure 140.** Rudolf Arnheim (1974, Figure 3, p.13) 'The Structural Skeleton of the Square' Image credit: *Art and Visual Perception, Second Edition: A Psychology of the Creative Eye* by Rudolf Arnheim © 2004 by The Regents of the University of California. Published by the University of California Press.
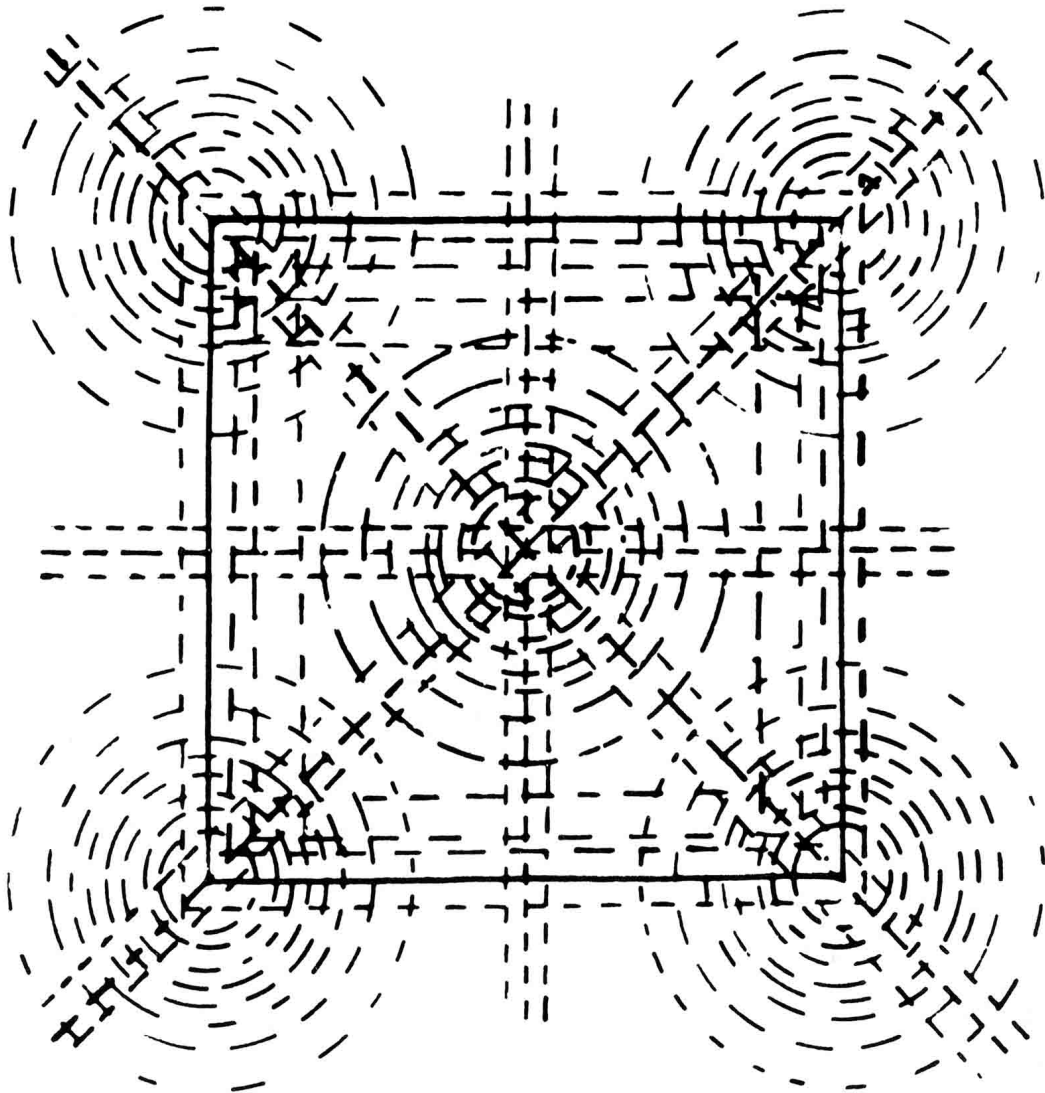
**Figure 141.** Field forces of geometric figures
a) Paul Klee (1961),) *Notebooks*, Vol. 1: *The Thinking Eye*, ed. J. Spiller, trans. R. Manheim, London: Lund Humphries, 'The tensions underlying the basic forms considered according to their inner coherence (inside and out)', 2nd figure on p.32, drawn by Jürg Spiller. By kind permission of Lund Humphries.
b) Rudolf Arnheim (1974, Figure 274, p.439) The so-called gamma motion (perceived when objects suddenly appear or disappear) is experimentally shown to vary with the shape and orientation of the object. 'It occurs essentially along the axes of what I called the structural skeleton of the pattern' (Arnheim, 1974, p.438) Image credit: *Art and Visual Perception, Second Edition: A Psychology of the Creative Eye* by Rudolf Arnheim © 2004 by The Regents of the University of California. Published by the University of California Press.
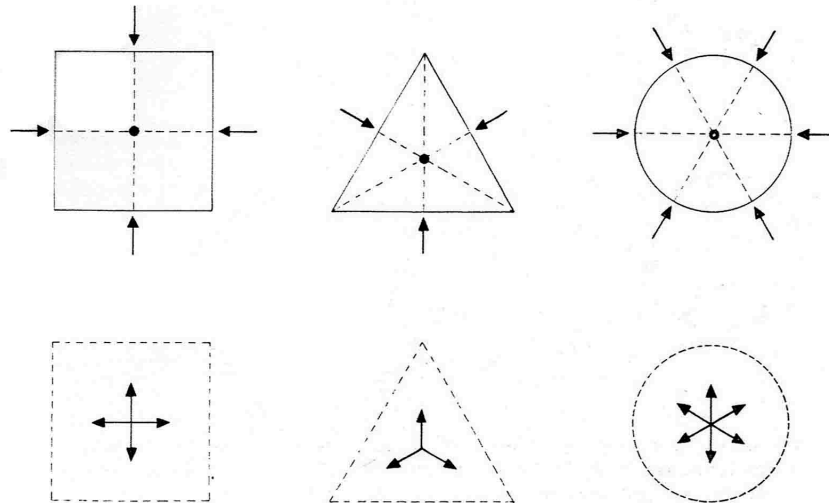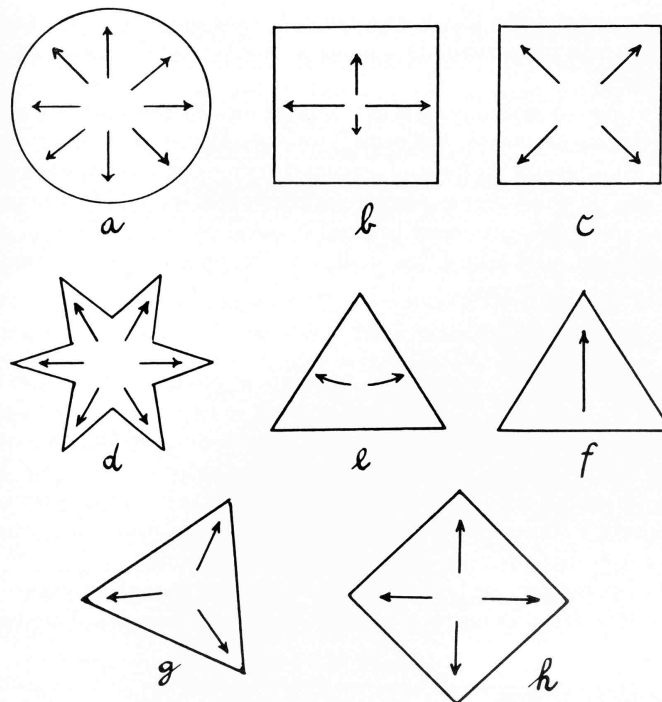
According to Klee, 'the terrestrial norm is rest' and 'tension on earth is the prerequisite for motion.' From the cosmic standpoint, 'motion is the norm.' He refers to verticals, horizontals and diagonals inscribed on an upright picture in relation to gravity as the 'mechanical elements of statics.' He describes verticals as the primary elements, horizontals as the secondary elements and diagonals as the tertiary elements 'within the rules of statics.' The tertiaries have a 'fundamental mobility' and embody 'labile balance.' (Klee, 1961, p.178)

The interplay between environmental and retinal orientation has shaped the varied ways in which artists have made projections of the form contours observed in the visual field. The invention of perspective gave rise to the concept of the picture frame as a vertical 'window' onto the conceptually boundless world depicted beyond it. In this way the frame psychologically functions as a 'figure' imposed upon the underlying borderless 'ground' of the picture space. As pictorial space was progressively challenged during the 20th century, pictorial depth was reduced to the point where painters 'began to think of the picture as an elaboration of the surface of the canvas…[that ended] at the edges of the composition'. The picture, as Judd described in 1965 (see section 3.1.1), became 'a bounded surface – a "figure," lying well in front of the wall.' (Arnheim, 1974, p.19)

The different types of projections seen in paintings are like different kinds of shadows thrown across a floor or, more accurately, upon an upright screen. When an object is at right angles to a light source, its projection resembles it with a one-to-one correspondence. Changing projection angles lead to deviations in appearance. 'Whenever a three-dimensional version of a figure is sufficiently stabler and more symmetrical than the flat projection, the observer will tend to see the simpler shape, extended in depth.' Projections that are the most satisfying are generally those that produce 'patterns of the simplest shape.' In terms of perspective, there are a number of highly distinct systems: convergent; divergent; isometric; orthogonal; frontal; anamorphic; central; aerial. These all produce distinctive linear formations and contribute to pictorial traditions – and therefore

traditional ideas – from which rigid conventions and entrenched concepts of what constitutes 'realism' can easily arise. Any object seen in the real world – such as the human head – can be viewed from any angle, therefore any single isolated aspect that is chosen to represent it pictorially is arbitrary in two ways: 'it creates contours where none exist in the object, and it excludes some parts of the surface while displaying others.' (Arnheim, 1974, pp. 103-4, 107, 108, 266) Bernard Cohen noted that any supposedly 'realistic' depiction of a human head (such as in a Renaissance painting) was, in fact, an abstraction:

> I have a problem with the word 'abstract'…I cannot imagine a painting that is not abstract. Neither can I imagine a painting that does not use signs…a painting nearly always stands for something else. Looking at the Memlings yesterday, I wondered 'how does that beautiful head come to live on that canvas?' It's an abstraction, it isn't a real head, neither is it an illusion of a head. But it is a magically beautiful head, in a real room…we are somewhere between reality and something else.
> (Cohen and Leeson, 2013)

A contour does not exist as a line in nature (Arnheim, 1974, p.140), although it is suggested by the projection of strong shadows in full sunlight. As Johns had already stated in 1959: 'the boundary of a body is neither part of the enclosed body nor part of the surrounding atmosphere' (Miller, 1959, p.22). His traced demonstrations of the equivalence of all pictorial contours produced a novel way of picturing that was radically different from any kind of spatial projection.

> In 1958 Leo Steinberg, reacting to Jasper Johns' and Robert Rauschenberg's work, 'felt the end of illusion'. In *Other Criteria* (1972), he describes the 'flatbed' picture plane, a horizontal 'work surface' that is 'a matrix of information' where 'pictures no longer simulate vertical fields'. The 'flatbed' reversed the vertical Renaissance picture plane representative of 'things' – arising from vision and nature – in favour of a horizontal transverse section containing signs – arising from action and culture. He characterised

it as a 'palimpsest, cancelled plate, printer's proof, trial blank, chart, map, aerial view. Any flat documentary surface that tabulates information in a relevant analogue of [the] picture plane – radically different from the transparent projection plane with its optical correspondence to man's visual field.' This is also quite different from the 1940s idea of the 'all-over' painted composition. He continues: 'The flatbed picture plane lends itself to any content that does not evoke a prior optical event. As a criterion of classification it cuts across the terms "abstract" and "representational"'. (Parsons, 2010b, p.53)

'Flatbed' is also an accurate description of the page upon which scribbles occur – the horizontal domain of actions where children spontaneously invent, practice, develop and manipulate the various types of sign.

Klee had noted the perceptual salience of open, closed and filled graphic structures that were later identified as being important developmental stages in children's drawings. He characterised these three 'basic formal differences' as: I. a linear character where the point 'goes to work' and planes are passive 'side effects' (open structures); II. a middle character where the point progression 'leads indirectly, by way of the contour to a planar impression' (closed structures, which he called 'hybrid'); III. a planar character where the plane is active and linear-passive elements are the 'side effect' (filled shapes). (Klee, 1961, p.115)

We recognise simple shapes more easily because they have less inconsistencies of form (and so, perhaps, engage fewer neurological pathways). Arnheim suggests that 'a good approximate definition of simplicity' may be arrived at 'by counting not the elements' making up a configuration, but the number of its differing structural features. 'Relative simplicity…implies parsimony and orderliness whatever the level of complexity'. (Arnheim, 1974, pp.57 & 59) He maintains that 'we see every shape as a *kind* of shape' and uses Wittgenstein's example of a closed triangle: it 'can be seen as a hole, a solid, a geometrical figure; as standing on its base or hanging by its top corner; as a mountain, a

wedge, an arrow, a pointer, etc.' As with Arnheim's *primordial circle* that represents 'thingness' (see section 4.3.3), shapes are spontaneously ascribed varying representational meanings in children's drawings. With these 'we are dealing not with an imitation but with an invention, the discovery of an equivalent that represents the relevant features of the model with the resources of a particular medium.' (Arnheim, 1974, pp.96, 168-9) This, for me, is similar to working within, or up to the boundaries of, methodological constraints.

In the section 'Form as Invention', Arnheim writes that 'image-making, artistic or otherwise, does not start from the optical projection of the object represented, but is an equivalent rendered with the properties of a particular medium' (Arnheim, 1974, p.139). Using the example of Giacometti's unattainable struggle to accurately render his immaterial visual perceptions of his model's head in a physical material form, Arnheim cautions against the idea that visual appearances can be grasped directly. They can only, merely, be evoked:

> The attempt to find representational form in the model was doomed to failure because all form must be derived from the particular medium in which the image is executed. The elementary act of drawing the outline of an object in the air, in the sand, or on a surface of rock or paper means a reduction of the thing to its contour, which does not exist as a line in nature. This translation is a very elementary accomplishment of the mind – there are indications that young children and monkeys recognise the outline pictures of familiar objects almost spontaneously. But to grasp the structural similarity between a thing an any depiction of it is a tremendous feat of abstraction nevertheless. (Arnheim, 1974, pp.139-40)

### 7.5.5 Physical structure

The spatial arrangement of cells in the receptive fields of the eye and the visual pathways of the brain, along with their physical interconnections, give rise to the modular processes that are the reason we perceive specific qualities of the visual field in the way we do. Physical structures – somehow – produce emergent

perceptual structures. It is thought that this is why entoptic phenomena are experienced by different percipients as common forms, as their alternative name 'form-constants' suggests [Figure 95.]. (Bill, 2016b, p.16, Zeki, 1999, Klüver, 1966, p.22)

Visual phenomena arising from physical structures in the external, manipulatable world also echo the shapes we are commonly able to perceive. For example, simple timber constructions of rectilinear frames, structures with cross pieces and bars, angled trusses and rafters (after which some of the heraldic so-called ordinaries are indeed named, see Table 5) and other forms, such as the gyronny kiss and cross combination, are all examples of the simplest physical linear structures that can be recognised as morphologically similar across all phenomena. A diagonal saltire can be painted on the back of a thin wooden panel in order to prevent it from buckling when it is being prepared as a painting surface. Even when there is no intention to create pictorial structure, rectilinear boundaries strongly influence visual configurations made within them. Physical trace evidence shows that non-conscious instances of Formal Units emerge as a result of various physical actions performed by adults [Figure 142.].

Geometry is ubiquitous in nature and progressions of biological growth exhibit structures that echo – or have inspired – artificially made ones. Wave forms and mechanical forces create perceptually salient visual patterns. The crystal structures of some elements and compounds exhibit highly regular geometries (such as the 'Widmanstätten' patterns found inside meteorites and some alloys) [Figure 143]. Another example is that of circular and spherical phenomena, which can be found at every scale throughout the universe. This formed part of the subject matter of the exhibition *Seeing Round Corners* (Parsons & Ward, 2016).

**Figure 142.** Author's photographs showing physical trace evidence observed in the field of non-conscious instances of Basic Linear Forms emerging as a result of various physical actions performed by adults.

When wave forms are artificially constrained within rectilinear boundaries, they produce a remarkable series of divisions of the rectangle. If a metal plate is made to resonate, it divides into regions that oscillate in opposite directions that are separated by 'nodal lines' where no vibration occurs. If the plate is covered by dry powder, it collects along the static nodal lines to reveal what are termed Chladni figures, after the inventor of the technique in the 18th century. These nodal patterns were later used to understand the quantum mechanical wave function of one-electron atoms (i.e., the probability of finding a particle at a specific location in space). (Tokita et. al., 2006, Lehar, 2003, McVeigh, 2000) Some of the Chladni figures strongly resemble the Primary Line Formations and the Heraldic Partitions [Figure 144.].

**Figure 143.** Crystal structures

a



b

**Figure 144.** S.M. Lehar (2003, Figure 4) 'Chladni figures for a square steel plate (adapted from Waller 1961) demonstrate the fantastic variety of standing-wave patterns that can arise from a simple resonating system. A square steel plate is clamped at its midpoint and sprinkled with sand. It is then set into vibration either by bowing with a violin bow, or by pressing dry ice against it. The resultant standing wave patterns are revealed by the sand that collects at the nodes of the oscillation where the vibration is minimal.'

Lehar, S.M. (2003) 'Directional Harmonic Theory: A Computational Gestalt Model to Account for Illusory Contour and Vertex Formation.' *Perception*. 32. 423-48. 10.1068/p5011. Available at: https://www.researchgate.net/publication/10725571_Directional_Harmonic_Theory_A_Computational_Gestalt_Model_to_Account_for_Illusory_Contour_and_Vertex_Formation (Accessed: 11 September 2021)

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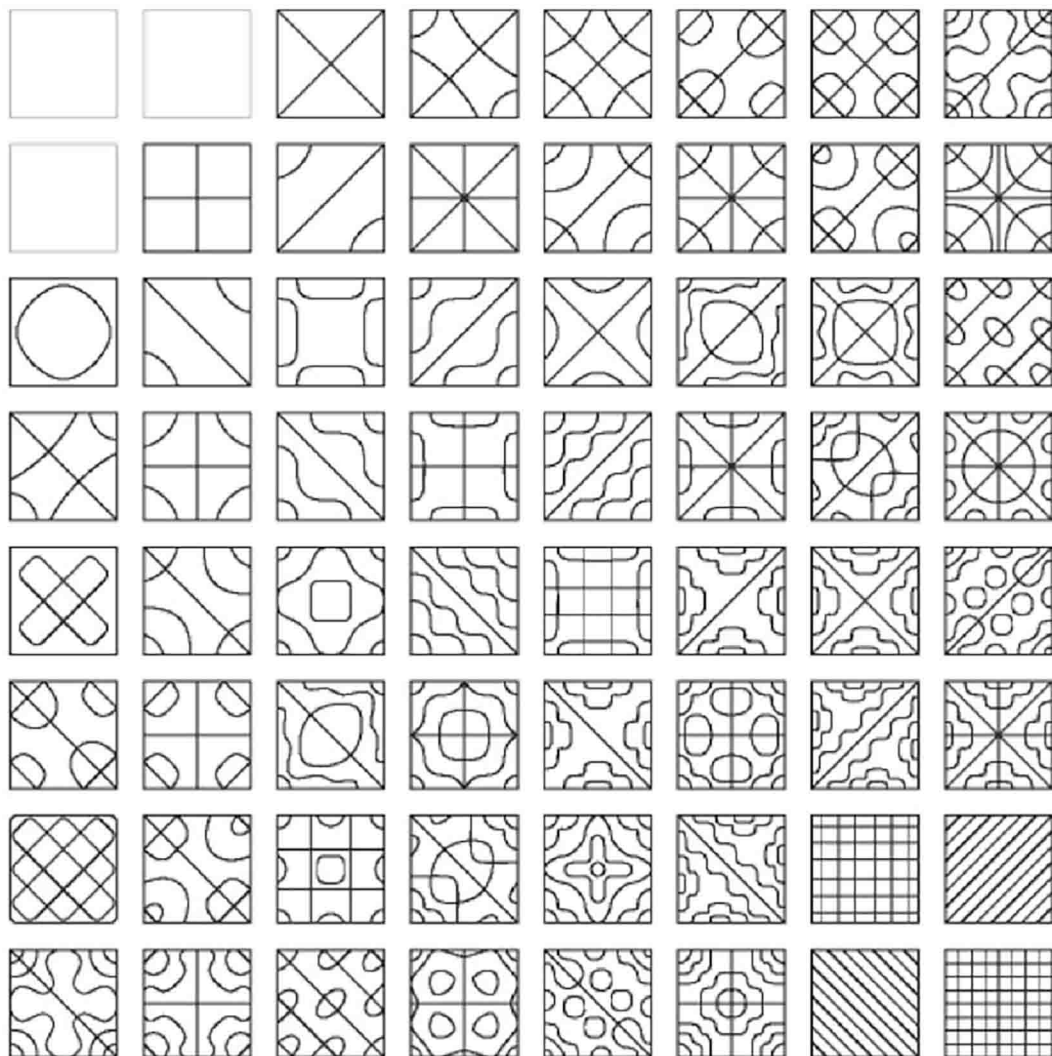
### 7.5.6 Names

The names given to phenomena are important for categories, typologies and understanding. Each of the typologies in this study has specific and particular nomenclature, which is related to the contexts in which they have arisen, the methodologies underlying their categorisation and how and what they signify.

Of particular interest to me is heraldic blazonry, which is a logical and self-contained verbal system for describing degrees of pictorial abstraction in precise detail. Within that well understood and consensus-driven set of codes, any conceivable thing appearing upon the shield can be blazoned. Each coat of arms is described by blazoning, which takes place in a sort of artificial isolation (notwithstanding the fact that every blazon should be capable of also being constructed as sculptural object in physical reality). This made me think that it might be possible for any enclosed or framed image to be precisely described in some way. Given that every bitmap is encoded for accurate storage, retrieval and repeated identical output, any digital assembly is capable of being so encoded and displayed. It is theoretically possible, therefore, that a technical, verbal 'blazon' could be developed for every and any image in existence. However, blazoning allows great leeway for interpretation by the heraldic artist and such qualities as translucence, glossiness, colour saturation and surface texture – that are commonly found in paintings, for example – are never enumerated in a blazon, although they can be successfully encoded by the latest three-dimensional CGI rendering technologies. The enormous variety of often contradictory, partisan and frankly ideological artist-generated theories of pictorial structure demonstrates that such an endeavour would very likely be futile in any case.

For Merleau-Ponty, verbal communication brings meanings into focus that would never otherwise arise. Speech, for him, is an organ of the senses. 'In speaking we take up a position in the world.' (Moran, 2000, p.426) In *The Phenomenology of Perception* he writes of the original learning of speech:

Our view of man will remain superficial so long as we fail to go back to that origin, so long as we fail to find, beneath the chatter of words, the primordial silence, and as long as we do not describe the action that breaks the silence. The spoken word is a gesture, and its meaning a world. (Maurice Merleau-Ponty, 1945, pp.184 & 214, quoted in Moran, 2000, p.426)

The 'linguistic relativity hypothesis' is a principle in linguistics that suggests that cognition – and, therefore ontological position – is influenced by the structure and development of a speaker's own language. Precisely how this operates has been the source of much debate. Some researchers have argued that language determines cognition, but most modern linguists now agree that linguistic categories and usage merely influence thought and decision making. One consequence of linguistic relativity is that naming a phenomenon makes it 'real': i.e., more significant and recognisable in our perceptual experience. (Ahearn, 2012, p.69; Ottenheimer, 2009, pp. 33–34)

### 7.5.7 Visual meaning

The perception of morphology is also related to the definitions of meaning (i.e., uncertainty; pattern recognition; behavioural value; enhanced perception) and optical sensation (i.e., vision; looking; seeing; observation) that I have previously set out in detail in Box 19 (section 5.8).

### 7.5.8 Legibility

All of the phenomena are related by their high degree of legibility. Heraldic devices and alphanumeric displays are both designed to be legible when they are viewed at a very small in scale in the visual field. A flag atop a distant building and a till receipt are both equally easy to read. Similarly, the Primary Line Formations are clear, well-defined motor / visual shapes that the child can readily recognise as a result of their own activities and are able to repeat with ease. At the same time as children are developing their graphic skills, they are also learning to read and make numerals, letters and words, as well as a variety of

other symbols. It is possible that this is one reason why the phenomena are related in terms of their legibility.

### 7.5.9 Modes of representation and types of abstraction

The phenomena are related by the ways in which they abstract and represent the qualities of entities and situations they depict. As previously discussed in sections 3.2.2 and 7.5.2 [Box 7], the continuum of graphic development sees action and gesture develop into enactive / symbolic / ideogrammatic geometrical representation and then into depictions embodying various degrees of abstraction and / or iconic semblance. Each of the phenomena are capable of embodying all the types of signs that are identified in section 3.2.1, with the exception that alphanumeric systems do not embody direct traces of obvious physical actions and therefore cannot manifest the index. However, every sign – no matter what technology has brought it about – is, logically, an index of the processes and location of its own production. The semiotic function in scribbling occurs when action and index are spontaneously ascribed symbolic value. Linear structures later develop into ideograms and iconograms, which, along with symbols themselves, are common across all three primary phenomena.

When a very few limited structural features are used in representations, these are often regular, simple and symmetrical. This reflects the way visual perception operates and is experienced. The tendency of employing the most morphologically basic geometrical shapes, along with the constraints of any medium being used, results in the various levels of abstraction observed in the phenomena. (Arnheim, 1974, p.145) The different types of abstraction were previously discussed in detail in sections 3.2.4-6 and all of them (i.e., non-iconic abstraction, iconic abstraction and iconic semblance) are present in the phenomena. Abstraction due to the limitations of media also occurs in all the phenomena (e.g., segment shape in alphanumeric displays, or properties of implement and surface in spontaneous drawing). As discussed in section 3.3.12, heraldic geometrical charges are schematisations from models in perceived reality. They are structural or configurational equivalents that embody 'abstraction

from' external visual stimuli. As such, they are iconic abstractions that are always laid out within the specified boundaries of a field with a particular shape. Alphanumeric displays employ various 'picture element' systems to produce pre-determined sets of symbolic configurations.

'In art, abstraction is agency at work upon perception. And Abstract Painting is painting that bids you to abstract.' (Bill, 2016b, p.19) Simon Bill's ideas about abstraction (as discussed in section 3.2.8) were anticipated by Arnheim at the end of his seminal work on *Art and Visual Perception*:

> Traditional representational art leads without a break to the nonmimetic, 'abstract' art of our century. Anyone who has grasped the abstraction in representational art will see the continuity…In its own way, nonmimetic art does what art has always done. Each successful work presents a skeleton of forces whose meaning can be read directly…Such 'abstract art' is not 'pure form,' because we have discovered that even the simplest line expresses visible meaning and is therefore symbolic. It does not offer intellectual abstractions, because there is nothing more concrete than colour, shape and motion…for art, the distinctions between the outer and the inner world and the conscious and unconscious mind are artificial. (Arnheim, 1974, p.461)

### 7.5.10 Modular relationship

All of the phenomena have finite sets of basic elements that can be combined in an almost infinite set of variations. In the continuum of children's graphic development, the Primary Line Formations are spontaneously manipulated through combinations and operations to produce the various types of signs and depictions observed by researchers. The combinations of the Heraldic Partitions and other elements of heraldic art are governed by stringent processes that ensure that every grant of arms is completely unique. As previously mentioned in section 7.5.1, it is likely that heraldic art is limitless in terms of its forms and variants. The goal of alphanumeric display design is to be able to produce the greatest number of possible configurations using the least amount of processing power and, therefore, the smallest number of basic picture elements. The modular relationship between the phenomena is also related to particular named categories occurring within the raw data (e.g., 'Ordinaries' or 'ASCII'). This modular nature is reflected in my Physical Practice Research (see Volume 1, Section 2), where the data treated as subject matter. Much of my practical research work employs a modular approach to making large scale, multi-element mixed media installations.

## 7.6 Form-similarity problem

The central problem of form-similarity is that isomorphic phenomena are not necessarily causally related. Certain phenomena may be morphologically analogous to others to which they have no connections at all. This probably derives from what appears to be a strongly optical bias in humans. In matters of accurate identification and classification, this can often lead to misconstrual and misattribution. Widespread prejudice based on the physical appearance of an unfamiliar 'other' person is one important example of this bias. A reliance on superficial perceptions could potentially be a problem in a curatorial practice where categories are being examined and displayed. Careful attention to detail and a respect of contextual information is required. Notwithstanding the potential pitfalls associated with isomorphs possibly being unrelated, the morphological correlations presented here are central to this study. They do not demonstrate

causal relationships, but perceived and experienced connections. This way of evaluating data may be seen as 'erroneous' from a positivist point of view, but in the context of research in Fine Art, it provides a locus for a network of discursive 'inquiry practices.' (Sullivan in Smith & Dean 2009, p.62)

My exhibitions of practical research work go further into this problem and present my own apprehensions of form-similarity *as a method*. This emphasises my role as an artist-researcher: i.e., 'someone who notices things', who then shares what they have noticed (Perry, 2013). The artist-researcher / producer / curator is predisposed to a self-analytical approach and can live with and through the self via practice and also recognise the potential value of purely anecdotal evidence (see Appendix 3).

## 7.7 Is it art?

Kellogg (1969) and Gardner (1980) were both convinced that children's graphic practices demonstrated artistry. Matthews (2003) was careful in his use of the term 'art' but nonetheless stated that '*everything* that very young children do, unless proven otherwise, is art.' (Matthews, 2003, p. 201). Machón (2013) did not object to the term, but cautioned that if the artistic activities of adults and children 'resemble each other in anything, it is in the fact that both, children and artists, are incorrigible investigators.' (Machón, 2013, p.22) Children's truly spontaneous art experimentation ceases once the influence of their own particular sociocultural environment becomes irresistible. However, sensorimotor and symbolic types of knowledge 'are found in individuals of all cultures', whereas 'notational symbolic systems…are closely tied to specific cultural frameworks.' (Machón, 2013, pp.288-9)

My experience of art practice, specifically practice directed towards research questions such as for this PhD, supports the notion that 'art' is a reasonable description of drawing and painting activities undertaken for their own sake. Obviously, their functions are entirely different for children and adults. In children, the objects of art are the results of cognitive developmental experimentation,

whereas in adults they are highly nuanced and varied psycho-social, socio-political and economic entities, given particular intensity by the context of contemporary art practice. I can testify to the wide-ranging demands that commitment to such an activity entails, as an artist who has participated in the international art market, produced over thirty years of exhibition making and elected to examine an individual practice through the prism of doctoral research.

## 7.8 Seeing things

'Intelligence' (as discussed in section 5.1) is a powerful driver and one consequence of this is that there are always pictorially perceived results of human activity. For example, the geometrical definition of a crossed quadrilateral is sometimes referred to as a 'bow tie' or 'butterfly' [Figure 145.].

**Figure 145.** 'Crossed rectangles' by Tom Ruen (released by the author into the public domain via Wikimedia commons). Examples of a crossed quadrilateral, sometimes referred to as a 'bow tie' or 'butterfly'.
Available at: https://commons.wikimedia.org/wiki/File:Crossed_rectangles.png (Accessed: 3 June 2017).
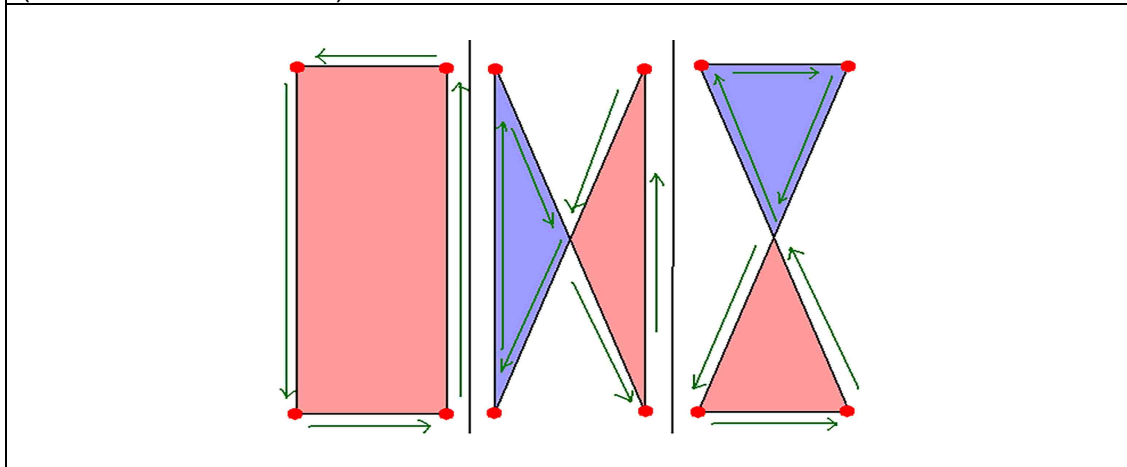
It is very difficult to resist entrenched pattern-seeking behaviours and to go beyond them to perceive configurations purely as schemes without specific meanings. This is the greatest challenge of presenting and analysing the findings of this research: to enable 'seeing' of the structures of depiction as singular, even possibly neutral, elements that can engender unmediated constructions of meaning. It does not seem likely, however, that such structures as the kiss and cross – and their aggregate gyronny combination – could ever be perceived as

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anything other than loaded symbols already saturated with meaning, whatever the conditions of their manufacture and display.

In the 1980s, the Dutch artist René Daniëls highlighted this problem in a series of paintings where the bow tie motif can be read simultaneously as both as an illusionistic pictorial image and as a simple diagrammatic sign [Figure 146.]. In these works, the motif is used to depict a perspectival view of the rear and side walls of a gallery space hung with pictures. In some of the work, this is covered over with a thin veil of white paint upon which is painted numerous variations of the bow tie in the form of black linear graphic frameworks. Daniëls described the separation of these two modes of picturing as a distinction between the 'reality' of the subject and the 'idea' behind the work. As such, he has contributed to our understanding of how paintings operate by simultaneously showing a specific type of depiction and the structure of that depiction in the same work (Simon, 1999).

Today, viewers are active as readers and decoders of messages, rather than merely passive consumers of spectacle. The contemporary artist adopts a strategy of manipulating a multiplicity of signs more often than actively producing art objects, which is not a new phenomenon. However, the strategy of recapitulation and quotation remains important for the artist-researcher / producer / curator, because few people 'are able to accept the status of art as a social sign entangled with other signs in systems productive of value, power and prestige' (Foster, 1982). Presenting research findings as physical practice, and especially in an exhibition setting, invites just such an entangled, discursive encounter.

**Figure 146.** René Daniëls (1987) *Doorlopend Naar Buiten* ('Continuing into the Outside') [oil on canvas] 190 x 130 cm. Collection Stedelijk Museum, Amsterdam. Object number: 1987.1.0165(1-2) Available at: https://www.stedelijk.nl/en/collection/276-rene-daniels-doorlopend-naar-buiten (Acessed: 6 January 2022).
Photo courtesy Stedelijk Museum, Amsterdam © DACS, 2022

# Chapter 8: Conclusion

## 8.1 Meeting my research aims

The literature reviewed in this study demonstrates that there is a finite typology of Primary Line Formations that is commonly found in the early developmental stages of children's spontaneous gestural mark-making. It has also shown that there are particular typologies of heraldic partitions and alphanumeric displays. My research has found that, in the context of the rectangle, pictorial structures occurring in the typologies of scribble pattern and the adult visual communication designs of heraldry and alphanumerics are related by morphology, development, usage, visual perception, physical structure, nomenclature, definitions of meaning, legibility, modes of representation and modularity.

The methodology I developed for analysing, understanding and demonstrating those relationships used multiple techniques and processes of art practice, exhibition production, curation and writing. From the outset, my research was predicated on the primacy of art practice as a means of enquiry. This enquiry encompassed: redrawing and remaking; re-enactment; external realisation; correlational analysis; making and showing; textual analyses; specific rationales for production processes; specific techniques; methods for determining the boundaries of the picture and how this is presented; a rationale for the use of colours. I have also allowed pure experimental play in the studio and non-rational insights about ideas, subject matter, physical processes and fabrication to inform the production of many artworks and series. Unorthodox experimentation through practice is frequently how novel and engaging artworks arise and can make a new contribution to knowledge.

## 8.2 Limitations of the study
### 8.2.1 Data
It was not possible for me to gather first-hand data in this research relating to children's drawings, due the very large-scale and long-term nature of any study

that would be able to accomplish this. My primary data for this phenomenon, therefore, already exists in the literature and reflects the knowledge produced by other researchers. I am unable to verify or test any of the evidence for myself. In that regard, I have to trust the veracity of others' reporting. Any new knowledge that I have produced is the result of my particular methodological approach brought to bear on all the pre-existing evidence I could find. In order to fully understand the phenomena, it is necessary to consider the entire process, rather than just 'configural products', or 'residual artefacts', but I have had to rely on these for a significant portion of my study.

## 8.2.2 Biases

Due, in part, to the conventions of academic research traditions, this study has an inherently Western bias. Key concepts, such as 'scribble', 'abstraction' and 'heraldry' are all Modern Western European concepts or constructs and rely to a greater or lesser extent on the socio-political structures that allowed them to arise. The development of alphanumeric displays, for example, was dependent upon the societal wealth and the military imperative required to create ever more sophisticated telegraphic communications systems.

The non-exhaustive selection of artist-generated theories of pictorial structure set out in in Box 4 (section 3.1.4) is evidence of the male bias present in Western Modernist art history and criticism. It was very challenging to find formalised, published and available artist statements on this subject. My review of the literature therefore also reflects the degree of visibility of artists' writings and the marginalisation and exclusion of artists in historical publications along the lines of sex, gender, ethnicity and socio-economic status. I have tried, however, to use artists own statements wherever possible.

In 2006, the American art historian Linda Nochlin reflected on the critical period when she wrote her historic essay *Why Have There Been No Great Women Artists?*, which was published in *ARTnews* in January 1971:

November 1970, a time when there were no women's studies, no feminist theory, no African American studies, no queer theory, no postcolonial studies. What there was…was a seamless web of great art, often called 'The Pyramids to Picasso'…extolling great (male, of course) artistic achievement since the very dawn of history.

(Hessel, 2022, pp.326 & 330)

My own practice and thinking are inherently biased towards the visual. My obsession with the processes of visual perception and modes of visual production is such that I find it difficult to understand why *all* visual artists do not explore these subjects in some way. For me, this interest probably stems from having the minor visual impairments that I briefly mentioned in section 1.3.2. I have had a convergent squint (esotropia) since infancy, which was unsuccessfully treated with surgery, resulting in the fact that I do not have three-dimensional vision. This may account for my fascination with two-dimensional pictures, as the entire visual world already appears flat to me. In addition, my left eye is hyperopic and my right eye is myopic, which adds to my difficulty with spatial orientation and typical ways of seeing. My right eye is dominant and perceives colours as slightly bluer than my left eye. I have always been interested in visual alignments and testing the effects of a shifting point of view, perhaps because I lack stereoscopic vision and this is the only way I can make judgements about spatial depth. This may account for the eventual development of my spaced linear dot matrix installation works, where each letter is 'stacked' one behind the other to create changing views of the works' alignments. When I am tired, I experience exaggerated and distracting afterimages that appear to stream out from objects in the visual field. Following multiple episodes of anterior uveitis in each eye, they are both affected by many intrusive floating vitreous opacities with the result that my overall visual acuity has been diminished. Finally, I regularly suffer from migraine aura (scintillating scotoma). As a result, I have always been intrigued by the various entoptic phenomena that I perceive on a daily basis [Figure 94.]. It is fitting that my interest in children's mark-making came from seeing Kellogg's (1955) 'Chart Showing Evolution of Pictorial Drawing from Early Scribbling' [Figure 2.] when it was

reproduced in Trevor-Roper's *The World Through Blunted Sight* (1990), which is subtitled: *An Inquiry into the Influence of Defective Vision on Art and Character*.

It is possible that some form of confirmation bias is present in my correlational analysis. The fact that it is impossible to perceive 'pure form' (see sections 3.2.8 and 7.5.9) means that any perception of commonly shared configural qualities is, originally, the result of the way 'shapes' are neurologically presented to consciousness. This may have a negative impact on any subsequent significance that is ascribed to them. Confirmation bias may also account for the 'form-similarity' problem discussed in section 7.6.

Studies that are connected with subjective human experience are inherently biased towards an anthropocentric view of reality. For example, any model of 'colour space' and its associated theories only hold for the human visual system. Other ways of seeing have to be disregarded.

### 8.2.3 Other traditions, times and places

This study cannot take into account every global incident of the kinds of morphologies presented in the findings. Trans-historical, cross-cultural decorative and ritual mark making employs a repertoire that displays form-similarity to entoptic phenomena, the Primary Line Formations, and the Heraldic Partitions. Osborne (1998, p.2) identifies this repertoire with non-iconic geometrical abstraction and it is certainly distinct from mimetic form-contour outline. A systematized practice of dividing bounded rectangles to form signals and layouts can be observed in all kinds of cultural products, from carved and calligraphic letterforms to textiles, vessels and architecture.

A striking example of this are the painted designs on 'tapa' bark cloth, which is made on a number of Pacific Ocean islands and is an ancient tradition still practiced today. Many of the patterns used are identical to heraldic field divisions and partition lines [Figure 147.].

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The completely unrelated Ghanaian 'kente' cloth tradition uses patterns that are similarly identical. Kente is also noteworthy because each woven pattern and colour encodes names, messages and other signifying attributes.

Australian aboriginal bark shields (first seen by Westerners in the 18th century) had distinctive markings or symbols painted on them in earth pigments as markers of belonging to a particular cultural or tribal grouping (Gordon in MacGregor, 2010, p.583). When Joseph Banks (1743-1820) first saw a Maori 'kafifi' pattern, he demonstrated the collision of a Western sensibility dominated by the projection-plane with highly developed iconic abstraction by declaring 'it was like nothing but itself.' (Fox, 2018)

Research that could include all of these kinds of phenomena is desirable, but outside the scope of the current study. Any such research would have to take into account critical positions from the emergent field of 'global art history' and the idea of 'transcultural histories', where 'disciplines and concepts…have travelled beyond their points of "origin" and in the process grown beyond their parochial roots.' (Juneja, 2011, p.280)

> A notion of 'global art history' conceptualized as transcultural can provide a way to rethink existing disciplinary frameworks. A transcultural history of art…looks…at the transformatory processes that constitute art practice through cultural encounters and relationships, whose traces can be followed back to the beginnings of history. (Juneja, 2011, p.281)

The development of European Modernism was only made possible due to the large-scale, complex political and cultural establishments of globally connected colonialism that gave rise to powerful institutions and attendant academic codes. The supposed 'avant-garde' rebelled against the latter and in the process created its own new institutions and codes, which are now the establishments of the contemporary art world. It is important to bear in mind that it would be unsatisfactory for a new 'world art history' to merely be 'one that searches for the

lowest common denominator to hold together humans across time and space who have been making art for millennia'. What would be required is 'a critical articulation of tradition that in the end breaks with existing tropes of both the avant-garde and the world of commoditized cultural difference.' (Juneja, 2011, pp. 278, 283, & 292)

The nature of different types of abstraction has been an important part of the theoretical perspectives underlying my research. Another brief example of a related phenomenon, but one that is strictly outside the scope of this study, is the precise way in which visual percepts are understood and recorded. Spiritualist drawing and painting might not be picturing the semblance of outward visual appearance in the external world, but it might very well consist of accurate depictions of personally experienced entoptic phenomena – i.e., the faithful recording of 'visions'. Throughout *Point and Line to Plane* (1947) Kandinsky continually conflates geometrical forms with temperatures, colours and tactile sensations. It is now thought that Kandinsky experienced synaesthesia and so his abstractions may, to some extent, have been depictions of perceived entoptics. This line of enquiry is related to theories about shamanistic art in Paleoart studies. The status of 'abstraction' in spiritualist and shamanistic practices – as defined by early Western Modernist discourse – is, as we have seen, at least questionable.

### 8.2.4 Conflictual epistemologies

This research has relied on evidence from positivist as well as interpretivist research. As discussed in section 1.3.4, positivism encompasses approaches linked by attempts to *explain* the structures of reality, whereas interpretivism links approaches that attempt to *understand* reality. A key source of epistemological conflict in this current research is that any studies seeking to *explain* phenomena (such as the relational nature of children's drawing, or the structural skeleton of the square) also contribute to our *understanding* of them.

## 8.3 My own learning

### 8.3.1 Scribble

I was pleased to discover that my intuitive use of basic scribble forms was based on a real phenomenon. I was able to understand that my art practice was not founded on something I had mistakenly thought I had seen, but had indeed been based upon commonly found and described aspects of reality. This study goes a long way to satisfy the desire that I wrote about in 1996 of 'legitimising the scribble' in my own work and to make those *incidents* worthwhile objects of artistic attention.

### 8.3.2 Artists and the literature

The literature review shows that the ontological positions of individual artists are as diverse as all other individuals. There is absolutely no consensus. The sense that I got from reading artists' writings and looking at their overall practices, was that all of the artists that I considered to be significant are completely unique, without real precedent or convincing followers.

For more than 25 years I had been working in isolation, outside of the institution, and theorising in reflection to my own practice. The literature review revealed to me that many aspects of theory that I had worked out for myself over this time (such as theories about the horizontal and vertical, or divisions of the rectangle) had already been comprehensively developed by other artists. It was as though – in matters of theory – I had been working as an 'outsider artist', but had nonetheless come to exactly the same conclusions as others had. This is the positive, albeit sometimes unsettling, consequence of a thorough and focused literature review.

### 8.3.3 Morphologies and commonality

A few questions, for me, remain unanswerable. Is correlational morphology simply an embodiment of the form-similarity problem? Perhaps it will be impossible to escape this given the suggestions made by perceptual psychology and neurology that 'this is simply how we see'. Can I tentatively conclude that the

morphologies of linear structures occurring in children's drawings and their associated developmental stages are truly universal? A set of large-scale international studies, using multiple methods, would be required to verify this.

It has become obvious to me during more than three decades of collecting source material in fieldwork that the graphic structures produced by adults in a casual and unselfconscious way are morphologically identical to the scribble forms made by young children (see Figure 96.). The findings of this study suggest to me that these structures are, indeed, a continuation of usage by adults of the gestural marks they spontaneously discovered as children. Rather than emotional meaning or formal analysis, perhaps the primary 'source and effect' (Kellogg, 1969, p.228) of art is the semiotic function; the realisation – or invention – that line formations, by themselves, can *signify*.

Since children spontaneously produce the Primary Line Formations, and these have been independently observed by a number of researchers using differing methodologies, it seems reasonable to assume that these formations are the basis of graphic symbol systems that are subsequently developed by adults.

### 8.3.4 Superficiality

The problem for human beings is that we are obsessed and distracted by the outward appearance of things, which is just one small aspect of reality. Any phenomenon can be described to some extent in artificial isolation (e.g., an enclosed or 'framed' digital image recorded as code), but its true reality is a manifestation interconnected with all other phenomena. One current moment of observation, or realisation, is interconnected and enmeshed with everything else – particularly the circumstances leading to its manifestation. Using the example of heraldry, a phenomenon is a manifested reality (i.e., the visual apprehension of heraldic partitions). A description of the phenomenon is an imperfect approximation (i.e., a verbal blazon). This is why there is, necessarily, much room for interpretation and final decisions are always left to the heraldic artist.

In Buddhism there is the teaching of signlessness (*animitta*). 'Sign' means the outer form or appearance of things. The practice of signlessness is the practice of not being fooled by the outer form or appearance of things. When we understand *animitta*, we understand that appearance is not all of reality. (Nhât Hanh, 2002, p. 60)

### 8.3.5 The continued significance of scribble

As mentioned in section 4.1, Machón (2013) identified eleven distinct approaches to studies of children's drawings and stated that three fields of science in particular have shown the most interest in them: Pedagogy, Anthropology and Psychology (Machón, 2013, p.36). Six of the approaches identified by Machón were the most relevant to this research: Perceptive-formal; Neuromotor; Semiotic; Artistic; Genetic-developmental; Anthropological.

My typology of Primary Line Formations could potentially be of interest to researchers in fields outside of Fine Art, for example those involved in pedagogical or neuropsychological studies. In the literature on children's drawings, the authors agree that children's spontaneous production comes to an end when the external influence of prevailing adult culture is impossible to resist. This is usually when the child begins formal schooling (see sections 4.2.2, 4.2.9, 4.3.9, 4.4, 4.5, 4.6 & 7.7).

The process of development of children's drawings is at its most natural and unspoilt during the first four years of life, after which children receive decisive influence from the school and the developmental bias of their culture. (Machón, 2013, p.94)

The flowering of child art is real and powerful but, like other flora, it is seasonal. The magic years, which confer such a treasured quality upon the child's songs, language and drawings, do not last – indeed they begin to evaporate almost as soon as school begins. (Gardner, 1980, p.142)

It is therefore probably highly beneficial – from a number of different points of view – to allow infants to freely and spontaneously develop gestural linear structures for as long a period as possible, without the interference of adult guidance or expectations. Kellogg was vociferous about this in relation to art:

> Suggesting to the child what or how to draw has the very worst possible influence on effective individual creative ability in the arts.
> (Kellogg, 1955, p.126)

One way that the repertoire of Primary Line Formations might inform future research is through greater understanding of child cognitive responses to newly evolving interactive technologies. It would be desirable, for example, to find out how the infant's learning through spontaneous experimental mark making influences gestural behaviour using touch screen technology, and vice versa. This is especially important since young children today are probably equally exposed to touchscreens and drawing materials. Touchscreens are a very powerful (and potentially overwhelming) manifestation of the external influence on children of prevailing adult culture and they are introduced to children at a very early, preschool, stage in their development. It has not been possible to examine this issue within the scope of the present study. My recommendations for future research are set out in detail after the end of this chapter.

## 8.4 Final thoughts

Being an artist is not an occupation, it is a particular way of living one's life. The artist Ashley Bickerton, who sadly died in November 2022, wrote the following in a Facebook post entitled 'Manifesto':

> There are no more 400-year canons, it's over. Human stewardship of this planet is winding down, and now as artists we are just fecklessly decorating the twilight. It was beautiful for a moment…Are we as artists just perfumed manicured poodles dancing through fiery hoops to the mild applause of a gilded plutocracy? Or are we the antenna and emotional divining rods of a

species? I am totally confused…Still, I take my role as a plastic philosopher seriously…We can shape and color other peoples' experience and provide emotional structure to how they perceive things. Those are the good parts…The ocean does not need any more crap in it, just like landscape does not need any human enhancement. It's fine just the way it is. Choose your materials carefully, avoid too many art fairs and travel, limit your footprint. Disappear. (Bickerton, 2021)

The ingenuity, tenacity, stamina and inventiveness of human beings are qualities that are abundantly evident in the typical drawings of pre-school children. Whether the phenomena occurring in children's drawings are truly universal (for all typically able children, or across cultures, or throughout history), and whether or not these genetically give rise to the pictorial structures analysed in this research, is not possible to determine within the scope of this current study. What is certain, however, is that all of us were children once and most of us have made scribbles upon a sheet of paper in order to construct a picture [Figure 148.].
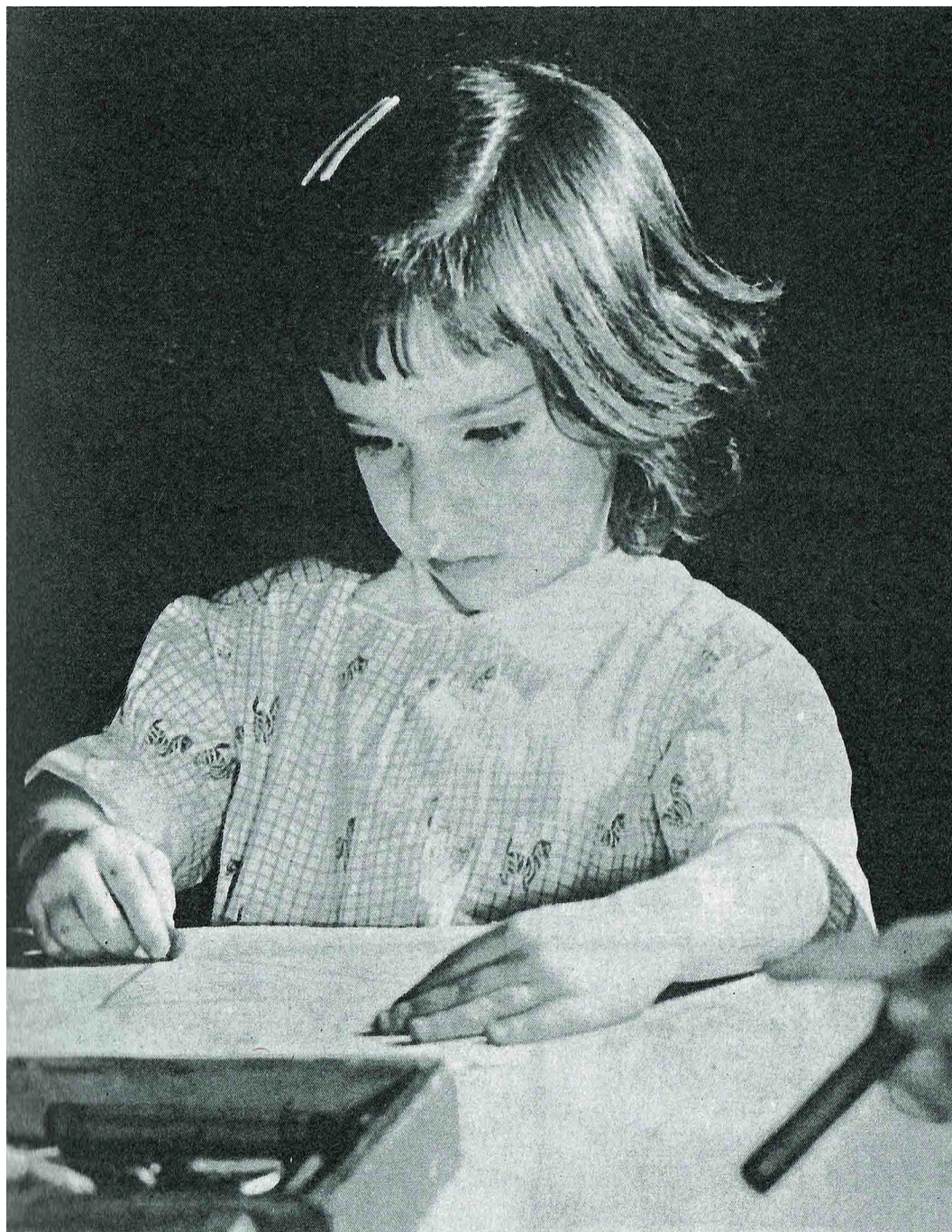
## Recommendations

The research I have undertaken for this PhD has provoked a number of questions about the phenomena that I have studied and the findings I have made. These suggest possible lines of further inquiry. I have set out my recommendations for possible future research in the box below.

1. A large-scale international study of typically able-bodied children's scribbling to determine whether or not the Primary Line Formations are a universal phenomenon in the world today.

2. Comparative studies into variance of Line Formations produced by children of differing abilities.

3. Study into whether the neurological development of the motor / visual cortex is directly related to the morphology of graphic structures.

4. Study into the pedagogic importance of spontaneous gestural art making for infants and how this is related to their cognitive responses to newly evolving interactive technologies.

5. Making a new digitised archive of the children's drawings collected by the principal researchers and undertaking a comparative analysis of them using Artificial Intelligence systems to uncover any connections or patterns not yet detected by human researchers.

6. A definitive study into any correlations between the Primary Line Formations and commonly perceived entoptic phenomena (related to recommendation 3).

7. A comparative analysis of new findings produced by recommendation 5 with a newly digitised archive of paleoart non-iconic line formations – possibly only a correlational analysis of morphological types.

8. A wide-ranging study of trans-historical, cross-cultural decorative and ritual mark making repertoires to determine the extent of their relationships to entoptic phenomena, the Primary Line Formations and the Heraldic Partitions through the prism of a Transcultural Global Art History.

9.  Uncovering the coding of CGI software – how are hand-made pictures *described*?

10. A definitive study into the supposed Placement Patterns (related to recommendation 5).

11. Heraldry: No single authority has set out categories on a purely morphological basis. It would be interesting to see a 'family tree' of the ways in which all the geometrical charges and field divisions are related.

12. Image Studies: a review of the latest work on what is and is not considered an image.

13. A review of digitally isolated physical trace evidence of mechanical solutions that produce picture-like phenomena (e.g., exposed adhesive spread patterns).

14. Other external sources for further correlational analysis.

15. Development of a Visual Semiotics.

# Author's Publication List

**Individual**

Parsons, J. (2019a) *Systems of Abstraction: production + exhibition*, conference paper, Staff & Postgraduate Research Day, University of Gloucestershire, 12 July 2019

Parsons, J. (2019b) *Fossil Ocean Floor*, Unearthing Landscapes Symposium, University for the Creative Arts, 10 October 2019

Parsons, J. (2017a) *Words and Things: the artist as researcher*, conference paper. The Wilson, Cheltenham and University of Gloucestershire

Parsons, J. (2017b) *Anecdote on the Rectangle*. Available at:
http://www.jonathanparsons.com/Notebook/Entries/2017/4/20_Anecdote_on_the_Rectangle.html

Parsons, J. (2017c) *Typologies of Colour Names*. Available at:
http://jonathanparsons.com/Notebook/Entries/2017/11/6_Typologies_of_colour_names.html (Accessed: 14 August 2021)

Parsons, J. (2016) *Palette Systems*. Available at:
http://www.jonathanparsons.com/Notebook/Entries/2016/11/24_Palette_Systems.html

Parsons, J. (2015a) *Bernard Cohen in conversation with Jonathan Parsons*, interview & article, www.saturationpoint.org.uk/Bernard_Cohen.html

Parsons, J. (2015b) *Mythology: Howard Hardiman*, catalogue essay, Isle of Wight: Brading Roman Villa and Howard Hardiman

Parsons, J. (2014a) *Definitions of Meaning*. Available at:
http://www.jonathanparsons.com/Notebook/Entries/2014/11/9_Definitions_of_Meaning.html

Parsons, J. (2014b) *Parliament 2015 Anniversaries Flag Project Toolkit*, educational project programme, London: Houses of Parliament

Parsons, J. (2014c) *Learning via Professional Practice*, conference paper, UCA course leader's forum, Coin Street, London

Parsons, J. (2014d) *The Platform Graduate Award,* conference paper, HE and the Creative Economy, King's College, London

Parsons, J. (2013a) *In Through the Eye…*. Available at:

http://www.jonathanparsons.com/Notebook/Entries/2013/1/17_In_Through_the_
Eye....html

Parsons, J. (2013b) *Liberation and Diversity…*. Available at:

http://jonathanparsons.com/Notebook/Entries/2013/8/22_Liberation_and_Divers
ity.html

Parsons, J. (2012a) *The Semiotics of Cartography: Why maps are such a rich
resource for artists*, conference paper, The British Cartographic Society Annual
Symposium 2012

(http://www.cartography.org.uk/downloads/mapping2012/Presentation%20sum
maries_S3_final.pdf)

Parsons, J. (2012b) *Paint is Shit*, Garageland magazine, issue 13: *Paint* (9-
771749-926012)

Parsons, J. (2012c) *Space, Lived: The art of Lisa Traxler*, catalogue essay,
Lives of Spaces, artist's publication (ISBN 978-0-9571308-0-7)

Parsons, J. (2012d) *Individual Experience*. Available at:

http://jonathanparsons.com/Notebook/Entries/2012/12/17_Optical_Coatings.ht
ml

Parsons, J. (2011) *Artists Resources: The UK Visual Arts Sector*, conference
paper, 'Mobility of Artists in Europe', Le Fresnoy, Tourcoing, France

Parsons J. (2010a) 'Flag Sewing Techniques' from *The International Flag
Exhchange Project*, Guildford: Surrey County Council

Parsons, J. (2010b) *Uncharted Planet: painting's cartographic tendencies*,
London: Turps Banana magazine, Issue 9 (ISSN 1749-3994)

Parsons, J. (2010c) *Artist-synthesists*. Available at:

http://www.jonathanparsons.com/Notebook/Entries/2010/3/25_Artist-
synthesists.html

Parsons, J. (2007a) *Rectangular Grids*. Available at:

http://www.jonathanparsons.com/Notebook/Entries/2007/4/26_Rectangular_grid
s.html

Parsons, J. (2007b) *No Progress*. Available at:

http://www.jonathanparsons.com/Notebook/Entries/2007/12/6_No_progress.ht

ml

Parsons, J. (2001) *Press Release: Tom Chamberlain and Tracey Rowledge – Beside Myself*, London: PercyMiller Gallery

**Co-authored**

Bick, A., Blannin, K., Melvin, J., Parsons, J., Pratt, K., (2017) *The Order of Things*, London: The Everyday Press

Carey-Kent, P., Parsons, J., (2009) 'An Attack of the Vapours: Clouds in Contemporary Art', *ArtWorld magazine*, Issue 9: Feburary/March 2009

Parsons, J., Beasley, M., Clark, L., Sinker, M. (ed.) (2003) *Approaching Content*, London: Crafts Council

Harrod, T., Kapteijn, C., Parsons, J. (2000), *Jonathan Parsons: System + Structure,* Farnham: The Surrey Institute of Art and Design

Parsons, J., Salmon, R., (1996) *Jonathan Parsons*, London: Edwardes Square Studios

# References

Ahearn, Laura M. (2012). *Living language: an introduction to linguistic anthropology*. Chichester: Wiley-Blackwell

Albert, G. (2020) *The Art of Scribbling*, Artists Network website, Available at: https://www.artistsnetwork.com/art-mediums/drawing/the-art-of-scribbling/ (Accessed: 4 August 2020)

Alcock, S. (2014) 'Children's drawings: The genesis and nature of graphic representation: A developmental study', New Zealand Journal of Educational Studies, 49(2), pp.235–237. Available at: https://search-ebscohost-com.glos.idm.oclc.org/login.aspx?direct=true&db=eue&AN=100357923&site=ehost-live&scope=site (Accessed: 9 January 2020).

de Antonio, E. (director) (1972) *Painters Painting*, [Film] New York: New Yorker Films

Andrews, M. (2007) 'Wilfredo Prieto', *Frieze*, Available at: https://www.frieze.com/article/wilfredo-prieto (Accessed: 2 July 2021).

Arnheim, R. (1974) *Art and Visual Perception: a psychology of the creative eye*, Berkeley and Los Angeles, CA: University of California Press

Atkins, B.T. (ed.) (1994) *The Collins Robert French Dictionary*, Glasgow, Scarborough & New York: HarperCollins

Auerbach, T. (2021a) *Works*, Available at: http://www.taubaauerbach.com/works.php (Accessed: 4 August 2021)

Auerbach, T. (2021b) *Diagonal Press*, Available at: https://diagonalpress.com/collections (Accessed: 4 August 2021)

Azi, L. (2018) *Proportional vs. Monospaced Numbers: When to use which one in order to avoid 'Wiggling Labels'*, Available at: https://blog.usejournal.com/proportional-vs-monospaced-numbers-when-to-use-which-one-in-order-to-avoid-wiggling-labels-e31b1c83e4d0 (Accessed: 14 July 2021).

Baker, G. (2015) *7085: A paper* kakemono *(hanging scroll) painted in ink with an* ensō *(circle) containing calligraphy*, [detailed object description press release] London: Gregg Baker Asian Art, December 2015

Bal, M. (1991) *Reading 'Rembrandt': beyond the word-image opposition*,
Cambridge: Cambridge University Press

Baldassari, A. (2020) 'Simon Hantaï", *Gagosian Quarterly*, Summer 2020,
pp.124-9

Baldwin, M., Ramsden, M., & Harrison, C (1983) 'Art & Language Paints a
Picture', *Art & Language*, Birmingham: Ikon Gallery, pp.48-61

Balla, Giacomo (1902) *Fallimento* ('Bankruptcy'), [oil on canvas] Museum
Ludwig, Cologne

Basquiat, J-M. (2017) *Boom For Real* [exhibition], London: Barbican Art Gallery,
21 Sep 2017 – 28 Jan 2018.

Batchelor, D.; Bond, A.; Cork, R.; Lovatt, A; Melvin, J; Panza, G (2009) *Bob
Law a Retrospective*, London: Ridinghouse

Bayley, H. (1968) *The Lost Language of Symbolism: An Inquiry into the Origin
of Certain Letters, Words, Names, Fairy-tales, Folklore and Mythologies*, New
York: Ernest Benn Ltd.

Bell, Clive (1914) *Art*, London: Chatto & Windus

Bell, Julian (1999) *What is Painting? Representation and Modern Art*, London:
Thames and Hudson

Belloni, Fabio (2019) *Giulio Paolini. Disegno geometrico, 1960*, Mantova:
Corraini Edizioni

Belott, Brian (2017) *Dr. Kid President Jr.* [Exhibition], New York: Gavin Brown's
Enterprise, 4 May – 1 July 2017. Archive available at:
https://gavinbrown.biz/home/exhibitions/archive/2017 (Accessed: 19 November
2017)

Benjamin, Walter (2004) 'Painting, or Signs and Marks (1917)' *Selected
Writings,* Volume 1: 1913-1926, Harvard University Press

Bick, A., Blannin, K., Melvin, J., Parsons, J., Pratt, K., (2017) *The Order of
Things*, London: The Everyday Press

Bickerton, A. (2021) *Manifesto*, Facebook post, 23 August 2021. Available at:
https://www.facebook.com/ashley.bickerton.9 (Accessed 23 August 2021)

Bill, Simon (2016a) *How can we think about Abstract Painting? Part 1*, London,
Turps Banana magazine, issue 15

Bill, Simon (2016b) *How can we think about Abstract Painting? Part 2*, London, Turps Banana magazine, issue 16

Blaikie, N. (2000) *Designing Social Research*, Cambridge: Polity Press

Blome, Richard (1684) *An Essay to Heraldry*, London: published by subscription

Blyth, J., Kent, S. (1994) *Shark Infested Waters: The Saatchi Collection of British Art in the 90s*, London: Zwemmer

Bodinson, S, et.al. (2006) *Up to and Including Her Limits* MoMA Learning. Available at: https://www.moma.org/learn/moma_learning/carolee-schneemann-up-to-and-including-her-limits-1973-76/ (Accessed: 21 July 2020)

Bois, Yve-Alain (1990) *Painting as Model*, Cambridge, MA: The MIT Press

Bois, Y-A., Cowart, J., Pacquement, A. (1992) *Ellsworth Kelly: The Years in France, 1948-54*, London and New York: Prestel

Le Bon et. al. (2005) *Dada*, Paris: Éditions du Centre Pompidou

Bourriaud, Nicolas (1996) *Traffic* [exhibition]*,* CAPC Musée d'art Contemporain de Bordeaux, February – March 1996

Bourriaud, Nicolas (2002) *Relational Aesthetics,* Dijon: Les Presses du réel

Bourriaud, Nicolas (2009) *Altermodern: Tate Triennial*, London: Tate Publishing

Britannica – The editors of Encyclopaedia Britannica (1998a) 'Easel Painting' *Britannica.com* Available at: https://www.britannica.com/art/easel-painting (Accessed: 24 March 2021)

Britannica – The Editors of Encyclopaedia Britannica (1998b) 'Verre églomisé'. *Encyclopedia Britannica*, 20 Jul. 1998, Available at: https://www.britannica.com/art/verre-eglomise (Accessed: 12 August 2021)

Brock, H. (2017) 'Carolee Schneemann: Kinetic Painting', *The Brooklyn Rail*, New York, Dec 17-Jan 18

Brown, G. (2018) *Come to Dust* [exhibition], Gagosian Gallery, London, 24 January – 17 March. Available at: https://www.gagosian.com/exhibitions/glenn-brown--january-25-2018 (Accessed: 23 January 2018)

Brown, R. (2019) *Roy Lichtenstein 'Brushstroke' Paintings*, New York: Castelli Gallery. Available at: https://www.castelligallery.com/blog/roy-lichtenstein-brushstroke-paintings-1980s (Accessed: 19 August 2020)

Buchart, D., Nairne, E., Johnson, L. (2020) *Basquiat: Boom For Real*, London, Munich and New York: Prestel Publishing

Bui, P. (2008), 'Joan Snyder with Phong Bui', *The Brooklyn Rail*, September 2008, Available at: https://brooklynrail.org/2008/09/art/joan-snyder-in-conversation-with-phong-bui (Accessed: 20 September 2022)

Bui, P. (2016), 'Joanne Greebaum', *The Brooklyn Rail*, June 2016, Available at: https://brooklynrail.org/2016/06/art/joanne-greenbaum-with-phong-bui (Accessed: 20 September 2022)

Burke, M. and Bentley, C. (1989) 'Designing a dot matrix alphabet for an electronic display system', in Wildbur, P. (ed.) *Information Graphics: A Survey of Typographic, Diagrammatic and Cartographic Communication*, New York: Van Nostrand Reinhold Co.

Buren, D. (1970) 'Beware', *Studio International*, vol. 179, no. 920, London, March 1970, pp.100-4

Buren, Daniel (2007) *The Coloured Weathervanes* [flag installation], Fondazione Zegna, Trivero, available at:
http://www.fondazionezegna.org/en/daniel-buren/ (Accessed: 29 June 2021)

Bus, A.G. & Levin, I (2003) 'How Is Emergent Writing Based on Drawing? Analyses of Children's Products and Their Sorting by Children and Mothers', *Developmental Psychology*, Vol. 39, No. 5, pp.891-905

Butler, C. H. and Schwartz, A. (2010) *Modern Women: Women Artists at the Museum of Modern Art*, New York: Museum of Modern Art

Byrne, I. (2014) *The Rhoda Kellogg Collection*. Available at:
http://rhodakellogg.com/ (Accessed: 19 November 2017)

Cage, J. (1961), 'On Robert Rauschenberg, Artist, and his Work', *Metro*, Milan, May 1961

Cage, John (1969) *Notations*, New York: Something Else Press

Carey-Kent, P. (2008) 'Jonathan Parsons – New Work', *Art World*, London, Issue 7, October/November 2008

Carney, S. J. P. (2017) 'Brian Belott', *Art in America*, New York, August 2017.
Available at: http://www.artinamericamagazine.com/reviews/brian-belott/ (Accessed: 19 November 2017)

Celmins, Vija (1977-82) *To Fix the Image in Memory* [stones and painted bronze] overall dimensions variable, Museum of Modern Art, New York

de Chassey, E., Perret, C., Rubinstein, R., Vuorikoski, T., (2000) *Va-et-vient, Come and Go*, Paris: Fondation Cartier pour l'art contemporain, Actes Sud

Clare, Scott M. (1988) 'The Drawings of Preschool Children: A Longitudinal Case Study and Four Experiments', *Studies in Art Education*, Vol. 29, no. 4, Summer 1988, pp.211-221

Clottes, J. & Lewis-Williams, D., (1998) *The Shamans of Prehistory: Trance and Magic in the Painted Caves.* New York: Abrams

Cohen, Bernard and Leeson, David (2013) *In conversation*, London: Turps Banana magazine, Issue 12

Cole, W. (2021) *Background in working with irons*, Available at: https://www.williecole.com/background (Accessed: 8 July 2021)

College of Arms (2021) 'The Design of the Arms', *Granting of Arms*, Available at: https://www.college-of-arms.gov.uk/services/granting-arms (Accessed: 20 June 2021)

Collis, S. (2009) *For all the things we thought we'd love forever*, London: Seventeen

Colman, Andrew M. (2001) *Dictionary of Psychology* Oxford: Oxford University Press

Contensou, B., Lecombre, S., Besson, C., Béraud, G. (1982) *Cobra*, Paris: Association Française d'Action Artistique

Cooke, A. (2018) *Rose Finn-Kelcey*, website of the artists estate. Available at: http://www.rosefinn-kelcey.com/about/ (Accessed: 1 July 2021)

Cooke, L., Godfrey, M. and Rattemeyer, C. (2012) *Alighiero Boetti: Game Plan*, London: Tate Publishing

Coplans, J. (1971) *Ellsworth Kelly*, New York: Harry N. Abrams

Cox, M.V. (1993) *Children's Drawings of the Human Figure*, Hove: Lawrence Erlbaum Associated Ltd.

Crandall, L. S. (1895) *Signalling Apparatus*, US Patent no. US542928A, Available at: https://patents.google.com/patent/US542928A/en (Accessed: 22 July 2021)

Creative Time (2021) *Creative Time Presents Pledges of Allegiance*
https://creativetime.org/projects/pledgesofallegiance/ (Accessed: 6 July 2021)

Crichton, Michael (1977, 1994) *Jasper Johns*, New York: Harry N. Abrams, Inc.,
London: Thames and Hudson

Crown Point Press (2013), *Pia Fries at Crown Point Press, 2007* [video
interview], uploaded 21 September 2013, Available at:
https://www.youtube.com/watch?v=uH6JQdwpGCM (Accessed: 20 September
2022)

Crotty, M (1998) *The Foundations of Social Research: Meaning and
Perspective in the Research Process*, London: Sage

Cumberland, S. (2009a) *Fort/Da* [exhibition], The Approach, London, 2 April –
2 May 2009

Cumberland, S. (2009b) *COMMA 10* [exhibition], Bloomberg Space, London, 10
September – 26 September 2009

Cumberland, S. (2011) *Four Circle Paintings* [exhibition], The Approach,
London, 24 June – 31 July 2011

Damisch, H (2005), 'Eight Theses for (Or against?) a Semiology of Painting',
*Oxford Art Journal*, 2, p.259, JSTOR Journals, EBSCO*host*, viewed 2 May 2017

Davis, T. and Johnston, B. (1985) *A Conversation with Basquiat*, Interview
transcript. Available at:
https://www.barbican.org.uk/sites/default/files/documents/2017-
12/Interview_Becky_Johnson_Tamara_Davis.pdf (Accessed: 23 July 2020)

Davis, T. (Director) (2010) *Jean-Michel Basquiat: The Radiant Child*, [Film]
Amsterdam: Fortissimo Films

De 11 Lijnen (2010) *Niele Toroni – Interventions*, Oudenburg, Belgium: De 11
Lijnen. Available at: https://de11lijnen.com/project/niele-toroni/ (Accessed: 24
September 2022)

de Duve, Thierry (1996) *Kant after Duchamp*, Cambridge, MA and London: The
MIT Press

Diament, R. and Tovey, R (2020) *Talk Art: Tracey Emin CBE (Special Episode
at Royal Academy of Arts)* [podcast]. London: released 20 November 2020.

Available at: https://play.acast.com/s/talkart/traceyemin-specialepisodeattheroyalacademyofarts- (Accessed: 10 September 2021)

Diament, R. and Tovey, R (2021) *Talk Art: GILBERT & GEORGE* [podcast]. London: released 22 April 2021. Available at: https://podcasts.apple.com/gb/podcast/talk-art/id1439567112 (Accessed: 30 June 2021)

Doesburg, Theo van (1919, 1925) 'Principles of Neo-Plastic Art', *Bauhasbuch*, vol.6 Munich, 1925

Doesburg, Theo van (1930) *Art Concret*, Paris: Art Concret Groupe et Revue, Première année-numéro d'introduction, trans. J. Parsons, 2017

Dowling, J. (2020) *Modern Heraldry Vol. 2*, Edinburgh: Counter-Print

Drazil, D. *What Type of Perspective Should You Choose?* Available at: https://www.sketchlikeanarchitect.com/blog/what-type-of-perspective-should-you-choose (Accessed: 27 March, 2021)

Driver, S. (Director) (2017) *Boom for Real: The Late Teenage Years of Jean-Michel Basquiat*, [Film] New York: Magnolia Pictures

Dubuffet, J. (1946) *Prospectus*, Paris, pp.47-99

Dubuffet, J. (1948) *L'Art Brut preferé aux arts culturels*, Preface to the catalogue, Paris: Galerie Drouin

Dubuffet, J. (1967) *Proscpectus et tous écrits suivants*, Paris

Duchamp, Marcel, 'The Creative Act', *Art News*, Vol. 56, No. 4, summer 1957

Duchamp, Marcel, (1934) *The Bride Stripped Bare by her Bachelors, Even [The Green Box]* Paris: Editions Rrose Sélavy

Elkins, J. (1995) 'Marks, traces, traits, contours, *orli*, and *splendores*: nonsemiotic elements in pictures', *Critical Inquiry*, 21 (Summer), pp.822-60

Elkins, J. (1996) *The Object Stares Back*, San Diego, CA and New York: Harcourt Inc.

Elkins, J. (1999) *The Domain of Images*, New York: Cornell University Press

Elkins, J. (2003a) *Visual Studies: A skeptical introduction*, London: Routledge

Elkins, J. (2003b) 'What does Peirce's sign theory have to say to art history?', *Culture, Theory and Critique*, 44 (1), pp.5-22

Falconer, M 1996, *Parsons, Jonathan*, n.p.: Oxford University Press, Grove Art Online, Available at:

http://www.oxfordartonline.com.ezproxy.glos.ac.uk/subscriber/article/grove/art/T 097296? (Accessed: 10 May 2017)

Fein, Aaron (2007) *White Flags*, installation at Vassar College, Poughkeepsie, New York, available at: https://www.aaronfein.com/white-flags (Accessed: 29 June 2021)

Firstenberg, L. (2002) 'Painting Platform in NY', *Flash Art*, Vol.XXXV No. 227 November-December 2002, p.70

Fletcher, E. (2015) *Bookbinder of the month: Tracey Rowledge*, Flash of the Hand blog, Available at:

https://www.herringbonebindery.com/blog/2015/03/29/bookbinder-of-the-month-tracey-rowledge-4/ (Accessed: 9 September 2020)

Fogle, Douglas (2015) *Bob Law: Field Works 1959-1999*, London: Ridinghouse

Fondazione Zegna (2008) *The Coloured Weathervanes, work in situ, 2007, Trivero*, Available at: http://www.fondazionezegna.org/en/daniel-buren/ (Accessed: 1 July 2021)

Fontana, L. (1946) *Manifesto Blanco*, Buenos Aires

Foster, H. (1982) 'Subversive Signs', *Art in America*, November 1982, pp.88-93.

Foster, H., Krauss, R., Bois, Y-A., Buchloh, B.H.D. (2004) *Art since 1900: modernism, antimodernism, postmodernism*, London: Thames and Hudson

Foucault, M. (1977) 'The confessions in the flesh', in *Power/Knowledge: Selected Interviews and Other Writings*, London: Longman, pp.194-228

Fox, James (2018) *'Oceans Apart: Art and the Pacific'*, Series 1: 3. New Zealand [Television series] First shown: BBC 4, 24 September 2018, see: https://www.bbc.co.uk/programmes/b0bk9tt2

Fox-Davies, Arthur Charles (1909) *A Complete Guide to Heraldry*, London & Edinburgh: T.C. & E.C. Jack

Freeman, P. (2021) *Matt Mullican Biography*, Available at: https://www.peterfreemaninc.com/artists/matt-mullican/biography (Accessed: 7 July 2021)

Freedman, C. (1996) 'Traffic', *Frieze Magazine*, Issue 28, May 1996, Available at:

https://web.archive.org/web/20120101201014/http://www.frieze.com/issue/review/traffic/ (Accessed: 19 September 2022)

Gardner, Howard (1980) *Artful Scribbles: The Significance of Children's Drawings*, New York: Basic Books Inc.

Gates, L. B., Gentry, D., & Sevilla D., (2017a) 'Definition of Oblong', *Maths is fun*. Available at: http://www.mathsisfun.com/definitions/oblong.html (Acessed: 23 May 2017)

Gates, L. B., Gentry, D., & Sevilla D., (2017b) 'Cartesian Coordinates', *Maths is fun*. Available at: https://www.mathsisfun.com/data/cartesian-coordinates.html (Acessed: 31 May 2017)

Gayford, M. (2015) 'Solitary Soul: Interview with Lee Ufan', *Apollo Magazine*, 16 November, Available at: https://www.apollo-magazine.com/solitary-soul-interview-with-lee-ufan/ (Accessed: 21 September 2022)

Gerstl, Richard (1907) *Self Portrait Laughing*, [oil on canvas], Belvedere, Vienna, Austria

Gibson, J. J. (1979) *The Ecological Approach to Visual Perception*, Boston, MA: Houghton Mifflin

Gilbert & George (2009) *Jack Freak Pictures*, Ostfildern: Hatje Cantz Verlag

Godfrey, T. (1990) *Drawing Today: draughtsmen in the eighties*, New York and Oxford: Phiadon Press

Goldstein, C. (2019) *I'm not Trying to Spell Out a Story – Julie Mehretu*, Artnet News, October 31 2019. Available at:

https://www.google.co.uk/amp/s/news.artnet.com/exhibitions/im-not-trying-to-spell-out-a-story-artist-julie-mehretu-explains-the-process-of-her-systems-based-paintings-1694568/amp-page (Accessed 24 July 2020; video at 00:48)

Golumb, Claire (1981) 'Representation and Reality: The Origins and Determinants of Young Children's Drawings', *Review of Research in Visual Arts Education*, Fall 1981, Vo. 7, No. 2, Proceedings of the National Symposium for Research in Art. Learning in Art: Representation and Metaphor (Fall 1981): pp.36-48

Goodman, J. (2021) 'Thought is a Form of Visual Expression. Lee Ufan in conversation with Jonathan Goodman.', Xbit Magazine,  November 2021. Available at: https://www.xibtmagazine.com/2021/11/interview-with-lee-ufan/ (Accessed: 21 September 2022)

Goodwin, A. (2018) *Mary Kelly: Post-Partum Document. Documentation III: Analysed Markings And Diary Perspective Schema (Experimentum Mentis III: Weaning from the Dyad), 1975*, London: Tate, Available at: https://www.tate.org.uk/art/artworks/kelly-post-partum-document-documentation-iii-analysed-markings-and-diary-perspective-t03925 (Accessed: 8 February 2022)

Goswami, A. and Shah, V. (2015) *Design and Implementation of Interfacing of 5x7 Matrix LED Display To 8051*, Ahmedabad: Indus Institute of Technology and Engineering

Grant, S., Bang Larsen, L., Pasi, M. (2016) Georgiana Houghton: Spirit *Drawings*, London: Paul Holberton publishing

Gray, N. (1971) *Lettering as Drawing*, London: Oxford University Press

Grayson, C. (1964) L. B. Alberti's 'Costruzione Legittima', *Italian Studies*, 19:1, 14-27, DOI: 10.1179/its.1964.19.1.14

Greenberg, Clement (1961) *Art and Culture: Critical Essays*, Boston, MA: Beacon Press

Grix, J (2010) *The foundations of research*, London & New York: Palgrave Macmillan

Guggenheim (2019) *Daniel Buren teaching materials*, Available at: https://www.guggenheim.org/wp-content/uploads/2019/12/guggenheim-teaching-materials-daniel-buren.pdf (Accessed: 1 July 2021)

Guyton, W. (2017) *Das New Yorker Atalier, Abridged* [exhibition], Serpentine Gallery, London (29 September 2017 – 8 February 2018)

Harding, B. (2017) *'The Art of Japanese Life'* Series 1: 1. Nature, Produced and directed by Ben Harding [Television series], Executive Producer: Richard Bright, BBC iPlayer, accessed: 3 July 2017

Harrington, A. (2005) *Modern social theory: an introduction*, Oxford: Oxford University Press

Harrison, C., & Wood, P. (1998), *Art In Theory, 1900-1990 : An Anthology Of Changing Ideas*, Oxford & Malden, MA: Blackwell Publishers Inc.

Harrison, C., & Wood, P. (2003), *Art In Theory, 1900-2000 : An Anthology Of Changing Ideas* – 2nd ed., Oxford & Malden, MA: Blackwell Publishing.

Harrod, T., Kapteijn, C., Parsons, J. (2000), *Jonathan Parsons: System + Structure,* Farnham: The Surrey Institute of Art and Design

Harry, M., Samatulski, D. (Directors) (2007), *Sol LeWitt: Scribble Wall Drawings*, [Film] New York: PaceWildenstein. Available at: https://vimeo.com/49799977 (Accessed: 28 July 2020)

Hassabis, D. (2017) *Desert Island Discs* [radio broadcast]. London: BBC, broadcast 21 May 2017

Hay, C. (2002) *Political Analysis*, Basingstoke: Palgrave Macmillan

Heiss, A., Cannon, S., Finkelpearl, T., Jones, K. (1991) *David Hammons: Rousing the Rubble*, New York: The Institute for Contemporary Art, P.S.1 Museum and Cambridge, M.A. & London: The MIT Press

Henderson, K. (1999) *On Line and Paper: Visual Representations, Visual Culture and Computer Graphics in Design Engineering*, Cambridge: Cambridge University Press

Hering E. (1964) *Outlines of a Theory of the Light Sense*. Cambridge, Mass: Harvard University Press.

Herzog, H-M. (1997) *Jonathan Lasker*, Ostfildern-Ruit: Cantz

Hessel, K. (2022) *The Story of Art Without Men*, London: Hutchinson Heinemann

Higgs, M. (2021) *July 4th: Cady Noland at MMK Frankfurt*, Available at: https://www.instagram.com/p/CQ6POo2t0Fo/ (Accessed: 5 July 2021)

Higgs, M. (2017) *Sunday afternoon visit to Brian Belott's inspired and inspiring exhibition 'Dr. Kid President Jr.' at Gavin Brown's enterprise at 429 127th Street, New York*, Available at: https://www.instagram.com/p/BUFsEABloZw/?taken-by=matthewhiggs2015 (Accessed: 19 November 2017)

Hoffman, H. (1932) 'On The Aims of Art', *The Fortnightly*, vol. 1, no. 13, Campbell, California

Hockey, J (2017a) *Big Research House*, MR401 teaching materials, Cheltenham: University of Gloucestershire

Hockey, J (2017b) *MR401 lecture on 24 February 2017*, Cheltenham: University of Gloucestershire, my contemporaneous notes

Hockey, J (2017c) *Theory and Concepts*, MR401 teaching materials, Cheltenham: University of Gloucestershire

Hockey, J (2017d) *MR402 lecture on 24 March 2017*, Cheltenham: University of Gloucestershire, my contemporaneous notes

Hockney, D (2001) *Secret Knowledge: rediscovering the lost techniques of the old masters*, London: Thames and Hudson

Hodgson, D. (2000) 'Shamanism, Phosphenes and Early Art: An Alternate Synthesis', *Current Anthropology*, Volume 1, Number 5, December 2000, pp.866-873

Hoffman, H. (1932) 'On The Aims of Art', *The Fortnightly*, vol. 1, no. 13, Campbell, California

Holman, M. (2016) 'Matt Mullican: The Sequence of Things', *Art Monthly*, 401, pp.25-26

Hoptman, Laura (2002) *Drawing Now: Eight Propositions*, New York: The Museum of Modern Art

Horowitz, Mardi J. (1964) 'The Imagery of Visual Hallucinations', *Journal of Nervous and Mental Disease,* American Neurological Association, New York, Philadelphia, Chicago & Boston, Vol.138, No.6, pp.513-523

Hoyland (2019) *Susan Collis*, Seventeen, Available at: http://www.seventeengallery.com/artists/susan-collis/ (Accessed: 10 September 2020)

Hulten, P., Jacob, W., Thill, A., Kulenkampff, A., Utermann, A., (1993) *Gerhard Richter*, Bonn: Edition Cantz

Huskinson, G. (2010) *Dot Matrix Printers*, Available at: https://mindmachine.co.uk/book/print_06_dotmatrix.html (Accessed: 2 August 2021)

Huxley, A. (1968) *The Doors Of Perception : Heaven And Hell*, London: Chatto & Windus

Hyslop, Alec, (2016) *Other Minds*, *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition), Edward N. Zalta (ed.), Available at: https://plato.stanford.edu/archives/spr2016/entries/other-minds/ (Accessed: 29 March 2017)

Indrisek, S. (2017) 'The Children's Art Pioneer You've Never Heard Of', *Artsy*, New York, June 2017. Available at: https://www.artsy.net/article/artsy-editorial-childrens-art-pioneer-heard (Accessed: 19 November 2017)

Ingold, Tim (2000) *The Perception of the Environment*, London & New York: Routledge

Ingold, Tim (2007) *Lines: A Brief History*, London: Routledge

Jansen, C, (2017), '5 Questions with Joan Snyder', *Elephant*, 28 August 2017, Available at: https://elephant.art/5-questions-joan-snyder/ (Accessed: 20 September 2022)

Jennings, R. (2017) *Textual Analysis; MR402 lecture on 26 March 2017*, Cheltenham: University of Gloucestershire, my contemporaneous notes

Jeppesen, T. (2009) 'Ceal Floyer', *Artforum*, September, 2009, Available at: https://www.artforum.com/picks/ceal-floyer-23696 (Accessed: 12 September 2020)

Johns, J. (1965) *Interview with David Sylvester*, [radio broadcast 10 October 1965], London: BBC

Johnson, E. H., (1982) *American Artists on Art, 1940-1980*, New York: Perseus

Johnston, E. (1906, 1973) *Writing & Illuminating & Lettering*, London: Pitman Publishing

Jones, J. (2017) 'Five of the Best: Abstract Remix', *The Guardian Guide*, 15-21 July 2017, p.32

Jorn, A. (1948) *Interessant Nutids-Kunst*, trans. P. Shields, Copenhagen

Judd, D. (1965) 'Specific Objects', *Arts Yearbook*, 8, New York, 1965, pp.74-82

Judd, D. (1975) *Complete Writings 1959-1975*, Halifax: Press of the Nova Scotia College of Art and Design

Juneja, M. (2011) *Global Art History and the 'Burden of Representation'*, conference paper: Global Art Symposium of the AICA, International Summer Academy for Fine Arts Salzburg, 29–30 July 2011. Available at:

http://archive.summeracademy.at/media/pdf/pdf789.pdf (Accessed: 19 September 2022)

Jung, C.G. (1978) *Man and His Symbols*, London: Pan Books

Jung, C.G. (1983) *I Ching* (Foreword to the Richard Wilhelm Translation), London: Routledge & Kegan Paul

Jung, C.G. (2002) *The Undiscovered Self*, London & New York: Routledge Classics

Jung, C.G. (2009) *The Red Book: A Reader's Edition,* London and New York: W. W. Norton & Co.

Kalina, R. (2012) *The Four Corners of Painting*, New York, *The Brooklyn Rail*, December 2012 – January 2013

Kandinsky, W. (1947) *Point and Line to Plane*, trans. Hilla Rebay and Howard Dearstyne, New York: Solomon R. Guggenheim Foundation

Kawamoto, H. (2002) *The History of Liquid-Crystal Displays*, Torino: Proceedings of the IEEE, Vol. 90, No. 4, APRIL 2002

Kellogg, R., Knoll, M. & Kugler, J. (1965) 'Form-similarity between Phosphenes of Adults & Children's scribblings', *Nature*, 208, p.1129.

Kellogg, Rhoda. (1955) *What Children Scribble and Why*. Palo Alto, CA: National Press Books

Kellogg, Rhoda. (1969) *Analyzing Children's Art,* Palo Alto, CA: National Press Books

Kelly, M. (1981) 'Re-Viewing Modernist Criticism', *Screen*, vol. 22, no. 3, London, Autumn, pp.41-62

Kelly, M. (1983) Post-partum document. London: Routledge & Kegan Paul

Kelly, M. (2006) *Vox Manet*, [three works: compressed lint], The Burger Collection, Hong Kong

Kelly, Mary (2010-12) *Habitus, Type I & II*, [laser cut acrylic, mirror, wire mesh and wood], Moderna Museet, Stockholm, Sweden

Kidd, N. (2015) *Biography,* Artist's website, Available at: https://www.natashakidd.com/biography/ (Accessed: 11 September 2020)

Kinsley, C. (1915) *Method of Electric Signalling*, US patent: US1126641A, Available at: https://patents.google.com/patent/US1126641 (Accessed: 14 July

2021)

Kirkup, J. (2021) *The Football Crest Index* Available at:
https://www.instagram.com/thefcindex/?hl=en (Accessed: 30 June 2021)

Klee, P. (1924, 1945) *On Modern Art*, Bern-Bumpliz: Verlag Benteli

Klee, P. (1953) *Pedagogical Sketchbook*, London: Faber & Faber

Klee, P. (1961) *Notebooks*, Vol. 1: *The Thinking Eye*, ed. J. Spiller, trans. R.
Manheim, London: Lund Humphries

Klein, Y. (1959) *Lecture*, transcript, Paris: Sorbonne

Klüver, Heinrich (1966) *Mescal, and Mechanisms of Hallucinations*, Chicago:
University of Chicago Press

Kosuth, J. (1969) 'Art after Philosophy', *Studio International*, vol. 178, no. 915,
London, October 1969, pp.134-7

Krauss, Rosalind E. (1986) *The Originality of the Avant-Garde and Other
Modernist Myths*, Cambridge, MA: The MIT Press

Kremer, G. (2020) *70150 Terpineol*, product data sheet PDF, Available at:
https://www.kremer-pigmente.com/media/pdf/70150e.pdf (Accessed 5 August,
2020)

Laplanche, J. & Pontalis, J.-B., (2004) *The Language of Psychoanalysis*,
London: Karnac Books

Lasker, J., Schwabsky, B. (2004) *Jonathan Lasker: Coloured Scribbles*,
London: Timothy Taylor Gallery

Law, B. (2000a) *Double Cross 10.01.00* [etched coach paint and oil on canvas]
The Estate of Bob Law, courtesy Karsten Schubert and Richard Saltoun

Law, B. (2000b) *A Kiss for Me and a Cross for You 22.01.00* [etched coach
paint and oil on canvas]. The Estate of Bob Law, courtesy Karsten Schubert
and Richard Saltoun

Law, B. (2003) *A Cross to Bare* [etched coach paint and oil on canvas] Estate of
Bob Law

Legierse, Thérèse & van Beveren, Peter (1988) *Gran pavese, the flag project :
50 artists/50 flags = vlaggenproject, 50 kunstenaars/50 vlaggen*. Antwerp:
Museum van Hedendaagse Kunst Antwerpen; Rotterdam: SDU Publishers

Lehar, S.M. (2003) 'Directional Harmonic Theory: A Computational Gestalt

Model to Account for Illusory Contour and Vertex Formation.' *Perception*. 32. 423-48. 10.1068/p5011. Available at: https://www.researchgate.net/publication/10725571_Directional_Harmonic_Theory_A_Computational_Gestalt_Model_to_Account_for_Illusory_Contour_and_Vertex_Formation (Accessed: 11 September 2021)

Leonardo da Vinci (c. 1495-6) *The Last Supper* ['dry' fresco] monastery of Santa Maria delle Grazie, Milan

Leroi-Gourham, A. (1993) *Gesture and Speech*, trans. A. Bostock Berger, Cambridge, MA: The MIT Press

Levine, S. (1982) 'Statement', *Style*, Vancouver, March 1982, p.48

Lewis-Williams, J. D. & Dowson (1988) 'The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art' *Current Anthropology*, 2, pp.201-217, JSTOR Journals, EBSCO*host*, viewed 23 June 2017

Lewis-Williams, J. D. & Dowson and T. A., Bahn, P. G., Bandi, H.-G., Bednarik, R. G., Clegg, J., Consens, M., Davis, W., Delluc, B., Delluc, G., Faulstich, P., Halverson, J., Layton, R. Martindale, C., Mirimanov, V., Turner II, C. G., Vastokas, J. M., Winkelman, M., & Wylie, A. (1988) 'The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art' [Comments and Reply]', *Current Anthropology*, 2, pp.217-245, JSTOR Journals, EBSCO*host*, viewed 23 June 2017

Lewis-Williams, David (2004) *The Mind in the Cave: Consciousness and the Origins of Art*, London: Thames & Hudson

Lewis-Williams, D. & Pearce, D. (2009) *Inside the Neolithic Mind: Consciousness, Cosmos and the Gods*, London: Thames & Hudson

LeWitt, S. (1967) 'Paragraphs on Conceptual Art', *Artforum*, vol. 5, no.10, Summer 1967, pp.79-83

LeWitt, S. (1969) 'Sentences on Conceptual Art', *Art-Language*, vol. 1, no.1 – 'The Journal of Conceptual Art', Coventry, May 1969

LeWitt, S. (2007) *Sol LeWitt: Scribble Wall Drawings*, [exhibition] PaceWildenstein, New York, 10 September – 3 November 2007

Libeskind, D. (2001) *The Space of Encounter*, New York: Universe Publishing

Lind, Maria. (ed.) (2013) *Abstraction*, Documents of Contemporary Art, London: Whitechapel Gallery; Cambridge, MA: The MIT Press

Lippard, Lucy R. (1975) 'Rosmarie Castoro: Working Out', *Artforum*, Summer 1975. Available at: https://www.artforum.com/print/197506/rosemarie-castoro-working-out-37660 (Accessed: 20 September 2022)

Lisson (2019) *Tatsuo Miyajima*, Available at: https://www.lissongallery.com/artists/tatsuo-miyajima (Accessed: 4 August, 2021)

Little, H. (2016) 'Chris Ofili: Union Black', *Tate*, Available at: https://www.tate.org.uk/art/artworks/ofili-union-black-t14773 (Accessed: 2 July 2021)

Lloyd, J. (2018) 'Yto Barrada: "The whole thing is a dance between a mad poet, children and ghosts"', *Studio International*, New York, 27 February 2018. Available at: https://www.studiointernational.com/index.php/yto-barrada-interview-agadir-the-curve-barbican (Accessed: 21 September 2022)

Long, M. (2020) 'Modern Heraldry: why designers still use centuries-old branding techniques', *Design Week*, 22 April 2020, Available at: https://www.designweek.co.uk/issues/20-26-april-2020/modern-heraldry-counter-print/ (Accessed: 30 June 2021)

Longo, Robert (2018a) *Gang of Cosmos*, available at: https://www.robertlongo.com/series/abex/ (Accessed: 5 July 2021)

Longo, Robert (2018b) *Black Flags* – series of charcoal drawings and bronze sculptures, available at: https://www.robertlongo.com/series/blackflags/ (Accessed: 29 June 2021)

Lynton, N. & McKay, I. (2009) *Bernard Cohen: Work of Six Decades*, London: Flowers

Machón, Antonio. (2013) *Children's Drawings: the genesis and nature of graphic representation: a developmental study*. Translated by J. Dodman. Madrid, Spain: Fíbulas

MacGregor, N. (2010) *A History of the World in 100 Objects*, London: Allen Lane

Mackenzie, C. E. (1980) *Coded Character Sets, History and Development*,

Reading, Massachusetts: Addison-Wesley Publishing Company

Mackinnon, C. (1980) *The Observer's Book of Heraldry*, London: Frederick Warne

Maclagan, David. (2014) *Line Let Loose: scribbling, doodling and automatic drawing*, London: Reaktion Books

Macleod, K., & Holdridge, L. (2006) *Thinking Through Art: Reflections On Art As Research*, London & New York: Routledge

MacRitchie, L. (1998) *The NatWest Art Prize 1998*, London: The NatWest Group Art Collection

Madison, D. (2019) *Library of ASCII character representations using 7 segment, 14 segment, and 16 segment LED displays*, Available at: https://github.com/dmadison/LED-Segment-ASCII#readme (accessed 20 July 2021)

Maizels, J. (ed.) (2018) *Raw Vision Media Kit*, Available at: https://rawvision.com/rawvisionmediakit.pdf (accessed 13 July 2020)

Malchiodi, Cathy (1998) *Understanding Children's Drawings*, London: Jessica Kingsley; New York: The Guildford Press

Malevich, K. (1916a) *Four Squares* [oil on canvas] The Radishchev Art Museum, Saratov (inv. Z-1089) Available at: https://www.nytimes.com/2016/09/04/arts/design/a-bridge-from-moscow-to-paris-130-works-of-modern-art.html?_r=0 (accessed 2 June 2017)

Malevich, K. (1916b) *From Cubism and Futurism to Suprematism: The New Realism in Painting*, Moscow

Malevich, K. (1919) *Non-objective Art and Suprematism*, Moscow: 10th State Exhibition catalogue

Manes, C. (2014) *Speaking with Joan Snyder about 'Sweet Cathy's Song' (1978)*, Museum of Modern Art, New York, Available at: https://www.moma.org/explore/inside_out/2014/05/08/speaking-with-joan-snyder-about-sweet-cathys-song-1978/ (Accessed: 20 September 2022)

Manghani, S (2003) 'Adventures in subsemiotics: towards a new 'object' and writing of visual culture', *Culture, Theory & Critique*, 44, 1, pp.23-36, Humanities International Complete, EBSCO*host*, viewed 2 May 2017

Manghani, S., Piper, A., Simons, J. (eds.) (2006) *Images: A Reader*, London: Sage Publications

Manzoni, P. (1960) *Free Dimension*, Milan: Galerie Azimut

Martinique, E. (2017) 'When Artists Create Flags – Artworks of Creative Time's Pledges of Allegiance Project', *Widewalls*, Available at:

https://www.widewalls.ch/magazine/artist-flags-creative-time (Accessed: 6 July 2021)

Martinon, Jean-Paul (November 2000) *Aspects of Communication Inherent in Jonathan Parsons' Approach to the Visual Arts*, conference paper presented at the James Hockey Gallery, Farnham

Matisse, H (1908) 'Notes d'un Peintre', *La Grande Revue*, Paris, 25 December

Matthews, J. (1984) 'Children Drawing: Are Young Children Really Scribbling?', *Early Child Development and Care*, 18(1-2), pp.1–39.

Matthews, J. (2003) *Drawing and painting: children and visual representation*. 2nd edn. London: Paul Chapman (0-8 series).

McKay, Ian (2015) *Bernard Cohen: About Now*, London: Flowers

McKee, A. (2003) *Textual analysis: a beginner's guide*, London: Sage Publications Ltd

McVeigh, Daniel P. (2000) *Ernst Florens Friedrich Chladni.* An Early History of the Telephone 1664-1865. Available at:

https://web.archive.org/web/20121210033120/http://www.ilt.columbia.edu/projects/bluetelephone/html/chladni.html (Accessed: 11 September 2021)

Mehretu, J. (2018) *Sextant* [exhibition], London: White Cube Mason's Yard, 21 Sep – 3 Nov 2018.

Meisel, Louis K. (1989) *Photorealism*, New York: Harry N. Abrams, Inc.

Mensa, D, 'Radar Imaging', *International Journal of Imaging Systems and Technology* 4 (1992), pp.148-63, citing F.Jay, *IEEE Standard Dictionary of Electrical and Electronic Terms* (New York: IEEE, 1977), p.361.

Merleau-Ponty, Maurice (1945, 1962, 2002) *The Phenomenology of Perception*, London and New York: Routledge Classics

M HKA (2021) *Gran Pavese – The Flag Project.* Available at:
https://www.muhka.be/programme/detail/364-gran-pavese-the-flag-
project#event-items (Accessed: 3 July 2021)

M HKA Ensembles (2019) *GRAN PAVESE - The Flag Project/Vlaggenproject.*
Available at: http://ensembles.mhka.be/items/13670?locale=en (Accessed: 3
July 2021)

Miller, D. C. (ed.) (1959) *Sixteen Americans*, New York: The Museum of Modern
Art

Miller, J. (2011) Stuart Cumberland: Four Circle Paintings, London: The
Approach

Mirzaei, N. (2021) *Hitsuzendō: The Practice of Zen Brush Painting*. Available at:
https://meditationmusiclibrary.com/blogs/wednesday-wisdom-blog/hitsuzendo-
the-practice-of-zen-brush-painting (Accessed: 11 August 2021)

Mitchell, W.J.T. (1986) 'What is an Image?', Iconology: image, text, ideology,
Chicago and London: University of Chicago Press

Mitchell, W.J.T. (1992) *The Reconfigured Eye: Visual Truth in the Post-
Photographic Era*, Cambridge, MA: MIT Press

Mitchell, W.J.T. (1994) *Picture Theory: essays on verbal and visual
representation*, Chicago: University of Chicago Press

Miyajima, T. (2014a) *Concepts*, Available at:
https://tatsuomiyajima.com/concepts/ (Accessed: 4 August, 2021)

Miyajima, T. (2014b) *Texts*, Available at:
https://tatsuomiyajima.com/category/texts/ (Accessed: 4 August, 2021)

Miyajima, T. (2021) *News*, Available at:
https://tatsuomiyajima.com/category/news/ (Accessed: 4 August, 2021)

Mondrian, P. (1921) *Le Néo-Plasticisme: Principe général de l'équivalence
plastique*, Paris: Galerie de l'Effort Moderne

Mondrian, Piet (1986, 1993) *The new art - the new life: the collected writings of
Piet Mondrian*, edited and translated by Harry Holtzman and Martin S. James,
New York: Da Capo Press, Inc.

Moran, D. (2000) *Introduction to Phenomenology*, London & New York:
Routledge

Morris, R. (1966) 'Notes on Sclupture 1', *Artforum*, vol. 4, no. 6 February 1966, pp.42-4

Moura, V. L. de; Mullican, M.; Wilmes, U.; (2002) *Matt Mullican: That Person's Workbook*, Lonon: Ridinghouse; Ghent: MER Paperkunsthalle

Mullican, M. (2018) *The Feeling of Things* [Exhibition], Milan: Pirelli Hangar Bicocca, 12 April – 16 September 2018. Available at: https://pirellihangarbicocca.org/en/exhibition/matt-mullican/# (Accessed: 7 July 2021)

Mullican, M. (2016) *The Sequence of Things* [Exhibition], London: Camden Arts Centre, 30 September 2016 – 15 January 2017. Archive available at: https://www.camdenartscentre.org/archive/d/mullican (Accessed: 30 May 2017)

Müller, C., Cienki, A. J., et. al. (eds.) (2014) *Body – Language – Communication*, De Gruyter Mouton

Murray, P. & L. (1983) *The Penguin Dictionary of Art and Artists*, Harmondsworth, Middlesex: Penguin Books Ltd

Murray Brown, G. (2019) 'Julie Mehretu interview: The Politics of Abstraction', *The Financial Times*, 24 January

Nhât Hanh, Thích (2002) *No Death, No Fear: Comforting Wisdom for Life*, London: Rider

Naimi, M. (2006) 'Towards a New Taxonomy of the Scribble', *Canadian Art Therapy Association Journal*, 19:1, pp.12-16. doi: 10.1080/08322473.2006.11432280

Nechvatal, J. (2016) 'How Daniel Buren's Institutional Critique Became Institutional Chic', *Hyperallergic*, 14 September 2016, Available at: https://hyperallergic.com/322774/how-daniel-burens-institutional-critique-became-institutional-chic/ (Accessed: 1 July 2021)

Nelson, R. (2013) *Practice As Research In The Arts : Principles, Protocols, Pedagogies, Resistances*, Houndmills, Basingstoke, Hampshire ; New York: Palgrave Macmillan

Newman, B. (1947) *The Ideographic Picture*, New York: Betty Parsons Gallery

Nickas, B. (2009) *Painting Abstraction: New Elements in Abstract Painting*, London: Phiadon Press

Olitski, J. (1967) 'Painting in Color', *Artforum*, New York, January 1967, p.20

Onions, C.T. (ed.) (1973, 1990) *The Shorter Oxford English Dictionary on Historical Principles, 3rd edition*, Clarendon Press: Oxford

O'Reilly, S (2002) *Pell Mell,* London, Houldsworth

Orton, Fred (1994) *Figuring Jasper Johns*, London: Reaktion Books

Osborne, Harold (1988) *The Oxford companion to twentieth-century art*, Oxford: Oxford University Press

Ottenheimer, Harriet (2009) *The anthropology of language: an introduction to linguistic anthropology (2nd ed.)*. Belmont, CA: Wadsworth

Pace (2018) *Lee Ufan*, New York: Pace Gallery. Available at: https://www.pacegallery.com/artists/lee-ufan/ (Accessed: 24 September 2022)

Pagé, S., Parent, B., Gayford, M., Marcadé, B., Fuchs, R. (1997) *Gilbert & George*, Paris: Editions des musées de la Ville de Paris

Panofsky, E. (1962) *Studies in iconology: humanistic themes in the art of the Renaissance*, New York: Harper Torchbooks

Paparoni, Demetrio (ed.) (2002) *Jonathan Lasker: Paintings 1977-2002*, Milan: Alberico Cetti Serbelloni Editore

Parsons, J. (1991) *Transparency* [intaglio: etching ink on paper with embossing], private collection, Venice.

Parsons, J. (1993) *Achrome*, unpublished notebook entry, 1 April 1993.

Parsons, J. (1994) *Kiss* [yellow chalk on black paper], private collection, Wiltshire.

Parsons, J. (1996a) *Legitimizing the Scribble*, unpublished notebook entry, 12 January 1996.

Parsons, J. (1996b) *Goals in Painting*, unpublished notebook entry, 8 February 1996.

Parsons, J. (1998) *Commune* [31 sewn polyester flags with wall mounted flagstaffs, each unit 99 x 95 x 7.5 cm].

Parsons, J. (1999) *Graffiti Taggers*, unpublished notebook entry, 21 May 1999.

Parsons, J. (2000a) *Coupling* [terracotta pastel on white paper], private collection, London.

Parsons, J. (2000b) *The Character of Human Impulsion*, unpublished notebook entry, 30 August 2000.

Parsons, J. (2000c) *The Character of Human Impulsion*, unpublished notebook entry, 2 August 2000.

Parsons, J. (2000d) *Sources and Arrangements*, unpublished notebook entry, 7 November 2000.

Parsons, J. (2001) *Press Release: Tom Chamberlain and Tracey Rowledge – Beside Myself*, London: PercyMiller Gallery

Parsons, J., curator (2003) *Approaching Content* [group exhibition], Crafts Council Gallery, London, 6 February – 14 September 2003. Available at: http://www.jonathanparsons.com/Exhibitions/Pages/Approaching_Content.html (Accessed 22 January 2018)

Parsons, J. (2007a) *Rectangular Grids*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2007/4/26_Rectangular_grids.html (Accessed 28 August 2020)

Parsons, J. (2007b) *No Progress*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2007/12/6_No_progress.html (Accessed 23 May 2017)

Parsons J. (2010a) 'Flag Sewing Techniques' from *The International Flag Exhchange Project*, Guildford: Surrey County Council

Parsons, J. (2010b) *Uncharted Planet: painting's cartographic tendencies*, London: Turps Banana magazine, Issue 9 (ISSN 1749-3994)

Parsons, J. (2010c) *Artist-synthesists*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2010/3/25_Artist-synthesists.html (Accessed 16 January 2018)

Parsons, J. (2010d) *Portal (no. 13)* [spray paint on wood with glass] 37 x 72 cm, private collection, Dorset, England.

Parsons, J. (2011) *Artists Resources: The UK Visual Arts Sector*, conference paper, 'Mobility of Artists in Europe', Le Fresnoy, Tourcoing, France

Parsons, J. (2012a) *The Semiotics of Cartography: Why maps are such a rich resource for artists*, conference paper, The British Cartographic Society Annual Symposium 2012

(http://www.cartography.org.uk/downloads/mapping2012/Presentation%20sum maries_S3_final.pdf)

Parsons, J. (2012b) *Paint is Shit*, Garageland magazine, issue 13: *Paint* (9-771749-926012)

Parsons, J. (2012c) *Space, Lived: The art of Lisa Traxler*, catalogue essay, Lives of Spaces, artist's publication (ISBN 978-0-9571308-0-7)

Parsons, J. (2012d) *Individual Experience*. Available at: http://jonathanparsons.com/Notebook/Entries/2012/12/17_Optical_Coatings.ht ml (Accessed 11 June 2020)

Parsons, J. (2013a) *In Through the Eye…*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2013/1/17_In_Through_the_ Eye....html (Accessed 31 May 2017)

Parsons, J. (2013b) *Liberation and Diversity…*. Available at: http://jonathanparsons.com/Notebook/Entries/2013/8/22_Liberation_and_Divers ity.html

Parsons, J. (2014a) *Definitions of Meaning*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2014/11/9_Definitions_of_M eaning.html (Accessed 31 May 2017)

Parsons, J. (2014b) *Parliament 2015 Anniversaries Flag Project Toolkit*, educational project programme, London: Houses of Parliament

Parsons, J. (2014c) *Learning via Professional Practice*, conference paper, UCA course leader's forum, Coin Street, London

Parsons, J. (2014d) *The Platform Graduate Award,* conference paper, HE and the Creative Economy, King's College, London

Parsons, J. (2015a) *Bernard Cohen in conversation with Jonathan Parsons*, interview & article, www.saturationpoint.org.uk/Bernard_Cohen.html

Parsons, J. (2015b) *Mythology: Howard Hardiman*, catalogue essay, Isle of Wight: Brading Roman Villa and Howard Hardiman

Parsons, J. (2016) *Palette Systems*. Available at: http://www.jonathanparsons.com/Notebook/Entries/2016/11/24_Palette_System s.html (Accessed 31 May 2017)

Parsons, J. (2017a) *Words and Things: the artist as researcher*, Unpublished

conference paper. The Wilson, Cheltenham and University of Gloucestershire

Parsons, J. (2017b) *Anecdote on the Rectangle*. Available at:
http://www.jonathanparsons.com/Notebook/Entries/2017/4/20_Anecdote_on_th
e_Rectangle.html (Accessed 25 May 2017)

Parsons, J. (2017c) *Typologies of Colour Names*. Available at:
http://jonathanparsons.com/Notebook/Entries/2017/11/6_Typologies_of_colour_
names.html (Accessed: 14 August 2021)

Parsons, J. (2019) *Systems of Abstraction: production + exhibition*, conference
paper, Staff & Postgraduate Research Day, University of Gloucestershire, 12
July 2019

Parsons, J. (2021) *Practice Research Catalogue* – see Volume 1, Section 2.

Parsons, J. (2022) *The Black Drawings* [exhibition], The Bunker Gallery, Isle of
Wight, 26 – 29 August.

Parsons, J., Salmon, R., (1996) *Jonathan Parsons*, London: Edwardes Square
Studios

Parsons, J., Beasley, M., Clark, L., Sinker, M. (ed.) (2003) *Approaching
Content*, London: Crafts Council

Parsons, J., Ward, D., curators (2016) *Seeing Round Corners* [exhibition],
Turner Contemporary, Margate, 21 May – 25 September. Available at:
http://www.jonathanparsons.com/Exhibitions/Pages/Seeing_Round_Corners.ht
ml (Accessed 22 January 2018)

Perry, G (2013) 'Lecture 4 – I found myself in the art world', *The Reith Lectures
2013: Playing to the gallery* [Radio broadcast], London: BBC, transmitted 5
November 2013

Petherbridge, Deanna (2010) *The Primacy of Drawing: Histories and Theories
of Practice*, New Haven, CT: Yale University Press

Petry, Michael. (2018) *The Word is Art*, London: Thames & Hudson

Picabia, Francis (1922) *Littérature*, no. 7, Paris, December 1922

Picasso, P. (1937) *Guernica* [specially formulated matte house oil paint on
canvas] 3.49 x 7.77m, Museo Nacional Centro de Arte Reina Sofía

Peirce, C. S. (1960) *The Collected Papers of Charles Sanders Peirce: Vol. II,*
ed. Charles Hartshorne and Paul Weiss, Cambridge, MA: The Belknap Press of

Harvard University Press

Pifaretti, B. (2020) *Bernard Pifaretti*. Available at:
https://d1jrllzqbjb41.cloudfront.net/uploads/attachment/file/body/14932/Bernard
_Piffaretti_Biography.pdf (Accessed: 28 August 2020)

Poore, H. R. (1903) *Pictorial Composition and the Critical Judgment of Pictures:
A Handbook for Students and Lovers of Art*, New York and London: G. P.
Putnam's Sons. Available at: http://www.gutenberg.org/files/26638/26638-
h/26638-h.html (Accessed: 24 May 2017)

Popova, L. (1919) *Statement*, Moscow: 10th State Exhibition catalogue
Cambridge, MA: Harvard University Press

Preikschat, F. K. (1961) *Working papers on dot matrix teletypewriter*, Available
at:
https://web.archive.org/web/20161031121145/https://upload.wikimedia.org/wiki
pedia/en/f/f6/Working_papers_on_dot_matrix_teletypewriter%2C_1961.pdf
(Accessed: 22 July 2021)

Public Delivery (2021) *Why did David Hammons create the African-American
Flag?* Available at: https://publicdelivery.org/david-hammons-african-america-
flag/ (Accessed: 2 July 2021)

Purves, Dale and Lotto, B. (2002) *Why We See What We Do: An Empirical
Theory of Vision*, Cambridge, MA: The MIT Press

Ratcliff, Carter (2006) *Hantaï in America*, New York: Paul Rogers/9W. Available
at: https://paulrodgers9w.com/simon-hantai-press# (Accessed: 18 August 2020)

Read, Hebert (1986) *A concise history of modern painting*, London: Thames &
Hudson

Read, Herbert (1963) 'Address to the 4th General Assembly of the International
Society for Education Through Art.' Montréal

Reed, Patricia (2009) *Pan-National Flag*, [digital print on industrial grade flag
fabric]

Reinhardt, A. (1962) 'Art as Art', *Art International*, VI, no.10, Lugano, December
1962

Reinhardt, A. (1975, 1991) *Art as art: the selected writings of Ad Reinhardt*, ed.
B. Rose, Berkeley : University of California Press

Reynolds, J. (2008) *Sol Lewitt: A Wall Drawing Retrospective* (exhibition guide), North Adams, MA: MASS MoCA

Ricci, C. (1887) *L'arte de Bambini*, Bologna: Nicola Zanichelli

Richardson, John (1991) *A Life of Picasso*, vol. 1: The Early Years, 1881-1906, New York: Random House

Richter, Gerhard (1995) *The Daily Practice of Painting: Writings and Interviews 1962-1993*, Cambridge, MA: The MIT Press,

Riley, B., (2018) *Bridget Riley: Recent Paintings 2014 – 2017* [exhibition], David Zwirner Gallery, London, 19 January – 10 March.

Rob Scholte Museum (2015) *Gran Pavese – The modern 'travelling paintings'.* Available at:
https://m.facebook.com/robscholtemuseum/photos/a.1502100690022229/1603250489907248/?type=3&locale2=nl_NL (Accessed: 3 July 2021)

Román, D. (2017) *Twelve-tone technique: a quick reference*, Connecticut: Trinity College. Available at: http://musike.cmpr.edu/docs/v001/roman-eng.pdf (Accessed 31 May 2017)

Rosenberg, Harold (1964) *The Anxious Object: Art Today and Its Audience*, New York: Horizon Press

Rosenberg, Harold (1952) 'The American Action Painters', *Art News*, December 1952

Rosenthal, N.; Celant, G. (1989) *Italian Art in the 20th Century: Painting and Sculpture 1900-1988*, [exhibition] Royal Academy of Arts, London, 14 January – 9 April; and catalogue: London: Royal Academy of Arts

Roth, L. (2019) 'The (In)Animate World of Rebecca Horn', *Flash Art*, No. 328, November 2019 – January 2020

Rowledge, T. (2020) *Biography*, artist's website, Available at:
https://traceyrowledge.com/pagecv (Accessed: 9 September 2020)

Royal Academy (2018) *RA250 Flags – the West End celebrates 250 years of art*, Available at: https://www.royalacademy.org.uk/exhibition/ra250-flags-west-end (Accessed: 6 July 2021)

Rudick, N. (2017) 'The Power and Complexity of Children's Art: An Interview with Brian Belott, *Hyperallergic*, July 2017. Available at:

https://hyperallergic.com/388323/the-power-and-complexity-of-childrens-art-an-interview-with-brian-belott/ (Accessed: 19 November 2017)

Ruskin, J. (1873) *Twelve Diagrams showing the Construction of the Twelve heraldic Ordinaries* [pen and red ink on wove paper] 454 x 337mm, The Ruskin teaching collection, Ashmolean, Oxford, Accession No.: WA.RS.RUD.007

Ruskin, J. (1904) 'The Elements of Drawing' in E. T. Cooke (ed.), *The Works of John Ruskin*, Vol. 15, London: George Allen

Russeth, A. (2017) 'An Unstoppable Force', *Artnews*, June 2017. Available at: http://www.artnews.com/2017/06/28/an-unstoppable-force-brian-belott-on-his-childrens-art-show-at-gavin-browns-enterprise/ (Accessed: 19 November 2017)

Sakr, M. (2017) '"We're just gonna scribble it": The affective and social work of destruction in children's art-making with different semiotic resources', *Contemporary Issues in Early Childhood*, Vol. 18(2), pp.227-239

Saltoun, R., Schubert, K., Lovatt, A., Melvin, J., Bond, A., Panza, G., Batchelor, D. (2009) *Bob Law*, London: Ridinghouse

Saltz, J. (2018) 'Cy Twombly and the Transporting, Transforming Power of Art That Barely Uses the Tools of Art', *Vulture*, New York, April 5, 2018

Sanouillet, M., Peterson, E. (eds.) (1973), *The Writings of Marcel Duchamp*, New York: Da Capo Press

Saussure, F. de (1959) *Course in General Linguistics*, ed. C. Bally and A. Sechehaye, trans. W. Baskin, New York: Philosophical Library

Saussure, F. de (1966, 1982) *Course in General Linguistics*, trans. Roy Harris, New York: McGraw Hill

Schneemann, C. (2000) *Up to and Including Her Limits* Available at: https://www.schneemannfoundation.org/artworks/up-to-and-including-her-limits/0 (Accessed 21 July 2020)

Scott-Giles, C.W., Brooke-Little, J.P (1963) *Boutell's Heraldry*, London: Frederick Warne

Serota, N. (ed.) (2008) *Cy Twombly: Cycles and Seasons*, London: Tate Publishing

Seth, A. (2021) *Being You: A New Science of Consciousness*, London: Faber and Faber

Seymour, A., Sylvester, D., Whitfield, S., (1996) *Jasper Johns Flags*, London: Anthony d'Offay Gallery

Sheridan, S. R. (2002) 'The Neurological Significance of Children's Drawing: The Scribble Hypothesis', *Journal of Visual Literacy*, Autumn 2002, Volume 22, Number 2, pp.107-128

Siegel, R.K. (1977) 'Hallucinations', *Scientific American*, 2 October; 237 (4): 132-4, New York: Nature

Siegel, R. K. & Jarvik, M. E., (1975) *Drug–induced hallucinations in animals and man*, In Hallucinations: Behavior, Experience and Theory, (eds. R. K. Siegel & L. J. West), pp.81–161. New York: Wiley.

Sigler, J. (2013), 'Joanne Greebaum', *BOMB*, 1 July 2013, Available at: https://bombmagazine.org/articles/joanne-greenbaum-1/ (Accessed: 20 September 2022)

Silabs (2013) *AN0057.0: EFM32 Series 0 LCD Driver*, Available at: https://www.silabs.com/documents/public/application-notes/an0057.0-efm32-segment-lcd.pdf (Acessed: 20 July 2020)

Simon, R. (1999) 'René Daniëls', *Artforum*, December 1999, Available at: https://www.artforum.com/print/reviews/199910/rene-daniels-766 (Accessed: 6 January 2022)

Smith, H, & Dean, R (2009), *Practice-Led Research, Research-Led Practice In The Creative Arts.* [Electronic Resource], n.p.: Edinburgh : Edinburgh University Press, 2009., Library Catalogue, EBSCO*host*, viewed 20 May 2017

SMPTE (1990) 'SMPTE Engineering Guideline - Alignment Color Bar Test Signal for Television Picture Monitors' *EG 1:1990* , vol., no., pp.1-3, 28 March 1990, doi: 10.5594/SMPTE.EG1.1990. Available at: https://ieeexplore.ieee.org/document/7291491 (Accessed: 27 September 2022)

Solomon, L. J. (1973, 2002) *Symmetry as a Compositional Determinant*. Available at: http://solomonsmusic.net/diss.htm (Acessed: 21 March 2017)

Spence, R. (2007) *Information Visualization: design for interaction*, Harlow: Pearson Education

Steadman, R. (1983) *I, Leonardo*, London: Jonathan Cape

Steinberg, Leo (1972) *Other Criteria*, Oxford University Press

Stella, F. (1959) *Die Fahne hoch!* [enamel on canvas] 121 5/8 × 72 13/16 in. (308.9 × 184.9 cm), Whitney Museum of American Art, accession number: 75.22.

Stella, F. (1960) *Lecture*, [typescript preserved by Carl Andre] New York: Pratt Institute

Stella, R. (2022) 'Rosmarie Castoro: Metamorphosis and Transmutation', *Rosmarie Castoro: Working Out*, London: Thaddaeus Ropac. Available at: https://ropac.net/usr/library/documents/main/rc_london_booklet_final.pdf (Accessed: 21 September 2022)

Stevenson, A., Waite, M., (2011) *Concise Oxford English Dictionary*, New York: Oxford University Press

Strzemiński, W (1932) 'Statement 1', *Abstraction-Création no. 1*, Paris: The Association Abstraction-Création

Sunday, K.E. (2017) 'Drawing as a Relational Event: Making Meaning Through Talk, Collaboration and Image Production' In Narey, M.J. (ed.) *Multimodal Perspectives of Language, Literacy and Learning in Early Childhood*, Educating the Young Child 12, Springer, pp.87-105. doi: 10.1007/978-3-319-44297-6_5

Sutcliffe, T. (2021) *Start the Week* [radio broadcast]. London: BBC, broadcast 13 September 2021

Sylvester, David (2001) *Interviews with American Artists*, London: Chatto & Windus

Taylor, B. (2020) *The Life of Forms in Art*, London and New York: Bloomsbury Visual Arts

Teddlie, C. (2009) *Foundations of mixed methods research: integrating quantitative and qualitative approaches in the social and behavioural sciences*, London: Sage Publications Ltd

Tenconi, R. (2018) *Matt Mullican: The Feeling of Things*, Milan: Pirelli Hangar Bicocca

Thaddaeus Ropac (2022) *Rosmarie Castoro: Working Out* [exhibition] 6 April – 21 May 2022, Thaddaeus Ropac London

Available at: https://ropac.net/online-exhibitions/76-rosemarie-castoro-working-out/ (Accessed: 21 September 2022)

Thompson, Robert Farris (1983) *Flash of the Spirit: African and Afro-American Art and Philosophy*, New York: Vintage Books

Thornton, Nick (2005) *Art Out of Place*, Norwich: Norfolk Museums & Archaeology Service

Tinguely, J. (2016) *Machine Spectacle* [exhibition], 1 October 2016 – 4 March 2017, Stedelijk Museum, Amsterdam

Todorovic, T. (2021) 'United Kingdom: colour of the flag', *Flags of the World*, Available at: https://www.crwflags.com/fotw/flags/gb_col.html (Accessed: 2 July 2021)

Tokita, Sumio; Sugiyama, Takao; Noguchi, Fumio; Fujii, Hidehiko; Kobayashi, Hidehiko (2006). 'An Attempt to Construct an Isosurface Having Symmetry Elements'. *Journal of Computer Chemistry*, Japan 5 (3): 159 – 164. DOI:10.2477/jccj.5.159

Towne, H. (1965) Luminous Devices, US patent US3210876A, Available at: https://patents.google.com/patent/US3210876A/en (Accessed: 20 July 2021)

Trevor-Roper, Patrick (1990) *The World Through Blunted Sight*, London: Penguin Books

Tschichold, J. (1991) *The Form of the Book*, London: Lund Humphries

Tsingou, E. (1996) 'Traffic', *Zing Magazine*, 1996, Available at: https://web.archive.org/web/20200728005303/https://zingmagazine.com/zing3/reviews/027_traffic.html (Accessed: 19 September 2022)

Tuason, C. (2005) *High resolution, low segmentation alphanumeric display for electronic devices*, US patent US20050104803A, Available at: https://patents.google.com/patent/US20050104803A1/en (Accessed: 21 July 2021)

Tufte, E. R. (1997) *Visual Explanations: Images And Quantities, Evidence And Narrative*, Cheshire, Conn: Graphics Press

Tversky, B. (2011) 'Visualizing Thought', *Topics in Cognitive Science* 3, pp.499-535. doi: 10.1111/j.1756-8765.2010.01113.x

Tversky, B., Kugelmass, S., Winter, A. (1991) 'Cross-cultural and developmental trends in graphic productions' *Cognitive Psychology, 23,* 515-557

Twombly, C. (2015) *Cy Twombly* [exhibition], Gagosian Gallery, 10 October – 12 December.

Veðardóttir, Þ., Ruadháin, M.U., Cavalletto, M.S.R., Linne, A. (2017) *Book of Traceable Heraldic Art*. Available at: http://heraldicart.org/ (Accessed: 6 May 2017)

Ware, C. (2013) *Information Visualization: perception for design*, Waltham, MA: Morgan Kaufmann

Wallinger, M. (1991) Tutorial conversation with the author (from contemporaneous notebooks)

Warnock, M. (2012) 'Close-up: Manifold Address', *Artforum*, October 2012. Available at: https://www.artforum.com/print/201208/molly-warnock-on-simon-hantai-s-etude-1969-34521 (Accessed: 9 January 2022)

Warnock, M. (2015) 'Niele Toroni', *Artforum*, October 2015. Available at: https://www.mariangoodman.com/usr/documents/press/download_url/145/artforum-october-2015-.pdf (Accessed: 24 September 2022)

Webel, S. et. al. (2020) *Fondation Jean Dubuffet*, Chronology. Available at: https://www.dubuffetfondation.com/savie.php?menu=21&lang=en (Accessed: 14 July 2020)

Weitman, W. (1998) New concepts in printmaking 2, Willie Cole, New York: The Museum of Modern Art, Department of Prints and Illustrated Books

Williamson, Beth (2017) *Jasper Johns 0 through 9 1961*, Available at: https://www.tate.org.uk/art/artworks/johns-0-through-9-t00454 (Accessed: 2 August 2021)

Wood, F.W. (1910) *Illuminated announcement and display signal*, US patent US974943A, Available at: https://patents.google.com/patent/US974943 (Accessed: 14 July 2021)

Wool, C. (2004) *Christopher Wool* [exhibition], Camden Arts Centre, London, 31 January – 11 April 2004

Wool, C. (2019) *Work*, Artist's website, Available at: http://wool735.com/work/?year=2004 (Accessed: 11 September 2020)

Wylie, R. (2017) *Quack Quack* [exhibition], Serpentine Sackler Gallery, London, 30 November 2017 – 11 February 2018

Yanagi, Yukinori (2009) *The World Flag Ant Farm*, Available at:
http://www.yanagistudio.net/works/antfarmproject01_view_eng.html  (Accessed:
5 July 2021)

Yee, L. and Rashid, H. (2016) *Mary Heilmann: Looking at Pictures*, London:
Whitechapel Gallery

Yerebakan, O.C. (2018) 'Yto Barrada with Osman Can Yerebakan', *The
Brooklyn Rail*, New York, June 2018. Available at:
https://brooklynrail.org/2018/06/art/YTO-BARRADA-with-Osman-Yerebakan
(Accessed: 21 September 2022)

Zeki, S. (1999) *Inner vision: An Exploration of Art and the Brain*, Oxford
University Press

# Appendix 1

**Artworks, exhibitions, visual sources and references consulted, but not directly cited in the text**

**Artworks, exhibitions and visual sources**

Auerbach, Tauba (2005-6) *The Whole Alphabet, From the Center Out, Digital III-VI*; all gouache and pencil on paper mounted to wood panel, 76.2 x 55.9 cm (30 x 22 in)

Auerbach, Tauba (2005) *0-9, From the Center Out, Digital*, Gouache and pencil on paper, 76.2 x 55.9 cm (30 x 22 in)

Auerbach, Tauba (2005-6) *Components In Order; Lowercase Components; Components, Numbers*; all ink & pencil on paper on wood

Auerbach, Tauba (2011) *RGB Colourspace Atlas*, digital offset print on paper, case bound book, airbrushed cloth cover & page edges

Auerbach, Tauba (2013) *Shadow Weave – Hole, Ghost I*, woven canvas on wooden stretcher

Bartlett School of Architecture (2012) *House of Flags*, https://www.bartlett.ucl.ac.uk/architecture/partnerships/installations-for-london-2012/house-of-flags

Boetti, Alighiero (1974) *I Sei Sensi (The Six Senses)*, biro on paper mounted on canvas

Boetti, Alighiero (1979) *Faccine (Little Faces)*, coloured inks on paper

Boetti, Alighiero (1985) *Vento (Wind)*, ink on card – made in collaboration with the Japanese calligrapher Enomoto San

Brooks, Alan (1997) *Untitled*, oil on canvas; (1997) *An Incident*, oil on canvas; (2005) *Fill (II)*, acrylic on canvas; (2008) *Figure*, oil on copper; (2008) *Tomorrow It Will Be Worse*, watercolour on paper

Brown, Glenn (1991) *The Body Snatchers*; (1991) *Mad Love*; (1991) *The Day The World Turned Auerbach*; all oil on canvas

Brown, Glenn (1995) *Decline and Fall*, oil and canvas on board

Brown, Glenn (1996) *I Lost My Heart to a Starship Trooper*, oil on canvas mounted on board

Buren, Daniel (1984) *Neuf Couleurs Au Vent*, flag installation for the Ville de Montréal, available at: https://artpublic.ville.montreal.qc.ca/en/oeuvre/neuf-couleurs-au-vent/ (Accessed: 29 June 2021)

Cambridge English Language Teaching Phonemic Chart: http://www.cambridge.org.br/

Cardew, Cornelius (1963-67) *Treatise*, graphical music score

Cohen, Bernard (1959/60) *Duke Green*, oil on canvas; (1961) *Hermes*, oil and egg tempera on canvas; (1962) *Roxy,* oil and egg tempera on canvas; (1962) *Performance,* oil and on canvas; (1963) *Matter of Identity I & II*, both oil and egg tempera on canvas; (1963) *Mist*, oil and egg tempera on canvas; (1963) *Proliferating,* oil on canvas; (1964) *Romance*, oil and egg tempera on canvas; (1965) *Fable*, acrylic on linen; (1965) *White Plant*, acrylic on canvas; (1965) *In That Moment,* oil and egg tempera on canvas; (1965) *Red Multiple*, acrylic on canvas; (1974-5) *Resting Place*, acrylic on linen; (1975-7) *Things Seen*, acrylic on canvas; (1977-9) *Matter of Identity III*, acrylic on canvas; (1988-9) *Imitating Moonlight*, oil on canvas; (1996) *Silences*, acrylic on linen; (1999) *Red Centre*, acrylic on linen; (2000) *Zany in the Detail*, acrylic on linen; (2003) *Swarm,* acrylic on linen; (2015) *How to Paint the Milky Way*, acrylic on linen

Collis, Susan (2004) *100% Cotton*, overalls and embroidery; (2004) *The Oyster's Our World*, wooden stepladder, shell, coral, fresh water & cultured pearls, white opal, diamond; (2011) *Inherent Vice*, jacquard loom hand-woven linen and embroidery

Collis, Susan (2012) *Don't Make Me Wait*, beach, teak, plastic laminate, oak, maple, white holly

Cox, Ken (1966-8) *Three Graces*, painted metal, print and rotating mechanism; (1965) *Semaphore Machine*, kinetic text piece

Crumb, George (1973) *The Magical Circle of Infinity*, graphical music score

Dexter Sinister (2011) *META-THE-DIFFERENCE-BETWEEN-THE-TWO-FONT COMPOSITE GLYPH*, [stencil print] 33 x 25.3 cm, The Serving Library Collection, Exhibition Research Lab, Liverpool John Moores University

Donnarumma, Marco (2011) *Music For Flesh II*

http://marcodonnarumma.com/works/music-for-flesh-ii/

Eno, Brian (1978) *Ambient 1: Music for Airports* – alternate music notation

Google Project Soli: https://atap.google.com/soli/

Gremmler, Tobias (2016) *Virtual Actors in Chinese Opera*, CGI animation,

https://vimeo.com/tobiasgremmler

https://vimeo.com/173139879

Gremmler, Tobias (2016) *Kung Fu Motion Visualisation*, CGI animation,

https://vimeo.com/tobiasgremmler

https://vimeo.com/163153865

Hummingbird Musical Notation: http://www.hummingbirdnotation.com

Frize, Bernard (2008) *Quipson*, acrylic and resin on canvas; (2006) *Jasek*, acrylic and resin on canvas; (1999) *Carré d'Art*, exhibition and catalogue, Musée d'Art Contemporain Nîmes, France

Hammons, David (1990) *Whose Ice is Colder?*, flags, oil drums, ice – installation at Jack Tilton Gallery, New York

Hammons, David (1990) *Rousing the Rubble*, exhibition and catalogue, P.S. 1 Musuem, New York

Hiller, Susan (1969) *Hand Painting* – series; (1980) *Work in Progress*; (1980-89) *Midnight Self-Portraits* – series; (1984) *Blue Roses* – Ripolin on wallpaper; (1986) *Posy* – Ripolin on wallpaper; (1986) *Masters of the Universe* – Ripolin on wallpaper; (1997-2004) *From India to the Planet Mars* – series; (2007-2010) *Journey to the Land of the Tarahumaras* – series

Johns, Jasper (1956) *Gray Alphabets*, beeswax and oil on newsprint and paper on canvas; (1958) *White Numbers*, encaustic on canvas; (1959) *False Start*, oil on canvas – problematic of mismatched sensory perceptions; (1972) *Untitled*, oil, encaustic and collage on canvas with objects; (1974-5) *Corpse and Mirror II*, oil on canvas (four panels); (1979) *Cicada*, oil on canvas – this work deals with the inscription of bounded touch; (1979) *Dancers on a Plane*, oil on canvas (three panels); (1981) *Between the Clock and the Bed*, oil on canvas with objects; *Canvas* (1956), encaustic and collage on canvas, Collection the artist; *Beckett* (2005), encaustic and oil on canvas with objects (two panels), Kathy

and Richard S. Fuld, Jr. Promised gift to The Museum of Modern Art, New York; *5 Postcards* (2011), encaustic on canvas & oil on canvas, Philadelphia Museum of Art, promised gift of Keith L. and Katherine Sachs

Kellogg, R. (1969) Drawings of Gestalts: Pattern, Shape, Design & Pictorial Stages (pp.39-40. & pp.268-277) – *see text bibliography*

Kelly, Ellsworth (1949) *Tennis Court*, oil on canvas; 1949) *Reflections of Trees in the Seine*, ink on paper; (1950) *Automatic Drawing: Glue Spots*, ink on paper; (1950) *Automatic Drawing: Shelled Bunker*, pencil on paper; (1950) *November Painting*, oil on wood

Kelly, Ellsworth (1950) *La Combe I*, oil on wood; (1950) *La Combe III*, oil on wood; (1951) *Cité*, oil on wood; (1951) *Gironde*, oil on wood

Kelly, Mary (1973-9) *Post-Partum Document*, installation in six parts

Kelly, Mary (2006) *Vox Manet*, [three works: compressed lint]. The Burger Collection, Hong Kong

Kelly, Mary (2010-12) *Habitus, Type I & II*, [laser cut acrylic, mirror, wire mesh and wood], Moderna Museet, Stockholm, Sweden

Kline, Franz (1958-60) *Cupola*, oil on canvas; (1960) *Study for 'Cupola'*, ink on paper

Kraftwerk (2002 - ongoing) *Boing Boom Tschak*, interactive flash musical notation animation, http://www.kraftwerk.com/#

Kraftwerk (2012) *Kling Klang Machine version 2.0.3*, app by freenet digital GmbH

Lasker, Jonathan (1989) *Formalities of Self*, oil on linen; (1990) *Love's Rhetoric*, oil on linen; (1999) *Domestic Setting with Post-Partum Anxiety*, oil on linen; (1999) *Conspicuous Absence*, oil on linen; (2002) *Productive Love*, oil on linen; (2003) *Moderate Identification*, oil on linen; (2003) *Alone Amongst*, oil on linen

Law, Bob, (2000) *Cross for Me, Kiss for You CCCXVII 03.01.00,* Pencil on paper, 56 x 76.5 cm

Law, Bob, (2000) *Kisses and Crosses,* series of 8 etchings on paper, all 28.5 x 38.5 cm, Tate collection

Lichtenstein, Roy (1965) *Little Big Painting*, acrylic on canvas

Lichtenstein, Roy (1966) *Yellow and Red Brushstrokes*, acrylic on canvas

Ligeti, György (1958) *Artikulation*, graphical music score

Linke, Simon (1996) *Oeuvre*, oil on linen

Linke, Simon (1996-7) exhibition at Lisson Gallery, London

Maurer, D., Riboni, C., Gujer, B. (eds. digital re-edition) Rhoda Kellogg Child Art Collection: http://www.early-pictures.ch/kellogg/en/

Mooney, Edward Jr., *Flag Wizard* – flag information system, http://www.edwardmooney.com/wizard/

Motion Capture Systems in Computer Generated Imagery

Mullican, Matt (1986) *Untitled*, site-specific installation at Alexanderplatz Station, Berlin

Mullican, Matt (2010) *12 by 2*, exhibition at Institut d'art contemporain  Villeurbanne / Rhône-Alpes, France

Mullican, Matt (2011) *Organizing the World*, exhibition at Haus der Kunst, Munich

Parsons, J. (2014) *Flag Project Toolkit, Appendix 2: Heraldic Blazon Divisions & Variations of the Field*, Houses of Parliament, London: http://www.parliament.uk/documents/education/docs/2015-Flag-Project/Flags-Toolkit-amended-version.pdf

Perret, Raphael (2010) *Bodycloud*, 3D materialization of motion capture data: http://datavisualization.ch/showcases/bodycloud/

Philips, Tom (1986) *Una Selva Oscura*, woven tapestry

Philips, Tom (1999) *Wittgenstein's Trap*, welded copper wire

Philips, Tom (2007-9) *Quantum Poetics*, oil on panel, notes: http://www.tomphillips.co.uk/works/paintings/item/5749-quantum-poetics#

Piffaretti, Bernad (2000-1) *Come and Go*, exhibition and catalogue, Fondation Cartier pour l'art contemporain, Paris

Pratt, Katie (2000) *Flore Family*, oil on canvas; (2002) *Burrock*, oil on canvas

Pratt, Katie (2002) *Pell Mell*, exhibition and catalogue, Houldsworth Gallery, London

Pratt, Katie (2011) *Han Avenues*, oil on canvas – Pratt's work deals with the unpicking and delineation of semi random configurations

Raside, Rob (dir.) *Flags of the World* – online resource with 18 editors, http://www.crwflags.com/fotw/flags/

Rauschenberg, Robert (1957) *Factum I*, combine painting

Rauschenberg, Robert (1957) *Factum II*, combine painting

Reid, Clunie (2008) *Indoor Water*, collage with mixed media, marker pen and tape on foam board

Reid, Clunie (2010) *Let the Sun Shine Down*, mixed media on aluminium

Richter, Gerhard (1972) *Inpaintings* – catalogue Nos.: 325/1-120, 326/1-16 & 330-6 – all oil on canvas

Richter, Gerhard (1972) *Rot-Blau-Gelb* – catalogue Nos.: 327-31, 332/1-5, 333/1-5, 335/1-4, 336/1-2, 337/1-2, 338/1-100 & 339/1-7 – all oil on canvas

Richter, Gerhard (1979) *Stricht (auf Blau)* – catalogue No.: 451, oil on canvas; (1979) *Entwürfe zu 451* – catalogue No.: 451-A, oil on card; (1979) *Stricht (auf Rot)* – catalogue No.: 452, oil on canvas; (1979) *Entwürfe zu 452* – catalogue No.: 452-A, oil on card

Ruscha, Ed (1973) *Very Angry People*, cherry stain on moiré; (1974) *Various Cruelties*, blueberry extract on rayon crepe; (1987) *Boy Meets Girl*, acrylic on canvas; (1994) *I'll be Getting Out Soon and I Haven't Forgotten Your Testimony Put Me in Here*, oil on raw linen

Ruscha, Ed (1997) *Little Snitches Like You End Up in Dumpsters All Across Town*, acrylic on rayon on board

Sauer, T. (2009) *Notations 21*, New York: Mark Batty & https://notations21.wordpress.com

Turk, Gavin (1990) *Title*, pigment on canvas – questioning the artistic value of naming and the conferring power of the signature

Turk, Gavin (1993-4) *Collected Works 1989-1993*, exhibition and catalogue, Jay Jopling, London

Turk, Gavin (1997) *One Thousand, Two hundred and Thirty-Four Eggs*, eggshells on canvas

Twombly, Cy (1968) *Untitled,* oil paint and wax crayon on canvas; (1970) *Untitled*, pencil, ink, crayon, pigment, tape, and cut, torn folded and printed

paper on coloured paper; (1970) *Treatise on the Veil*, oil, wax crayon, pencil and ink on canvas

Twombly, Cy (1970) *Untitled (New York City)*, oil, crayon and chalk on canvas

Twombly, C. (2008) *Bacchus* [acrylic on canvas] 327 x 412.5 cm, Cy Twombly Foundation Collection.

Twombly, C. (2005a) *Untitled V* from Bacchus Series [oil on canvas] © Cy Twombly Foundation. Available at:

http://www.bbc.co.uk/programmes/p01chsgz/p01cj6qz (accessed: 3 June 2017)

Twombly, C. (2005b) *Untitled VII* from Bacchus Series [oil on canvas] Courtesy Gagosian Gallery © Cy Twombly Foundation. Available at:

http://www.tate.org.uk/context-comment/articles/lingering-threshold-between-word-and-image (accessed: 3 June 2017)

Vinci, Leonardo da (c. 1495-6) *The Last Supper* ['dry' fresco] monastery of Santa Maria delle Grazie, Milan

Valentine, Olivia (2011) *Punto in aria (Powerhouse Construction)*, balloons, helium, hand-constructed bobbin lace


**References**

Ades, D.; Deacon, R.; Lovatt, A (2014) *Abstract Drawing*, London: Ridinghouse

Aichele, K. P. (2002) *Paul Klee's Pictorial Writing*, Cambridge University Press

Acker, Christian P. (2013) *Flip the Script: A Guidebook for Aspiring Vandals & Typographers*, Berkeley, CA: Ginko Press Inc.

Alberti, L. B. (1972) *On Painting*, trans. C. Grayson, ed. M.Kemp, Harmondsworth: Penguin

Bachelard, Gaston (1969, 1994) *The Poetics of Space*, Boston, MA: Beacon Press

Ball, Philip (2001) *Bright Earth: The Invention of Colour*, London: Viking

Barrett, E, & Bolt, B (2010) *Practice As Research: Approaches To Creative Arts Enquiry*, London: I. B. Tauris

Baxendall, Michael (1971) *Giotto and the Orators*, Oxford University Press

Benjamin, Andrew (ed.) (1995) *Abstraction*, London, The Academy Group: Journal of Philosophy and the Visual Arts, No. 5

Bennun, Neil (2004) *The Broken String: The Last Words of an Extinct People,* London: Viking

Berger, John (1972, 2008) *Ways of seeing*, London: Penguin

Berlin, B, Kay, P, & Stanford Univ., C 1999, *Basic Color Terms: Their Universality And Evolution. The David Hume Series Of Philosophy And Cognitive Science Reissues*, n.p.: ERIC, EBSCO*host*, viewed 6 June 2017.

Biggs, M, & Karlsson, H (2012) *The Routledge Companion To Research In The Arts*, London: Routledge

Billeter, J. F. (1990) *The Chinese Art of Writing*, trans. J.-M. Clarke and M. Taylor, New York: Rizzoli International

Bois, Yve-Alain (2006) *Kelly's Matrix Revisited*, unpublished conference paper, Ellsworth Kelly conference, Serpentine Gallery at the V & A auditorium

Bourriaud, N., & Butler, E. (2016) *The Exform*, London ; New York: Verso

Bressloff, Paul C.; Cowan, Jack D.; Golubitsky, Martin; Thomas, Peter J.; Weiner, Matthew C. (March 2002). 'What Geometric Visual Hallucinations Tell Us About the Visual Cortex' *Neural Computation* (The MIT Press) 14 (3): 473–491Childers, Taylor (2013) *Graffiti Handstyles* web application: https://www.behance.net/gallery/9890113/Graffiti-Handstyles-Web-Application

Chatwin, B. (1987) *The Songlines*, London: Jonathan Cape

Clottes, J. (2010) *Cave Art,* London: Phiadon Press

Deleuze, G. and Guattari, F. (1983) *On the Line*, trans. J. Johnson, New York: Semiotext(e)

Dusserre, J-C. (2000) *Blasons et Corporations*, Paris: Éditions Dusserre

Eco, U. (1984) *The role of the reader*, Bloomington: Indiana University Press

Gell, A. (1998) *Art and Agency: An Anthropological Theory*, Oxford: Clarendon Press

George, A. (2015) *The Curator's Handbook : Museums, Commercial Galleries, Independent Spaces*, London; New York: Thames & Hudson

Goja, H. (1959) 'Zeichenversuche mit Menschenaffen', *Zeitschrift für Tierpsychologie* 16, pp.369-73, fig.2

Gremmler, Tobias (2003) *Grids for the Dynamic Image*, AVA Publishing

Gremmler, Tobias (2014) *Creative Education and Dynamic Media*, City

University of Hong Kong Press

Guest, A. H. (2014) *Choreographics: Dance Notation Systems from the 15th Century to the Present*, London & NewYork: Routledge

Jacoby, H. J. (1939) *Analysis of Handwriting*, London: Allen & Unwin

Laporte, Dominique (2002) *History of Shit*, Cambridge, MA: The MIT Press

McEvilley, Thomas (1991) *Art & Discontent: Theory at the Millennium*, New York: McPherson & Company

Mertens, Wim (1988) *American Minimal Music*, New York: Khan & Averill

Mithen, Prof Steven (1998) *The Prehistory of the Mind: A Search for the Origins of Art, Religion and Science*, London: W & N

Ridpath, I. & Tirion, W. (1985)*, The Night Sky*, London and Glasgow: Collins

Riley, Bridget (1999) *The Eye's Mind: Collected Writings 1965-1999*, London: Thames & Hudson

Rood, Alexander (2014) *The Hermetic Museum: Alchemy and Mysticism*, Cologne: Benedikt Taschen Verlag

Sassoon, R. (2000) *The Art And Science of Handwriting*, Bristol: Intellect

Stone, Kurt (1980) *Music Notation in the Twentieth Century: A Practical Guidebook*, London and New York: W. W. Norton & Co.

Taruskin, R. (2009) *Music from the Earliest Notations to the Sixteenth Century*, Oxford University Press

United States Government (1969, 2003), *International Code of Signals (pub. 102)*, Bethesda, Maryland: National Imagery and Mapping Agency

Wees, William Charles (1992) *Light Moving in Time*, Oakland, CA: University of California Press

Wilson III, William S. (1973) 'Art Energy and Attention', The New Art, ed. Gregory Battcock, New York: E.P. Dutton and Co.

Wolfe, Tom (1976) *The Painted Word*, London: Bantam

Zajonc, Arthur (1995) *Catching the Light: the entwined history of light and mind*, Oxford University Press

# Appendix 2

## A history of artists and 'scribble'

**Derain Matisse Picasso**

André Derain and Henri Matisse had both made early studies of children's drawings, with the former declaring in a letter to Maurice de Vlaminck in 1902: 'That's where the truth lies without a doubt'. Picasso was influenced by Matisse's studies and made 'bold and daring reductions' in an exchange of paintings the artists made in the summer of 1907. (Maclagan, 2014, pp.8 & 39; Machón, 2013, pp.28-29; Harrison & Wood, 1998, p.65; Richardson, 1991, p.417).

**Dada**

The Dadaists, in the second decade of the 20th century, were amongst the first artists to experiment programmatically with the principles of chance and automatism in the composition and production of works of art. Initially focused in in New York and Zürich at the height of the first world war in 1915-16, the anti-capitalist, anti-bourgeoise, anti-avant-garde, 'anti-art' forces of Dada soon became a transnational phenomenon too wide and diverse in its practices to satisfactorily be described as a 'movement'. Other centres of activity were in Berlin, Hanover, Cologne and Paris. Hans Richter, who was an active member of the Zürich group in 1917, wrote in 1964 that Dada was not 'an artistic movement in the accepted sense; it was a storm that broke over the world of art as the war did over the nations.' According to Tristan Tzara, one of its central figures, Dada was 'a state of mind'. One of Dada's principal targets was the sense which had been made of art, particularly the claim that all great art shared some essential property. Dada seized upon 'scribble' as one way out of the stifling dead end of classical tradition. It seemed to be the most illogical, indiscriminate, spontaneous and impulsive of activities, which connoted uncontrollable bodily functioning: sexual, violent and incontinent. Important instances of these tendencies can be seen in the 'Dada compositions' and automatic drawings of Jean Arp from 1915-19; Hans Richter's fragmentary paintings and drawings of 1916-18; the drawings

and writings of Tristan Tzara from 1916-20; the 1920s paintings, drawings and collages of Francis Picabia, with their meandering markings and distributions of varied visual elements; Kurt Schwitters' drawings, writings, collages and constructions of the 1920s, along with his unique invention of a kind of Dada named 'Merz'. The Dadaist attitude had a long-lasting impact and was later developed by the Surrealists and various schools of Abstract Expressionism. Indeed, the direct influence of these early experiments continued well into the 21st century via continuations of gestural abstraction, along with Neo-Dada and Pop Art in the 1950s and 60s and Hybrid and Graffiti art in the 1980s. (Maclagan, 2014, pp.9-10, 26; Le Bon *et al.*, 2005, pp.97-9, 218-250, 788-801, 881, 889, 893, 895, 953-961; Foster *et al.*, 2004, p.617; Harrison & Wood, 1998, pp.218-19; Osborne, 1988, pp.141, 461, 487, 443)

> *Il n'ya a d'indispensable que les choses inutiles*
> ('Only useless things are indispensable')
> (Picabia, 1922)

## Surrealism

Following the Dadaist upheavals, many artists deliberately sought to employ scribble-like forms, or other idioms recognisable from children's drawings, in their work. Joan Miró used calligraphic gestural marks as a type of sketching and his paintings and drawings from the mid 1920s onwards often feature scribble-like lines and forms. In 1960 he wrote: 'The more I master the medium…the more I return to my earliest experiences. I think that at the end of my life I will recover all the force of childhood'. Miró had been in contact with the Paris Dadaists and avant-garde writers in 1920, but subsequently committed to Surrealism, with its particular philosophical outlook and way of life (Maclagan, 2014, pp.39-40; Machón, 2013, p.29; Osborne, 1988, p.378). Surrealism, one of the most tightly controlled and organised art movements of the 20th century, developed after André Breton and his associates Éluard, Aragon and Péret definitively broke with Dada in 1922. They emphasised the importance of dreaming and experimented with automatic methods of releasing the spontaneous, creative and a-logical

forces of the unconscious mind as ways of achieving knowledge of reality. Breton wrote, in the First Manifesto of Surrealism in 1924, that he considered the waking state 'a phenomenon of interference.' A key Surrealist method was the production of genuine automatic imagery, which rejected traditional ideas of pictorial composition and structure. This developed via analogy from the practice of 'automatic writing'. These procedures were inspired in part by mediumistic spirit drawings of the 19th century (see section 3.2.7), but Breton denied any supernatural connotations and viewed them strictly in terms of a materialist, psychological interpretation. In his early experiments in automatic writing in 1920, Breton occasionally produced doodle-like drawings, which he labelled *gribouillis automatique* ('automatic scribbles'). In the mid-1920s, André Masson produced automatic drawings that were pictorial, rather than written. However, he stopped short of producing fully recognisable imagery. He later wrote: 'The first graphic apparitions on the paper are pure gesture, rhythm, incantation, and as a result pure scribble…When the image appears one must stop.' The spontaneous calligraphic mark making and unconscious form creation of Surrealism had a direct influence on the later works of Simon Hantaï (see section 2.4.3.) and the improvisatory gestures of Jackson Pollock. (Grant *et al*., 2016, pp.28-9; Maclagan, 2014, pp.105-8; Harrison & Wood, 1998, p.435; Osborne, 1988, pp.528-9)

**Pollock**

Miró's break with traditions of pictorial structure and the feeling of flux and potential inherent in Masson's work was made manifest in many of Pollock's drawings from the late 1930s and 1940s. Masson's drawings presented 'something that could be called pre-representational form…something like a matrix of latent forms' (Maclagan, 2014, p.107), which Pollock took much further and later developed on a dramatically larger scale. The Surrealists were allied to the symbolism and methods of Freudian analysis, but Pollock was more amenable to Carl Jung's mythological and transpersonal model of the collective unconscious, which emphasised primitive – and shared – archetypes. In 1939-40, Pollock experimented with a series of spontaneous 'psychoanalytic drawings',

inspired by Surrealist methods, which he brought to therapy sessions with his Jungian analyst Joseph Henderson. In 1942, Roberto Matta organised a number of group sessions of automatic writing and drawing and Pollock took part in these alongside Robert Motherwell and Lee Krasner, among others. The works he produced share a typical characteristic that is found in all schools of automatic drawing, which is that of the 'roving line' – a type of scribble (discussed in more detail in sections 4.2.3 & 4.3.7) in the form of a linear structure that is allied to cursive handwriting script and calligraphy [Figure 149.].

**Figure 149.** Jackson Pollock (1939-40) *Untitled (Wysuph no. 82)* [pencil on paper] 8¼ x 7½ in, *Jackson Pollock: 'Psychoanalytic' Drawings,* Claude Cernuschi, Duke University Press, 1992, p. 58
© The Pollock-Krasner Foundation ARS, NY and DACS, London, 2022
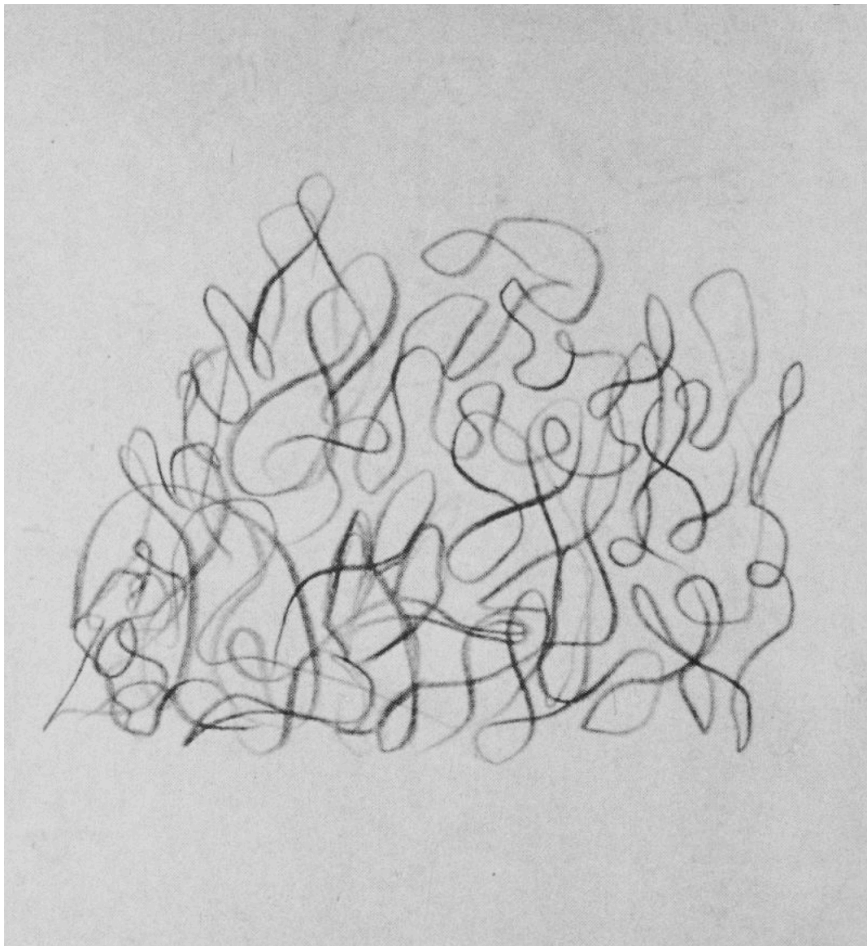
Klee (1961, p. 105) named this structure the 'free line making detours'. In his mature work, which emerged in c.1947, Pollock would famously bring together the roving line of drawing with the stringy behaviour of dripped and poured industrial paints to create a novel form of picture space. (Maclagan, 2014, pp.107-9, 117-20; Harrison & Wood, 1998, p.550; Osborne, 1988, p.441)

**Art Informel and Tachism**

Around the same time that Pollock was beginning to develop his large-scale drip paintings, the German-born painter and photographer Wols, who was refugeed in France, was making intensely worked miniature drawings and watercolours as well as small-scale oil paintings on canvas. Wols was largely self-taught, but had important contact with artists such as Moholy-Nagy, Léger and Ernst. He cultivated a detached method of working and produced unstructured compositions using randomly dripped, scrawled and incised gestural markings and stains, often radiating out in all directions from a centralised field. His seemingly formless, chaotic and resolutely material works were first exhibited in Paris in 1945 and were later celebrated by Jean-Paul Sartre as powerful exemplars of Existential human bodily presence: Wols was an 'experimenter who understood that he is necessarily part of the experiment.' In 1950-1, the French critic Michel Tapié introduced the terms *Art Autre* ('other art') and *Art Informel* ('art without form, formless art'), partly in response to Wols' work. After his death in 1951, Wols became known as the 'primitive' of Art Informel and his work was increasingly appreciated and influential. His contemporary Hans Hartung, another German refugee in Paris, had little contact with other artists and developed his own unique method of gestural painting, which was also fell under the Art Informel label. Described as 'calligraphic scribbling', Hartung's work uses long, rhythmic strokes and striations and yet is measured and elegant in ways too technically sophisticated to be confused with genuinely chaotic spontaneous marks [Figure 150]. Wols and Hartung were considered to be pioneers of Tachism (from the French *tache*, meaning 'spot', 'blob', 'patch' or 'stain'), a term applied more generally to structured, lyrical, non-geometrical, gestural abstraction. In the 1950s and 60s Tachism was considered to be the European

parallel to American Abstract Expressionism and, although it embraced spontaneous, unconscious and unplanned creation, it remained more dependent on a classical Cubist approach to pictorial totality and controlled harmonious composition. (Maclagan, 2014, p.140; Foster *et al.*, 2004, p.340, 689; Harrison & Wood, 1998, pp.599, 619; Atkins *et al.*, 1994, p.797; Osborne, 1988, pp.26, 250, 534, 590)

**Figure 150.** Hans Hartung (1960) P1960-103 [pastel, charcoal and graphite on paper] 47.5 x 71 cm, registered in the archives of the Fondation Hans Hartung and Anna-Eva Bergman under the number: CT HH2525-0 Available at: https://www.invaluable.com/auction-lot/Hans-HARTUNG-1904-1989-P1960-103-1960-Paste_996439881F/# (Accessed 17 March 2021)
Image courtesy and © 2022 Fondation Hartung-Bergman
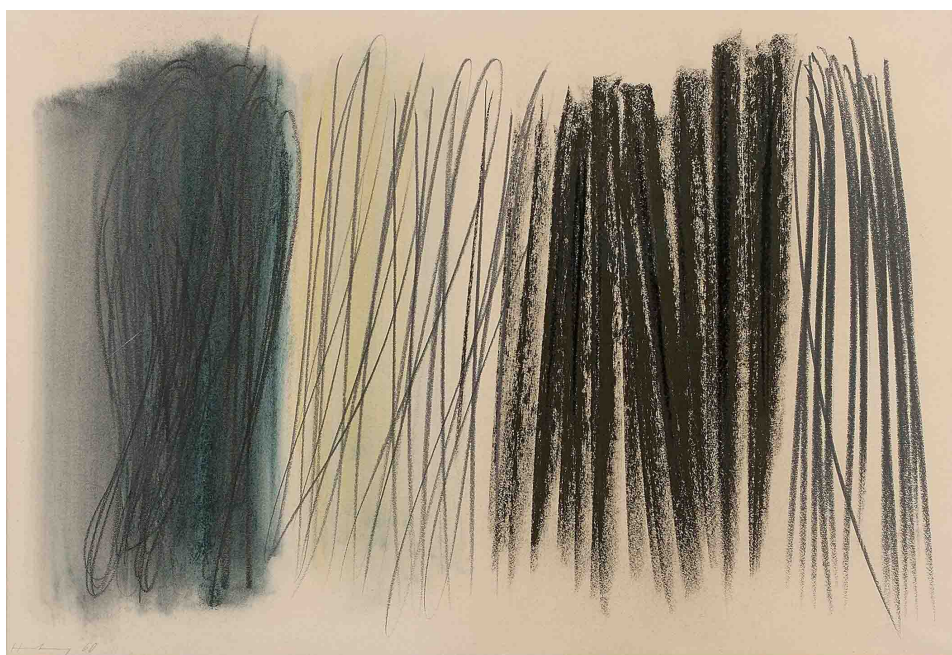


**Dubuffet**

Jean Dubuffet was active in Paris at the same time as Hartung and Wols. Together with Tapié, Breton and others, Dubuffet collected and exhibited thousands of artefacts that were deemed to be beyond Western cultural standards of approval; that were outside contemporary expectations of what constituted 'art'. These included examples of naïve work, folk art, non-Western so-called 'tribal' objects, art of the mentally ill and work by children. Dubuffet coined the term 'Art Brut' – meaning 'crude', or 'raw' art – to describe work that is

unrefined and uncorrupted by prevailing standards of intellectual artistic culture. Art Brut exemplified an unmediated creation, which was pure, direct and untainted by the defunct values of a discredited civilization that had failed to prevent the atrocities of the Holocaust and atomic warfare. The model of Dadaist disobedience and provocation was relevant: it had also arisen in a time of despair about humanity. In a series of remarkable writings, Dubuffet lambasted 'illustrious professionals' and noted that 'the approved art of the museums, galleries and salons' was 'not representative of art in general, rather merely the activity of a particular clique: a cohort of careerist intellectuals.' The makers of Art Brut 'take everything (subjects, choice of materials, modes of transposition, rhythms, writing styles) from their own inner being, not from the canons of classical or fashionable art…We engage in an artistic enterprise that is completely pure, basic; totally guided in all its phases solely by the creator's own impulses.' (Dubuffet, 1948) Dubuffet's own work originated in the 'Rehabilitation of Mud', where 'dirt, trash and filth' were scraped together into *Hautes Pâtes* ('thick impastos') into which he had scribbled and scratched flattened human figures, whose schematic frontal or profiled features lacked any indication of three dimensions. These 'pancaked' objects alluded unmistakably to the diagrammatic configurations of children's drawings [Figure 151.]. Of these he wrote: 'I like [children's drawings] very much. Children feel much freer than adults…they are beyond society, beyond the law, asocial, alienated: in fact, what an artist should be' (Dubuffet, 1967). Dubuffet thus defined the 'pure depths' of children's art (as well as the other productions of Art Brut) not as an *origin* of art – as Klee had done – but rather as being *outside* of art and its accepted norms and institutions. Whether or not children's work can be properly considered as 'art' continues to be debated (see Chapter 4). Nonetheless, the idea of the 'outsider artist' is a powerful one and is still celebrated to the present day, most notably by the international quarterly publication *Raw Vision*, which also curates and hosts exhibitions of Outsider Art and Art Brut and publishes books on the subject.

**Figure 151.** Jean Dubuffet (French, 1901–1985). *Monsieur Plume pièce botanique (portrait d'Henri Michaux),* 1946. Oil and mixed meida on wood. Support: 43 x 34 1/2 inches (109.22 x 87.63 cm); inner strip frame: 43 3/8 x 35 x 1 1/2 inches (110.17 x 88.9 x 3.81 cm); framed: 43 3/8 x 35 x 1 1/2 inches (110.17 x 88.9 x 3.81 cm). Collection Buffalo AKG Art Museum. The Charles E. Merrill Trust and Elisabeth H. Gates Fund, 1967 (RCA1967:2). © Estate of Jean Dubuffet / Artists Rights Society (ARS), New York / ADAGP, Paris. Photo: Brenda Bieger, Buffalo AKG Art Museum.

> The concept of art brut has been tremendously important in giving visibility and cultural legitimacy to a whole dimension of human creativity that traditionally had been neglected by critics and historians.
> (Grant *et al.*, 2016, p.29)

Dubuffet's enthusiastic use of abject materials anticipated the tendency in much of later postwar contemporary art to reject traditional art materials and to 'bring all disparaged values into the limelight'. The satirical French critic Henri Jeanson wrote of Dubuffet's work in 1946: 'After Dadism, here is Cacaism.' However, whereas Dadaist attitudes were largely negative, Dubuffet claimed the positive values in material that was previously despised and neglected. 'I want painting to be full of life – decorations, swatches of colour, signs and placards, scratches on the ground. These are its native soil.' He considered that the 'distinction between normal and abnormal' was untenable and that art – by whoever had produced it and in whatever context – 'is the same in all cases'. He wanted to 'grasp the flower of production in general' and asserted that 'Knowledge and intelligence are weak instruments compared to vision.' (Maizels, 2018; Machón, 2013, p.29; Foster *et al.*, 2004, pp.337-340; Harrison & Wood, 1998, pp.590-5; Osborne, 1988, pp.165-6; Dubuffet, 1967 & 1948)

## COBRA

The cultural politics of postwar Europe was highly volatile, throwing up many short-lived movements, factions and groups. One of these was COBRA, which was co-founded in Paris in 1948 by Asger Jorn, Karel Appel, Constant Nieuwenhuys, Corneille, Christian Dotremont, Jean Atlan and Pierre Alechinsky. The COBRA artists rejected formalist abstraction, naturalism and the subjective and individualistic unconscious of Surrealism. They wanted to dismantle the boundaries between disciplines and free painting from compartmentalisation. They embraced spontaneity rather than automatism and considered children's drawings to be an example of pure freedom, one which was truly international and universal and represented the origins of humanity. They recognised a commonality of production in popular and folk art from different times and places

and saw the possibility of creating a universal art that could reach anyone – an art that could escape stifling national boundaries and was free from the realities and constraints of contemporary society. Reproductions of a selection of children's drawings were published in the fourth number of the *Cobra* bulletin in 1949. COBRA aimed to break through what they saw as the stale, bourgeois and academic artifice exemplified by the established Surrealism and abstraction that dominated the intellectual art world of Paris at the time. In this, they had an affinity with Dubuffet's conception of Art Brut. Jorn practiced a type of gestural disfiguration rooted in his interest in primitive images and the 'scrawl' of children's drawings. Although critical of Surrealist automatism, Jorn nonetheless developed his own method for creating 'purely automatically'. He spent years working to liberate himself from 'aesthetic working principals…only to discover that I had filled the picture with a multitude of meaningless formulations of form and colour.' His solution was to remove those elements that hid the true 'pictorial content and gradually I was able to reveal my visions.' Jorn's automatism was physical, rather than mental: 'We cannot express in a purely mental way. Expression is a physical act that materialises thought…What is the reality that creates thought? The human body…' (Jorn, 1948). The process of working had the potential to become independent of the artist, with work itself contributing to the creation of its own content. Jorn's experiments with automatic drawing demonstrated that, in an apparently chaotic work, any underlying order of shapes and forms firmly resists conscious analysis. The COBRA artists whose final paintings most closely resembled the construction and configurations of children's work were Appel and Constant [Figure 152.]. Before immersing himself in urbanist spatial architecture, and later aligning himself with the Situationist International, Constant was one of the most prolific and evolutionary of the COBRA painters. He believed that experimental art constantly changed with the experience of the artist and, until his death in 2005, continued his experimental research using a diverse array of materials and methods. After COBRA dissolved in 1951, Jorn went on to produce his series of 'modifications' – found domestic decorative bourgeois paintings that he had 'defaced' with various materials and infantile gestures, including simulacra of children's depictions of human figures and animals. The 'modifications'

questioned the supposedly progressive nature of the avant-garde and its relationship to the mass market and kitsch. In 1959 he wrote of these works: 'Painting is over…long live painting.' (Maclagan, 2014, pp.111-13; Machón, 2013, p.29; Foster *et al.*, 2004, pp.391, 395-7; Harrison & Wood, 1998, pp.651-2; Osborne, 1988, pp.116, 280-1; Contensou *et al.*, 1982; Jorn, 1948)

**Figure 152.** Constant Nieuwenhuys (1949) *Fauna* [tempera on canvas] 74.8 x 84.9 cm, Image courtesy and © Collection: Cobra Museum of Modern Art, Amstelveen. Photo by Henni van Beek. Available at: https://www.cobra-museum.nl/en/de-collectie/ (Accessed: 17 March 2021) Artwork © DACS, 2022



## Twombly

The artist with whose work scribble is perhaps most closely identified is Cy Twombly. He was deeply affected by the work of Jean Dubuffet when, at the age of 19, he saw the artist's first American exhibition in New York in 1947-8. At the

suggestion of Robert Rauschenberg, he attended Black Mountain College from 1951-2 where he studied alongside Robert Motherwell, Ben Shan and Franz Kline. He was influenced by the imagery of Paul Klee, as well as by Kline's expressive abstraction, which used bold white and black brush marks that were carefully modulated and applied with equal pictorial emphasis. Kline's method, which he developed from c.1950, eschewed any suggestion that one set of marks were sitting on top of an amorphous ground of the opposite colour – all of his marks were independently active and carried equivalent weight to one another. Twombly was also impressed by the relationship between drawing and painting in the works of Pollock and Miró. In 1953-4, after travelling with Rauschenberg on a funded research trip to France, Spain, Italy and North Africa, Twombly served in the U.S. Army as a cryptographer. During this time, he engaged in methods that were intended to distance himself from the drawing skills he had learned. One procedure involved making drawings in complete darkness and this resulted in markings and structures that had a powerful sense of authenticity and directness. These led to finished works on canvas, which employed a range of graphic materials, such as wax crayon, coloured pencil, graphite and pastel and combined them with household paints in what amounted to giant, drawn paintings [Figure 9.]. (Webel *et al.*, 2020; Maclagan, 2014, pp.42, 44; Serota, 2008; Osborne, 1988, pp.296, 549) The works were like 'magnified scribbles':

> In a sense these deliberately casual marks, so challenging and exciting in their nonchalance, are a logical conclusion to the history of Expressionist and Abstract Expressionist drawing and brushwork…there is a deliberate anti-finesse to some of Twombly's scrawls. This is perhaps a hallmark of their expressive authenticity, rather like the way that in improvised music, squeaks and squawks signal genuine improvisation.
> (Maclagan, 2014, p.42)

Later in his life, Twombly described how the directness of his marking relied on his verbal knowledge of the world (such as the evocative nature of the word

'brown', with its scatological undertones and relationship to Old Master paintings) and how his methods related to the work of young children:

> Because children have that. It's a sort of infantile thing, painting. Paint in a sense is a certain infantile thing. I mean in the handling. I start out using a brush but then I can't take the time…because it gets stuck when the brush goes out of paint…so I take my hand and I do it…I had to find things that I could use, like my hands or the paintsticks. I can carry through the impetus till it stops. It's continual. (Twombly, 2000, in Sylvester, 2001, p.178)

He usually worked 'in the horizontal', using sections of canvas cut from two-metre-wide rolls. Working in this way across the horizontal plane – as Pollock did before him – is an important characteristic that is shared by the table-top orientation of the page used by young children when they make drawings (see section 7.5.4). 'Painting comes natural, I guess…I don't force it'. He identified the pencil as his primary medium and the marks it makes as being related to 'prehistoric things…that scratching', particularly when he was working directly into wet paint (Serota, 2008, p.48). This perhaps echoes Kline's measured abolition of the distinction between figure and ground, where Twombly's dry incised marks and the wet surface fuse together in one coalesced action. Maclagan (2014, p.22) notes: 'a scribble is, almost by definition, in some kind of collision with language, or at least with visual articulacy'. The literary content of Twombly's work attests to this and is central to his methods. 'I never really separated painting and literature because I've always used reference' (Serota, 2008, p.45). Sometimes he built upon an image and sometimes he started with a word, usually derived from a classical literary reference. 'I like poets because I can find a condensed phrase' (Serota, 2008, p.50). Because of these methods, and due to the very idiosyncratic nature of his marking, Twombly is the artist whose work is most closely aligned with the concept of *scribillare*. He 'developed a highly original style of "written images"…which has superficial affinities with scribbling, doodling or graffiti' (Osborne, 1988, p.549). Foster *et al.* (2004, p.371-2) describe 'the violent furrows dug by the sharp point of his pencils…into the

pigment covering his canvases' as a strategy for 'recoding the mark itself as a form of graffiti' where 'the graffiti mark is a registration of absence [of the marker]…that rests in the aftermath of the event…by dividing the event into a before and after'. However, Twombly resisted identifying his work too closely with that of the graffitist:

> Graffiti is linear and it's done with a pencil and it's like writing on walls. But [in my paintings] it's more lyrical. And, you know, in those beautiful early paintings like *Academy*, it's graffiti but it's something else too…feeling and content are more complicated, or more elaborate than say just graffiti. Graffiti is usually a protest, or has a reason for being naughty or aggressive. (Twombly, 2007, in Serota, 2008, p.53)

Twombly's works 'are not only very beautiful but also have a mystery and truth as deep as those which are concealed in the spontaneous drawings of children' (Machón, 2013, p.115).

> His iridescent storms of inchoate cryptographic scribbles…are abstract yet explicitly erotic…Somehow, by deploying only the barest rudiments of art – jots, dots, lines, doodles, dashes, loops, scribbles, scratches, little glyphs…Twombly has been able to make an art that rises to the level of epic poetry and fills you up with the sweep of history and fiction.
> (Saltz, 2018).

Since his death in 2011, Twombly's work has continued to have a significant presence in the art world. His work, and his elementary descriptions of it, are the embodiment of unmediated, child-like directness:

> The impetus of what something is. It's instinctive in a certain kind of painting, not as if you were painting an object or special things, but it's like coming through the nervous system…It's not described, it's happening. The feeling

is going on with the task. The line is the feeling…It's more like I'm having an experience than making a picture.

(Twombly, 2000, in Sylvester, 2001, pp.178-9)

**Performance**

In autumn 1950, Hans Namuth photographed Jackson Pollock painting in his studio. The photographs show the artist in action dripping paint across horizontal canvas spread out on the studio floor. They became an important influence for artists who were investigating the role of the body in mark making. The element of performance in the photographs – rather than Pollock's actual finished paintings – had a long-lasting impact on the Gutai group in Japan, which was active from 1954-1972. *Gutai*, which is generally translated as 'concreteness', literally means 'way of the body'. The Gutai artists – the most notable of whom was Kazuo Shiraga – invented new ways of creating marks and traces by using the whole body in transient spectacular performance, where they saw the products of their actions as far less significant than the actions themselves. They explicitly revealed the essential role of the artist's body in the mediation of all artistic phenomena, including objects, images, actions, traces and relationships (Foster *et al.*, 2004, pp.373-5). Carolee Schneemann, who began her career as a painter in the 1950s, took this further. Although she became known in the 1960s and 1970s for her performance-based work, she always described herself as a painter. She continued to be influenced by the early Expressionist work of Cézanne, Abstract Expressionism and elements of Neo-Dada. Exploring and going beyond the boundaries of drawing and painting was central to her performative approach. *Up to and Including Her Limits* was a work performed nine times between 1971 and 1976 and its equipment, physical results and filmed documentation endures as a permanent installation. She wrote that this piece 'was the direct result of Pollock's physicalised painting process…My entire body becomes the agency of visual traces, vestige of the body's energy in motion.' In the work she is suspended in a harness from which she sustains a period of drawing, with her fully extended arm holding 'crayons which stroke the surrounding walls, accumulating a web of coloured marks.' (Brock, 2017;

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Bodinson *et al.* 2006; Schneemann, 2000) The marks, which include a few phrases such as 'WAY OUT OF SYNC', 'NEVER MIND' and 'I AM HUNGRY' scrawled in wavering capital letters, largely consist of sweeping arcs formed by the restricted movement of her arms at full extension. [Figure 153.]



**Figure 153.** Carolee Schneemann (1976) *Up to and Including Her Limits* [performance documentary photograph] Available at: https://www.schneemannfoundation.org/artworks/up-to-and-including-her-limits/0 (Accessed 17 March 2021) Photograph by Henrik Gaard © Carolee Schneemann Foundation / ARS, NY and DACS, London
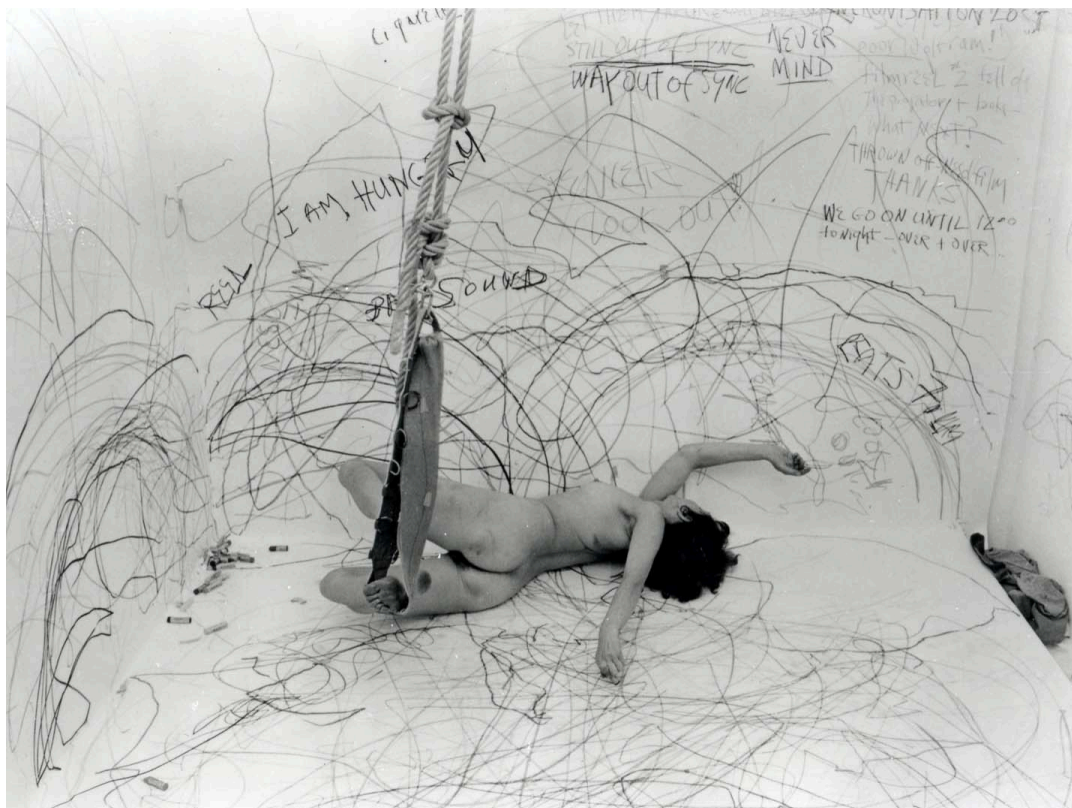
These resemble – indeed embody – the 'horizontal arc', which is one of the first characteristic scribble forms made by children who are too young to have yet mastered full control of their motor functions (discussed in more detail in section 4.4.2). Schneemann's focus on the body and the primacy of the haptic quality of mark-making over that of the exclusively visual made a significant contribution to the development of painting practices. The body is 'the ultimate witness of all happenings' and, in Schneemann's work, is presented as 'the ultimate ground of

experience and understanding' (Brock, 2017). Events surrounding the act of scribbling and the centrality of embodied perception have an intimate relationship to the development and understanding of graphic representation. This will be discussed in more detail in sections 4.4 & 4.6.

**Graffiti**

Notwithstanding Twombly's distinction, there is clearly a relationship between graffiti and tagging and the *scribillare* sense of scribbling. A tag is, by definition, a written name and its visual appearance is the kind of design known as a 'logotype'. This is when the letters of a particular word have been shaped and styled to form a uniquely customised image.

> The graffiti tag is the autographic denomination of a graffitist, stylized to operate as both picture and word. It has consciously been designed as a gestural emblem that is easy to execute at speed for the purposes, amongst others, of territorial demarcation and socio-political action. It hovers between characters and symbol, letters and image.
> (Parsons, 2000b)

Maclagan (2014, p.41) describes graffiti as 'a highly sophisticated form of inscription…some graffiti can be seen as stylized and expanded scribbles; certainly, some taggers' emblems derive from cursive signatures that have first been practiced on paper.' The speed with which graffiti tags are made tends to affect their legibility and, sometimes, the rapidity of the marking gestures spills over into a lack of control, which reveals the underlying graphomotor movements of the tagger's arm, wrist and fingers. Like Schneemann's arm arcs, the drawn-out traces correspond to basic forms of scribble pattern and emphasise the fleeting bodily presence of the writer.

> The best gestural artists working today are the graffiti taggers. The finest examples of their work are made unselfconsciously, that is to say, without

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hardly thinking about it. This is where the art happens…their usual practice is to make their mark as quickly as possible and then leave.
(Parsons, 1999)

The graffiti artist, in a sense, occupies the same performative space as Pollock, Gutai and Schneemann: leaving concrete 'physical trace evidence' of transient, but energetically charged, bodily presence; declaring 'I was here'. But the graffiti artist is largely excluded from the conventional narrative of art history, like the 'outsider' of Art Brut. Successful transitions from the constraints of urban life and space to the endorsement machine of the gallery system are rare. The pressure to produce a marketable product can have a deleterious effect. 'Productive art using the tagging process' can result in 'hopelessly mannered drawings and paintings that show the graffitist self-consciously trying to transform their usually spontaneous methods of outside-art into a gallery-safe, predictable practice' (Parsons, 1999).

**Basquiat**

Jean-Michel Basquiat is associated with graffiti art due to his activity as part of SAMO©…, the epigrammatic graffiti tag duo he formed with his high school friend Al Diaz in the economically depressed and violent New York of the late 1970s. Basquiat, who was self-taught, became widely known and celebrated as a gallery artist from 1981 onwards and his work continues to have a significant institutional presence. Basquiat did not consider himself to be a graffiti artist and wanted to distance himself from prejudiced reviewers who, he said, thought of him as a 'wild monkey man', rather than properly focusing on his work: 'They're just racist…they talk about graffiti endlessly'. He noted that 'graffiti has a lot of rules in it…and I think it's hard to make art under those conditions – it has to include your name'. Diaz himself said: 'He was never really a graffiti artist, you know, I mean he was not part of that culture…there was a way we dressed, how we spoke; he wasn't part of that.' Basquiat always worked from source material 'usually in front of the television' and with loud bebop or classical music playing (Driver, 2017; Davis, 2010; Davis and Johnston, 1985). Picasso's *Guernica* (1937) was an early

influence on him as well as Dada and Pop Art. He used many reference works and textbooks, notably *Grey's Anatomy* (first published in America in 1862), Harold Bayley's *The Lost Language of Symbolism* (1968) and Robert Farris Thompson's *Flash of the Spirit* (1983). He also admired the assemblages and formal experiments of Robert Rauschenberg. He was aligned with the Neo-Expressionist tendencies of the 1980s and wanted to attack the 'college oriented' minimal work of the 'gallery circuit…[that] alienated most people from art'. He labelled his subsequent collaborations with Andy Warhol and Francesco Clemente as 'Hybrid' (Buchart, Nairne, & Johnson, 2020; Basquiat 2017; Davis, 2010; Davis and Johnston, 1985). Basquiat initially worked on found supports, such as doors and window panes, and later used canvases laid on the floor or stretched over shaped custom frames. He worked on these directly and rapidly – often on the horizontal – using a variety of graphic materials, collage and silkscreen. His mark making is varied, including written texts, lists, numerals, pictograms and logos [Figure 13.]. 'I like to have information, rather than just have a brushstroke.' (Buchart, Nairne, & Johnson, 2020, p.266) He often employs scribble-type marks and fragmentary line elements that echo tropes from children's drawings, as well as charts, diagrams and chalkboard explications.

Certain things that happen to you in psychology...you're arrested in time and he consciously and intentionally took that idea as a painter and ran with it: 'I'm going to return to that time, I'm going to hold my instrument in a way that a child would; I'm going to draw the way a child does'. He was also the most advanced contemporary mind. He was both creatures.
Michal Holman, Artist and Filmmaker (Davis, 2010)

At that time, I would never want my work to drip – and he was, like, into letting it drip. He was into letting art be itself and that's why his work was very, you know, crude and maybe child-like in some ways because, you know, when a child is drawing there's no holdings, you know, you're not being held back by anything, you're just going by: spirit of the moment. And that, in itself, made for speed…I think the passing of the moment was very

frightening to him…life and art is very fleeting and he was very much afraid of that…

Lee Quiñones, Graffiti Artist (Driver, 2017)

He's using oil stick, using crayon on different forms of art paper, but he's maintaining and holding onto that child-like hand, which I think personally...is his signature.

Michal Holman (Driver, 2017)

Basquiat's work is coded and prefigured and is the product of much sketching, writing and many workings-out. What, at first, may seem haphazard and primal is, in fact, highly sophisticated and organised. Although removed from 'writing on the wall', Basquiat's work retains the urgent energy of the fragmentary experiences of his previous life, when he lived a hand-to-mouth existence on the street. For him, the canvas is a material object; an opaque recipient of various actions: pictorial; textual; spectral; mythological. When asked what he would be doing if he didn't paint, he replied: 'Directing movies, ideally…Ones in which black people are portrayed as being people of the human race…not all negative…thieves and drug dealers…just real stories' (Basquiat 2017; Driver, 2017; Davis and Johnston, 1985).

# Appendix 3

## Anecdote on the rectangle

I have been preoccupied with the rectangle since realising in 1990 that the currency of art practice documentation was, at that time, the 35mm positive transparency, known as the 'slide'. This role is now fulfilled by the digital image and showreel (a moving image sampler), both of which are predicated on a rectangular grid of pixels. The 35mm slide in its plastic or, earlier, cardboard mount was a framed rectangle of fixed proportions presented in either a 'portrait' or 'landscape' format. These terms derived from the history of painting and meant that the slide was presented in either a vertical or horizontal attitude. Digital images are produced in various proportions according to the device used to produce them, but they are invariably 'oblong' rectangles and not usually squares, unlike 'old time' large format transparencies which invariably had the aspect ratio of 1:1. I suspect that the majority of images that are shared online are now presented in a 'portrait' format, given the usual orientation of portable electronic handheld devices. The moving image continues to largely be constrained by its historical convention of being displayed in 'landscape' format, when it is used in art practice documentation. My work since then has been largely concerned with the global hegemony of the rectangle as a boundary for visual display schemes. (Parsons, 2017b)
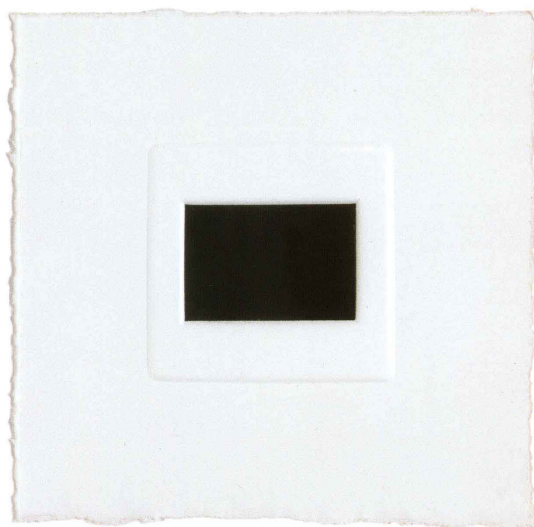


**Figure 154.** Jonathan Parsons (1991) *Transparency* [intaglio: etching ink on paper with embossing], private collection, London.

# Appendix 4

| **Kellogg's general developmental stages in self-taught art** |
|---|
| (my synthesis of Kellogg, 1969, pp.39-40. & pp.268-277) |
| Adaptation authorised by kind permission of the Golden Gate Kindergarten Association |

## Pattern Stage

| Basic Scribbles | | Placement Patterns | |
|---|---|---|---|
| S1 | Dot | P1 | Over-all coverage |
| S2 | Single vertical line | P2 | Centred |
| S3 | Single horizontal line | P3 | Spaced border |
| S4 | Single diagonal line | P4 | Vertical half |
| S5 | Single curved line | P5 | Horizontal half |
| S6 | Multiple vertical line | P6 | Two-sided balance |
| S7 | Multiple horizontal line | P7 | Diagonal half |
| S8 | Multiple diagonal line | P8 | Extended diagonal half |
| S9 | Multiple curved line | P9 | Diagonal axis |
| S10 | Roving open line | P10 | Two-thirds division |
| S11 | Roving enclosing line | P11 | Quarter page |
| S12 | Zigzag or waving line | P12 | One-corner fan |
| S13 | Single loop line | P13 | Two-corner arch |
| S14 | Multiple loop line | P14 | Three-corner arch |
| S15 | Spiral line | P15 | Two-corner pyramid |
| S16 | Multiple-line overlaid circle | P16 | Across the paper |
| S17 | Multiple-line circumference circle | P17 | Base-line fan |
| S18 | Circular line spread out | | |
| S19 | Single crossed circle | | |
| S20 | Imperfect circle | | |

## Shape Stage

| Emergent Diagram Shapes | | Diagrams | |
|---|---|---|---|
| E1 | Multiple line crossings | D1 | Greek cross |
| E2 | Multiple line crosses | D2 | Square or rectangle |
| E3 | Small crossings | D3 | Circle or oval |
| E4 | Crisscrossing lines | D4 | Triangular Shape |
| E5 | Parallel line crosses | D5 | Odd Shape |
| E6 | Multicrossed line and T-cross | D6 | Diagonal cross |
| E7 | Added line crossings | D7 | Diagrams in Placement Patterns |
| E8 | Squares from crossing lines | | |
| E9 | Ladder cross squares | | |
| E10 | Border, base or sky lines | | |
| E11 | Implied square shape | | |
| E12 | Centeredness markings | | |
| E13 | Implied circular shape | | |
| E14 | Concentric markings | | |
| E15 | Implied odd shape | | |
| E16 | Implied triangular shape | | |
| E17 | Pre-diagrams | | |

## Design Stage

| Combines | | Aggregates | |
|---|---|---|---|
| C1 | Cross with square, circle or odd shape | A1 | Circles only |
| C2 | Greek cross and diagonal cross | A2 | Squares only |
| C3 | Divided square | A3 | Crosses, circles and squares |
| C4 | Two squares | A4 | Odd shapes only |
| C5 | Square with circle or odd shape | A5 | Squares and odd shapes |
| C6 | Two circles | A6 | Circles and odd shapes |
| C7 | Triangle and other diagrams | A7 | Multilined areas |
| C8 | Odd shape and circles | A8 | Multicrossed areas |
| C9 | Two odd shapes | A9 | Three diagrams in combination |
| C10 | Combines as implied diagrams | A10 | Aggregates as implied squares |
| C11 | Combines in Placement Patterns | A11 | Aggregates as implied circles |
| | | A12 | Aggregates as implied triangles |
| | | A13 | Aggregates as implied odd shapes |

| A14 | Aggregates in Placement Patterns 1,2 & 3 |
| A15 | Aggregates in Placement Patterns 4,5 & 6 |
| A16 | Aggregates in Placement Patterns 7 & 8 |
| A17 | Aggregates in Placement Pattern 9 |
| A18 | Aggregates in Placement Patterns 10 & 11 |
| A19 | Aggregates in Placement Pattern 12 |
| A20 | Aggregates in Placement Pattern 13 |
| A21 | Aggregates in Placement Pattern 14 |
| A22 | Aggregates in Placement Patterns 15 & 16 |

## Mandala Aggregates

| | | | |
|---|---|---|---|
| M1 | Inherent one-line center crossings | S1 | Pre-sun scribblings |
| M2 | Inherent multilined half-crossed circles | S2 | Attempted suns |
| M3 | Inherent multilined crossed circles | S3 | Suns with center Markings |
| M4 | Mandaloid scribblings | S4 | Clear-center suns |
| M5 | Mandaloid structuring | S5 | Sun faces |
| M6 | Cross mandalas | S6 | Sun humans |
| M7 | Cross and square mandalas | S7 | Suns in Aggregates |
| M8 | Cross & circle or odd shape mandalas | S8 | Suns with loop rays |
| M9 | Cross & circle & square mandalas | S9 | Suns with other rays |
| M10 | Concentric mandalas | S10 | Sun desgins |
| M11 | Little mandalas | S11 | Enclosed suns |
| M12 | Imperfect mandalas | S12 | Suns as implied diagrams |
| M13 | Mandalas in Placement Patterns | S13 | Suns in Placement Patterns |

## Suns

(see table above — Suns column)

## Radials

| | |
|---|---|
| R1 | Inherent Radials in circular scribbling |
| R2 | Lines crisscrossing at a point |
| R3 | Circumference marks on circular scribbling |
| R4 | Lines radiating from a point |
| R5 | Complete Radials |
| R6 | Radials in Aggregates |
| R7 | Radial Designs |

# Pictorial Stage

## Humans

| | | | |
|---|---|---|---|
| H1 | Face Aggregates | L1 | Esthetic use of letters and numbers |
| H2 | Areas with few rays | L2 | Nonesthetic use of letters and numbers |
| H3 | Humans with head-top markings | L3 | Defective letters and numbers |
| H4 | Humans without head-top markings | L4 | Halloween |
| H5 | Armless humans | L5 | Snowmen |
| H6 | Legless humans | L6 | Christmas |
| H7 | Humanoid Aggregates | L7 | Easter |
| H8 | Humans in Aggregates | L8 | Thanksgiving |
| H9 | Humans with ears | L9 | Indians |
| H10 | Humans with big heads | L10 | Valentines |
| H11 | Humans with small heads | L11 | Spacemen |
| H12 | Humans with wing arms | L12 | Animals |
| H13 | Hands and feet | L13 | Rain |
| H14 | Hair | L14 | Other assigned subjects |
| H15 | Mandaloid humans | | |
| H16 | Radial humans | | |
| H17 | Humans in pairs | | |
| H18 | Humans in groups | | |
| H19 | Stick men | | |
| H20 | Humans as implied Diagrams | | |
| H21 | Humans in Placement Patterns 1,2 & 3 | | |
| H22 | Humans in Placement Patterns 4,5 & 6 | | |
| H23 | Humans in Placement Pattern 7 | | |
| H24 | Humans in Placement Pattern 8 | | |
| H25 | Humans in Placement Pattern 9 | | |
| H26 | Humans in Placement Patterns 10 & 11 | | |
| H27 | Humans in Placement Pattern 12 | | |
| H28 | Humans in Placement Pattern 13 | | |
| H29 | Humans in Placement Pattern 14 | | |
| H30 | Humans in Placement Pattern 15 & 16 | | |

## Learned from Others L1-L14

(see table above — L column)

## Animals

| | | | |
|---|---|---|---|
| K1 | Animal or Human? | F1 | Motif repetitions for Placement Pattern 16 |
| K2 | Top ears and vertical torso | F2 | Motif Repetitions for Diagram 2 |
| K3 | Top ears and horizontal torso | F3 | Other formal designs |
| K4 | Head, legs and tail | | |

## Formal Designs

(see table above — F column)

| | | | |
|---|---|---|---|
| K5 | Species unknown | | |
| K6 | Fish | | |
| K7 | Birds | | |
| K8 | Horses | | |

## Buildings

| | |
|---|---|
| B1 | Pre-Building Aggregates |
| B2 | Square-roofed Buildings |
| B3 | Triangular-roofed Buildings |
| B4 | Triangular Buildings |
| B5 | Other Building Aggregates |
| B6 | Buildings in Placement Patterns |

## Works of Advanced Scribbling

| | |
|---|---|
| W1 | Scribble as design |
| W2 | Abstract build-up or fill-in |
| W3 | Sophisticated scribbling |
| W4 | Textured scribbling |
| W5 | Designs based on Suns |

## Vegetation

| | |
|---|---|
| V1 | Humanoid trees |
| V2 | Trees |
| V3 | Flowers |
| V4 | Flowers and Trees |

## Individual Work

| | |
|---|---|
| I1 | Thematic repetitions |
| I2 | Thematic growth |

## Transportation

| | |
|---|---|
| T1 | Boats |
| T2 | Automobiles |
| T3 | Airplanes |
| T4 | Rockets |
| T5 | Trains |
| T6 | Combined Transportation items |

## Joined Pictorials

| | |
|---|---|
| J1 | Humans and Buildings |
| J2 | Humans and Vegetation |
| J3 | Humans, Vegetation and Buildings |
| J4 | Humans and Transportation |
| J5 | Buildings and Vegetation |
| J6 | Animals with Humans or Buildings |
| J7 | Other Joined Pictorials |

# Appendix 5

## Flag for London (2003)



**Figure 155.** *Time Out*, March 3-10, 2004

I decided that a flag for the new city state should be very colourful to reflect the city's huge diversity. 'Flag for London', in a couple of important ways, is a traditional flag design. In the spirit of the new independent state, it subverts the old state flag (the Union Flag) and echoes the flag of a country that, through revolution, has previously gained independence of that state (the USA). In the layout of its colours, however, it is an entirely new national flag. The canton is 'gyronny' — i.e., it is divided in half in both directions diagonally as well as vertically and horizontally — and is coloured with the cycle of eight spectral hues. The field is divided into eight horizontal stripes that are a gradating tonal arrangement of the two sets of primary colours plus black and white. The way it is divided up, when hung vertically, can be seen to spell out the word 'LONDON'. The striped field represents a capital letter L, while the gyronny canton contains squared versions of O, N and D. It literally has 'London' in it. Or, as a friend of mine said, 'It's London innit?'.

## Postscript

### Full Acknowledgements

The people discussed below were briefly mentioned in my Acknowledgements at the beginning of Volumes 1 & 2.

This work was completed during a time of intense personal distress and tragedy. One-third of the way into my studies, on 12 June 2018, my darling wife Yolaine (who was also known as Yoli) was unexpectedly rushed into hospital and died six weeks later. Our only daughter Lili was fifteen years old when Yoli was taken ill. Two weeks before she died, Yoli made me promise to continue with my studies and to complete my doctorate. I hope she would have been pleased with the results. She helped me a great deal throughout my life and career. Her MSc training and subsequent practice as a psychotherapist and counsellor – including specialising in working with very young children – meant that some of her theoretical and practical knowledge overlapped with that encountered in the field of Fine Art and with my studies in particular. We were able to discuss any aspect of my work and practical research. There are not many people with whom you can have an in-depth conversation on subjects as diverse as Zen Buddhism, Neo-Dada or Phenomenology. She also collected and annotated a large number of Lili's infant drawings and some of these are illustrated in the present work. She was a forthright critic of my practice and one of her stated aims was always to 'keep you on your toes'. I am deeply grateful for everything she did to support me during the 23 years of our life together – as an artist, as a parent and as a whole person. Without learning a great deal from her and personally developing as a result, I would not have been able to complete this work whilst also looking after Lili and dealing with my grief.

During Yoli's illness, my dear friend Tracey Rowledge became my touchstone. I talked to her on the telephone nearly every day of those six short weeks and was able, with her unwavering support, to process the new and shattering information concerning Yoli's condition that I received on a daily basis. Not only is Tracey an

I particularly wish to mention my remarkable daughter Lili, of whom I am immensely proud. She has been an absolute rock throughout these very difficult times. She is incredibly resilient, emotionally strong, highly intelligent and extremely capable. She is also great fun and a very beautiful and caring person. She has been my guiding light and kept me focused, responsible and sane.

I am indebted and hugely grateful to all of these incredible people.