Dance as a Medium for Drawing

a practice-based investigation into dance and choreography as generative modalities for contemporary drawing

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Abstract

This practice-based research project explores how dance can generate a choreographic view of drawing that extends the understanding of the medium beyond the constraints of the two-dimensional image and the horizontal plane, to include the third and fourth dimensions. By approaching drawing via dance, this thesis considers the role that dance and choreography may play in extending the possibilities of drawing, paying special attention to its performative turn. Approaching drawing as a verb and an action, whereby the dancers/performers are identified either as marks or drawing tools, I investigate the relationship between bodies, movement and representation. It is this relationship that shifts the understanding of drawing towards an inter-relational activity between bodies, space and architecture, whereby the dancer's body in movement is interpreted as a condition in continuous state of becoming that manifests itself through interactions with the world around.

Using dance and choreography methodological approaches such as task- based instructions, the project exposes different relations between bodies and space and reveals how these relations can be reinterpreted and represented as drawing. Rather than focussing on mark-making to trace the dancers' movement through space, dance and choreography become the mediums for drawing. This approach shifts the emphasis towards a temporal understanding of drawing, raising questions of where drawing as performance, that is dance, resides and the role that choreography plays in this relationship. The theme of intermediality[1] emerges and to an extent underpins each of the three chapters, which respectively examines drawing as marks on paper, indexical signs, traces in the mind, physical actions and archival documentation.

[1] As a term and theoretical concept, *Intermediality* refers to the intersections and interconnections between different media, typically in the context of digital media. In 1965 Dick Higgins, crediting an 1812 use of the term 'intermedium' by the British poet Samuel Taylor Coleridge, reintroduced the term 'intermedia' in the context of art theory to describe works of art that sit between media such as the *Fluxus* movement in the 1960s.

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Contents

[Fore]words

This thesis seeks to identify dance and choreography as alternative mediums for drawing. It will determine how the convergence of dance and choreography within the context of contemporary art has critically shaped the emergence of new approaches to drawing practices that are performative[2]. Investigating the role dance and choreography play in the performative turn within drawing practice, the research positions drawing in relation to the dynamics of movement through dance, and considers the temporal implications of this correlation. The intention is to rethink practices of drawing that are performative beyond the notion of gestural traces of the body in movement, whereby drawings take the form of the marks left from physical actions. The conjunction between body and paper, pushing charcoal against large sheets of paper, seems in fact the condition which commonly epitomises the relationship between dance and drawing. Rather than examining gestural mark-making and body expressivity, I focus on philosophies of movement and on choreographic motion to further open up the understanding of drawing as a field of practice.

Reflecting on what dance and choreography have to offer to the field of drawing that makes us see drawing that is performative from a different angle, I consider whether transposing dance onto drawing may help drive new and original contemporary approaches to the discipline. Through a mutual interrogation of both fields of practice, I ask: What do dance and choreography lend to drawing and where does the act of drawing as dance reside: in the marks of an action left on the paper, as a trace in the mind, as an indexical sign, in a physical gesture, as an archival documentation or as social practice?

The research takes as its subject the dancing body as a condition in a continuous state of becoming that manifests itself through interactions with the world around, as exemplified by Erin Manning's writings on relational movement. It is through this lens that my research interrogates the performative possibilities of drawing in its relation to the physical and conceptual qualities of dance and choreography, such as 'ephemerality, corporeality, precariousness, scoring and performativity' (Lepecki E, 2012: 15). Moving beyond the constraints of the two-dimensional image,

[2] Performative Drawing is a term that brings to the fore ideas of process. From a linguistic point of view the term performative was coined by the philosopher J. L. Austin in his book of lecture notes *How to Do Things with Words*; 'The name is derived from 'perform, the usual verb with the noun 'action': it indicates the performing of an action - it is not normally thought of as just saying something' (1978). Within the context of my thesis, I refer to drawing in relation to contemporary discourse; and the term drawing in my analysis encompasses both traditional approaches as well as notions of drawing as an expanded field of practice. The expanded field of drawing accounts also for drawing that is performative. When I refer to Performance Drawing, the term refers only to drawing as an expanded field of practice across both visual and performing arts. The term Performance Drawing, first appeared in 1962 in the subtitles of Catherine de Zegher's Drawing Papers 20: Performance Drawings, in Foá et all, 2020, *Performance Drawing – New Practices since 1945*, Bloomsbury Visual Arts, London (2020).

I reimagine the status of the drawing unbound from observational representation as a spatial-temporal event: from 'a rendering of thought as a two-dimensional image' (Farthing S, 2018) to the third and the fourth dimensions.

My hypothesis is that dance thinking, theories and practice can be used to conceptually re-conceive and extend the possibilities of drawing beyond appearance, observation and the limits of vision. I refer to 'performance drawing'[3], a new term which is used to describe a broadening of the field of drawing and it encompasses practices across both visual and performing arts. A common denominator across both fields is that performance drawing generally relates to a live action of the body and is concerned with a process rather than with an outcome, which facilitates the generation of new ways of thinking about the drawn line and the mark in relation to the body. Throughout this thesis I draw a distinction between 'performance drawing' and 'drawing that is performative'; a syntactical differentiation which allows me to discuss drawing that is performative in relation to the wider field of contemporary drawing practices (i.e. not only performance drawing).

To prove my hypothesis, I have primarily used a practice-led approach and have used dance and choreography as vehicles to make artwork in the field of drawing, which is an approach that forms the backbone of my methodology. It is through my artworks that my research sheds new light on how dance and choreography can be reinterpreted as drawing.

Drawing that is performative often focuses on the body as a means for gestural mark-making. However, within this research, drawing is approached as a verb, i.e. as an act, and the dancers are seen as both marks and drawing tools. This methodological strategy is central to demonstrating how the physical and conceptual qualities of dance and choreography can expand the definition of drawing that is performative. Dance and choreography both share relational qualities: they both focus on interrelation and on putting things in relation for an encounter with a public. This thesis explores how these relational qualities may be applied to drawing and considers if an interrogation of, or resistance to, this understanding of dance and choreography could offer new potential for contemporary drawing beyond gestural mark-making.

Using strategies such as improvisation, repetition and accumulation to generate choreographic scores of dance movements, the materiality of the drawn line is abstracted and the

[3] The term first appeared in 1962 in the subtitles of Catherine de Zegher's Drawing Papers 20: *Performance Drawings,* with reference to the work of Alison Knowles and Elena del Riveiro, in Foá et al, 2020, *Performance Drawing – New Practices since 1945,* Bloomsbury Visual Arts, London. Performance drawing allows one to move away from the idea of a static representation of forms towards ideas of 'potentiality', a condition in which both the document and the process of creation act as a means of interpretation and representation in future processes of understanding the work. This points at the actual event of a performance on a larger space/time continuum that includes what happened before and after, as well as the afterlives, which is its documentation. Performance drawing over all contextualises drawing as a temporal act.

'concept' of the line in space comes to the fore through the movements of the body in motion, hence exposing the temporal dimension of dance and choreography. Driven by action based and process led approaches, I interpret drawing through task-based instructions and other systematic methods of working such as patterns, formations, measurements and counting to generate ideas and to reveal how different configurations of relations between bodies, space and materials can be re-interpreted and re-presented as drawing through live or mediated representation.

My aim is to demonstrate that the physicality of dance and the conceptual qualities of choreography can be applied to drawing beyond the idea of gestural mark-making which traces the body in movement. This approach narrows the body of the dancer down to a rendering of movements, i.e. points in space. As Manning describes it 'the actual (visible body) slides into the virtual (the body unseen)' (Manning E, 2009: 88). This suggests an anti-phenomenological approach to the body which goes beyond the phenomenological relationship that dance, and choreography hold with embodiment. I demonstrate this through an analysis of three practice-based projects: *Graphic Traces* (2015), *WhiteNoise* (2016-2017) and *dAnCing LiNes* (2020/2021).

The practice-based component of my research evolves through collaborative and participatory approaches: from dance as mark-making, to dance as a form of notation, to dance as collaboration, to dance as a temporal act in space, to dance as a participatory and social endeavour, to dance as abstracted visualisations. This evolution is elaborated from Chapter One to Chapter Three.

Historical Context

Surveying the field of contemporary drawing shows how this project is building on the existing work of practitioners and theorists back into the early twentieth century. RoseLee Goldberg's writing in *Performance: Live Arts since the 1960s* (2004) traces back to the merging of performative and plastic arts including architecture, to historical movements, such as Tommaso Marinetti's Futurist Manifesto (1900), Kazimir Malevich and the Russian Avant-garde (1913), Oskar Schlemmer and the Bauhaus Art School in Germany (1919 to 1933), founded with the idea of the 'total' work of art where all arts were included.

As Adriana Ionascu and Doris Rohr point out in *Drawing Now* (2016), since the 1960s and 1970s, drawing has re-positioned itself as 'a dynamic field' of practice. Set apart from associations with other disciplines that created 'a false hierarchy where drawing has been relegated as intermediate or secondary' (Ionascu A, and Rohr D, 2016: 3), this new and expanded notion of

drawing evolved into an independent and autonomous practice alongside conceptual and live art performance in North America and Europe. This historical period, which marks the origins of the interplay between disciplines and its long-lasting influence on today's contemporary drawing practice, is pivotal to how we now consider performative drawing both in theory and in practice. With movements such as Fluxus, Happenings, the Judson Dance Theatre (1960/1970) and choreographers such as Yvonne Rainer, Merce Cunningham, Trisha Brown and Alwin Nikolais (1960/1990), we witnessed the emergence of collaborations between artists across diverse fields of practice: from dance and choreography to theatre to visual arts, architecture, and poetry. Visual artists, who took the static, two-dimensional image as their starting point, devised many of these events, bringing together multiple art forms such as performance and drawing and explored notions of performative drawing by linking the body with perception, movement, and the environment. Some of these modern and contemporary histories continue to be relevant in today's contemporary drawing research. It is this cross disciplinary transposition, which incorporates thinking from other areas of practice and genres, that the philosopher of art Peter Osborne (2013), identifies as the ground from which the first properly conceptual artworks stemmed, that creates the conditions for dance to become one of the most innovative, radical, and 'contemporary' approaches for visual artists. Suggesting that the term 'contemporary' should be understood as a coming together of different but equally present temporalities, subsequently negating the contemporary as a periodising term, Osborne's argument is evidenced by the growing number of artists using dance and choreography to extend the scope of their practice in recent years that build on the legacy of the 1960s and 1970s. It is this historical backdrop that led contemporary drawing to becoming the particularly dynamic field of practice it is today.

Furthermore, in the 1990s the advent of digitalization opened up the possibilities of new explorative and interpretative realms, taking on additional complexity and multiple relationships through live, mediated, and virtual approaches. A burgeoning discourse on dance and choreography as expanded fields of practice emerged in this period thanks to the development of 'conceptual dance', whereby contemporary dance and choreographic practices have been redefined and expanded through experimental approaches. Both fields today are understood as enquiry-driven disciplines that arguably draw inspiration from other fields of practice such as the visual arts.

In Peter Osborne's argument, the emergence of 'the first conceptual art artworks [in the 1960s and 1970s] are to be identified in the transposition of the score from music and dance into the institutional context of the gallery as well as in the exhibition of documentation of performance events' (Osborne P, 2013: 282). This historical context is exemplified by artists such as the American

choreographer Yvonne Rainer, who in the mid 1960s diagnosed an 'unprecedented close correspondence between concurrent developments in dance and the plastic arts' (Lepecki A, 2013: 58).

Beyond simply pertaining to the revived interest in dance and performance from the 1960s and 1970s, noting the gradual intensification of dance and choreography entering the visual arts field that took shape in different parts of the world allows the bringing closer of two histories that have historically always been apart: visual arts and performing arts. This can be evidenced in North America with Twyla Tharp, the Judson Dance Theatre, Merce Cunningham, John Cage, and Robert Rauschenberg (1965 -1978), and in North America and Europe with the Fluxus Movement, and the Happenings. Similar trends were concurrently present in Latin America with the Neo Concrete movement (1965 - 1978)[4]. These approaches were extended with the new trends in North America with Trisha Brown, and Yvonne Rainer (1990), and further extended in recent decades with European and North American contemporary artists such as Boris Charmaz, and Tino Sehgal as well as in recent years with the collaboration between Siobhan Davies and the Baltic Centre of Contemporary Art[5] (2019). In this respect, with reference to my art practice, my research is an inquiry through practice which traces back the legacy of those histories focusing specifically on dance and choreography and how those disciplines extend the conceptual potentialities of drawing that is performative.

Literature Review

Post structuralist thinkers such as Erin Manning, whose notions of 'body becoming' and 'relational movement' are the foundation for a philosophy of the body which identifies the body with its movement. Manning's philosophical positioning sets the basis for a reinterpretation of contemporary drawing through dance [Chapter One]. Manning's proposition that 'thought moves the body' and that 'bodies in movement are thought in motion' challenges the idea that movement is simple displacement in space knowable only in terms of the actual. This is central to the choreographic view of drawing that I put forward in *WhiteNoise*, the artwork and case study of Chapter Two, which approaches drawing as a temporal act.

[4] It is to be noted that the artists cited in this thesis are from a Western context, yet it is important to acknowledge that there are a number of historical references worldwide. In particular the live art works of the *Gutai Art Association*, which was formed in 1954 in Japan, whose work placed more emphasis upon process than on finished products.

[5] *BALTIC Centre for Contemporary Art (Gateshead) and Siobhan Davies Studios i*n 2019 started *CONTINUOUS,* a four-year partnership which aims to take dance into gallery spaces across the UK. The intention is to seek to advance the creation, presentation and development of audiences for experimental contemporary dance within visual arts contexts.

Michael Newman's analysis on how time is made concrete in artworks provides the overall framework to investigate drawing as a temporal act [Chapter Two]. The writings of Henri Focillon on the morphology of drawing, and Jean-Luc Nancy's proposition of drawing as a generative force have also been important influences in this respect. Gilles Delueze and Felix Guattari's ontology of the line as multiplicity offers a view of the world as an open-ended dynamic process, the constituent parts of which are further processes. This is an insightful and far-reaching view that foregrounds a reinterpretation of philosophical questions concerning notions of space, time, and human agency; these are ideas which align with my proposition of drawing as dance as a mode of encounter [Chapter Two and Chapter Three].

Clare Bishop's writings on ideas of collective agency in socially based artworks from the 1960s to the present offer invaluable insight into the unfolding of the argument. These ideas include the legacy of feminist practices from the 1960s that argue for a primacy of the action, the experiential, the mark, and the body. In this regard, it is important to clarify that my research and practice are not positioned specifically in relation to feminist discourse; however, I refer to the writings of Doreen Massey, a social geographer who critiques space through a feminist and Marxist lens, arguing that space 'presents us with the existence of the other', and that means 'it is space that presents us with the question of the social' (2013) [Chapter Three].

Bourriaud's ideas on 'relational practices', Ingold's notion of 'human correspondence' and Hewitt's notion of 'social choreography' underpin the proposition that dance and choreography are critical for the implementation of collaborative and participatory methodologies, which open up the possibilities for drawing as a social practice.

By critically referring to dance and choreography theories and practices that work for visual artists, I draw on Lepecki, one of the main contextual references throughout this thesis. His extensive writing across the fields of dance and contemporary art links modernity to kinetics and mobilisation. I also refer to dance theorist Bojana Cvejic with her text *Choreographing Problems: Expressive Concepts in Contemporary Dance and Performance* (2015) which addresses the relationship between dance, choreography and philosophy across a broad range of philosophical traditions and performance practices. Additionally, I draw on the writings of Pieter T'Jonck, Helmut Ploebst and historian Harvie Ferguson, who claim that movement is the emblem of modernity.

In addition to my own practice, which is the driving force of this investigation, I refer to the work of key dancers and choreographers who in the early 1990s transformed the dance scene in Europe and in the USA. Particularly, I focus on the interdisciplinary interplay across choreography and visual arts of practitioners such as Trisha Brown, Yvonne Rainer, Merce Cunningham, William

Forsythe and La Ribot. Creating an inspiring paradigm for the integration of these fields of practice across historical and contemporary contexts, I examine, through the aforementioned practitioners, the progressive intensification of dance and choreography in relation to contemporary drawing.

Reflecting on the role drawing has assumed in the last twenty years amongst contemporary practitioners, I address the extended field of drawing that is performative, considering specifically the trans-disciplinarity implications implicit in this approach, which is what set me on the path of examining its role in relation to dance and choreography. Beyond a question of simply pertaining to the revived interest in performance drawing of the last twenty years, the convergence of trans-disciplinary practices raises important questions with regards to the legacy of Process Art Movements from the 1960s and 1970s[6]. Placing these art forms in relation to one another, my practice-based research scrutinises these influences, specifically: the encounter of dance, choreography and contemporary drawing.

Dick Higgins' notion of intermedia (1965), which describes works of art that 'fall between media' (Westerman J, 2015) such as Fluxus, the Happenings, Rauschenberg, Judson Dance and more recently Mary Simonson's notion of intermediality[7] (2013), assists me in putting forward my argument and helps to redefine disciplinary boundaries. This methodology brings to the fore the similarities and overlaps of processes and approaches between dance, choreography and drawing that might have easily been overlooked, because of historically being analysed separately.

As my argument unfolds from Chapter One to Chapter Three, I question how we understand the relationship between dance, choreography, the moving bodies, and drawing. I start by establishing how the use of dance and choreography for drawing concerns notions of process instead of product, whereby an action, a thought or an instruction may in itself be interpreted as drawing. In this respect, the writings of Avis Newman, Adriana Ionascu, Catherine de Zegher, and Cornelia H. Butler have been critical to positioning dance as drawing within the context of contemporary drawing practices.

[6] As exemplified in books such as *Performance Drawing, New Practices since 1945* (Foá et al, 2020) as well as networks such as *Draw to Perform,* an annual Symposium established by Ram Samocha in London and Brighton in which I participated in 2015 with *Drawing Outlines* - version two.

[7] In her *book Body Knowledge: Performance, Intermediality, and American Entertainment at the Turn of the Twentieth Century (2013),* Mary Simonson puts forward the proposition that intermediality is a way to understand the relationship between two mediums, referencing scholars such as Irina Rajewsky, who explains that intermediality is a condition where one medium is treated 'as-if' it is another. Generating an illusion of another medium's specific practice, Rajewsky argues that intermediality is defined by its resistance to completeness and unity: an 'intermedial gap' remains 'between the attempted enactment or reproduction of the medium and the medium itself' (I. Rajewsky, 2005: 55 in L. Elleström, 2021: 5).

Throughout this thesis, the relationship between dance, choreography, bodies and drawing will be examined and contextualised largely through an analysis of the trajectory of my own practice, which is located within performative drawing in between action and image, process and form, the visual and the experiential. Equally, throughout the thesis, I refer to visual artists who experiment with dance and choreography; namely Bruce Nauman and Richard Long, alongside dancers and choreographers who explore ways of translating movement into drawing such as Trisha Brown, and to artists who occupy a space in between such as Yvonne Rainer [Chapter One], Merce Cunningham and Xavier Le Roy. These practitioners who explore the choreographic condition using dance almost as a partner in the generation of work that extends across the field of the visual arts, help me to set out the underpinning concerns for my research. The work of the visual artist Monika Grzymala is also a significant example of an extended notion of drawing practice through movement. Specifically, the reference to Grzymala's work *On Line* introduced at the end of Chapter One, exemplifies the transformation and evolution of the drawn line into plane, movement, performance and dance, forming the basis for Chapter Two.

William Forsythe's investigation of choreography as a conceptual practice also assists me in defining choreography as a structural system to apply to the field of contemporary drawing [Chapter Three]. His notion of choreography is founded on the premise that choreography is an expression of thought or a 'class of ideas', with the idea being 'a thought or suggestion as to a possible course of action' (Forsythe, 2008: 6). Additionally, Tino Sehgal's use of choreography and dance in his participatory performance *These Associations* (2012) provides an apt example of the participatory and collaborative traits dance and choreography share. Questioning notions of individual and collective identities, *These Associations* explores how meaning is embedded in dancing and choreography as collective experiences. It is an artwork in between theatre, performance art and dance based on gathering and talking to people which includes all the viewers that act as live participants.

With a background in dance myself, I have witnessed how dance and choreography have increasingly entered art galleries in the last two decades. Exhibitions such as *Laurie Anderson, Trisha Brown and Gordon Matta-Clark: Pioneers of the Downtown Scene, New York 1970s* at the Barbican in 2011; *Dance/Draw* curated by Helen Molesworth at the ICA Boston in 2012; *Thinking with the Body* by Wayne McGregor at the Wellcome Trust in 2013; *Table of Contents* by Siobhan Davies at the ICA London (2014); *Seeking New Genealogies: Bodies/Leaps/Traces* curated by Yuko Hasegawa at the Museum of Contemporary Art Tokyo (2015); and *Yvonne Rainer: Dance Works* at Raven Row Gallery in 2014, are a testament to this. I elaborate on why artists look to dance for artmaking,

articulating the reasons that led to dance becoming 'a crucial referent for thinking, making and curating visual and performance-based art' (Lepecki A, 2012: 14) in the art scene of the last two decades. In *Exhausting Dance: performance and the politics of movement*, André Lepecki discusses works performed not only in theatres but also in galleries (2006: 65-86). Another example is La Ribot's *Panoramix*, a project developed in collaboration with the Live Art Development Agency, presented at the Tate Modern, London in 2003 as part of Live Culture (Lepecki A, 2006: 65-86).

I analyse this phenomenon, which Lepecki points out is currently under-theorised (2012: 14), throughout this thesis. Arguing for the centrality of dance allows me to reposition contemporary drawing, specifically its performative turn, in direct correspondence with movements such as Fluxus, the Happenings, Rauschenberg and Judson Dance from the 1960s and 1970s. A position that clearly differs, as Pamela M. Lee observes (1999), from the historical alignment of those movements with sculptural practices and object making. In so doing, I offer new perspectives of these histories and align the trajectory of my practice with the work of visual artists who have originally trained in dance but work extensively in the field of the visual arts, such as Yvonne Rainer or Tino Sehgal, and more recently with BALTIC and Siobhan Davies Dance. In the last two decades, their work has offered a wide range of approaches to the interpretation and use of dance and choreography within the field of the visual arts, and still does today.

Through these examples, as well as through original artworks, in the form of drawings, book works, photographs, artefacts, films and live events, my research aims to affirm dance and choreography capacity to extend the scope of contemporary drawing. Additionally, tracing back the historical influences from the 1960s and 1970s on current trends, my research reveals the interrelationship between these fields of practice that have historically been isolated from one another: theatre, performance and visual arts. In this respect, I have integrated voices from varied disciplines, not all of which are mentioned in this introduction.

Other artists relevant to the field of this enquiry could have been included; however, my selection is the result of an extensive survey of artists which included Henri Michaux, Etienne-Jules Marey, as well as Carolee Schneemann, amongst others, and it has been made in relation to the distinct emphasis of each of the three chapters. Benjamin Buchloh's writings provide a critical framework for my argument which addresses 'one of the principal dialectical oppositions in the medium of drawing' (2006: 117) in the twentieth century: 'the authentic corporeal trace and the externally established matrix' (2006: 117). The former sees drawing as desire; in the latter drawing is viewed as 'self-critical subjection to pre-existing formulae' (Buchloh B, 2006: 117). From this perspective, my investigation unfolds with particular reference to Catherine de Zegher's writings on

the value and the use of the line in drawing, as well as to Avis Newman's notion of 'the unstable edge of drawing', where drawing is seen 'as a gestural and exploratory act that describes thought as it is becoming' (Newman A, 2003: 123).

For the philosophical underpinning of this approach, I turn to Manning and his definition of bodies as 'dynamic expressions of movement on its incipiency' that 'have not yet converged in final form' (2012: 6). The body in movement is in itself a condition of flux; whereby sensing the body in movement defies any predefinition of the body, in terms of subjectivity and identity, as in Erin Manning's notion of becoming-body. Manning's bodies are bodies 'that resist predefinition in terms of subjectivity or identity, body [bodies] that is [are] involved in a reciprocal reaching-toward that in-gathers the world even' (2012: 6). 'These bodies-in-the-making' or 'body-becoming' (Manning E, 2009: 6) are propositions for thought in motion, a process in becoming which perfectly aligns with the idea of drawing as a series of actions of the hand that mirror lines of thought. As Bonnie Marranca affirms in *Thinking/Drawing/Dancing:*

> *The flow of a hand drawing is naturally related to dance. By its very nature, drawing is experimental - a dream, a concept, a vision, a blueprint, a poem. Movement is its essence. The dance creates a world in a space.*
>
> Marranca, (2018: 26)

Such affirmations foreground drawing as dance as a mode of encounter, a vehicle of what Tim Ingold has named 'human correspondence' (Ingold T, 2016), which I have enacted in two of my projects *White Noise* (2015/17) and *dAnCing LiNes* (2019/2021) through the use of both collaboration and participation, discussed respectively in Chapter Two and Chapter Three of this thesis.

To put forward the proposition that drawing as dance resides in a social practice, the thesis acknowledges theories of subjectivity and embodiment through a disparate range of writings including those of Tim Ingold, Erin Manning, Gilles Deleuze, and Felix Guattari amongst others. Its concerns further extend through a critical engagement with ideas of human and non-human agency as developed in the writings of writers such as Clare Bishop (2006), Jane Bennet (2010) and Tim Ingold (2016), and with reference to the work of artists who use participatory and collaborative approaches that interpret drawing as instructions to be acted out, such as Alison Knowles and Stanley Brouwn. Reflecting on an aspect of my art practice which engages moving bodies in choreographic actions or activities aimed at contextualising drawing within a three-dimensional context, I offer an interpretation of these theories in relation to contemporary drawing discourse.

Implementing drawing's performative capacity through engaging with choreographic activities that bring about an encounter between drawing, moving bodies and spaces, I establish a correspondence between dance, choreography and drawing. In so doing, I answer the question that guides my research throughout my thesis: What does it mean to think of dance as drawing? Further extending the perspectives of the above-mentioned writers and dance theorists, I answer this question from the practice-based component of this enquiry, addressing relevant sub-questions that directly emerge from my working process. I thereby consider the possibility that a number of interpretations of dance as drawing may coexist simultaneously: an indexical sign (i.e. a mark on paper), a trace in the mind, a physical action or gesture, an archival documentation, or a social practice.

Thesis Map

My thesis is structured into three chapters, with my argument developing from four main territories that are analysed throughout the text. These are:

1. Embodiment and Graphic Traces [Chapter One]
2. Time, Space and Movement [Chapter Two]
3. The activation of Spaces or Environments [Chapter Three]
4. Documentation through Data Visualisation [Chapter Three]

These territories operate as working concepts to facilitate the organisation of the findings of my practice-based investigation into specific topics of enquiry throughout the three chapters, although there are inevitable overlaps throughout the thesis. The first, focuses on the notion of graphic traces of movement and on notation, the second on drawing and temporality, the third on collaboration and participation, and the fourth on modes of documentation and data collection. I formulate an analysis and interpretation of each of my art projects. Their distinctive approaches and set of conditions give rise to an art practice that demonstrates ways in which dance and choreography incorporate and extend how contemporary drawing is viewed.

Each of my practice-based projects, namely *Graphic Traces* (2015), *WhiteNoise* (2016/2017) and *dAnCing LiNes* (2020/2022) offer very distinct propositions that rethink the relationship between dance and drawing. In these projects, rather than focussing on the production of finished artwork, emphasis is placed on the working process. This is an approach that manifests differently in each of the artworks produced, and that I discuss at length in each chapter. To give a short synopsis:

Graphic Traces (2015) [Chapter One]: This project tests out how dance qualities such as movement, the body, lines, rhythm, dancers' interactions, and formations can be applied to drawing. Looking at drawing as choreographic patterns and formations, drawing is interpreted through a series of notational scores that reference Banesh's choreographic notational systems.

WhiteNoise (2016-2017) [Chapter Two]: Here drawing becomes a temporal collaborative act through the use of systems such as improvisation, repetition, counting, and measurements. Movement in space is approached as drawing and the space becomes a performative and speculative site for contingent making and activity. Building on the legacy of the early sixties dance companies, such as the Judson Dance Theatre, the project embraces whatever lies outside of established choreographic codes, whereby actions such as walking and other mundane daily activities are interpreted as choreographic actions.

dAnCing LiNes (2020-2021) [Chapter Three]: Here the potential of linear form of the body in movement serves as a tool for performative actions, both live and mediated, tested through interaction and group dynamics. Drawing manifests as instructions performed by moving bodies in spaces and/or in environments. Through participation and public interventions of dancers in spaces and environments, the project raises questions on social behaviours, postures, normative values, and the use of space in public areas. The nature of the technological means used determines which form the documentation of the live events may take. For example, the data visualisations explore drawing as a series of diagrammatic representations of the choreographic scores, and here the interpretation of dance as drawing becomes abstracted from the representation of the movements of the dancers. This approach puts forward a choreographic view of drawing which generates new understandings of the body in movement beyond notions of perception and signification. Based on this, my argument brings to the fore the relation between moving bodies and the space they inhabit, hence proposing a view of drawing as inter-relational activity between body, space, and its surroundings.

Methodology

Departing from the fact that the body is an absolute in dance and choreography, I turn to Manning's definition of bodies as 'dynamic expressions of movement… that have not yet converged in final form' (2012: 6) to set up my methodology. Weaving through the theoretical research, I approach the dancing body as both a tool for investigation as well as the very subject of the investigation. This duality highlights a split in the dancing body, caught up in the oscillation of sensing its own movement and thinking of itself as lines in space. This dual capacity, the dancing

body as object and subject of my investigation, elicits new understandings of the use of dance and choreography as tools for contemporary drawing. Manning's bodies are bodies 'that resist(s) pre-definition in terms of subjectivity or identity, body [bodies] that is [are] involved in a reciprocal reaching-toward that in-gathers the world even as its worlds' (2012: 6).

From this perspective my methodological approach focuses on the endeavour of training, placing the attention on the processes for dance production. As such, performance is no longer located to the singular moment of a spectacle that begins and ends with its physical manifestation; rather, it is seen on a larger space/time continuum, which includes what happened before and after, as well as all of the afterlives of its documentation. Through the applications of methodologies of working which originate from my early background and professional experience in dance and performing arts, dance and choreography become the tools for drawing beyond gestural mark-making. As Bojana Cvejic (2015) observes, dancers learn to develop an image of the movements they wish to produce in their mind and develop technical skills to master their bodies to reproduce it. Hence the movement becomes the effect of their technique. Repetitions of the same movement determine the coordination to create form. It is through the dancers' gestures that I create drawings in space. Using as a frame of reference the distinction that Manning makes between expression and representation, my use of dancers' gestures tends toward representation rather than expression:

> *Expression and representation are at two ends of the spectrum of perception. Representation is the coming-together after the fact of an event already constituted. Expression moves with the very act of perception.*
>
> Manning, (2009: 94)

Thinking of the dancers' bodies as an image, trained to be seen by others (or as imagined by the self, to be seen by others) yet governed by a relay of external and internal forces, the exploration of these two registers is the basis of the practice-based component of this research. The differentiation between representation and expression in dance and choreography is the means by which my thesis demonstrates how the thinking, theory and practice of these disciplines help to re-conceptualise contemporary drawing.

From this perspective, I approach and analyse the three projects developed throughout my research, highlighting the different ways in which the encounter of dance, choreography and drawing manifests itself in each artwork. The production of these artworks has enabled me to test out how dance and choreography working strategies help to realise different methods of art making which extend the potentialities for contemporary drawing that is performance drawing. Here, the

performative methodologies enacted through collaboration, such as repetition, improvisation, play and task-based instructions, become strategies for abstraction of space-time activities within the gallery space. Counting and measurements have been employed as conceptual tools and the art gallery has been used as a site for speculative and contingent making and activities. Also, intuitive approaches such as improvisation, which tends to be used as a technique to generate associative thinking for the creation of original material, has been subsequently carefully edited using both moving and still images. The application of these processes, which provoke a reflective thinking process based on rumination, critical judgement and experience, helps to demonstrate how dance and choreography extend the scope of contemporary drawing.

The analysis of the methodological approaches for each project and the assessment of the activities undertaken exposes the centrality of systematic rules with a different set of conditions under which drawing as dance is explored. These conditions, which I analyse in depth in each of the chapters, determine the diversity of artistic outcomes produced which span across performance, bookwork, installation and data visualisations.

Furthermore, I carried out primary research through an ongoing dialogue with both dancers and choreographers during the process of making my participatory artworks; an exchange that has fed into the practice-based projects. Primary and secondary research methods such as conversations, observational and participatory research, and practical workshops have therefore informed my analysis. The recordings of these activities have provided insights from the perspective of the performers, which allowed analysing and articulating the dual capacity of the dancing body through the juxtaposition of analytical thought and first-hand experience. This approach set out a dialogical negotiation between reflective and reflexive practices which has been most productive for the unfolding of the argument. Much of the research material that I have gathered through workshops carried out with dancers, participants and various collaborators throughout my projects is included in the *Appendices* of this thesis.

Key Terms and Explanations

As the title of the project suggests, my methodology implies the use of dance as a generative modality for drawing. I wish to stress that the investigation turns to both dance and choreography, two closely interlinked disciplines, as a means for extending the scope of dance as a medium for drawing. In order to analyse dance and choreography's specific traits that make us see drawing from a different angle, it is essential to preliminarily spell out what differentiates these two disciplines, as dance and choreography use a very distinct set of methodological tools which require analysis.

Dance is an art inscribed in the body and for this reason it actively participates in the construction, representation, and reception of itself in action. In dance the body is absolute and present, in so far as it is weighted and corporeal. Despite this inescapable corporality, dance is ephemeral (particularly ballet) and it might be seen to displace the body in favour of an image of itself in movement. Dance leaves no trace behind after the live event, which is a condition that is in a state of becoming which, while of the body, extends to something that is outside of itself, or at least that it is experienced by another.

In classical ballet the act of 'leaping' disavows bodily weight in the expression of a desire for flight, an attempt to defy gravity and the ground hence transposing both dancers and viewers within the world of dance. Maya Deren's *A Study in Choreography for Camera* (1945) excellently exemplifies and synthesises the capacity of dance to alter movement, body, space and time. Although contemporary dance has often attempted to break free from this tendency to transport, a condition that all dance forms share, taking this paradigm to its limit, allows dance to be freed up of its corporeality.

Drawing a parallel with the reading of a script as an act of cognition that takes its reader inwards in the domain of reflective thoughts, Tim Ingold in his book *Lines*, states:

> *Reading a script is an instance of cognition, of **taking in** the meaning inscribed in the text; reading music is an instance of performance, of **acting out** the instructions inscribed in the score. The former takes us ever inward, into the domain of reflective thought; the latter takes us ever outward into the surrounding ambience of sounds.*
>
> Ingold, (2007: 12)

Ingold's observation of the coexistence of these two modes, i.e. cognition and performance, in the reading of a script echoes with the inside and outside split of the dancing body, previously described. Having a spatial relationship to drawing, a dancer's actions and gestures may be envisioned in a drawing but are embodied in the live performance. From this perspective, the daily training acts as a preparatory drawing, which becomes the moment of cognition that takes the dancer into the domain of reflective thought; whilst the performance is the acting out of the instructions embedded in the dancer's body. This dual relation between taking in and acting out creates a tension, which is played out in my research by an analysis of the intrinsic duality of the dancing body that sees itself simultaneously as subject and object/image. This position, which is reflected in my methodology, arguably resonates with art historian Henri Focillon's notion of double time (1934) in the work of art: 'the temporality it projects in its internal development, and its

temporality in relation to other aspects of human activity' (Focillion H, cited in Lee P, 1999: 32). This is an idea that Focillon introduced a long time before the historical emergence of process art in the 1960s and 1970s.

The philosophical implications of this approach extend Gilles Deleuze's (1988: 51, 52) reference to Henry Bergson for whom an embodied act of cognition is one of reciprocal reach and return within a continuum of time where past, present, and future coexists, hence placing the emphasis on the present moment. We could say that time in dance is immanent, an embodied experience perceived from within the body whilst dancing; it is the time of dance which manifests itself as movement in space. Dancers have in fact, a very embodied relationship to space which they express through actions and gestures; from this perspective the dancing body is a medium for drawing in space.

Choreography is a discipline that follows an abstract set of protocols; it refers to a much more structural process that adheres to a set of self-imposed rules where different elements are put in relation to one another for public encounter. Choreography is the organisation of movement in time and space. William Forsythe defines choreography as 'organising things in space and time' (Forsythe W, 1998, cited in Ploebst H, 2009: 165) significantly omitting any mention of the body or movement. 'I consider choreography to be a secondary result of dancing' (Forsythe W, 2003). As Ric Allsopp states:

> *The terms and reach of choreography can both include and go beyond the composition of purely bodily movement. Choreography uses forms and trajectories of movement that leave a visible yet impermanent trace.*
>
> Allsopp, (2007: 29)

From this perspective, choreography exposes the structuring principles for dancing; its qualities imply synchronicity of movement, and relations of individual parts to the whole, which are concepts not necessarily included in the term dance. Choreography concentrates on the way in which things are arranged over space. It provides a unique cluster of methodological tools to use as generative modalities for analysis and production; the ontology of the line is central to choreography in much more abstract terms; as such, choreographic thinking and practice extend easily from dance to drawing. Choreography appears as a reaction to movement which is harnessed into a repetition.

Delueze and Guattari define choreography as 'apparatus of capture' (1987: 424-73); an apparatus that captures dance distributing its gestures and affects in a codified manner. As Lepecki articulates in the quote below:

> *Indeed, as dance falls prey to that true **apparatus of capture** known as choreography, its questions become: How does one create a body that may answer adequately – both kinetically and perceptively - to movement, if movement is, in itself, **the** imperceptible…*
>
> *… The casting of dance as ephemeral, and the casting of that ephemerality as problematic, is already the temporal enframing of dance by the choreographic.*
>
> Lepecki, (2012: 120)

Lepecki's dance and choreography's constitutive qualities, such as 'ephemerality, corporeality, precariousness, scoring and performativity' (2012: 15), seem to be underpinned primarily by the idea that dance is experienced in movement. This suggests a temporal dimension where everything changes over time and is in a state of flux rather than ideas of Newtonian time which is measured and physiological. In this respect, the interrelationships between corporeality, ephemerality and temporality come into focus as the main traits and conditions that enable reframing dance and choreography as drawing.

The relationship between movement and time is entangled with both dance and choreography, though in choreography this relationship is extrinsic, because through choreography dance enters in relation to other forms of spatial/temporalities. The consequences of this argument are the necessity to make 'dance stay around' or to 'create an economy of perception aimed specifically at its passing away' (Lepecki A, 2007: 120), which is where perhaps drawing and specifically drawing that is performative becomes central. With regard to the relationship between time and space in dance, time seems to align primarily with notions of dynamism, because dance is experienced in movement, which suggests a temporal dimension. Choreography, on the contrary, brings space alive; it emphasises how important space is in our lives, and by extension in the organisation of societies [Chapter Three]. Dorren Massey, a social geographer who wrote extensively on space (2013), debunks many of the assumptions which we may have about space, one of which seems to be the notion that space suggests a flat surface:

> *And a lot of us, I think, implicitly think of space as a kind of flat surface out there - we 'cross space' - and space is therefore devoid of temporality: it is without time, it is without dynamism,*

> *it is a kind of flat, inert given. Foucault wrote in the later part of his life that, yes, he thought we'd often been thinking of space like that and that was wrong, and I agree with Foucault in that later moment.*
>
> Massey, (2013)

On the other hand, as examined in Chapter Three, Massey argues that space is the dimension that makes us see the other; it is space that presents us with the question of the social:

> *If time is the dimension in which things happen one after the other, it's the dimension of succession, then space is the dimension of things being, existing at the same time: of simultaneity. It's the dimension of multiplicity.*
>
> Massey, (2013)

In this respect, choreography is a relational practice that extends the scope of contemporary drawing towards social practice. It is the intrinsic relational quality of the line, born out of a gesture when dance becomes drawing, that links internal thoughts or impulses to the outward world through the repetition of a mark or action on a surface or into space. This allows the incorporation of human and non-human forces into choreographic processes when approaching dance and drawing. This approach introduces ideas of agency, hence implementing drawing as an inter-relational activity between bodies, spaces, and materials:

> *Significantly, line draws on relation as much as relation draws on line.*
>
> de Zegher, (2010: 23)

A Synopsis of my Practice

As previously mentioned, my professional experience as a dancer is complicit to my investigation. Many years of professional experience and training as a dancer have in fact provided this study with practical insights into the relationships between dance, choreography and drawing. My background in dance has proved to be an invaluable primary resource which ultimately is what led me to embark on my practice-based research.

Since entering the field of the visual arts, my origins in dance informed my art practice; notions of movement and embodiment have been central to my thinking and shaped the direction of the work. Although I have not necessarily involved myself as a dancer/performer in my artwork, a reference to the body has underpinned most of my works. Focusing on how bodily presence could

be used to activate an artefact, a space or an environment, I have often involved the viewer through physical interaction[8]. My attention was not on the representation of the body in movement, nor of the marks developed through bodily gestures, but whether the body could be reconsidered in a different light and be reflected in the conceptual aspect of the work, rather than as a physical presence.

With *Graphic Traces* (2014), and *Stage Plans* (2014), I explicitly start using dance and choreography strategies to develop my artwork. It is around this time that I decided to embark on my practice-based research focussing on the relationship between dance, choreography, and contemporary drawing.

From this perspective, it is important to reiterate that my approach to my research is primarily as an artist and that it is the practical aspect of my research that, weaving through the theoretical component, determines its theoretical positioning. It is through the dual practical and theoretical aspects of my research, which comprise the two interrelated aspects of artwork and written reflective text, that I address these concerns. Artistic practice is thus a pivotal aspect in this double articulation of practice and theory. The analysis of the case studies in my research feeds directly into my self-reflective writing. It has been particularly interesting tracing back how my origins in dance impacted on my practice as an artist, and how my first-hand experience of dancing has helped me to consider how the body, and its absence, may be redefined through a performative approach to drawing practice. In this respect, my artistic production manifests a clear interest for a performative approach to materiality whereby the medium used to draw defies the general assumption of what drawing is and can be. This research, therefore, attempts to affirm the centrality of the choreographic view of drawing in my art practice which accounts for its performative qualities. In examining my artwork, this research endeavours to determine whether its characteristics are intrinsic to dance practitioners' training. In addition, the research affirms the centrality of dance and choreography in contemporary art practice debates where drawing and performance drawing traditionally hold considerable standing.

By examining the histories of two disciplines such as dance and choreography in their relation to contemporary drawing, this thesis aims to contribute to the current discourse and

[8] In my earlier work I developed a number of participatory sculptures through which the viewers experienced the multiple layers of meaning existing in the work, as well as their own and other people's presence in the space. Artworks such as: *Water Balls* (2004) and *1 and many Concrete Balls (*2003) explore these ideas. Amongst these works *Photocopier & Spinning Tops* (2002) required the viewers to make photocopies to record the movements and the marks drawn by a spinning top in motion, hence creating indexical marks of these fleeting balancing moments. The interplay between conceptual understanding and social interaction was played out as the viewers were invited to become active participants of the work. This work shows clear signs of how my practice would have evolved to encompass drawing as an expanded field.

debates concerning the influences of these fields of practice on the visual arts. By gathering examples of how dance and choreography's thinking and practice expand the scope of contemporary performance drawing, my thesis identifies the main dance and choreography theories that also work for visual artists.

The implications of this analysis and the theories and theoretical concepts I draw upon throughout the research will shed new light on this interdisciplinary territory currently under theorised (Lepecki A, 2012: 14).

Chapter One: Indexicalities of Movement

> *One of the most popular perceptions of drawing today is that it happens as a 'performative' practice. From live-art performance to experimental choreography, drawing can be found in either a scenographic display of artists tracing their physical actions live and throughout spaces shared by audiences, or in reflecting upon the interior of one's being.*
>
> Luzar (2017: 50)

Taking as a dictum Luzar's quote which references Lajer-Burcharth (2015), this chapter analyses the complex relationship between movement and its representation in performative drawing. The intention is to identify the characteristics of dance and choreography that most appeal to visual artists, hence addressing the question: how can dance's inherent qualities such as movement, the body, lines, rhythm, dancers' interactions, and choreographic formations be applied to drawing, both theoretically and in the studio?

To address this question, I start by comparing the use of the body as a tool for art making through an historical recount of cross-disciplinary approaches across dance, choreography and drawing. Acknowledging significant international exhibitions that traced these histories, I reference *Move: Choreographing You* held at the Hayward Gallery in London in 2010/2011. This major exhibition brought together seminal work of artists from the 1960s such as Bruce Nauman and Robert Morris and choreographers such as Trisha Brown, Yvonne Rainer and Simone Forti, and considered how from the 1960s onwards new ways of thinking in dance and choreography have contributed to extending the scope of contemporary drawing.

Rather than analysing the contemporaneity of these historical contexts and their relation to the current trends in contemporary drawing in chronological terms, Chapter One focuses on identifying dance and choreography specific traits that make us see the drawn line from a different angle. This is exemplified by the work of several artists across the visual and the performing arts that have used the body as a tool for art making in a similar fashion across different historical periods.

The chapter begins with an analysis of the works of Bruce Nauman and Richard Long as examples of practitioners that foreground the action of art making over the final result. These examples form the basis of my own advances in thinking because of the fact that it is process over product that is central to the relationship of dance and drawing. I subsequently analyse the works of choreographers Yvonne Rainer and Trisha Brown in relation to ideas of indexicality and graphic

traces. It is the graphic manifestation of bodily movement, commonly expressed through gestural mark-making to represent dance as drawing, that I am scrutinising in this chapter. Referencing Gilles Deleuze, Félix Guattari and Erin Manning's writings on the relationships between movement, embodiment, and lines, I consider what type of body is produced when dance and choreography are deployed as generative strategies for drawing. This is instrumental in proposing the notion of the dancing body as body/becoming, a concept that brings into focus the centrality of temporality and advocates for a choreographic view of drawing that investigates the possibility of an absent body in the interpretation of the relationship between these fields of practice.

As an example of practice, I refer to *Graphic Traces* (2015), a site-specific performance I presented at Wimbledon Space for *Acts and Reacts*, a festival of performance across theatre and fine art. The project interrogates the nature of graphic traces across dance and drawing and rethinks the material relation between moving bodies and the flat surface of a 'traditional' drawing that commonly tends to be approached in performative drawing through gestural mark-making. The methodological approach led by practical investigation and artistic production engages in theoretical and critical analysis that aligns with the proposition of dance and choreography as generative modalities for contemporary drawing. What is central is the focus on process rather than product. Dance compositions and choreographic notational systems of representation become a form of mark-making which considers how patterns, formations and their organisation create drawings. This methodological approach in *Graphic Traces* is explored through dance physical training as well as the dance studio as the site for processual physical activities. This is because, these can be seen as 'processes in becomings' (Deleuze G,1995: 146). In this respect *Graphic Traces* is the first project to consider the question that will become the central proposition of my practice-based enquiry: what if the live act of drawing is expressed directly by a gesture rather than being mediated by a mark? This proposition which questions where the act of drawing as dance resides, is rooted in the body becoming as both subject and object of my investigation.

Process as End Product

It is an important part of this study to reflect on the historical context from the 1960s and 1970s to gain an overall knowledge of how new ways of thinking in the field of the visual arts are contributing to the inclusion of dance and choreography in artistic projects today. This, according to Lepecki, is a defining factor that allows an artistic project 'to affirm about itself: *This is contemporary!'* (2012: 15). *Process as End Product* looks at some of these histories that were

instrumental in establishing the importance of process over product in introducing associated themes that create the conditions for a view of dance and choreography as drawing:

> *A discussion about drawing in contemporary contexts involves the process (making/acting) and its documentation; this aligns drawing with time-based narrative structures in actual physical space, … The objective of this definition of drawing practice then becomes the process, the temporality and implicit narrative; this privileges process over a traditional understanding of a final outcome, over the notion of an end result, as might be understood by a material product on paper or other supports, a market object.*
>
> Ionascu and Rohr, (2016: 6)

As Ionascu and Rohr (2016) point out, in the last few decades drawing has re-situated itself within the context of contemporary art critical discourse from a position of 'service' to other disciplines such as painting, sculpture and architecture, to a practice that is now valued as an independent discipline that is concerned more with process than product. Tracing back the origins of this new found position for drawing to Surrealist practitioners such as Andre Masson, Ionascu & Rohr highlight how historically the hierarchy of product over idea and process shifted with the emergence of conceptual art, and how performance was incorporated in this shift. The shift took place in contemporary art in the 1960s when 'Ideas and process themselves have become products' (Tormey A, 1998). This can be exemplified by works such as Bruce Nauman's *Dance* or *Exercise on the Perimeter of a Square (Square Dance)* (1967/8) (Fig. 1), and Richard Long's *A Line Made by Walking* (1967) (Fig. 2), in which the contingency between the art object/image and the activities to produce them became an outcome.

Figure 1, *Dance on the Perimeter of a Square (Square Dance)*, (1967) Figure 2, *A line made by walking*, (1967)

Looking at these histories, Jackson Pollock is to be credited with launching these innovative process-led trends that challenged traditional conventions in the late 1940s. His action paintings produced on the floor using the whole body through a durational process have been described as dancing, exemplifying the centrality of the body as a tool for performative actions to extend the possibilities of the discipline:

> *Pollock - famously laying canvases on the floor and dribbling paint onto them - re-grounded painting in the condition of earth, its gravity and reality. With no verticality, no contour, and no form, line was brought back from space to surface, creating what would come to be called as 'antiform'. Pollock's performative gestures recalled the movement of a dancer…*
>
> de Zegher, (2010: 63)

> *Pollock's creative process is defined by a rhythmical movement across the canvas, an action evidenced by the lines of paint; the emphasis is not on the result but on the process. The traces of paint render movement palpable to the viewer. Hans Namuth's film of Pollock working supports this reading: the artist's canvas appears as a stage, the act of painting as a dance*
>
> Rosenthal, (2010: 10)

Building on this legacy, artists such as Nauman and Long in the 1960s extended the scope of the use of the body and physical actions in relation to their surroundings and physical spaces.

Nauman's work *Dance* or *Exercise on the Perimeter of a Square* (*Square Dance*) (1967/8) is an eight-minute film where the artist moves continuously, performing a number of repetitive actions such as bouncing balls, jumping, playing the violin but mainly walking to the beat of a metronome. In this video Nauman carefully choreographed his actions to mark the space by using his body as a drawing tool, rigorously enclosing his actions within the perimeters of a given space within which he designs clear directional lines through the movements of his body.

Experimenting with the rhythms of his steps and changing tempos, moving either in a mechanical manner or shifting his weight in an exaggerated manner, Nauman breaks down the act of walking to explore the relationship between his body and the surrounding space. As Ruth Burgon (2016) comments, the title of this work suggests that this series of short videos in black and white intentionally differentiate dance from physical exercise, whereby dance is interpreted as a formally aesthetic act whereas exercise refers to a much more functional and controlled training, which has much more to do with process than product:

> *Because I guess I thought of what I was doing as a sort of dance because I was familiar with some of the things that Cunningham and others had done, where you can take any simple movement and make it into a dance just by presenting it as dance.*
>
> Nauman, (1996) *Interviews* 1967-1988

Further extending the scope of his performative actions that strongly resonate with ideas of dance, Nauman went on to build up far more complex installations such as *Performance Corridor* (1969) (Fig. 3) where audiences became active participants and were invited to re-walk the walk, or 'redraw' the same steps Nauman performed in the making of these performative videos.

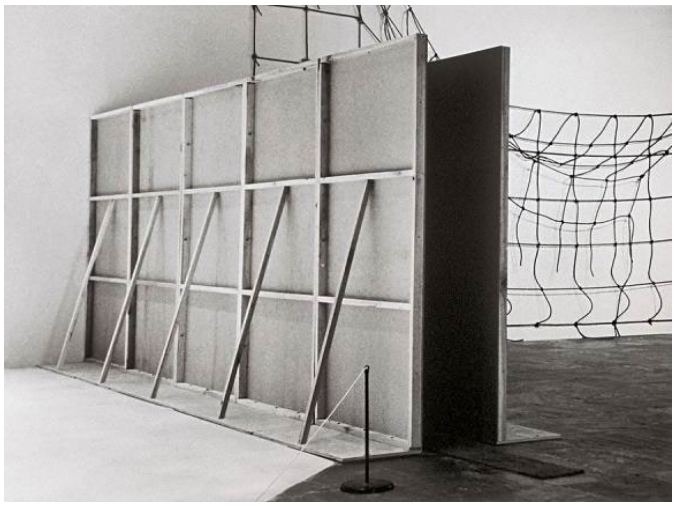


Figure 3, *Performance Corridor*, (1967)

Alongside process, what comes to the fore almost by default in terms of methodology in Nauman's work, are participation and audience engagement. Two characteristics embedded in disciplines such as dance and choreography to which I will return in Chapter Three. Nauman's work clearly signposts the centrality of the audience as active participants in his performative works that use the body as a tool for art making. A similar trend was also adopted by Robert Rauschenberg in 1966 when he started working in collaboration with dance and choreography practitioners, as exemplified by this interesting quote:

> *My relationship to dance is … directly responsible for my new interest in the spectator's active role. I learned that a work of art - say, a painting or a piece of sculpture, is an elusive quantity - that is, the fact that it's concrete makes it elusive. The dance, on the other hand - is really concrete, not elusive at all. At least, so it seems to me. You see, both parties are in a critical relationship in terms of immediacy and spontaneity. They combine to create a living, palpable force of contact.*
>
> Rauschenberg, (1966: 34)

Richard Long's *A Line Made Walking* (1967) and *Walking a Line in Peru* (1972) (Figs. 2, 4) are other renowned examples of work made by walking which greatly extended the reach of what a drawing can be. In these works Long walking back and forth in a field until the flattened turf became visible as a line, challenges the materiality of the art object. Here the artist not only walks the path or the line but becomes the path itself. What is left of the performance is a series of photographs as traces of Long's actions. The defining characteristic of Long's work is that:

> *It is simultaneously made up of quite separate analysable elements but is at the same time utterly unified*
>
> Long, (1994: 26)

Figure 4, *Walking a Line in Peru,* (1972)

The complexity of layers that is attached to the meaning of these works, which use the energy of body to mark the landscape in similar fashion to gestural marking, relate well to dance as embodied experience with its immediacy and spontaneity of expression. The understanding of drawing as an expanded field of practice was born out of these new trends, which merged drawing and performance through the use of the body. Marking the origins and the long-lasting influence of what has come since the 1960s in contemporary, performative and cross-disciplinary art practices, these traditions aligned drawing with time-based narrative in physical spaces and environments.

In this period, the 1960s, the number of artists who began using dance, choreography, and physical actions as an expansive gesture grew exponentially anticipating the developments of innumerable cross and trans disciplinary approaches to art practices whose influences last until today. The origins and intersections of these trends across contemporary art, dance and choreography make it difficult to establish how the histories and influences of dance and choreography onto drawing that is performative have played out. Illustrating these relationships in a chart published in *Live*[9] Yvonne Rainer attempted to map out a genealogy of contemporary dance in relation to the visual arts from the 1950s to the 1970s (Fig. 5). What becomes apparent through these examples is that it has been the focus on action and on movement that brought about the dissolution of notions of objecthood in visual art, and this has been determined by artists' engagement with dance.

[9] A magazine on performance from the 1980s, written in response to an article by dance critic Arlene Croce in the New Yorker.

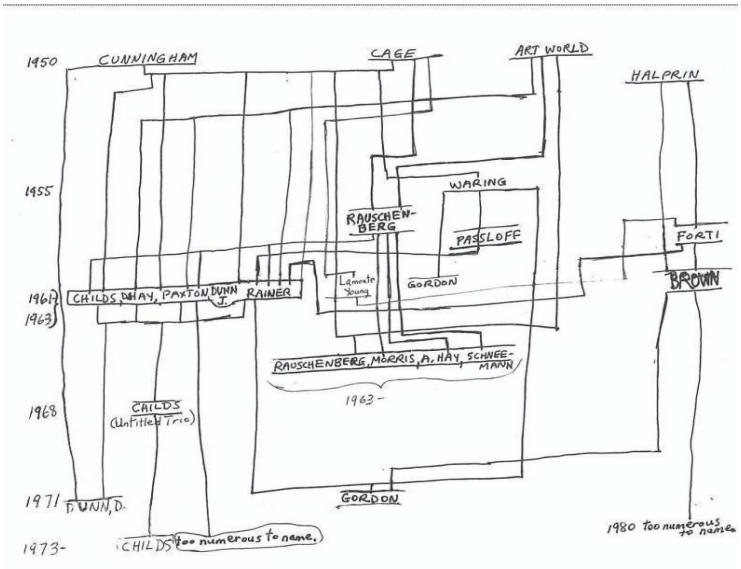


Figure 5, *Performance and Interaction*: Judson Dance Theatre, (1980)

The legacy of these histories provides my study with an invaluable source of practical insight into the main traits of dance and choreography that historically helped to extend the scope of drawing beyond the constraints of the two-dimensional image. In essence, the emphasis on process and dematerialization evident in visual arts since the 1960s that generated new and radical methodologies in art making, as Butler points out (2010), originates in dance. This understanding of drawing, unbound from observational representation, values process over product. It engages with time-based processes offering a way of thinking about the *poiesis* (i.e. the act of making or producing something predominantly in artistic creation) as a condition 'in becoming'. This helps to shift the focus from the singular moment of the performative event (i.e. the spectacle that begins and ends with the production and its physical manifestation) to the process, the labour and the physical training. It is from these processual and precarious activities and working conditions, in which residues and traces emerge as evidential remains, that the relationship between dance, choreography and drawing appears deeply entrenched to the point of not being able to identify where the origins of this cross disciplinary encounter lie. In an attempt to push forward these ideas and reposition drawing in relation to these histories of process art, the discussion about drawing that is performative in my research not only addresses the process of making, but also considers the documentation of the process, the form its temporalities may take, and how the audience engages with these types of works. These three topics are developed in subsequent chapters.

Beyond the Gestural

Choreographers Trisha Brown and Yvonne Rainer, whose practices span the last fifty years, are two of the most prominent examples of the coexistence of historical and contemporary temporalities within these histories. Their work illustrates how dance and choreography applied to drawing, and more generally to the visual arts, opens up a range of possibilities in terms of interpretations of movement and its representations. The inherent corporeality of dance, with its capacity of transforming movement into marks and marks into lines, can be seen in the work of both Brown and Rainer, despite different approaches. Both artists' work provides a useful grounding for analysing dance and choreography specific traits that help seeing drawing that is performance drawing from a different angle. The complex relationship between movement and its representations is something Brown explored through drawing consistently throughout her career. Brown's early notational drawings (Figs. 6, 7) from 1973 and 1998 for example, were developed through a methodology that established a set of rules that provides 'a context in which the unexpected is expected to occur' (Brown T, 1998).

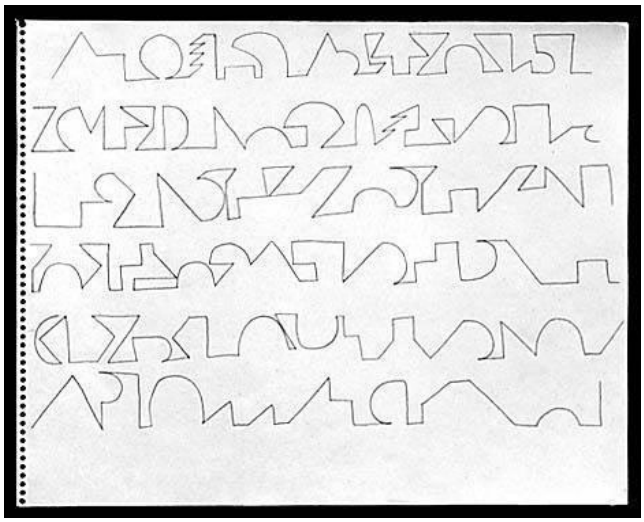


Figure 6, *Untitled,* (1973)

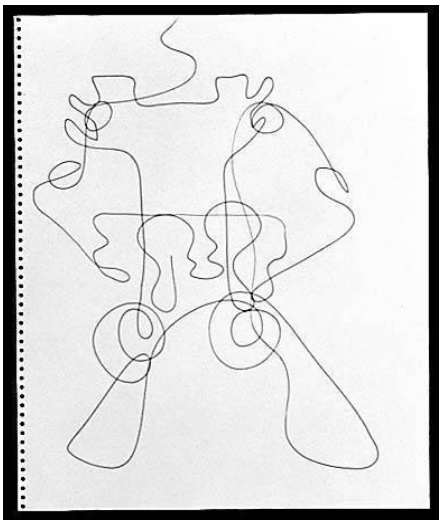


Figure 7, *Untitled*, (1998)

Brown's drawings are like gestures performed on paper that visualise organisational systems. These linear recordings of the dancers' gestures are an expression of the lines liberated by the body in movement, 'trace forms' (Butler C, 2010: 155) made manifest on a flat surface. In these early performances, the actions are a given; we understand the dancing movements through the lines, which act as instructions for the performance. Extending these concerns, in *Line Up* (1976), Brown asked dancers to remember improvised phrases based on permutations of lines. Brown's use of notational systems evolved:

Into a practice separate from her dance work but parallel with it and originating kinaesthetically in the same place: her body.

Butler, (2010: 193)

This is a distinction to which I will return because it suggests an autonomous yet interdependent relationship of two manifestations of the same performance; a distinction that is relevant to my argument as it develops in Chapter Three, because it advocates that the relationship between movement and its representation may not be approached as documentation of the live event. Alongside her early notational systems for drawing mentioned above, Brown regularly deployed embodied mark-making strategies in her performances, such as in *It's-A-Draw/Live Feed* (Figs. 8, 9), which was performed for the first time at *The Fabric Workshop and Museum*, Philadelphia, in 2003, in collaboration with the Department of Modern and Contemporary Art Philadelphia Museum of Art.

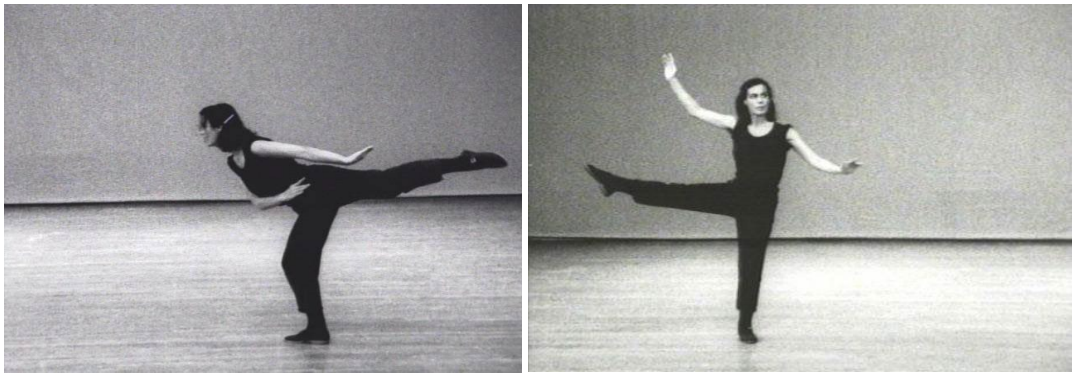
Figures 8, 9, *It's a Draw/Live Feed* for Robert Rauschenberg, Walker Art Centre Archives, (2008)

Here Brown engages with drawing through mark-making as a gestural act by simultaneously moving and imprinting her movements, using charcoal onto paper placed over the gallery floor. Brown's drawings, although always related to her dance, attempt to graph complex movements in three-dimensional form by locating her body and its movements off centre; for Brown corporeal movement can originate anywhere in the body. As Max Kozloff states about post-minimal sculpture, Brown's drawings act as 'symbol[s] of an action process, about to be commenced or already completed' (Kozloff M, 1969: 38). This raises the question, 'whether one's entire body contains a unique language of mark-making' (Butler C, 2010: 194) or whether it has to be taken as an automatic form of drawing. Brown is neither in the performance nor out. As such, drawing here does not represent a preconstructed choreographed dance, but it expresses the physicality of movement as lines of thought referencing what Peggy Phelan calls 'movement-based thinking' (Phelan P, in Rosenthal S, 2011, 22) associating movement and conceptual invention. Robert Luzar in his paper *Rethinking the graphic trace in performative drawing* states:

> *In 'It's-A-Draw/Live Feed', Brown augments dance materially. All this is viewable by audiences in real time, the inscriptions happening over the space delimited by a square sheet of paper comfortably fitting Brown's entire body. Inscription is clearly exemplified here as a form of* ***dance writing****. She inscribes her entire physicality by mapping spontaneous gestures, pressing and delineating trajectories cast by her arm or leg onto the paper, creating fragmentary contours, tracing and encircling where she moved.*
>
> Luzar, (2017: 58)

Moving away from gestural mark-making, Yvonne Rainer's work brings together live dance performances alongside documentary and experimental filmmaking, performative lectures, writing, photographs, sketches, and scores. Written for a solo performer and without music, *Trio A* (1966), featuring a flow of everyday movements, proposes a radical approach to dance as gestural image making in live form. As Haitzinger notes, an energetic modulation of movement is determined by a metronomic rhythm, without acceleration, deceleration and poses; there is nothing grand, all elements are one composition of 'smoothness of the continuity' (Rainer Y, 1974, cited in Haitzinger V N, 2013). Showing a two-dimensional plan view of the stage, Rainer's choreographies keep a transitive relationship with the specificity of the performance space of the dances they represent.

> *The emphasis is on the materiality of corporeality and movement, thinking of oneself in dancing as a neutral purveyor of information.*
>
> Rainer, (1974)



Figures 10, 11, *Yvonne Rainer*, *Trio A*, (1966), Performed for the camera in 1978. Video (black and white, sound)

As Butler points out, in interrogating the hierarchies of the body in relation to architectural space Rainer uses the floor from vertical to lateral movement as in her renowned performance *Trio A* (1966) (Figs, 10, 11), choreography whose iterations have been performed in many configurations:

> *Her decision to excerpt fragments of the dance underlies her insistence on it as mutable: like exploratory marks, or the line fragments characteristic of process-based drawings of the period, Rainer's 'details' are conceived as components, borrowing the notion, and even the term, from visual art.*
>
> Butler, (2010: 174)

In *The Mind is a Muscle* (1968), a choreographed performance for seven dancers, with film, text, and periods of silence (Figs. 12, 13), Rainer further pushes these ideas and uses a lexicon of movement stripped away from the gestural conventions of dance narrative. The dancers perform a routine of ordinary and everyday actions, presenting the human subject on its own terms through choreography, photographs and gestural image making. Although presented formally, the dancers' gestures are ephemeral and anti-hierarchical, fragments of movement that resemble 'exploratory marks' (2010: 174).

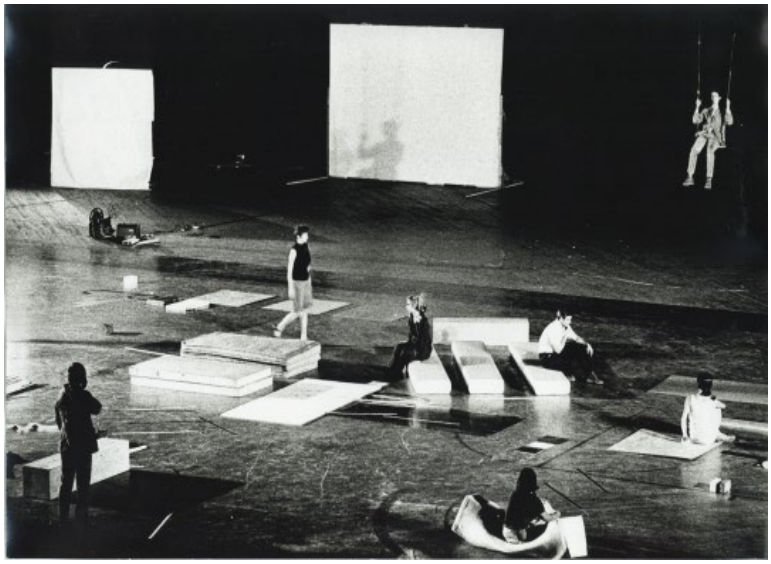


Figure 12, *The Mind is a Muscle,* (1968)

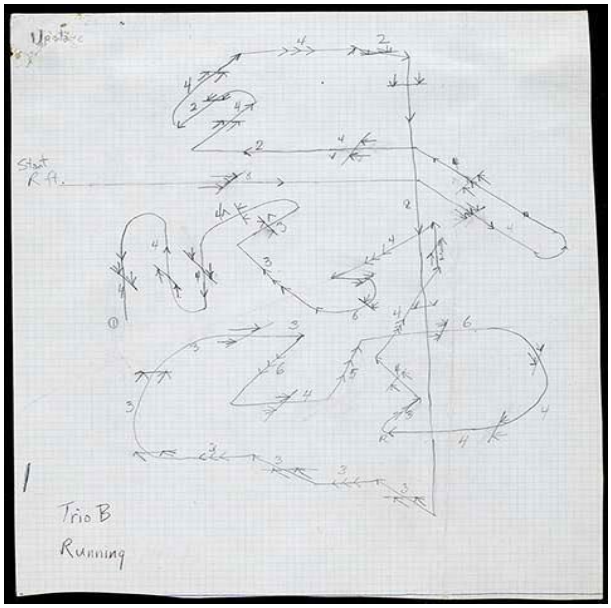


Figure 13, *The Mind is a Muscle, preparatory drawing, (1968)*

The Mind is a Muscle, as Rachel Lois Clapham observes in reviewing the book *Yvonne Rainer - The Mind is a Muscle* (Wood C, 2007), establishes a relational dynamic between materiality and idea, which aptly exemplifies the constitutive traits of dance and choreography that Lepecki recognises as 'ephemerality, corporeality, precariousness, scoring and performativity' (2012: 15):

> *Our continuing, embodied and live relation to The Mind is a Muscle, both to the book and the performance itself, is important for Wood because she posits that the real innovation and impact of The Mind is a Muscle is located in the works' specific living, dynamic and relational tension between materiality and idea. For Wood, The Mind is a Muscle is the first artwork to perform the ephemeral as fact, and to conceive of the event as transmitting culture and knowledge, an event in which meaning is generated collectively.*
>
> Clapham, (2008)

Reflecting on the interpretation of dance as physical training that Nauman articulates in his work, the legacy of choreographers such as Trisha Brown, with artworks such as *Untitled* (2007) (Figs. 14, 15), and Yvonne Rainer's approach to dance as gestural image making in live form, prompted the question that became the central proposition of my practice-based enquiry. What if the live act of drawing is expressed directly by a gesture rather than being mediated by a mark? This proposition, which underpins the three chapters and questions where the act of drawing as dance resides, offers me as an artist a large resource to start my exploration of dance as drawing that I began with *Graphic Traces,* a site-specific live performance and installation developed in 2015.

Figure 14, *Untitled,* (2007)

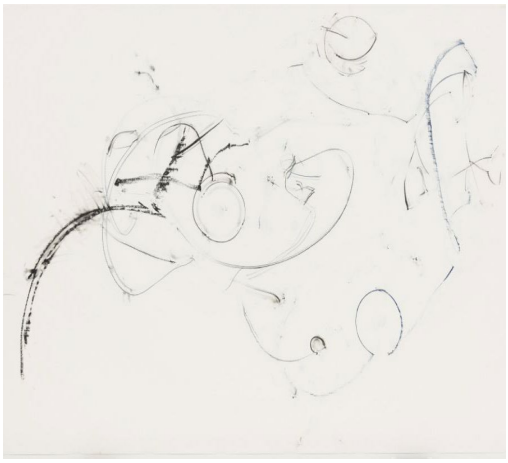


Figure 15, *Untitled*, (2007)

Graphic Traces

As already mentioned in the introduction to this chapter, *Graphic Traces* is a site-specific live performance and installation that I presented for *Acts and Reacts,* at Wimbledon Space in 2015. Exploring the dancers' movements during training sessions, *Graphic Traces* investigates the relationship between marks, lines, and bodily presence by focusing on the repetitiveness of the dancers' gestures as well as on the dance studio as the site for the conception of movement and processual physical activities. It considers how choreographic patterns, formations and their organisation create drawings. Placing the emphasis on patterns and formations allows the choreographic to express the relation between dance and drawing as a form of notation. In this respect, *Graphic Traces* investigates these relationships by developing means of production which explore varied configurations and manifestations of dance as drawing. This interpretation of dance as drawing elicits a shift from literal tracings of dancing bodies in movement to abstractions of kinetic and perceptive traits such as lines, points, and rhythm. In the resulting performance and installation, the audience moves around the space and engages with video work, two projections, a sound installation and a bookwork whilst negotiating the space with a dancer during training. This is a series of works that are autonomous yet retain an interdependent relationship to the live performance or through imaginative reinterpretations as in the case of *Stage Plan Drawings*. Works such as D*rawing Outlines No. 1* (2014) (Fig. 16) and *Stage Plan Drawings* (2014) (Figs. 17 to 20) are preliminary explorations of these ideas and only subsequently became part of *Graphic Traces* (Figs. 16 to 25). Each of these works was re-configured and included in *Graphic Traces*. For example, *Drawing Outlines No. 1 - where do I end, and you begin?* (2014) (Fig. 16) is a project that delineates two bodily presences in movement and was developed and performed for the camera.

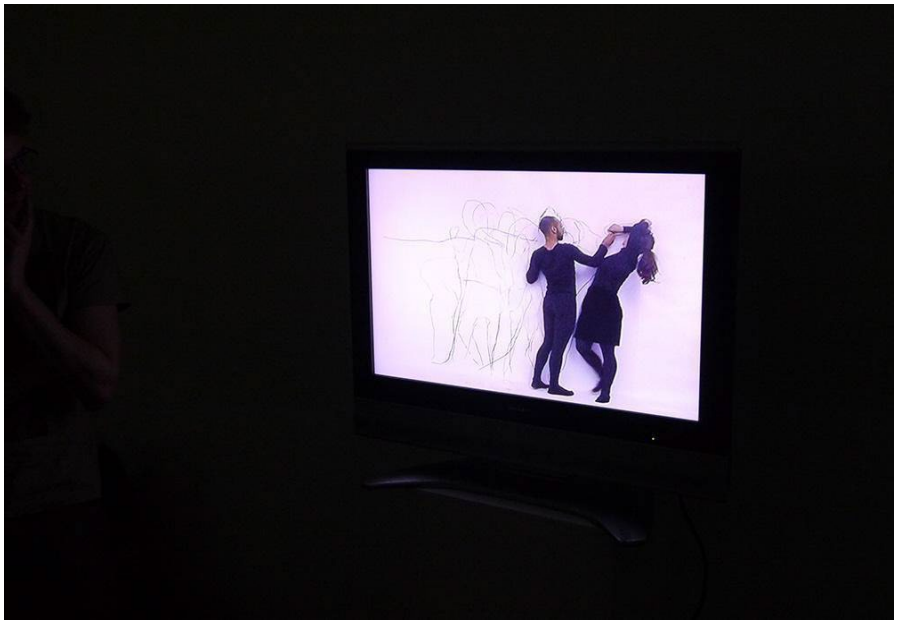
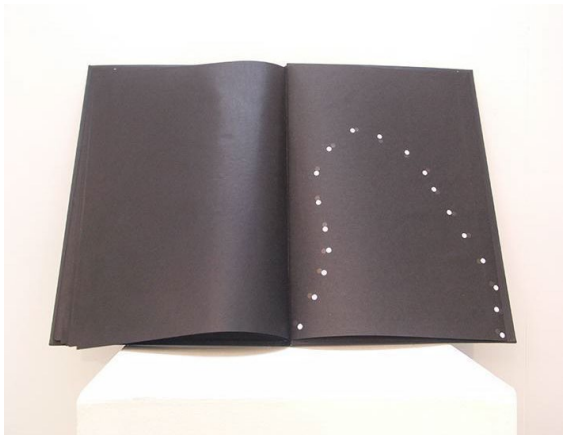


Figure 16, *Drawing Outlines No. 1*, (2014), Video Performance

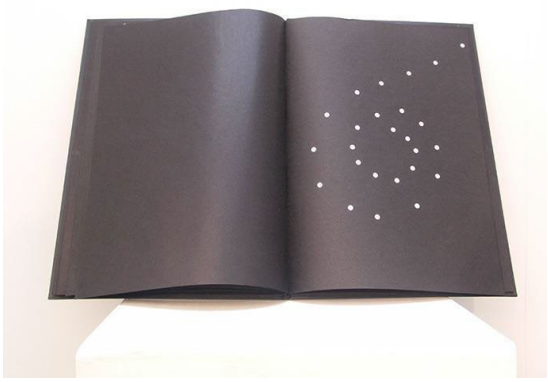
A further example is *Stage Plans Drawings* which was my first attempt to move away from the more gestural approach to mark-making that the relationship between dance and drawing seems to imply. Inspired by choreographic Benesh and Laban's notational systems[10], *Stage Plans Drawings* focuses on choreographic patterns and formations and reproduces, in the form of graphic drawings, some of the dancers' formations in Tchaikovsky's Nutcracker[11]. The format is of a black handbound artist book with sound. Approaching the page of the book as a stage, the viewer is invited to browse a pared down and schematic account of the ballet's choreographic formations whilst listening to the recorded sound of dancers' steps whilst performing (Fig. 20). The dual purpose of recreation of movement and documentation coexists in *Stage Plan Drawings*. Choreographic notations become graphic entities in a book format, which echoes Robert Dunn's use of Laban's notational system. Treating the black paper sheets of the double spread as a stage, *Stage Plan Drawings* creates a notational system with sound that visually represents choreographic patterns and formations. The series of diagrammatic drawings that unfold throughout the book are an exploration of the choreographic potential of choreographic movement interpreted as lines and points in space (Figs. 17 to 20, *Stage Plan Drawings.mov*).

[10] *Benesh* Movement Notation (BMN) and *Labanotation* are two systems of movement analysis and written documentation. Rudolf von Laban worked out a movement notation, *Kinetography*, in 1926, which is still widely used today. The Laban system classifies movements into categories, rather than describing what a dancer actually does. In 1947 Rudolf and Joan Benesh introduced another system which made the notation much more visual by using marks as a matrix. The matrix is the five-line staff which plots the position of a dancer as seen from behind. The five lines coincide with the head, shoulders, waist, knees and feet. Using the movement line gives the eye a certain degree of guidance to trace the path of movement between salient positions thereby summoning an infinite number of intermediate positions. Additional symbols are used to notate the dimension and quality of movement. Further info see Papas Meryl E, *An introduction to Benesh movement notation and its relevance to physiotherapy* in the Australian Journal of Physiotherapy, 1973.

[11] This ballet was rehearsed by the English National Ballet company during my residency there in 2015.



Figures 17,18, *Stage Plan Drawings,* (2015), Double Spread Book with Sound



Figures 19, 20, *Stage Plan Drawings,* (2015), Double Spread Book with Sound

As Kandinsky reminds us, the relevance of the point and of the line are critically central to both dance and to drawing. Kandinsky (2010) not only argued that artists drew with point, line and plane but also asserted that dancers do the same:

> *From these two graphic entities - point and line – derive the entire resources of a whole realm of art, graphics. Each creates a particular, specific world, from schematic limitation to unlimited expressivity. These worlds liberate line more and more from the instrument, leading to complete freedom of expression.*
>
> Kandinsky, (1919)

> *Already in the classical ballet form existed 'points' - a designated terminology which unquestionably is derived from 'point'. The rapid running of the toes leaves behind on the floor a trace of points. In the dance the whole body - and in the new dance, every finger - draws lines with very clear expression.*
>
> Kandinsky, (1926: 57-58)

These two graphic entities are analysed in the following sections of this chapter, which address the nature of graphic traces across dance and drawing. *Graphic Traces* (2015), in this respect, marks the beginning of the practice-based component of this investigation. It is the movement and the gestures of the dancing body that take centre stage, not dance's aesthetic qualities where the mastery of skills is traditionally the driving force (particularly ballet). Referring to Kandinsky's dual perspectives of 'schematic limitation and unlimited expressivity' (2010: 22), in *Graphic Traces* dance as drawing is examined simultaneously across a number of media such as live performance, video projections, bookmaking and sound. Figs. 21 to 25 show an overview of *Graphic Traces'* live performance and installation.

Figure 21, *Graphic Traces'* live performance installation shot, angle 1, (2015)

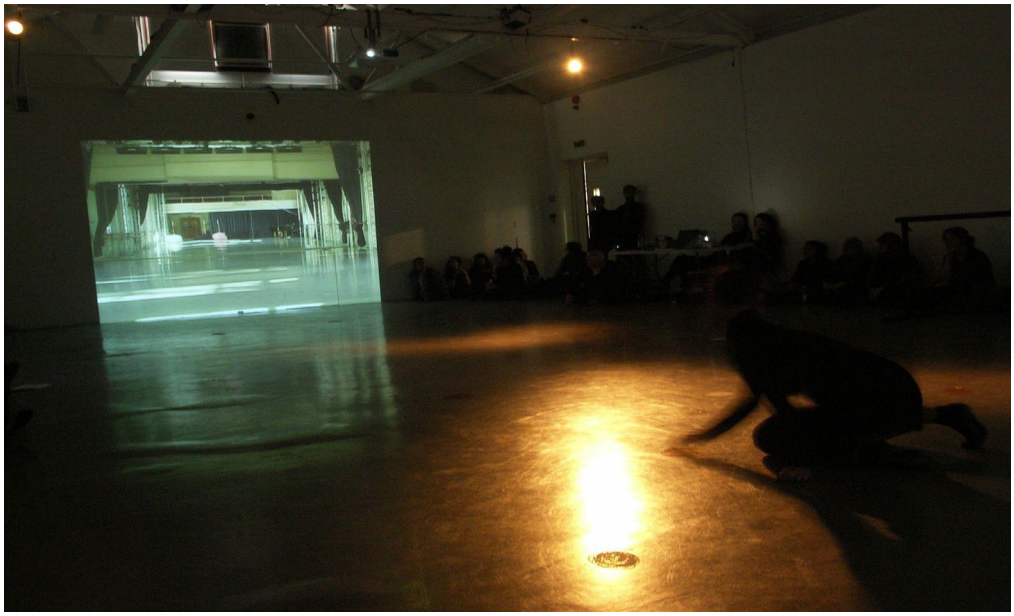


Figure 22, *Graphic Traces'* live performance installation shot, angle 2, (2015)

Figure 23, Lauren Bridle in *Graphic Traces'* live performance, (2015)

Figure 24, Dancer Lauren Bridle in *Graphic Traces'* live performance, (2015)

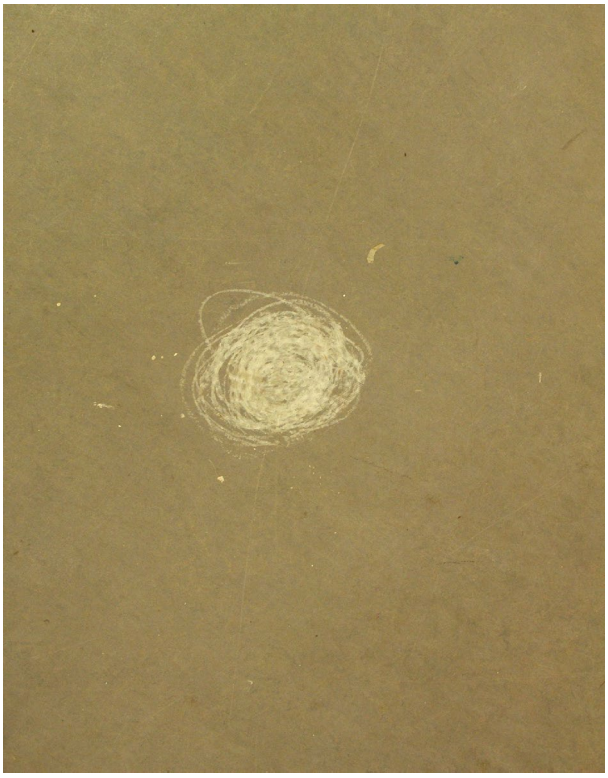


Figure 25, *Chalk Dot,* (2015)

Notational Systems

Referencing the artists discussed in the sections *Process as End Product* and *Beyond the Gestural*, this section explores an element that is common to most approaches of dance as drawing, which is the inclination towards an indexical and graphic representation of bodily movement. Regardless of the fact that the works originate within the field of visual or performing arts, dance as drawing tends in fact to be expressed through mark-making or through notational systems of gestures. As Cornelia Butler points out:

> *The response of drawing to dance in the early part of the century seems generally to have taken two forms: either an attempt to mimic the body's movement, creating a mark as a record of the observed, or a kind of mark-making that sought to move beyond the page, to a space of suspension and animation.*
>
> Butler, (2010: 148)

My work *Graphic Traces* effectively questions what form the visual manifestation of dance as drawing takes in the relationships between the body in movement, its gestures, and the flat surface. Tasking a dancer to interpret their own gestures in movement as a form of notation, *Graphic Traces* attempts to go beyond the commonly perceived notion of graphic traces as indexical marks of physical actions. In this respect, *Graphic Traces* puts graphic notations before movement as a compositional tool to create drawings. In the live performance for example I orchestrated with the dancer a negotiation of the dancers' physical gestures and mark-marking. This exploration allows the reciprocal relationship between bodily movement, the line and the point, manifesting as a point of departure for bodily gesture whilst acting as a score for recording patterns and formations. A variety of gestures drawn from the dancers' tacit understanding of the body in movement, formed over years of training, are combined with mark-making instructions and the use of graphic inscriptions to generate a series of art works that explore the intersections between mark-making, notation, and performance (*GraphicTraces.mov*).

New theoretical perspectives were achieved through these methods of production which re-emphasise the centrality of ephemerality, corporeality, precariousness, scoring and performativity (Lepecki A, 2021: 15) in the interpretation of dance as drawing. These methodologies suggest the possibility of the act of drawing to be expressed directly by a gesture rather than being mediated by a mark. This condition reveals that the relationship between physical actions and its traces appears to be 'crucially co-dependent, with neither taking precedence over the other' (Eleey P, 2008). This brings to the fore an essential contingency between drawing, dance and choreography. In this respect the relationship between physical actions and their traces is central to most of the references and sources I discuss in this chapter. There is, in fact, a long tradition of artists who have approached drawing via performative means transforming bodily movement into marks and marks into lines; the visualisation of the notion of the line becomes deeply entrenched with the unfolding of a process in time-based artworks which is often expressed through endurance. Some of the key figures and movements that worked predominantly in a western context range from the Fluxus movement that focussed on ideas of dematerialisation of the art object, to William Anastasi who tracks the body in motion, to contemporary artists such as Matthew Barney who focuses on physical efforts when drawing, to Monika Grysmala who focuses on the line in space, and to Trisha Brown who makes three dimensional actions drawings of movement.

Expressing the line through durational actions and repetitive mark-making was very much the strategy Robert Morris used back in the 1960s after being exposed to the influences of the

contemporary dance world with Trisha Brown, Simone Forti and the Judson Dance Theatre. As Luzar observes it was across both fields of practice, visual and choreographic, that:

> *…artists such as Trisha Brown, Anna de Keersmaeker, William Anastasi and Robert Morris, combine drawing and performance to display an event of making, being and thinking. In other words, these artists perform drawing by indexically displaying their gestures, tracing their entire body and more. Materials such as graphite or charcoal are used to index these actions by tracing physically*.
>
> Luzar, (2017)

For these artists, tracing a line is an attempt to impress the wholeness of being in its presence via 'performative' drawings. Reflecting on these histories and charting some of the differences between these works not only helps to identify the legacy of these earlier works to where we are now, but also enables the extension of drawing as 'a process of becoming more than being' (Newman A, 2007: 123). This approach is what generates new understandings of drawing in my art practice.

Thought as it is Becoming

Foregrounding drawing as a model of visual thinking, Newman argues that thought as a condition in becoming, where one thing leads to another, pervades through all modes of drawing practices be it mark-making or performative. This condition reiterates the centrality of the process, which facilitates the conjunction of dance with drawing.

> *I have always understood drawing to be in essence a materialisation of a continually mutable process, the movements, rhythms, and partially comprehended rumination of the mind: the operation of thought. Drawing by its nature suggests an intimacy of engagement where the eye of the beholder, tracing and following the hand of the drawer, is forever caught in the space of action and event.*
>
> Newman A, (2003: 67)

Newman's quote seems to elicit that drawings are able to convey many layers of thinking that describe the actions of thought that are specific to the drawing act. This aligns with Ionascu and Rohr's positioning of drawing as 'a model of visual thinking' (Ionascu A, and Rohr D, 2016: 7). Referring to Margaret Iversen's definition for graphic trace as 'a diagram generated by the body and

as such it combines the carnal and the symbolic, the line and the flesh, effortlessly, automatically' (2012), the corporeality and time-based qualities of movement that are inherent to dance provide a useful grounding for exploring drawing as a model of visual thinking. Here the notion of 'trace' ascribes to drawing 'as a gestural and exploratory act that describes thought as it is becoming' (Newman A, cited in Vellodi K, 2003: 122, 123). From this perspective, a drawn mark not only establishes a relation with surface, but also opens an ever-shifting space that is inseparable from its moment of creation. This contrasts with an interpretation of dance as drawing that manifests as graphic traces, whereby the body works in conjunction with a surface as a mark-making tool that records indexical marks of physical actions, an approach which suggests a romantic inclination as it gives to mark-making 'a status of authenticity' (Butler C, 2010: 193). On the other hand, Newman's understanding of drawing as thought in its becoming, draws our attention to the connection of movement with thought, extending the possibility of transformation and expansion for drawing beyond gestural marking because of the conceptual qualities that movement suggests. As Newman (2008) notes: 'The unstable edge of drawing' describes a series of 'configurations' which allow 'for the work not to have an absolute fixity' (Newman A, 2008: 108) (Fig. 26).

Figure 26, Avis Newman, (2008), *Configurations*

Newman's condition of perpetual reconfiguration echoes Rainer's use of the choreographic in works such as *Trio A* (1966) (Figs, 12,13). Putting aside both materiality as well as the obsession with both the 'finished item' and/or the 'finishing marks', Newman's vision of drawing in essence, reflects a fascination with 'the conceptual space of drawing'. As Newman states:

> *Drawing is an encounter with the materialisation of a continually mutable process, the movements, rhythms and partially comprehended ruminations of the mind: the operation of thought.*
>
> Newman A, (2008)

Besides the phenomenological relationship that dance and choreography hold with embodiment, the understanding of drawing as thought as it is becoming allows going beyond the gestural trace of the body in movement, whereby drawing is no longer used to primarily express a corporeal investigation at kinaesthetic level. It is this very same principle which embraces movement in its becoming that underpins my claim that argues for the capacity of dance and choreography to generate new modalities of thinking and making when applied to drawing. Building on the legacy of marginal trends that explore the supremacy of process over the notion of a finished artwork, these trends in drawing have been historically 'for the most part left out of the dominant history' (Butler C, 2010: 191) and belong to the so called 'professional marginals' (Butler C, 2010: 190). A common trait of these histories that highlights that fundamentally what dance and drawing shares is the conjunction with the lived experience. In this respect it is important to mention that this debate, which advocates for processual activities to problematise art making more thoroughly and transgressively than a finished conclusion, could be analysed from a political and feminist perspective as it relates to marginalised histories that traditionally operate outside mainstream hierarchies. A fascinating detour sadly beyond the remit of this work.

My analysis takes more of a philosophical positioning and elaborates concepts to create new parameters to interpret the relationship between dance and drawing through movement. Dance entanglement with thought, sensing and feeling and choreography organising principles, become generative strategies for the generation of form. These interpretative methods for the lexicon of my art practice create a new and conceptual framework that reorients the understanding of contemporary drawing via dance and choreography. Connecting physical gestures to choreographic scores (which in musical terms exist only to be interpreted by performers) and to notational systems (which imply the act of noting down information using a mark-making language) allows the exploration of the practice of dance and choreography beyond the notion of the dancing body as a live presence. These transformations of information do not necessarily retain a sense of bodily presence, though the presence of the body is always evoked; hence, bringing forth ideas of re-enactment or simulation of both the sensorial and indexical information of movement during the performance.

Gestures as Indexical Marks

This approach which, as I have previously mentioned, I explored for the first time in my artwork *Graphic Traces* prompted the question 'what if' the live act of drawing is expressed directly by a gesture rather than being mediated by a mark? There is an indexical element that is central to the relationship between dance as drawing that I wish to scrutinise in this respect.

Jean-Luc Nancy in *The Pleasure in Drawing* (2013) describes drawing as 'the true form of the thing' (2013: 10), as an act that 'gives birth to form - to give birth in letting it be born' (2013: 22). This is a statement which affirms that drawing is less an application of marks and gestures that are a forward moving act but more one of withdrawal in the midst of connecting with that surface or space. Whereby, it is the active and evolving nature of drawing, 'not what is created but that remnant, residue, and tension of potential unknowns' (Nancy J L, 2013) that matters. In this conception it is the gestural and live act of drawing that is central. To elaborate on the implications of this, I ask: What if the live act of drawing is expressed directly by a gesture rather than being mediated by a mark? This is a proposition that underpins the methodological approach to dance as drawing in my thesis.

It becomes necessary to define what sort of index establishes a relationship with a gesture in an art form such as dance, where the dance itself disappears. As Margaret Iversen points out in her essay *Index, Diagram, Graphic Trace*, an index 'has a close, causal or tactile connection with the object it signifies' (2012); it is an impression of something at a specific moment in time, while 'the diagram is a form of representation that often involves statistical abstraction from phenomena' (Iversen M, 2012). In this respect, I ask: What would be the index of a gesture, or of what has been a gesture? Could a formalisation of a rhetoric of movements of the body act as an index of gestures? This is a proposition that holds its ground on the basis that what is left behind in dance is the memory of the embodied experience of the dancers and for the dancers themselves, their training. Essentially, these could be interpreted as residues or traces of what has been the dance and any visual representation of the live event would be fundamentally different. As Michael Newman states:

> *The marks are effaced because there is no present in which they can be present and the traces are forever cut off from that of which they would be the traces.*

Newman, M. (1996)[12]

Considering that graphic traces are commonly identified with the marks made through physical actions, I turn once again to Iversen's definition of graphic traces to shift this understanding from marks as signifiers of physical actions to their abstractions:

> *The graphic trace is a hybrid representation: it takes from the index a registration of something unique - an impress of an individual - while incorporating the diagram's abstraction from what is immediately given in perception.*
>
> Iversen, (2012)

It is this hybridity of the graphic trace that allows for diagrammatic abstraction, whereby the impression of movements no longer needs to accurately record bodily motion but rather may invent a new and involuntary bodily language of drawing. The potential of abstraction and invention implied in this interpretation of the graphic trace adapts well to ideas of indexicality of gestures as the relationship between the body, its representation and an artefact cannot ever be fully separated regardless of how abstract its representation may be. Very much like in semantics, which as Richard Montanque teaches, the name is not the thing, the name is something that we have to give substance to the thing. From this perspective the relationship between dance, bodies and drawing can be rethought as to draw a gesture out of the body would be a way to name it. In this respect, a corporeal vocabulary of gestures would have to follow a set of rules that would differ from the ones that Brown articulates in her 1973 notebooks, where she ascribes gestures to letters as signifiers creating an alphabet out of simple shapes and lines (Fig. 8).

In fact, despite every attempt to contain a gesture, the moment that we apprehend it, it has already disappeared, as gestures are extremely thin and not containable things; there is a great insecurity in that, in the apprehension that it passes away. We are able to capture it in language; we recognize when it is a gesture and use the term gestural by which we mean expressive. How could the live act of drawing be expressed by a gesture then? These ideas are by default bound with the notions of time. In this respect, attempting to create an 'authentic' index of gestures, a corporeal vocabulary would probably be a never-ending task and surely the most ephemeral and precarious artefact of all.

[12] For more information on the notion of trace in Maurice Blanchot refer to Micheal Newman's essay *The Trace of Trauma: Blindness, Memory and the Gaze in Derrida and Blanchot* in Blanchot *The Demand of Writing* where Blanchot claims that there is no 'origin of the trace'**.** For Derrida's notion of the trace please refer to Jacques Derrida, (1993), *Memoirs of the Blind, the Self Portrait and Other Ruins*.

Referring back to *It's-A-Draw/Live Feed* (2002/3), where Brown explores the limits of gestural drawing by simultaneously moving and imprinting her movement with charcoal onto paper placed over the floor, the mark-making process in this instance is generated during the performance. Brown's movements result directly in marks on paper, though the variety of actions performed are not thoroughly captured through mark-making. Brown's marks trace the directions of her movements in space, whilst she continues to perform in front of an audience when making the drawings. Although Brown records her physical activity onto paper through a gestural and expressive mark-making process, the horizontality of the surface points us to the importance of retaining the live presence of the dancer to fully represent the interactive nature of the mark-making activity 'as a site of conception'; the traces of this activity by themselves would not be a truthful documentation and do not represent the liveness of the event in its entirety. Quoting Lepecki:

> *There are tracings that will not be arrested or bound to the horizontal, because a variety of actions cannot leave a mark, they have-nothing-to-do-with marking.*
>
> Lepecki, (2006: 72)

This affirmation aligns well with a representation of dance movement that does not manifest as mark-making traces on a two-dimensional plane or surface. As Lepecki asserts, Brown's marks are limited to the horizontal plane and therefore are traces of Brown's movements, but do not capture the diversity of the actions performed because these have nothing to do with leaving a mark. As such, we are confronted by the impossibility of recording the live action, and its representation on a two-dimensional plane would have to be considered partial or 'unfinished'. This condition resonates with notions of processual activities whose visibility, as Robert Morris observed historically originated in drawing, brings me back to the centrality of exposing the process in the application of dance and choreography to drawing:

> *The visibility of process in art occurred, with the saving of the sketches and unfinished work in the High Renaissance.*
>
> Morris, R. (1968: 33)

In this respect, I draw a parallel with an essay on *Movement* by Agamben, where he points out that in Aristotle movement is always 'an unfinished act, without telos' (i.e. *telos* stands for something with a purpose or a final end). According to Aristotle, everything has a purpose or final end:

> *Another interesting aspect in Aristotle is that movement is an unfinished act, without 'telos', which means that movement keeps an essential relation with a privation, an absence of telos. The movement is always constitutively the relation with its lack, its absence of an end, or 'ergon[13]', or 'telos' and work.*
>
> Agamben in Lepecki, (2005: 144)

Transposing this idea of privation in relation to movement, to dance and to the performing arts emphasises the temporal and ephemeral nature of these disciplines, which are all 'lived' activities that come into being in between the maker and the viewer. This is a condition that seems to suggest the impossibility of being represented on a two-dimensional plane and echoes '… Peggy Phelan's ontological claim of the disappearance of performance, according to which performance is considered an event of elusive presence, condemned to loss and repetitions of memory' (Phelan P, 1993: 148-52 cited in Cvejic B, 2015: 12). As Cvejic points out:

> *The ephemerality of movement in dance, also described as the body's self-erasure in the 'fading forms of movement, features as a paradigm of the fundamental condition of performance.*
>
> Cvejic, (2015: 12)

From these associations, as my practice-based projects evolved I started to explore the possibility of manifesting dance as drawing yet retaining 'movement[']s essential relation with a privation' (Agamben G, 2005: 144). Considering how the 'traces of dance' (Louppe L, 1994) may represent movement as an unfinished act without *telos,* this conception challenges any perceived assumption that dance and choreography as drawing have to maintain a transitive relationship with bodily presence rooted around the tracing of the body in movement. Hence, dance is reconfigured as a generative modality for drawing in its relation to the body in space without necessarily the presence of a body.

Some of the works produced for *Graphic Traces* in this respect do not always retain a sense of bodily presence, for the presence of the body to be evoked. This is because the transposition of dance with its entanglement of thought, sense and feelings, and choreography with its organising principles, is manifested as a form of privation. Each work produced for *Graphic Traces* represents an investigation and exploration into the possibility of taking the body out of the relationship that dance and choreography hold with drawing. This proposition challenges the assumption that the relationship between dance and drawing needs the body. My interest in defying the expectations of what a dance as drawing is like lay in my personal experience of studying dance, particularly

[13] *Ergon* stands for a task or function.

ballet, which essentially taught me to approach my body as lines and forms in space; this knowledge, once acquired, cannot be undone. William Forsythe perfectly captures these concerns in the statement below:

> *My basic method, developed over a period of fifteen years, is to find ways to use what my dancers already know. Since I work primarily with ballet dancers, I analyse what they know about space and their bodies from their intensive ballet training. I've realised that in essence ballet dancers are taught to match lines and forms in space.*
>
> Forsythe and Kaiser, (1998)

Placing the emphasis on the rhythmic and repetitive qualities of movement in dance, training offers the possibility of making the line visible as 'abstract sign or trace' (Newman M, 2003: 93-108). This allows the body to be taken out of the equation regardless of the physical resilience and endurance it requires. It is this way of abstracting the body, which directs the attention to the process of dance training and choreographic structures, that underpins my positioning and informs not only *Graphic Traces*, but also *WhiteNoise* [Chapter Two] and *dAnCing LiNes* [Chapter Three]. With this knowledge, *Graphic Traces* captures variable compositional relations between the potential of movement in space and choreographic formations. For example, the two films that are part of the installation focus on the sites for movement in a state of stillness, i.e. the dance rehearsal studio and the stage prior to and after the performance. Here the viewer is presented with images of the dancers' rehearsal studio and the theatre stage set up for training, whilst the dancer marks their positioning in the live performance (Figs. 27 to 33).

Figure 27, *Stillness,* (2015), English National Ballet Rehearsal Studio

Figure 28, *In Pause,* (2015), English National Ballet Rehearsal Studio

Figure 29, *Graphic Traces Projection 1*, (2015), Shot at the English National Ballet Rehearsal Studio

Figure 30, *Graphic Traces Projection 2,* (2015), Shot at the English National Ballet Rehearsal Studio

Figure 31, *Floor Detail* (2015), English National Ballet Rehearsal Studio

Figure 32, *Tulle Tutus (2015),* English National Ballet, in the Studio after the Rehearsal

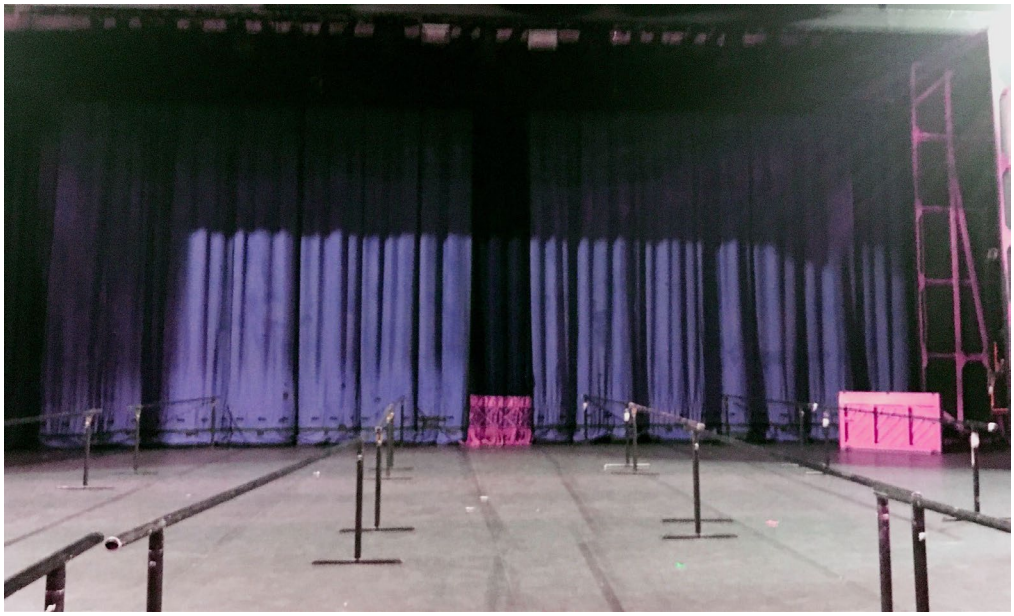


Figure 33, *Back to Training,* London Coliseum, English National Ballet, the Stage after the Performance (2015)

Abstracting the Body

The absence of the body is a notion that dance scholars in the past decade have examined in relation to dance and choreography, which have been defined as disciplines that work with 'that which disappears and marks the passing of time' (Cvejic B, 2015: 13), or as Lepecki describes 'choreography has the capacity to invoke absent presences' (Lepecki A, 2006: 28). This is a position that is echoed in drawing by Newman with the statement 'the marks are effaced because there is no present in which they can be present' and the traces are 'forever cut off from that of which they would be the traces' (Newman M, 1996).

These recent trends build on the legacy of historical conceptual artworks such as Duchamp's *Network of Stoppages* 1913/14 (Fig. 34). An artwork that, as the historian David Joselit affirms, softens an unyielding abstraction with traces of the body:

> *In 'Network of Stoppages', the body is subjected to a standard of measurement, but one that collapses back into the carnal... 'Network of Stoppages' should be understood as an experiment in giving a light, unruly, curvaceous body to a unit of measurement.*
>
> Joselit, (1998: 61)

Figure 34, 3 Stoppages étalon (3 Standard Stoppages) (1913–14), replica 1964 Tate © Succession Marcel Duchamp/ADAGP, Paris and DACS, London 2021

In a similar fashion, *Graphic Traces* captures the potentiality for movement as an absolute presence despite its absence in a selection of images that depict the dance studio when empty and the theatre stage with its props after the performance (Figs. 29 to 33). Depicting these sites in a moment of stillness yet holding the potential and the memory of physical activities instate, shifts the emphasis from the actual performative event to the labour, the training, the work, and the process of performance. The location depicted suggests the physical activity of the dancers during training or in performance, but the dancing body is absent yet poignantly present. This shift of perspective of the relationship between dance and drawing offers a new perspective that allows the exploration of movement as an eventful 'intensity' (Deluze G, 2012) in relation to a physical space. Here 'movement may happen even in stillness, as pure intensity, as long as it is linked to the actualisation of the event' (Lepecki A, 2012: 18). This implies that the live performance is no longer located to the singular moment of a spectacle that begins and ends with its physical manifestation;

rather, it is seen on a larger space/time continuum, which includes what happened before and after, as well as all of the afterlives of its documentation. This is a dimension that holds the dual purpose of documentation and generation, hence losing its material connection and an explicit sense of bodily presence. The art works produced for *Graphic Traces* approach the notion of graphic notations and the stage in this fashion, building on the understanding that dance is *par antonomasia,* a condition that disappears. Hovering between dance and drawing, between improvised and repeated gesture, between geometrical patterns and gestures, between the dance studio and the stage, the emphasis is equally on 'the recording of movement as it is on implying movement' (Eleey P, 2008).

Stage Plan Drawings for example, transforms a book into a site for performance, as well as simultaneously for its documentation; this form of notation is effectively a reinterpretation of the dance. Developed in response to the dancers' visual and spatial positioning during a live performance, black and white sticky dots 'dance' on and off the page (Fig. 35). These dotted representations of the evolving patterns and formations originate from Laban and Banesh's choreographic methods of notations, as previously mentioned, and are annotations of performative thinking. In these processes, marking becomes an extension of thinking that is looking at dance's movement and at choreography, realising the directions, the transitions, the patterns and formations the ballet entails. Placing the emphasis on abstraction, the dance movements and its positioning, these dotted lines materialise dance through a set of organising principles which establish different relations to the 'lines of thought' that go beyond the literal representation of the body in movement. In this way, *Stage Plan Drawings* establishes a way of thinking about dance as drawing, which pushes the relationship of the mark to the body towards its absence: 'forever cut off from that of which they would be the traces' (Newman M, 1996).

Figure 35, *Stage Plan Drawings* (2015), Double Spread Book with Sound

Thinking Lines

The philosophical concerns that emerge from thinking of movement as an eventful 'intensity' allow an opening up of the nature of the relationship between the body in its presence, physical mark-making and lines. Grappling with the value of both physical action, gestural reaction, mark-making, and line provokes a shift towards spatial-temporal concerns which helps to open up an understanding of the moving body as a condition in becoming, whereby the gestural quality of movement gains new importance in relation to contemporary drawing. This shift towards ideas of body/becoming enables a moving away from a gestural interpretation of the line in relationship to the body as 'authentic corporeal trace' (Buchloh B, 2006: 117); whereby drawings that represent movement are often interpreted quite literally towards a line that infinitely renews itself. As de Zegher points out:

> *Seen as an open-ended activity, drawing is characterised by a line that is always unfolding, always becoming.*
>
> de Zegher, (2010: 23)

It is the emphasis on process that reveals an open-ended interpretation of the line across dance, choreography and drawing, an approach which extends the notion of 'complete freedom of expression' that Kandinsky had already established in 1919.

> *The fate of the line is more complex and requires a special description. The transference of the line to a free environment produces a number of extremely important results. As a result, the line discloses an inner sound of artistic significance. A fundamental turning point is attained. Its fruit is the birth of the language of art. Line experiences many fates. Each creates a particular, specific world, from schematic limitation to unlimited expressivity. These worlds liberate line more and more from the instrument, leading to complete freedom of expression.*
>
> Kandinsky, (1919)

To further extend the scope of the line beyond notions of two-dimensional marks and enter the three-dimensional space where the value and use of the line can be rethought, it is important to scrutinise which type of body dance and choreography produce. This is necessary because the body is absolute and ever present in dance, and bodily presence is central to the many contemporary approaches to drawing that use performative durational processes. Interpreting the dancing body as a condition in becoming where dance is interpreted as an 'open system of exchange' (Le Roy X, in Lepecki A, 2012: 22) ready for all kind of metamorphosis and 'complete freedom of expression' is important as it facilitates extending notions such as graphic traces, diagrammatic signs and indexical marks to the third and fourth dimension.

When exploring how the drawn line transforms itself into planes, movement, performance dance, and videos, Monika Gryzmala is an inspiring example because of her ongoing investigation of the line in space. Taking the line from its flat two-dimensional plane into the third-dimensional space, Grzymala's work *One Degree Above Zero* (Figs. 36 to 39) marks the beginning of this preoccupation that the artist has refined ever since. In *One Degree Above Zero*, 2,400 square metres of ephemeral drawings made of coloured lines were produced over ten days and frozen between ten layers of strata of ice at a skating rink in Germany. The skaters' cutting paths were interwoven with Grzymala's drawings until the site's cooling devices were shut, leaving the ice to melt. What remained was 'the idea itself, and the physical experience the people shared that night - a sort of ephemeral, social sculpture, the results of a common drawing', which disappears. The emphasis is placed on the passing of time, a dimension that holds the condition for interpreting the dancing body as a body in becoming.

Figure 36, Figure 37, *One Degree Above Zero*, (2001), Stellingen, Hamburg, Germany

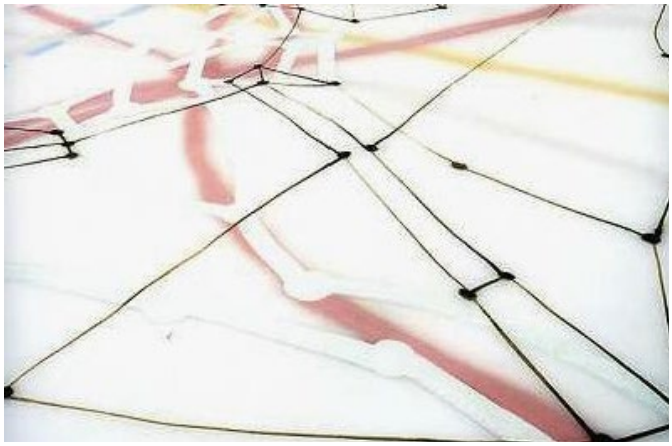


Figure 38, Figure 39, *One Degree Above Zero*, (2001), Stellingen, Hamburg, Germany

Bodies Becoming

The notion of body/becoming departs from the philosophical relationship between dance and time, whereby the dancing body is understood as a means to sequencing movement in time and space. This approach helps generate new understandings of the relationships between body, space and thinking, which evokes the possibility of both real and virtual experience of time in relation to the liveness of the performative event. In this respect Erin Manning's proposition of bodies as 'dynamic expressions of movement on its incipiency', bodies that 'have not yet converged in final form' (2012: 6), enables interpreting the dancing bodies as a condition where:

> *movement-as-the-imperceptible, leads the dancing body into becoming an endless series of formal dissolutions.*
>
> Lepecki, (2007: 119 to 123)

These bodies which '… resist[s] pre-definition in terms of subjectivity or identity, …[are] involved in a reciprocal reaching-toward that in-gathers the world even as it worlds' (Manning E, 2012: 6) echo Aristotle's concept of movement as *kinesis*. *Kinesis,* Agamben explains, has a strategic function in the relationship between power (*potenza*) and act. Aristotle defines movement as an act of power as power, rather than the passage to action. Aristotle's conception aligns with interpretations of drawing as a processual, durational, and repetitive activity that happens over time and that requires power of resilience. Here it is continuous movement that is the absolute condition. The emphasis is on the activity which overshadows the body. This understanding of movement is instrumental to propose the notion of the dancing body as body becoming, a concept that brings into focus the centrality of temporality. Additionally, Aristotle says that movement is *ateles*, an imperfect act, without an end (Aristotle cited in Agamben G, 2005); a statement that resonates with Manning's positioning on movement as the quotes below exemplify:

> *…there can be no beginning or end to movement. Movement is one with the world, not body/world but body-worlding... There is no 'body in itself', here because the body is always more than 'itself', always reaching toward that which is not yet.*
>
> Manning, (2012: 13 to 15)

In the project I analyse in Chapter Two and Three, I am using body/becoming as a means for capturing variable compositional relations between the potential of choreographic movement in the space, the dancers' body and mark-making, as these are ultimately the elements that establish the conditions for dance and choreography to impact upon drawing in my research. Engaging with the notion of body/becoming through generative processual methodologies enables multiple interpretations of the line across thinking, doing, and making. In this fashion choreographic patterns, dance kinaesthetic movements and the space that dance inhabits become constitutive elements of thought processes and are integral to how communication takes place as well as what is communicated. When considering which 'form' of temporalities the dancing body may take in an artwork and how the audience would engage with the work, these theories play a significant role in defining the parameters for my research, creating a structure for the enquiry. The multiplicity of the line across thinking, doing and making that the body /becoming exemplifies does not seek a representation of movement but creates movement. 'These bodies-in-the-making are propositions for thought in motion' (Manning E, 2012: 6).

Jalal Taufic's *The Dancer's Two Bodies* (2015) talks about the body/becoming as a condition that alters movement and bodies into a different realm by virtue of music, movement, silence, and body/image that through abeyance and privation of its embodied experience thinks of itself as lines in space. Considering that the body in dance is subject to a continuous oscillation between interior and exterior pressures, (music for example is simultaneously experienced as external and internal to the body), the response of the body is both internal in terms of sensation and external in terms of movement. This sets up a relay of sensation as the body is caught up in the oscillation of sensing its own movement and thinking of itself as lines in space. Here the multiplicity of the line expresses itself through extension and contraction and durational processes such as accumulation and repetition, hence creating a movement of thought. Here movement, as Manning notes, is transmutational, no longer derivative. This type of line establishes the theoretical underpinning and the condition for detaching the dancing body from its embodied subjective experience. Quoting da Vinci, this line has 'neither matter nor substance and may rather be called an imaginary idea rather than a real object' (da Vinci L, in Richter J P, 1880: 47).

This disembodied quality of the line in modern dance was explored in the 1960s when the notion of objectification determined a move away from the idea of expression towards representation. As Bojana Cvejic observes in *Choreographing Problems Expressive Concepts in European Contemporary Dance and Performance* (2015):

> *However, another ideological operation of modern dance arose in departure from self-expression, one that could be conversely qualified as objectivation of dance.*
>
> Cvejic, (2015: 19)

In contrast to the notion of subjectivation, which links the body and movement to subjective experience, objectivation refers to a different relationship between movement, the body, and the dancing body in its expressive act. Here as Cvejic states:

> *… dancing is foregrounded, or even in the most rigorous claims, reduced to a physical articulation of the movement, whose meaning lies, tautologically, in itself.*
>
> Cvejic, (2015: 19)

This conceptual turn of dance is apparent in the work of choreographers such as Merce Cunningham, the Judson Dance Theatre and Yvonne Rainer. It is towards these histories of dance, which detach movement from bodily expression, that I turn to unfold new potentialities for an interpretation of dance as drawing beyond gestural mark-making.

This approach implies, as Rainer recommends, that the dancer ideally 'is not even oneself, one is a neutral doer' (Rainer Y, 1974: 65). This objectified notion of movement encompasses both the experiential and the conceptual qualities of dance and choreography. In this conception, the physicality of the body is in effect its medium, i.e. the 'actual substance' of dance and choreography. The abstraction that the body/becoming elicits and the detachment that the body/image suggests are means to negotiate the complex relationship between movement, diagrammatic signs, indexical marks, graphic traces and documents. Drawing here is a tool for production, 'a site of conception' (Ionascu A, 2016) and a cognitive process. This complexity anticipates the necessity of a coexistence of diverse configurations of dance as drawing where geometrical patterns, formations and indexical gestures coexist and transmute across live and mediated approaches. As demonstrated in the following chapters, the artworks developed during my investigation display these characteristics.

Looking at the histories of the relationship of dance and choreography with drawing, the tension between embodied experience and objectification is thoroughly articulated in two historical

survey exhibitions with publications: *On Line: Drawing through the Twentieth Century*, curated by Catherine de Zegher and Cornelia H. Butler at the Museum of Modern Art in New York in 2010, and *Move: Choreographing You* (Hayward Gallery, 2010–2011). The critical positioning this dialectic tension generates is exemplified by the array of works presented in both exhibitions. De Zegher in her essay *A Century Under the Sign of Line - Drawing and Its Extension [1910-2010]* cites Malevich in the Bauhaus publication *The Non-Objective World* (1927):

> *It was through the conscious line - through being conscious of the line before focusing consciousness on the object - that the artist could cognize not the object itself but what lay within that object: the non-objective forces that give structure and movement to it, to the world of space and time as such…*
>
> de Zegher, (2011: 47, 48)

In conclusion, by drawing on examples from the visual arts that apply concepts of dance and choreography to address the relationship between movement and its representation, this chapter has brought together historical and contemporary perspectives that show how dance, choreography and drawing dynamically inform one another. By identifying the many roles and functions that drawing enacts in its relation to dance and choreography, I highlight drawing's multi valent unique capacity to be a thinking activity that encompasses the dual aspect of process and being in the now. This condition expresses itself in equal measure through embodied experiences, the physicality of the process of making, its interactive nature, and as its documentation.

This analysis, which repositions drawing in its relation to dance and choreography as process not product, ultimately demonstrates that this relationship is intrinsically temporal, which brings to the fore the centrality of the dancing body as body/becoming. This is a notion that helps to establish the foundation for an understanding of drawing as temporality, a notion which is unpacked in my next chapter. The dual perspective of the dancing body operating in between embodiment and abstraction proves to be particularly productive in *WhiteNoise*. Here, the movement provides a first-hand and embodied experience, whilst choreography offers a structural and conceptual framework within which drawing as performance is fundamentally addressed as a process for ontological transformation. Within the context of process art from the 1960s onwards, the indissoluble nature of drawing as a temporal process has been overshadowed by the notion of materiality in its relationship with sculpture. This shift of emphasis towards drawing bespeaks of methodological strategies that are grounded in the body in movement and in its relationship to space.

Chapter Two: Temporalities of Drawing

> *The mediums of art are concretions of time, with each medium and each artwork serving to delay, condense and spread out time in their own way.*
>
> Newman M, (2001: 24)

Chapter One positioned dance in relation to drawing through an historical recount of artworks that adopt a narrative of process inextricably intertwined with embodied experience and that expound a processual understanding of the dancing body as a form of becoming. This chapter comprises a broad conceptual and practical exploration into the notion of the body/becoming as the primary condition for a temporal understanding of drawing practice. This elicits the question of this chapter: what kinds of temporalities are produced when principles and methodologies of dance and choreography are applied to drawing? The underpinning conceptual framework is, in synthesis, an objectification of movement as if it is drawing. Here, the act of drawing becomes a verb, no longer a means of representation. That is to say, the notion of time that is traditionally indissolubly linked to space when associated with dance and choreography, becomes a lens to re-think drawing.

Supported by writings of thinkers such as Erin Manning, Henri Bergson, Michael Newman and Jean-Luc Nancy, Chapter Two unfolds through an analysis of my collaborative project *WhiteNoise* (2015), the main case study in this chapter. For *WhiteNoise* I employ a methodology that emerges from a collaborative approach. I selected this particular methodology because dance and choreography are intrinsically collaborative, and relational disciplines. For me the collaboration has been about extending my approach to thinking and making and side-stepping my practice so that the forces of interaction and negotiation could open up new possibilities of interpretation for dance and choreography as drawing. In this chapter I analyse dance and choreography methods and approaches such as improvisation, instructional rules and sets of conditions, to investigate drawing as temporal act. In this respect, *WhiteNoise* can be seen as an enquiry into performative drawing as a temporal act. The project focuses on the movements and gestures of the dancing body in time and space. Here temporality, which is intrinsic to the body/becoming and a characteristic of performative drawing, is analysed in its relation to space. Shifting away from the cognitive and sensorial properties of the dancing body, the body becomes a measuring tool to demonstrate that dance and choreography can generate new approaches to drawing, and expand the understanding of the discipline. This methodological approach highlights aspects of my role as a practitioner and researcher which uses performative and collaborative processes to bring to the fore the possibility of a social dimension for drawing in its relation to other bodies and surroundings.

A Collaborative Endeavour

Figure 40, *Centre for Recent Drawing,* Building with Posters for *WhiteNoise* Exhibition (2015)

This first section of Chapter Two recounts a brief synopsis of the journey of exploration and discovery that saw me engaged in a collaborative residency and exhibition held at the *Centre for Recent Drawing (C4RD)*, a small gallery space in central London in 2015. Throughout its development from residency to exhibition, *WhiteNoise* (2015) explored how the dancing body could translate into a temporality of drawing. Departing from Lepecki's proposition that bodily movements and gestures have 'nothing to do with mark-marking' (2006: 72), *WhiteNoise* set out to test movement and bodily gestures as generative forces for drawing in their wrestling of relationships between site, body, space and thinking. In terms of methodology, this meant adopting collaboration as a mode of engagement to enact the body/site relation through performative actions that helped to generate transformative processes for drawing in space. The intention of our collaboration was to realise different means of production for drawing that comprised strategies of interaction and relationality. As a result of the collaborative nature of the residency and the small dimension of the gallery, the methodology that my collaborator Greig Burgoyne and I established at the beginning was that we would work at alternative times in the gallery space. Each of us would bring our specific knowledge and experience to the collaboration: the coming together of two aesthetic experiences with different origins, i.e. Rossella Emanuele in dance and visual arts and Greig Burgoyne in painting. We had shared yet contrasting approaches to process-based work in

the gallery space: I started exploring the physical presence of my body as a body in becoming whilst Burgoyne started by using rulemaking as a way to approach the site[14].

My origins in Dance and Performing Arts were critical for implementing performative methodologies throughout the *WhiteNoise* residency. This is because performance tends to entail a collective endeavour, which requires a diverse range of people with different skills and expertise coming together. My experience in dance and choreography in this respect, enabled bringing together the intrinsically dialogical, collaborative, and relational aspect of performative disciplines as a modality for working with my collaborator. Exploiting dance and choreography methodological approaches facilitated our interactions. The rationale for collaborating was to hinder any pre-established representational logic or aesthetic sense of composition originated in our individual practices. Our exchange of knowledge and skills manifested as an expansion of working methods which we borrowed from one another and as an inbuilt dialogue. The goal was to involve both parties into the generation of an artwork that neither of us could have produced individually. In this respect, collaboration in *WhiteNoise* has been employed as an inter-relational endeavour that embraces the self with its orientation towards the other, specifically Burgoyne and Emanuele. It is from this perspective that *WhiteNoise* drew on the strengths generated by the collaborative process.

The early stage of the residency saw us working autonomously in the gallery space; we performed very distinct actions rooted in our respective practices and individual ways of working. When working in the space separately, a fragmented action/reaction dialogue began, which led us to interacting with the materials that were left in the space by each other. Eventually we started working together in the gallery space. The materials we deployed were mostly stationery materials such as paper, coloured sticky dots, Post-it notes as well as perforated computer paper and chalk (Figs. 41, 42).

[14] It is important to clarify that in the context of this research, when reflecting on the collaborative aspect of *WhiteNoise*, I contextualise my position as an 'I' in relation to the collaborative process borne out of shared interests and I refer to any collaborative endeavour as a 'we'.

Figure 41, *Metronome*

Figure 42, *Stationery Material*

Alternating working in autonomy and together left scope to test what and how each of us might have taken ownership of the work and space. Deleuze's notion of the rhizome[15] (Deleuze G, 1987) is a useful conceptual reference in this respect, because it refers to a system of roots that attach themselves to one another and grow in all directions. The system is always in movement and does not give more importance to one element over another. The emphasis is on connections and assemblage. This approach was used to investigate the concepts and themes formed through theoretical research and enabled us to open up a non-hierarchical way of thinking and responding to one another either through rule-based instructional approaches or processual improvisation. This facilitated a re-interpretation of each other's interventions in the gallery space. Each of us took up the work/evidence left by the other as a starting point for an on-going process, informed by the external and internal aspects of the site. The result of our collaborative activities saw negotiating our relational interactions through the use of materials, gestures, verbal exchanges, and physical activities. The interpretation of the dancing body as drawing stemmed from these collaborative endeavours, which set the ground for a conceptual understanding of drawing as dance. In an attempt to make sense of how *WhiteNoise* investigates these theoretical concepts and themes through practice-based methodologies the following section examines how our investigation into time and space through the body/becoming, became the main conceptual referents for dance and

[15] Deleuze and Guattari's notion of the rhizome in *A Thousand Plateau* (1987), refers to a system of roots that attach themselves to one another and grow in all directions. The simultaneity and heterogeneity of the process implies that there is no hierarchy between elements. The rhizome connects and assembles in movement without giving more importance to one element over another. Felix Guattari's notion of collective annunciation, which stands for collaboration and collective conversation, is also a relevant reference in relation to collaborative and participatory methodologies.

choreography to become drawing.

Durational Processes of Becoming

Approaching drawing via dance and choreography is first and foremost an expression of a mutable process which unfolds in time and space; in this respect drawing becomes a particularly dynamic field of practice as the focus of the discipline shifts towards an interpretation of drawing as a verb. As Pamela Lee (1999) argues, to think of drawing as temporality implies approaching drawing as a transitive verb. It is this approach that Burgoyne and I investigated during our residency at C4RD.

C4RD was originally a train station ticket office, and the gallery space looks outwards onto a busy overland and underground station in London (Figs. 43, 44).

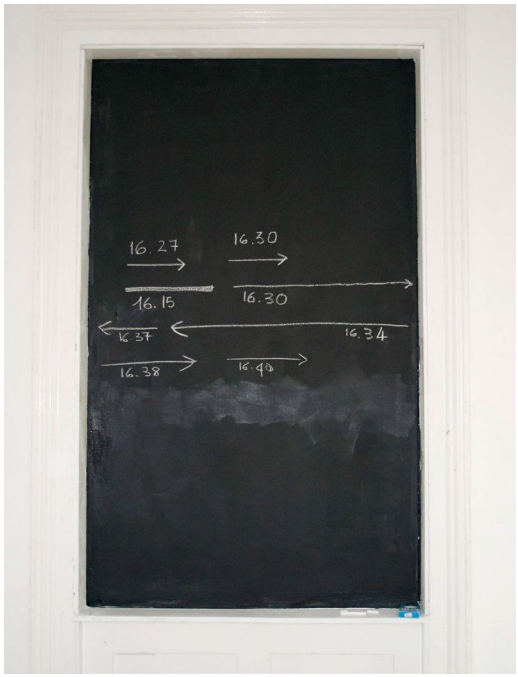
Figure 43, *WhiteNoise Residency* (2015), View from the gallery's window Week 1

Figure 44, *C4RD* overlooks a railway station in London, view from the platform

The initial focus for our collaboration was on the body/becoming in relation to the site, including what was happening outside of the gallery space and the actions/reactions that developed between Burgoyne and myself during the residency. This meant addressing the collision of the forces of energy which we brought into the space in the making of the work, together with the energies and forces that existed already in and outside of the site such as the trains moving in and out of the station and the people on the platforms.

Manning's concept of body/becoming conceived as a continuum, pulsating, and moving entity (2009), introduced in Chapter One, is a useful referent here. Building on Deleuze's process-based approach to a philosophy of time (1968), which rethinks temporality beyond linear views on time, emphasising an intertwined metaphysical connection between becoming and being, the notion of body/becoming foregrounds an elasticity of movement that champions 'the creativity of movement in the making' (Manning E, 2012: 9). It is this condition that encompasses both the experiential and the conceptual qualities of the body/becoming that we used as a starting point in our explorations of the gallery space.

Because of the small dimensions of the gallery and its location, the focus of our activities in the space was mostly directed outward, from the gallery towards the station. The station timings and durations became the focus for our individual exploration of the relationship between body and site, namely the trains, the platforms, and the people. The people waiting, getting on and off trains, the trains arriving, waiting, and departing, all became the subject of our observation. In other words, a 'drawing momentum' of times and lines with alternating bursting moments of movement and stillness that we were both witnessing through the gallery's main window. For example, I made a blackboard with the trains' departure and arrival times (Figs. 45, 46).



Figures 45, 46, *Blackboard with Trains' Arrival and Departure times*

I then made diagrammatic observational drawings with codified information, such as a series of coloured dotted lines created using self-adhesive dots on perforated computer matrix paper, representing the people waiting and moving along the platforms. This resulted in a vast amount of abstract dotted matrix perforated computer paper lying on the gallery floor representing the movements of the people within the station, an indexical matrix of people passing by (Figs. 47, 50).

Figure 47, *Dotted Paper Lines,* categorising people on platforms*,* Week 1

The dots represented the lines of people coming to and leaving the station. These were like indexical drawings of moving bodies on the platform, developed by setting myself a self-imposed rule: my viewpoint from the window and position in the space determined what I could see. The area of the paper I was working on reflected what I observed and the chalk dot on the gallery floor where I was (Fig. 48).

Figure 48, *Configuration,* Week 2

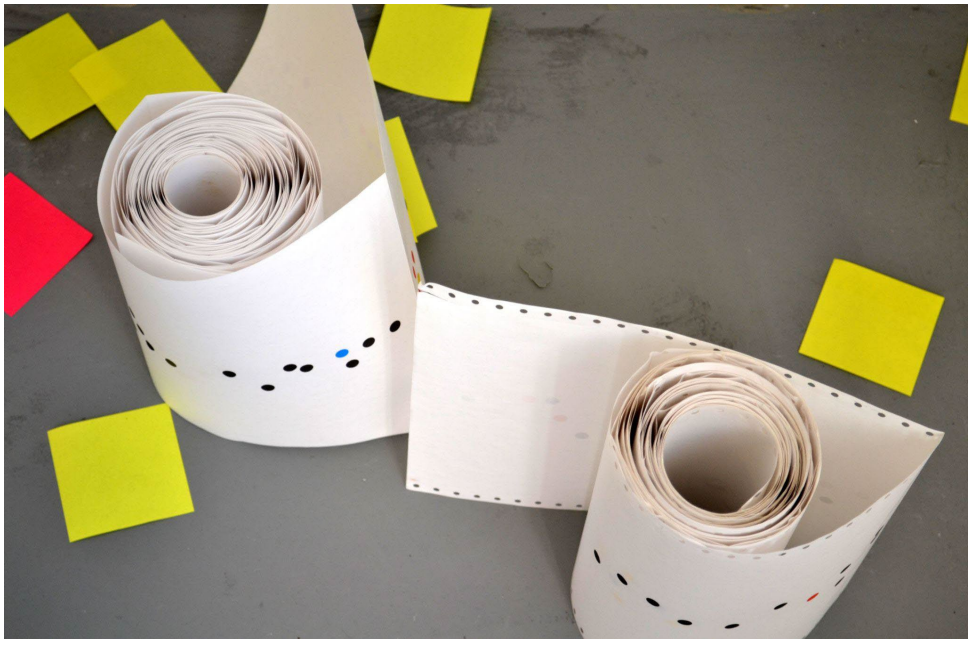


Figure 49, *Configuration,* Week 2

Figure 50, *Configuration,* Week 2

My counterpart, in the meantime, explored the station timings by focusing on the observation of trains' arrival and departure times through self-imposed rules. For example, one of his durational activities was developed by twisting one sheet of paper into another, added progressively each time a train arrived in and departed from the station, which resulted in long winding lengths of paper. The result was a vast paper trail emerging in the space (Figs. 51 to 54). The durational line filled the space and conditioned our movements, creating a very dynamic space; a drawing momentum that materialised time in various forms. From this perspective our actions in the space asserted movement as the actual substance for dance to become drawing in *WhiteNoise*.

Figure 51, *Paper durational line*, Week 2

Figure 52, *Paper durational line,* Week 2


Figures 53, 54 *Paper durational line, Post-it notes' Grids* and chalk dots, Week 2

Other actions included a number of physical explorations of the gallery space. For example, I began exploring how I existed in space, how I moved within the space, and what energies existed outside the space that influenced me. Recording and timing my positioning in the gallery space became a strategy to do this. Using Post-it notes as a unit of measurement I started marking my physical presence in the space and how my body navigated and negotiated the gallery space with my collaborator. I drew a series of shifting trails, the lines corresponding to the height and the length of the room, and established a relationship between my body in movement and the gallery space (Figs. 55, 57).

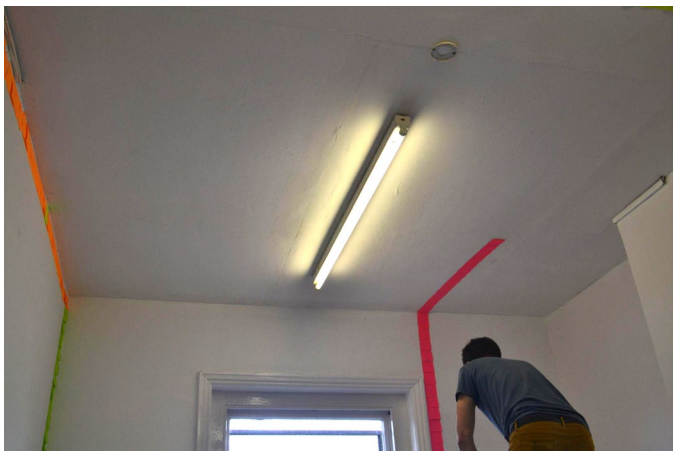


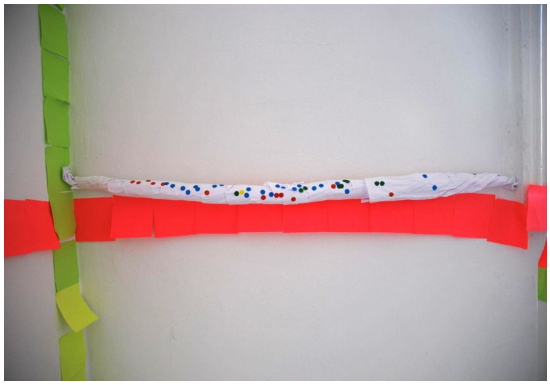
Figure 55, *Reshuffling the space,* Week 2/3

Figure 56, *Reshuffling the space,* Week 2/3

Figure 57, *Reshuffling the space,* Week 2/3

The durational line evolved into the representation of the trains in the form of a twisted paper line, a physical manifestation in the form of a paper line of the train's arrival and departure times (Figs. 58 to 61).


Figures 58, 59, *Paper Trains*




Figures 60, 61 *Paper Trains Details*

When a train arrived, the action of twisting the sheets together would stop and would only recommence when the train departed. As twisting sheets of paper was only possible when the trains were visible on the platform from the gallery window, this activity alternated with posting sticky-notes on the gallery walls in between trains' arrivals and departures times. This resulted in an accumulation of Post-it notes in the form of an urban grid of blocks across specific areas of the gallery walls (Figs. 62, 63).

Figures 62, 63, *Post-it notes Grids & Matrix Paper Dots,* Week 3

Through these actions, the arrival and departure timings of the trains became a durational line, an embodied manifestation that mirrored what was happening in the station. These artefacts created an assemblage of materials in the form of durational artefacts, i.e. the paper trains and the durational and dotted lines that engulfed the space, which resonated with physical activities. This generated innovative modality of thinking and making in drawing: drawing became an act of doing which pointed towards the unfolding in time of an action. This approach involved generative relations between gestures, materials, and form through the artefacts we created. Our subjectivities in space became a process, not a thing, a becoming not a being. In this respect, the series of performative actions we subsequently developed in the gallery helped to generate new relationships for drawing between body, space and thinking. Movement here isn't seen as an expression of the subject i.e. the dancing body in movement, but becomes an object in itself through the body in becoming as it is commonly used in performative drawing. This is because, as established in Chapter One, performative drawing foregrounds process over final result.

Process and temporality[16] are effectively the two key terms of the encounter of dance with drawing in *WhiteNoise*. Two terms that point at the links between the dancing body, drawing and the process art movements from the 1960s and 1970s discussed in Chapter One. Time and space

[16] The concept of temporality has been interpreted differently by a number of philosophers and critical thinkers. Bergson's investigation into memory, movement, time, and matter, in *Matter and Memory* (1896), sees temporality as duration, a temporal succession of phenomena that connects past and present. Bergson, *Matter and Memory,* (1896), trans in 1991, N. M. Paul and W. S. Palmer. New York: Zone Books. Maurice Merleau-Ponty's philosophy on the phenomenology of perception (1968) instead, focuses on embodiment, perception, and ontology, and describes the nature of our perceptual contact with the world through the dimension of the lived experience of the body in the phenomenal world. Phenomenologist Merleau-Ponty views the body's orientation toward the world as essentially temporal, a dialectic between the present and past activities of the body.

are undoubtedly one of the main conceptual traits that underpins the ever-growing interest of visual artists in dance and choreography. Specifically, performance drawing has been looking at dance and choreography as a source of models for itself as it moves away from traditional approaches to durational processes. According to Cunningham, 'Dance is an art form where time and space cannot be disconnected' (cited in Lepecki A, 2012: 26). This reiterates the centrality of time and space as the main conceptual referents when applying dance and choreography to drawing. These ideas yield the possibilities of movement and how the contingent relations of the body to a physical space become the conditions for thinking of drawing as a temporal act. Drawing upon the philosophical relationship between dance and time, the dancing body as a body/becoming in *WhiteNoise*, is understood as a sequence of movements in time and space. It is movement that activates these relations through which drawing enters the shifting territory of time.

Deleuze (2009) in *Difference and Repetition* (1968) rethinks temporality beyond linear views on time, emphasising an intertwined metaphysical connection between becoming and being which exemplifies the conceptual framework for the dancing body as body/becoming. The dancing body in this context is both a corporeal entity and a thinking body, a body that acts and thinks in space whilst moving. This dual capacity of the dancing body, which acts as both a physical agent i.e. the moving body in the gallery space, and as a structural concept i.e. the body/becoming as a measuring tool, lends itself well to the theoretical manifestation of dance as drawing. This is because this conception of the dancing body as body/becoming places the emphasis on a non-phenomenological concept of the body in space whereby dynamic processes always precede final results: from the sensorial moving body to the spatial-temporal dynamism and rhythm of movement. By focusing on the organisations of space and time during our residency, we strive to distil through our actions, pure blocks of space-time, whereby movement becomes both the subject and the object for drawing in space. In this respect, as Deleuze writes, *WhiteNoise* creates 'worlds of movements without subjects, roles without actors' (Deleuze G, 1994: 219).

In *Some kinds of duration: the temporality of drawing as process art* (1999), Lee articulates how drawing underscores process art interest in temporality, which historically is associated more with sculpture and object-based work. Building on the legacy of historical works such as Nauman's *Dance or Exercise on the Perimeter of a Squar*e *(Square Dance)* (1967/8), *WhiteNoise* re-defines these parameters in relation to drawing. This means articulating the endeavour of practice, the making of work, by placing the emphasis on processual making rather than end-product. The focus is on the systems of making and thinking in dance and choreography through the production of artefacts and performative actions in the gallery space, rather than on performance as a spectacle.

Placing the emphasis on processual activities, whereby dexterity is no longer the central focus, not only reiterates the centrality of time and space as the main conceptual referents when applying dance and choreography to drawing, but also brings to the fore clear links with the seminal precursors of process art with an interest in temporality. *WhiteNoise,* in this respect, demonstrates the indissoluble nature of drawing as a temporal process emphasising a shift from sculpture to drawing of the historical alignment of process art. This opens up the material and conceptual possibilities for interpreting dance as drawing, contributing to repositioning the discipline of drawing within contemporary discourse.

Performance *as* Method

My origins in Dance and Performing Arts were critical to approaching drawing as a verb in *WhiteNoise*. This is because Burgoyne's background was in painting and prior to *WhiteNoise* he had never engaged in performative work. Drawing from my experience as a dancer and a performer I brought to the collaboration a range of the performative strategies such as improvisation and repetition which we adopted to generate transformative processes of making. In terms of methodology this meant that after the initial stages of working in autonomy, our collaborative process evolved through performative activities when we started working together in the gallery space. From then on our collaborative activities developed from improvised repetition of movements and gestural accumulation of materials to choreographed actions and selected artefacts. This approach could be summarised as a process that saw us engaging through improvisation and play in continuously rearranging our experience of the site, *Configurations* (Figs. 64 to 67).

Figure 64, *Configurations, Week 4*

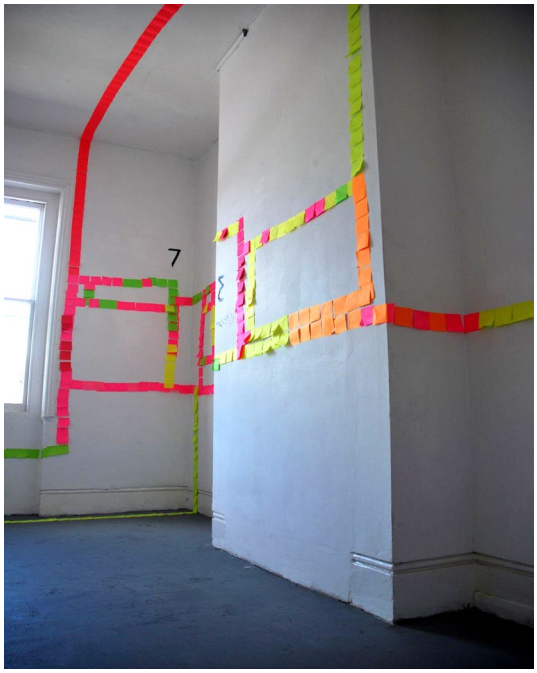


Figure 65, *Configurations*, Week 4

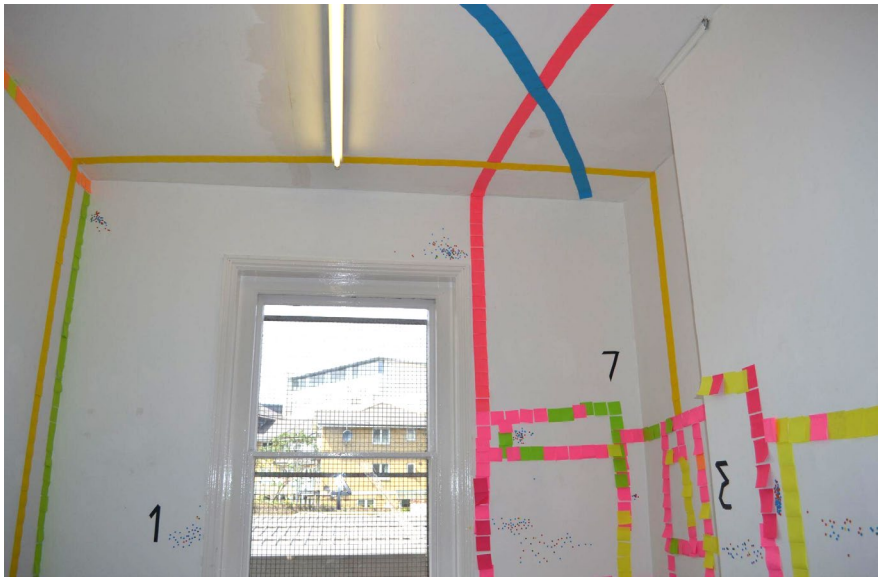


Figure 66, *Configurations, Week* 4

Figure 67, *Configurations, Week* 4

The range of *Configurations* that the gallery space underwent from Week 1 to Week 4, suggests an elusive on-going process of ordering and restructuring, which is indexical of our presence in space. The act of moving around the space, channelling our physical energies had 'to do with sensing movement in our own body, sensing our body's changing dynamic configurations' (Forti S, 1974, 29 to 31 cited in Luzar R, 2017: 58). Our thoughts intertwined with our bodies were always becoming something different. This process manifested itself through rhythmic actions and non-representational durational artefacts. As explained in Chapter One, it is continuous movement that is the absolute condition for drawing here. The emphasis is on the activities which overshadows the body. We become rhythmic movements of the body/becoming that 'moves us before we know where we are going, even when we momentarily lose our connection' (Manning E, 2012: 34).

This understanding of movement brings into focus the centrality of temporality. The dancing body as body/becoming detaches itself from the sensorial experiences of the subject to reconverge around the elasticity of its becoming, hence entering a realm of abstraction, which defies self-expression. Drawing here manifests as a condition of continuous dynamism; in this conception *WhiteNoise* objectifies movement and establishes dance as the medium for drawing. This model looks beyond the standard definition of drawing as two-dimensional works on paper. The generative process of becoming our presence in space produces a kinetic energy which manifests as a series of *Configurations* of the gallery space, rapid reshuffling of the forms and structure of materials and the artefacts we brought into the gallery space.

This approach resonates with how philosopher Alain Badiou sees performance: '... pure immanent becoming opposed to representation or reflection' (cited in Crone B, 2012: 23). For example, the durational line (Figs. 68, 71), which was developed by twisting paper whilst observing the arrival and departure of the trains on the platforms of the station outside the gallery window, formed the basis for a number of walking and counting actions we performed in the space that led to a series of rhythmic acts of walking. These orchestrated the beginning of what then became our walking drawings.

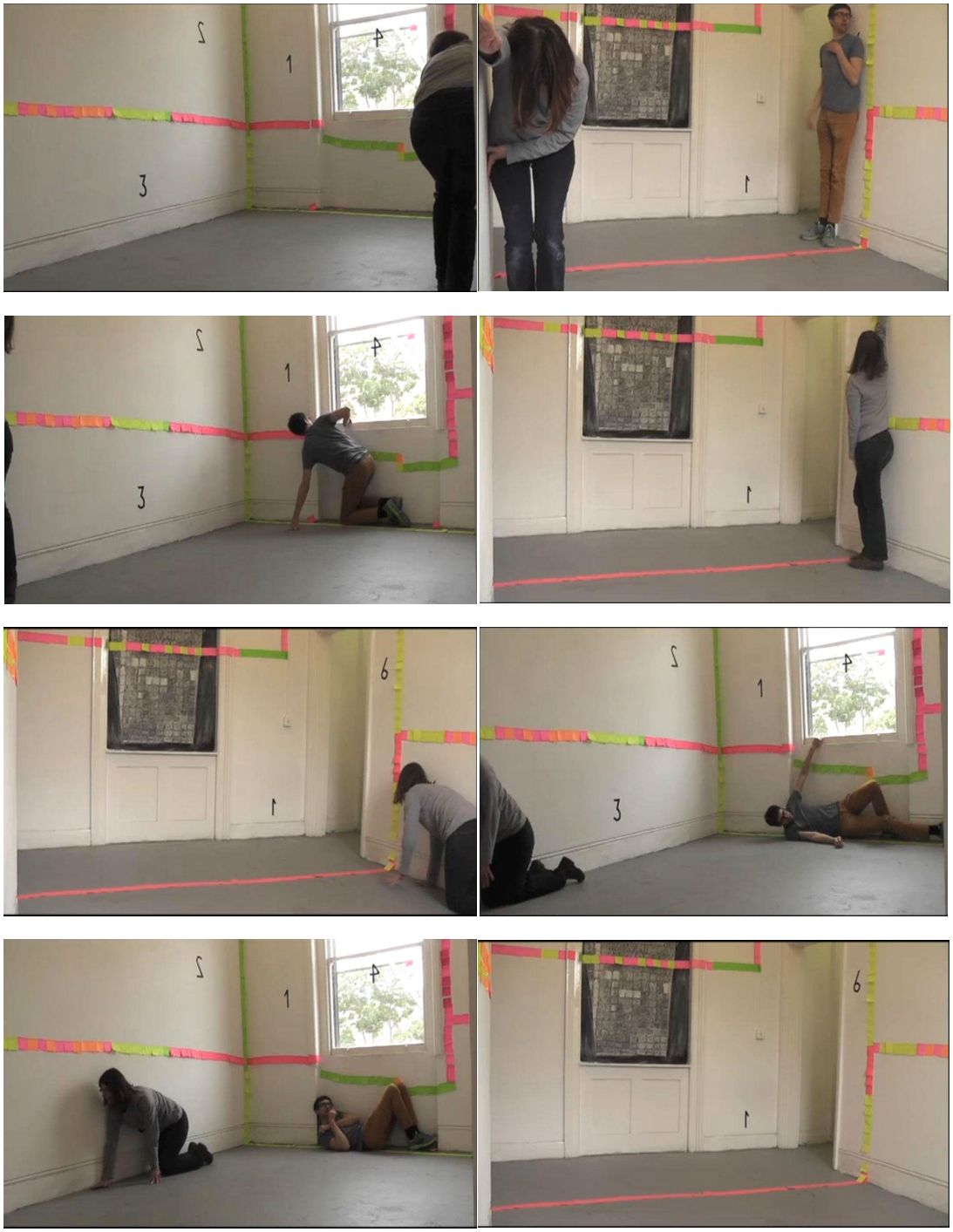

Figures 68, 69 *Improvised Actions,* Week 3


Figures 70, 71, *Improvised Actions,* Week 3

Departing from the fact that a choreographic view of drawing can metamorphose 'a simple pavement walk into dance' (Portanova S, 2013: 14, cited in Cvejic, 2015: 14), the walking drawings firstly appear as improvised action/reaction movements emerging from our collaborative process. Improvisation was a strategy to retain the ephemerality of movement and its elusive nature. This is because according to Cvejic (2015), improvisation generates movement in time, out of the experience of duration.

> *Improvisation supposes that the body generates movement out of itself - out of the experience of its own time, that is, out of duration.*
>
> Cvejic, (2015: 134)

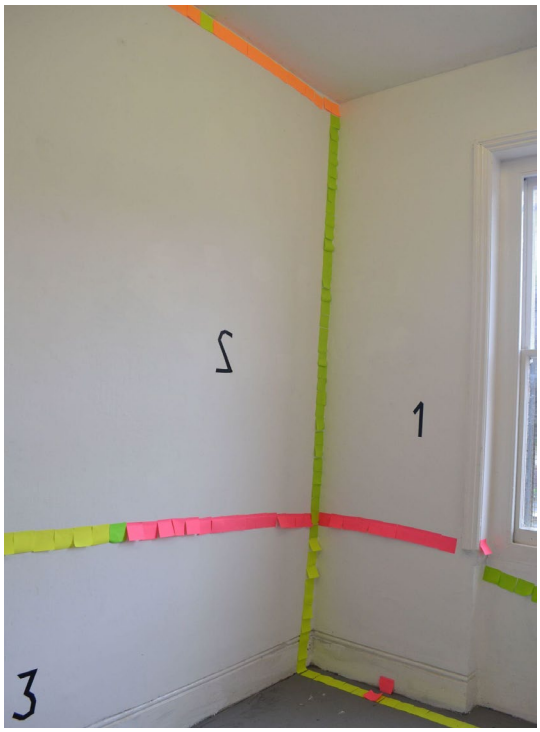
This conception of improvisation was adopted because it aligned with the intention of the project which set out to explore the temporality of drawing through durational activities beyond the expressivity of gestural mark-making of the body in movement. This use of improvisation distinguishes itself from ideas of self-expression commonly attached to improvisation whereby an 'aesthetic of spontaneity presupposes a tapping into the emotional life of the artist… '(Cvejic B, 2015: 135).



Figures 72 to 79, *Improvised Actions,* Week 3

As Cvejic explains, improvisation facilitates a 'conversation between the subject and the physical environment, or with another body…' (2015: 135). Our improvised actions in the space (Figs. 68 to 79) in this respect, existed as 'experiential experimentation' (Manning E, 2012: 102); experimental strategies through which we approached the gallery space and our collaboration. The results of our interactions were subsequently compositionally structured through choreographed actions and rule-based scores. These were measuring and counting exercises that defined specific relationships between the body and the space inhabited. Through self-imposed choreographic

rules, we set out symmetries to navigate the space and test its limits, adopting a numbering system which indicated coordinates for measuring and communicating positions. Nine areas in total represented blocks of spaces that made up the gallery (Figs. 80 to 82).




Figures 80, 81, *Numbering & Symmetries*, Week 4 in the Gallery Space

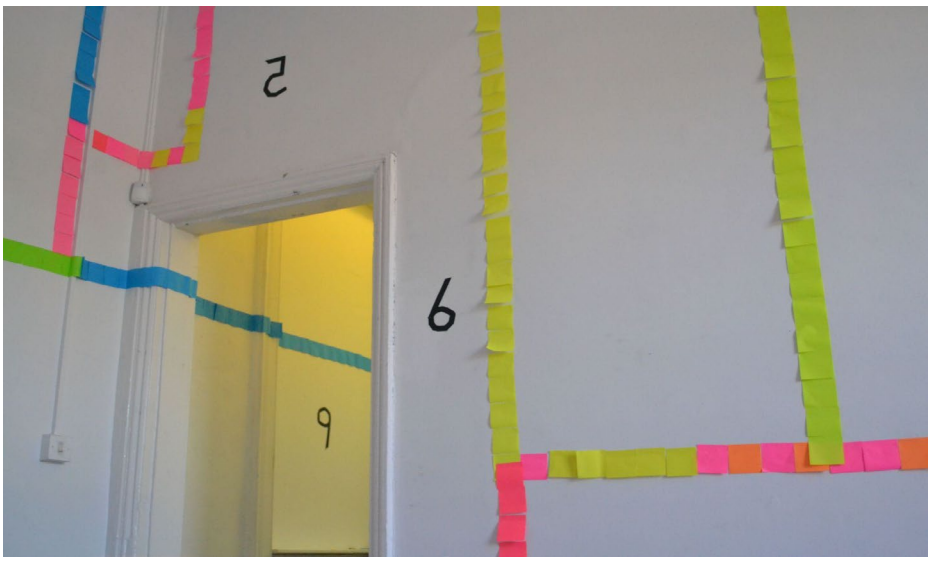


Figure 82, *Symmetries*, Week 4

These compositional decisions were based on our directional use of the gallery, which was based on the linear possibilities that the space suggested in relation to the body in movement. This way of thinking about space originates in dance, as in essence dance training strives to 'match lines and forms in space' (Forsythe W, and Kaiser P, 1998, cited in Cvejic B, 2015: 138). As de Zegher

points out referencing an essay by Kandinsky (*Point and Line to Plane*) published by the Bauhaus in 1926:

> *In the dance, the whole body - and in the new dance every finger - draws lines with very clear expression. The 'modern' dancer moves across the stage on exact lines, which he incorporates as an essential element into the composition of his dance (Sacharoff). The entire body of the dancer, right down to his fingertips, is at the very moment an interrupted composition of lines (Palucca). The use of lines is, indeed, a new achievement but, of course, is no invention of the 'modern' dance.*
>
> Kandinsky, (1947)

For example, a series of simple everyday gestures, such as walking, were formalised and re-enacted in the gallery space**.** The walking drawings became performative actions acted out and filmed. Setting instructions was an instrumental strategy for the walking drawings. We walked all the symmetries in the main gallery space eight times eight, at our own speed with a range of rhythms and ways of walking. We choreographed four distinct walking drawings: *Durational Line* (Fig. 83): where we walk only when a train was in the station, *Following* (Fig. 84): where we took it in turns to follow one another, becoming a metaphor of our collaborative processes whereby the intrinsically relational aspect for working together came into focus. Also, *Complying* (Fig. 85): where we navigate the space without stepping over the Post-it notes' trails, and *Waiting* (Fig. 86): where we follow and repeat the movements of the people waiting on the platforms, focusing only on their feet.

Figure 83, Walking Drawing 1, A series of actions with the *Durational Line*

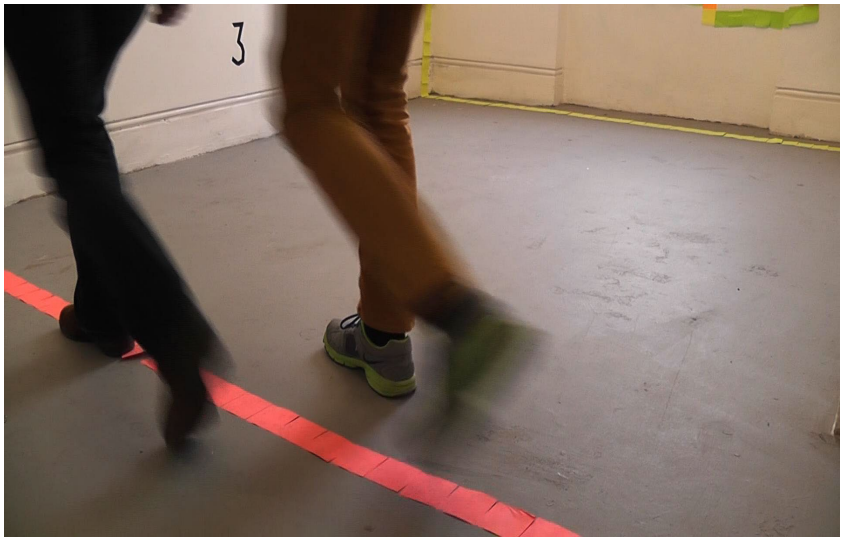


Figure 84, Walking Drawing 2, *Following*

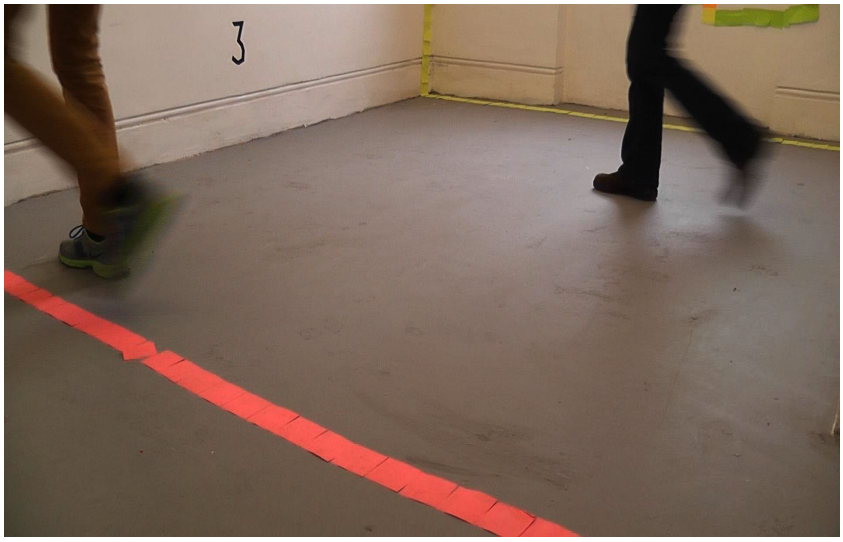


Figure 85, Walking Drawing 3, *Complying*

Figure 86, Walking Drawing 4, *Waiting* and *WhiteNoise Showreel*

These performances 'for the camera' create an altered sense of the gallery space through cropped images, close up and shifting perspectives. Here our actions in the space, as well as our bodies in motion are dislocated. The framing of the images echoes our viewpoint from the window onto the trains' platform. From this perspective, *WhiteNoise* tested how dance as drawing activates spaces and/or environments through both live and mediated representation.

The interplay of the present passing and the actions in the space became the 'becoming-form of the experience', which according to Manning 'is not of the object: it is the affective tonality of the becoming form of the experience' (2012: 102). In contrast the walking drawings in *WhiteNoise* objectify movement. Detaching ourselves as subjects, yet yielding movement through our moving bodies in space to transform kinesthetics' movements into visual material, facilitates reframing our embodied experiences of the space as drawing. Maintaining what was triggered by the site that inhered our bodies but taking ourselves as subjects out of the equation enabled us to distil our experience of the space. Here the present-passing is articulated through relational movements, i.e. the walking drawings, that generate new modalities for drawing in space. The collaborative process and the relational possibilities between working in the space, thinking, and doing, liberated the potentiality to represent drawing as dance in relation to our physical presence in the gallery space. This was achieved through a range of performative methodologies I analyse in the next section of this chapter.

Repetition, Accumulation, Rule Based Instructions

Our collaborative processes in this respect became a strategy to test a range of performative methodologies such as improvisation, repetition, accumulation and rule-based instructions. Generating movement out of the experience of duration of our presence in the gallery space manifested as accumulation of materials and ruled-based repetitive actions. This process comprised various stages: provocation, interaction and relationality. Improvisation was central at every stage, its condition in flux provokes a causal relationship between our subjective aesthetic experience as artists and the collective agency of our collaboration**.** The use of ordering systems such as repetition, accumulation and rule-based instructions emphasised the choreographic within the temporality of improvised open reiterations. Repetitive movements particularly became the means to capture our presence in the gallery space during the residency. In this respect, our collaborative activities evolved from improvised repetition and gestural accumulation of materials to choreographed repetitive actions and selected artefacts.

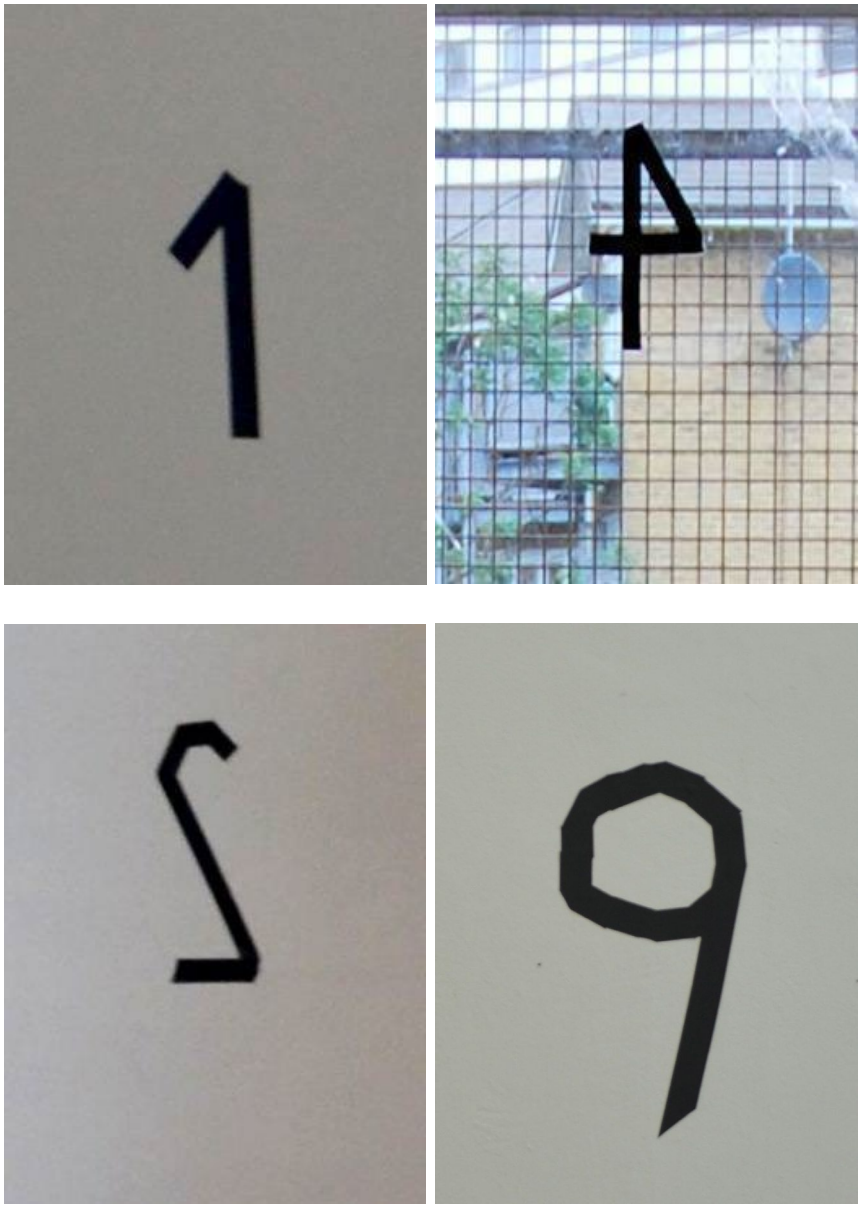
Deleuze's philosophical concept of repetition articulated in *Difference and Repetition* states that it is a process that produces variations with each repetition. One of the main concepts that underpins Deleuze's theory of time is the notion of multiplicity, a condition which describes a network of interacting processes characterised by infinite variables that defy ideas of measurements and metrics for space and time. This concept is central to the notion of multiplicity in duration which being experiential departs from the premise of the indivisibility of duration. As Cvejic states:

> *Deleuze entangles difference with repetition in order to affirm the power of the new and the unforeseeable. To repeat is to begin again, and to regard each beginning as an experiment.*
>
> Cvejic, (2015: 155)

From this perspective, the walking drawings' repetitive gestures did not neglect these differences; each of our movements had different speeds, different rhythms. Acts of contingent making followed those of united self-imposed rules using office materials such as adhesive dots, Post-it notes and photocopier paper. These actions culminated in spatial/temporal responses, acts of measuring duration, speed, and their gaps. Through parallel or alternative acts of counting and measuring we both sought to locate a rapport between the space, duration, and our 'dancing' bodies, inside and outside the site.

According to Deleuze's philosophy, repetition, accumulation, and time are deeply entrenched. These strategies according to Deleuze do not 'change anything of the object repeated but do change something in the mind that contemplates it' (Deleuze G, 2013: 125), a concept that in principle, affirms independence on the part of each repetition. In *WhiteNoise* we were both using strategies of repetition and accumulation to approach making, although our active engagement with materials changed its physical and organisational characteristics. For example, the paper trails that are the lengths of twisted paper made during singular observational activities, whether through pushing and pulling the paper around, were continuously reconfigured (Fig. 82, link). This is because the dancing body as body/becoming was used as a speculative tool in the activation of spaces and/or environments and both our bodies and the materials are considered temporal conditions in becoming. From this perspective, walking the symmetries of the gallery space whilst counting out loud our movements and positioning in conjunction with the paper lines became akin to moving dualities of time and space simultaneously. The repetitiveness of our actions elicited counting and recording the present passing in the form of scores. A play between real time and durational time started to emerge. Numbers became important: on one side they measured quantitative

multiplicity, i.e. the extensive magnitude of positivism, on the other side they referred to multiplicity in duration, i.e. the intensive magnitude of radical empiricism. In *Relationscapes, Movement, Art, Philosoph*y, Manning suggests that 'counting is one way to understand both the difference and the continuity between measure and intensive magnitude' (2012: 100). In this respect, the accumulation of the departure, arrival and waiting times of the trains that built up throughout the weeks in *WhiteNoise* is an example of quantitative multiplicity (Figs. 45, 46, 58, 59). However, an example of multiplicity in duration are the nine areas that represented blocks of spaces that made up the gallery configuration for our walking drawings because these were a means to make our relational and durational experience of the gallery space countable (Figs. 80 to 82).



Figures 87 to 90, *Numbering & Counting*

In terms of numbers, the visuals of the numbers in *WhiteNoise* signal the set of instructions we established in approaching the site - they are all different and not sequentially ordered. Made with black gaffer tape as cut outs, flipped horizontally, vertically across the different walls of the gallery, these numbers visualise the intensive magnitude of our presence in the space which we activated through the walking drawings (Figs. 87 to 90). Their visual aesthetic together with the walking drawings play a role in establishing new methodologies for thinking of dance as drawing. The empirical register of numbering and repetition that in dance and choreography has to do with reproduction and techniques, such as in rehearsing and performing, shifted its emphasis towards a conceptual register that related to drawing. In this conception dance as drawing in *WhiteNoise*, means thinking of dance's training and its repetitive and ritual gestures, as a process in the same way as drawn marks are traces of a process, i.e. actions made by the hand. Referring to drawing in relation to time, Krčma talks about an indexical aspect of drawing where: 'A drawn mark, whatever it contributes to depiction, is first of all a trace of the hand that made it' (2012), hence the emphasis on process.

In this respect, the processual and experiential experimentation that has been *WhiteNoise* evidence both bodily gestures and the underpinning conceptual structures, whereby the performative methodologies enacted became strategies for the abstraction of space-time activities of the dancing body within the gallery space. In the form of mark-making and walking, together with repetition, accumulation and endurance, the resulting installation, artefacts, and films interpret drawing as a system between thought and space. A thought in motion, an event in the making, 'a thought on the cusp of articulation' (Manning, 2009: 7). It is through our actions that the notions of temporality of drawing in relation to the space came to the fore. Through these methodologies the production of movement yields the possibilities of abstracting the body enabling thinking of drawing as a temporal act. Process and temporality remain central to this understanding of movement as drawing. This methodological approach is both generative of practice and of philosophical concepts and draws on Deleuze and Manning's conjunction of body and movement, as 'these bodies-in-the-making are propositions for thought in motion; thought that is not strictly of the mind but of the body-becoming' (Manning E, 2009: 6).

In this way, aligning with Lepecki and Manning's propositions (2004 and 2009) of movement as a generative space of thought, *WhiteNoise* redesigns drawing's relationship to movement in a choreographic, rhythmic, and temporal sense. The implications of this approach are scrutinised in the next section of this chapter, which addresses the body in relation to site, and considers how the gestures of bodies/becoming create space.

In my pursuit to investigate these ideas further and lead the reader to understand how these ideas were implemented to produce new relationships between dance as drawing, I return once more to the notion of the body/becoming and now consider how in *WhiteNoise* the body/becoming evolved through collaboration into a relational body in its relationship to site.

As established in Chapter One, Manning's notion of becoming/body is that of 'a body that resists predefinition in terms of subjectivity or identity; a body that is involved in a reciprocal reaching-toward that in-gathers the world even as it worlds' (Manning, 2012: 6). This statement reiterates both the inseparability of time and space in dance as well as the 'phenomenological intertwining of presence and body that dance brings about as it moves' (Manning E, 2012: 6).

Exploiting the structural principles for thinking and making akin to dance and choreography, elaborated during the collaborative process, enabled exploring the tension that existed between a physical space and the perception and experience of us moving in and around the space. *WhiteNoise* began as a measuring exercise between the space and our bodies, although the lingering of durational activities that exemplified 'endurance in and of the present passing' (Manning E, 2012) underpinned our endeavours inside and outside the site. From a position of locating our bodies within the experience of the site, the experience transformed into one of expansive materialised thinking akin to grafting time and space one onto the other. The play between the observation and registration of prosaic actions of the surrounding environment and their contingent effects in terms of the artefacts produced in the space, became organised conceptual structures of space and time, akin to multiple blocks of space and time. In our collaborative process, our actions such as the recordings of trains' departure and arrival times created alternative and multiple spaces within the fixed gallery space.

The walking drawings, as well as all the other actions performed in the gallery space by myself and my collaborator, whether side by side, face to face, or simply coexisting in the space together, were relational activities that we developed when present in the space. From this perspective, our approach to gallery space in *WhiteNoise* has been first and foremost relational and brought to the fore the possibility of a social dimension for drawing, which builds on Manning's critical positioning on the relational quality of movement and dance. As Manning states 'Creating movement is initiating a dance. Relational movement means moving the relation' (Manning E, 2009: 30).

According to Jean-Luc Nancy (2007), when we are in the midst of the drawing act (drawing in its broadest definition) it is an activity that reiterates becoming in the very midst of its withdrawal. This could be understood as the reciprocal nature of mark-making to surface and body to site. Here

drawing is not reducible to any specific form but opens towards lines that mark time through repetition and accumulation. This allows us to rethink drawing in its graphic, filmic, choreographic, poetic, and rhythmic sense, by tracing presence, suspensions and interruptions of actions/gestures towards a finality without end, an infinite renewal of ends. From this perspective, *WhiteNoise* was conceived to extend the scope of drawing as a reciprocal act of becoming in its relationship to space from body to site.

The durational drawing actions and measurements' trails that we enacted in space during our working process migrated into performative gestures that were performed for the camera through ritualistic or repetitive actions. The Post-it notes became the *Post-it notes dance* (Figs. 92, 94), a performance for the camera where I obsessively attempt to free myself from the Post-it notes' stickiness. The sticky round adhesive dots used for the 'observational drawing' and to colour code the people on the platforms became the *Dotty Mask* (Fig. 93), another performance for the camera that shows a slow, repetitive and lived-through experiential gesture of the removing of the adhesive-coloured dots that I previously stuck onto my face. As Joe Graham points out 'the dots are plucked off in a manner that suggests a bizarre ritual, a rehearsal of some kind… Perhaps these falling dots are revealing a type of pictogram: an ideogram newly discovered by us, the viewer, here in this place where time and space collide' (Graham J, 2016).

Figure 91, Removing Post-it notes from walls

Figure 92, *Improvised action with Post-it notes*

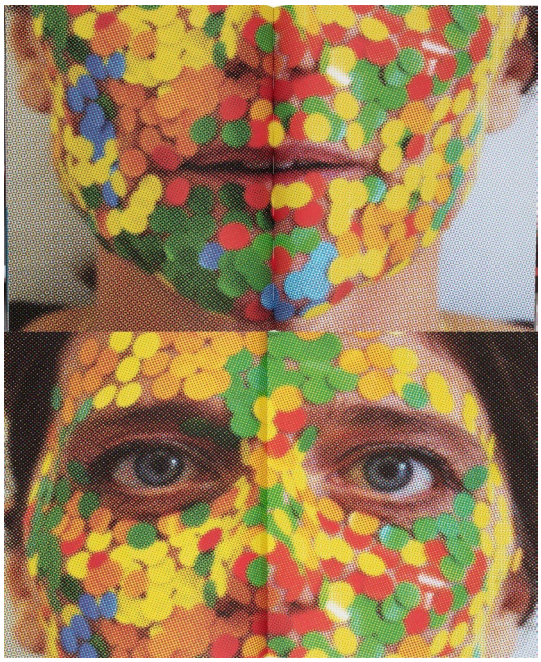


Figure 93, *Dotty Mask* (2015)

Figure 94, *Post-it notes Dance* (2015)

Grappling with the value of both physical action and gestural reaction, physical actions of moving bodies transmuted into gestures through the methodological strategies of dance and choreography. Oscillating between structure, contingencies and flows, our performative actions activated the gallery space from a condition of stasis to one of translation and flux. The space of the gallery became a site of experience rather than location, hence extending the Bergsonian sense of the 'not yet' (Bergson H, 1910) to a becoming of multiplicity, endurance, and duration. This

condition manifests as performative actions enacted during the working process, whether through orchestrated symmetrical walks or by engaging with the artefacts of each artist's singular activities in the space, which we subsequently distilled and edited down for the exhibition.

Both Lefebvre and Deleuze raise the point that gestures make spaces, a statement that bespeaks of the innate sense of spatiality of the dancer's body as a condition to create spaces. In his *The Production of Space* (1974), Lefebvre defines space as a product of its social relations, which aligns particularly well to the dancing body as body/becoming because of its intrinsic sense of space, and for its intentionality when it moves. Lefebvre's concept of space is phenomenological: always tied to the subject but also 'the active - the operational or instrumental - role of space, as knowledge and action, in the existing mode of production' (Lefebvre H, 1991: 11). Our dancing bodies experimenting with forms of space-time in the physical space of the gallery tested possibilities of how gestures make spaces. In this respect, our rituals in the space were performative, repetitive, and durational, and could be seen as a form of grafting of one space onto another through bodily gestures developed in the space through interactions, as such advancing the understanding of drawing as a collaborative and performative endeavour.

In this way, *WhiteNoise* materialises what Bergson calls in *Time and Freewill* 'multiplicity in duration' (1910), referring to the fact that we do not see time passing but exist within its becoming, which implies we are within it in a process of becoming, citing Bergson: 'a succession of qualitative changes, which melt into and permeate one another' (2002: 61).

This points to the importance of duration through which the dancing bodies and movement transform space. This awareness was essential to our thinking and guided our actions in the approach to the gallery space. This drift between measurements and duration in the experience of the space underpins all our choreographed actions where we experimented with the overlaps of time and space through strategies of repetition and accumulation, i.e. walking through the durational paper line, covering the gallery walls with Post-it note trails, the sticky dots agglomerations, the recorded repeated actions of walking the symmetries of the gallery space and observing the trains and the passengers passing by. This resulted in a shifting site of new relations and thinking as opposed to one of fixed coordinates, a 'forming of spaces' not a reiteration of space. Paraphrasing Manning, our engagement in the space generated a series of indexical gestures of 'our being in the world as it worlds' (2012: 6), through several activities and artefacts that manifest our presence and actions in the space. The documentation and mediation of our actions through the camera allowed us to situate ourselves simultaneously inside and outside this process. The films were filtered through the editing process and re-presented as a multitude of spaces, movements

and times through cropped framing and skewed angles of the space. In the final display for the exhibition, seven I-Pads were placed on the gallery walls along the lines of flight of our walking drawings. The films were playing simultaneously and the recorded sound of our voices counting emphasised the repetitiveness of our movements, creating a rhythm that marked a transition from a moving time-space condition in the present, to a durational and multi-layered environment that resonated with indexical and gestural presence.

All these manifestations, whether performed activities to a camera or the remaining artefacts in the gallery space, point to the importance of duration, of the moment in time when the actions were created. These series of staged actions and artefacts through which our bodies transform movements into drawing put forward a choreographic view of drawing. By focusing on the energies the space was generating, the body/becoming captures the trajectories of movement in the space as a drawing momentum, a composition of relations where the distinction between the process of movement and its subject is relinquished. This reveals the interdependency between how the experience of our bodies in movement in the gallery space was represented and how this representation had been produced. Such is the case of the twisted paper trains and the measuring Post-it notes, as well as the walking drawing's videos that record the different rhythms of our walking in the gallery space.

The coexistence in the gallery space of varied recordings of our actions during the residency, alongside the artefacts reveal the co-dependent nature of the relationship between physical actions and its traces or artefacts, 'with neither taking precedence over the other' (Eleey P, 2008). These diverse manifestations of our temporal presence in the space extend the definition and materiality of drawing beyond notions of graphic traces.

The resulting art works that have been developed throughout the residency are seen as a series of propositions that were completed and brought into being only as a result of the context in which they were created. With multiple entry and exit points of interpretation, a range of visual manifestations of our actions, be it language, gesture, architectural elements, or rule-based mark-making, have been arranged according to an ordering that at times has been random and instinctual, at other times considered, yet the underpinning intention has been consistently making time concrete by manifesting our presence in the gallery space.

The work produced vacillates between a quantitative analysis based on measure and a qualitative exploration of our presence in space through durational experiments. Temporality links these two activities of walking and drawing. The movements of our dancing bodies as bodies in becoming in the gallery space and its surrounding environment in the final exhibition manifest as

temporalities, through artefacts and interventions in the space, reflecting the concretion of time. The walking drawings not only are a way to comprehend the site through the body/becoming but its actions facilitate an engagement with the materials and artefacts developed during the residency; a temporal drawing momentum generated from our observational activities.

The viewers picking up the Post-it notes with their feet whilst walking transferred the residues of our live actions onto them, thus creating a continuum which provoked 'the regenerative force of becoming-movement' (Manning E, 2012: 34) to be active. Thus, some of the Post-it notes accidentally 'travelled' to other parts of London when the audience left, thereby allowing the work to extend beyond the physical encounter in the gallery space. In this respect, *WhiteNoise* has been an exploration of physical relationships in the production of space through a performative and immersive process that makes time concrete. However, the characteristics of temporality that we wrestle with during the *WhiteNoise* residency are more akin to Focillon's idea of double time in the work of art - i.e. the temporality of its internal development and the temporality in relation to other human activity. It is this second condition that makes the case for bodies to reconverge 'around the elasticity of their becoming' (2012: 9).

From this perspective, *WhiteNoise* is a collaborative and participatory project: collaborative in terms of our relations with space and the materialisation of our thinking. In this respect an important lesson in working collaboratively is not to overlook the value of subtracting, not solely accumulating energy, and its consequences in the development of a project. The implementation of decisive edits of the lengths of times and duration that emerged from the materials during our process of working, has been essential for the work in the gallery space to evolve and the dialogue with each other open up. Participatory to the extent that everyone coming to the show was implicated in the movement and space of the retracing of those symmetries even if unintentionally, and as such it engaged the viewers with the evidence of our dialogue and process. By means of seeing, moving in and around this evidence, an implicit potential here was the transfer of the live action to the viewer, who unknowingly re-activated our walking drawing by walking the same symmetries as the I-Pads with the films that had been positioned accordingly (Fig. 95). The Post-it notes on the gallery floor continued to be shifted in new configurations and by adhering to the feet of the visitors were also leaving the gallery. These actions in a sense became the fluctuating condition throughout the duration of the show, an 'impossible attempt to remove the paradox of the stillness inside movement' (Heathfield A, 2012).

Deleuze sees movement as eventful 'intensity', which means 'that movement may happen even in stillness, as pure intensity, as long as it is linked to the actualisation of the event' (Lepecki

A, 2012: 18), as stillness is the ground that persists underneath the other actions in performance. From this perspective, *WhiteNoise*'s final exhibition is the ground of the space/time continuum of our being in space during the residency. The assemblage of traces of various moments presented as 'pure intensity' is an attempt to fix the actuality of our lived experience in the space. The presence of the Post-it notes on the floor remaining in a state of flux, exemplify the space/time continuum condition we live in and the fluctuating condition that was *WhiteNoise.*

Figure 95, *WhiteNoise* (2015) Final Exhibition Overview of the Installation

In this way, the focus of this research shifts from *Graphic Traces* to *WhiteNoise* to *dAnCing LiNes*. It evolves from linear perspectives to perspectives with multiple lines, to powerful abstractions, though remaining linked to space social qualities. As Lefebvre affirms, space is undoubtedly social: '(Social) space is a (social) product' (1991: 26), an aspect that I will fully explore in Chapter Three.

The temporal and collaborative methodologies originating from dance and choreography enabled the extension of the way that performance drawing is traditionally approached i.e. as gestural mark-making. The potential seems to have been for what Blanchot calls 'shared foreignness' (2003), which we explored via collaboration. *WhiteNoise* may be that coming together of estranged moments, moments where acts of certainty, in rule following, become a means for expansion and extension of possibilities that take both of us beyond our individual subjectivities, allowing the play not the players to generate open-ended outcomes.

The collaborative process between us thrived on a willingness to take new ideas and new processes forward: at times generating tension as one relinquishes control, which in turn opens up

new possibilities. Thus, the authorship for the project was one that was autonomous yet evolved into a duality of performance-making and realisation. In so doing, it placed the emphasis on the collective dimension of the experience of the space, which developed through the working process from working separately on alternate days to proximity and shared experience of the site. In this respect, our testing of drawing through performative strategies, self-imposed rule-led making, play, and improvisation demonstrate that a new understanding of drawing is generated through the interaction with others, bringing to the fore the centrality of a social quality of drawing. The dialogical and transformative process of collaboration whereby we as subjects stepped aside so that something else could come through, points to a crucial aspect of our collaboration, namely the meeting of speculative activities and organised thinking; whilst the collaborative in essence generates a potentiality that is not fixed or known but thrives on chance and contingency. It has been through a process of editing of our speculative activities that our experiential experimentation in space evolved into organised thinking for an exhibition. It is from these processual activities and working strategies, in which residues and traces emerge as evidential remains of our activities in the space, that the relationship between dance, choreography and drawing appears deeply entrenched to the point of not being able to establish the origins of this cross disciplinary encounter. This led to the development of a reinterpretation of *WhiteNoise* in the format of a book which represents a distinct reiteration of the experiential experimentation that has been *WhiteNoise* (see *Appendix Three* for full details).

Returning to the question of this chapter 'what kinds of temporalities are produced when principles and methodologies of dance and choreography are applied to drawing?' *WhiteNoise* has firmly established the indissoluble relationship that drawing as a temporal act has with the dancing body and through collaboration brought to the fore the possibility of a social dimension for drawing in its relation to other bodies and the surroundings, a condition that I will expand upon in Chapter Three.

Chapter Three: Drawing in Relations

Exploring the relational potentialities of movement across two different aesthetic positions, i.e. the visual and the performative, Chapter Three addresses the question; what does it mean to think of dance as drawing? The underlying preoccupation with performance that emerges in this chapter is exemplified by Jonah Westerman's question (2015): what does it mean to think of performance as a medium?

As with Chapter Two, Chapter Three is a practice focused chapter. Through the use of both live performance and data visualisations this chapter reconfigures the notions of line, time and space through the encounter of dance and drawing. The main case study of Chapter Three is *dAnCing LiNes* (2018 to 2022), an Arts Council funded project which tests the boundaries between collaboration, participation, live events and drawing through an exploration of the interplay between physical movement and data visualisation. The premise for *dAnCing LiNes* is rooted in the notion of the dancers' bodies as bodies/becoming, which implies distinctive movement capabilities and temporal registers; an examination of how bodies in movement continue beyond their physical boundaries into real space. This shift of emphasis bespeaks of methodological strategies that are grounded in the body in movement and in its relationship to space. In simple terms, the notion of bodies/becoming in Chapter Three stands for a condition of ongoing transformation of the dancers' bodies into mark-making tools in time and space.

This approach elicits the question of this chapter; where does drawing as dance reside if not in the marks and traces of the body in movement? The answer to this question is twofold and it is addressed respectively in the sections: *Drawing as Spatial Social Practice* and *Drawing as Mediated Representation*. Each of these sections focuses on a distinct phase of the project *dAnCing LiNes*: *Drawing as Spatial Social Practice* concentrates on the live events which were performed in five different outside locations. *Drawing as Mediated Representation* focuses on the visual representations of the live events developed in post-production by capturing with digital technologies the bodies of the dancers in movement and the surrounding environments.

Supported by writings of thinkers such as Stephanie Rosenthal, Cornelia Butler, Nicolas Bourriaud, Andrew Hewitt, and Dorreen Massey, *Drawing as Spatial Social Practice* considers where dance and drawing intersect and how the body in movement reconfigures space and the surrounding environment. Rather than in relation to the flat surface, *Drawing as Spatial Social Practice*'s proposition is that dance as drawing exists in relational activities, bringing to the fore the

possibility of a socio-political dimension for drawing. In the preparatory stages of development, the methodology comprised an exploration of collective motion and group dynamic through the logic of flocking. Several practical sessions and reflective activities with the dancers helped to gain a deeper understanding of the group dynamics in preparation of the performances in public locations. Rule-based systems and choreographic scores were subsequently implemented to respond to specific outdoor locations where the live actions took place.

In *Drawing as Mediated Representation*, referencing the writings of Simon O'Sullivan on diagrammatic practices (2016), which expound the possibility of the diagram moving away from two-dimensional surface into a three-dimensional space, dance as drawing exists through mediated representation. The methodological approach shifts from the live to the mediated to explore diagrammatic representations of the live events through the use of data visualisations. Here it is technology that becomes the collaborator for drawing. As O'Sullivan explains (2016) in the context of contemporary art, diagrams may be seen as a form of expanded aesthetic abstracted from their original sources. From this perspective transformation is the domain of the diagram because diagrams transform information from one form to another. It is this methodological approach that in *dAnCing LiNes* enables the production of a series of transformations that emphasise a shift from recent practices that insofar have been historically identified as 'extreme analog' (Butler C, 2011). Dance as drawing here takes on a number of manifestations such as diagrammatic data visualizations, robotic drawings, and physical artifacts. Digital technologies facilitate the agency of dance to move from the performative to the visual via technological means that capture the choreographic scores during the live performances. The generation of diagrammatic emergent drawings that integrate data visualisation and physical movement within a rule-based system, goes beyond gestural mark-making and enables new possibilities for dance as drawing through both live and mediated strategies.

Drawing as Spatial Social Practice

Starting with the question of this chapter, what does it mean to think of dance as drawing? *Drawing as Spatial Social Practice* builds on the legacy of post-modern dance from the 1960s that developed a task-oriented approach to performance, a precursor to postmodern dance, first introduced in the mid 1950s by the dancer and choreographer Anna Halprin. Drawing's relationship with dance during those times of cross-medium promiscuity and radical disciplines shifted the boundaries between visual arts and dance so that they became virtually indistinguishable. In this period dancers such as Simone Forti created *See-Saw* (1960), a work that consisted of the

enactment of a simple instruction the dancers followed. The ‘task-line’ was: two performers balancing on a wooden board and shifting position in order to compensate for each other’s weight. Each performance required tackling the task anew either resisting or surrendering to the forces at play. This formed the basis for the dancers' improvisation (Fig. 96).

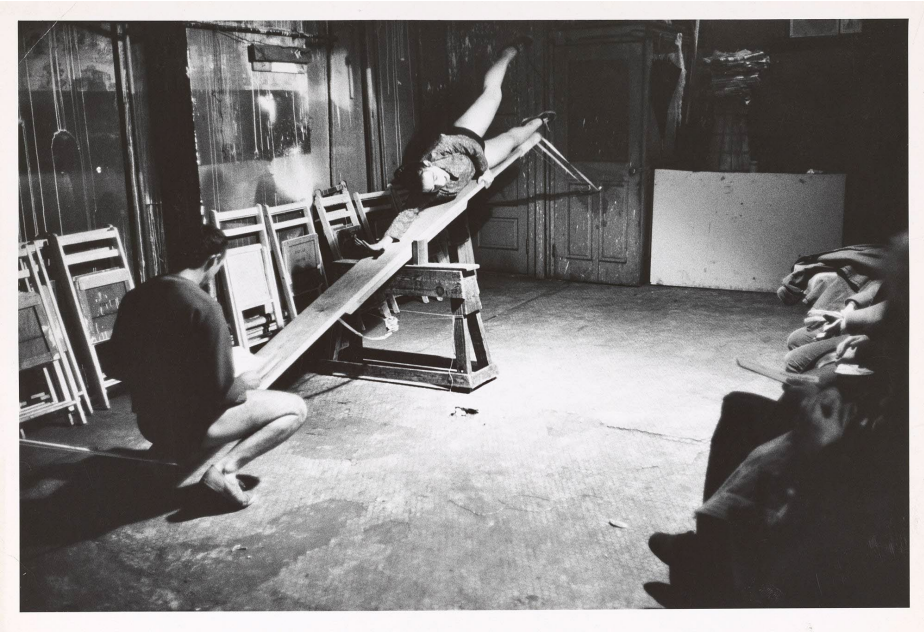


Figure 96, Simone Forti, *See-Saw*, 1960

Around the same time Allan Kaprow, with artworks such as *18 Happenings in 6 Parts* (1959) challenged the boundaries between performers and spectators provoking a collapse between the moment of production and its reception (Fig. 97).

Figure 97, Allan Kaprow, *18 Happenings in 6 Parts,* 1959

Following on from these approaches, Robert Morris in the 1970s began incorporating choreography into his work within the field of the visual arts and developed his *bodyspacemotionthings* (1971/2010). What Morris strategically adopted from dance has to do with the presence of the body in both the visual and physical sense. Morris's early works such as *Cylinder* (1971) and *Log* (1971) (Figs. 98, 99) clearly show the influence that the task-oriented approach to dance used by Halprin and particularly Simone Forti, his first wife, had on his work. Here dance is expressed performatively in relation to an object in space and in interaction with the viewers.

Figure 98, Robert Morris, *Cylinder* 1971

Figure 99, Robert Morris, *Log* 1971

In terms of mark-making and rule-based instructions, Morris's *Blind Time Drawings* (1973) are also a useful reference because they were made using hands and fingers and yielding the paper in scale with human proportions, and providing audiences with detailed information of the systematic procedures that generate the drawing (Fig. 100).

Figure 100, Robert Morris, 1973 *Blind Time XIII*

Artists such as Trisha Brown, as discussed in Chapter One, used graphic marks to capture the movements of the body and the diversity of these approaches opened up new possibilities for the discipline of drawing. As Butler highlights, it was then that:

> *The drawn line moves literally from mimesis off the page, into space, into the realms of three-dimensional form, and particularly of the body in motion.*
>
> Butler, (2010: 140)

These trajectories of the body in motion which Phelan defines 'movement-based thinking' (2011: 22), are explored in *dAnCing LiNes,* the main case study of this Chapter. Taking inspiration from the task-oriented approaches to dance of the seminal works of Halprin and Forti*, dAnCing LiNes* adopts similar inter-relational methodologies within a rule-based system and explores dance as drawing through relational and spatial activities. Stepping outside of institutional galleries into the public realm, the body in movement with the socio-spatial implications it implies, enables dance and choreography to become generative forces for opening up new approaches to drawing. In order to demonstrate how these approaches help to redefine the relationship of dance and drawing as a social practice I will start with a synopsis of *dAnCing LiNes*.

dAnCing LiNes Synopsis

dAnCing LiNes was developed in collaboration with choreographer Simon Birch and data visualisation experts David Hunter and Zach Duer and the participation of the dancers of the Dance and Choreography Department at Falmouth University. Establishing partnerships with dancers and

choreographers was central to this investigation into the interplay between physical movement and the surrounding architecture in public places. The project tested how dance and choreography can extend the scope of performative drawing by working directly with dancers and using their bodies and movements as 'drawing tools'. The notion of gestural mark-making, which begins with the pencil leaving an outline, a map of its existence, is completely removed with my approach and drawing becomes a conceptual exploration of the line through bodily movements. Catherine de Zegher (2010) refers to drawing as an open-ended activity that is:

> *… characterised by a line that is always unfolding, always becoming. And in the drawing's stages of becoming - mark becoming line, line becoming contour, contour becoming image.*
>
> de Zegher, (2010: 23)

In *dAnCing LiNes,* this condition that is 'always unfolding, always becoming' is relational. The focus is on connections: connections between dancers and between dancers and surrounding social and physical environments. The dancers were asked to be responsive to each other's gestures and create the overall composition, acting in this respect as both collaborators and participants to the piece. Choreographic patterns and formations became the means to consider the reciprocal relationship between bodily movement and the line, where the line acts both as a point of departure for bodily gesture and a score to respond to. Connecting the aesthetic experience with the social experience, a group of twelve dancers were tasked to test how moving bodies would activate or disrupt their surroundings. In the first instance these explorations started as experimental laboratories and developed through improvisation, which we used mostly in the dance studio of the Dance and Choreography Department at Falmouth University (Figs. 101 to 106).

Figures 101 to 106*, dAnCing LiNes*, (2019/20), Experimental Laboratories

The intention was to consider the socio-spatial implications of the body in movement through a series of choreographic instructions where bodily movements would act as pointers for movement, markers, and lines to draw in space (Figs. 88, 89). This open-ended approach sprang from the understanding that the kinaesthetic basis for drawing is that 'drawings are done with a point that moves' (Rawson P, 1987: 15). In this account, drawing manifests through a series of changes in time and space, and 'its structure … is produced by actions carried out in time' (Rawson P, 1987: 15). Therefore, per extension, in *dAnCing LiNes* the act of drawing signals the lived time of the kinaesthetic movement of the dancing bodies in space.

Figures 107, 108*, dAnCing LiNes*, (2019/20), Trajectories' Tracking

A wide range of exercises were employed to develop and enhance the 'vocabulary' for dance as drawing during the rehearsal. The actions and gestures themselves became the lines and the marks. However, there was a gap to be bridged between visual art mark-making and dance and so, in this exploration, the dancers were challenged to explore the impulse and action inherent to the line and in mark- making; thereby striving to identify what is gleaned from the idea of dance as drawing (Figs. 107, 108). Intention and impulse were the underpinning source to generate movement as drawing. The improvised movements become an act of drawing, a transposition of movement into line but also line back into movement.

These ideas were in the first instance tested in the studio through improvisation, a well-established methodological strategy deployed in contemporary dance. According to Chris Crickmay and Miranda Tufnell, improvisation tends to be employed in art making for four main uses: 'a source

for original material', 'a training in perception', 'to develop a piece', 'a performance in itself' (1990: 6). Each of these strategies to a certain extent have been applied in *dAnCing LiNes.*

The material developed was subsequently transposed to five external public locations in Falmouth, Cornwall. These were: *The Moor, Jacob's Ladder*, *Pendennis Field*, *Gyllyngvase Beach*, and *The Pier*. When working outdoors the dancers were tasked to consider how they would respond to public spaces or the environment. The improvisations were eventually formalised as allographic[17] instructions from which a set of scores specific to each location were developed. The choreographic scores were then deployed for the final live performances. In these performances drawing is enacted as a directive and sets of instructions and manifests through task-lines to be acted out in time and space by the dancers. I have outlined below an example of the final instructions for two of the performances (see *Appendix Five* for full instructions in each location).

The Moor, *Social Distancing Island*

A waiting game where the dancers are instructed to draw a series of squares on the floor where the market usually is. Two dancers at a time can move from square to square, each time drawing a new square where they stall. The rule is one dancer per square at any given time.

Figure 109, *dAnCing LiNes*, (2021), The Moor, *Social Distancing Island*

[17] The definition of allographic - a term coined by Nelson Goodman - refers to artwork in which the artist's intention is conveyed as a set of instructions using language or visuals, stored as a text or image and then delivered to another, who will interpret the instructions and carry them out as a collaborator 'Foa' Mc, Grisewood J, Hosea B, McCall C, (2020), in *Performance Drawing - New Practices since 1945*, Bloomsbury Visual Arts, London, p. 6.

Jacob's Ladder - ***Stepping up and down***

Two groups of dancers, six in each group, congregated in one group at the top of the steps, the other at the bottom. The group at the top make their way down and the group at the bottom make their way up. The dancers should keep five steps of distance between their group members and should move from side to side along the steps at least once in every five steps. This action should be used to navigate passing one another. Dancers can vary the speed of their ascent and descent and should be responsive to one another.

Figure 110, *dAnCing LiNes*, (2019/20), Jacob's Ladder, *Stepping up and down*

The rationale for the scores was to convey the choreographic intentions specific to each location. Each performance required the dancers to tackle the task they were set considering the forces at play in each location (Figs. 109, 110). This formed the basis for the dancers' improvisation. In this respect despite the fact that the scores were orchestrated by a set of instructions that promoted drawing as a time-based activity in space, *dAnCing LiNes'* live events retained a sense of improvised actions, which played out alongside the more established systematic principles of the

choreographic. Highlighting the interdependence between what individual dancers did and what emerged at group level, these relational enactments forced group dynamics to change, transforming the performances. These group's dynamics of movement were tested through the model of flocking, a system which was adopted as the means to think of dance as drawing.

The Logic of Flocking

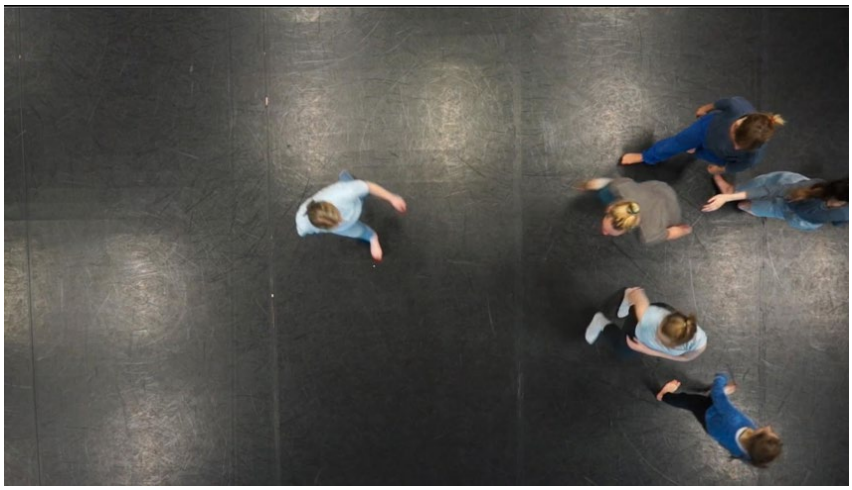


Figure 111, *dAnCing LiNes, Rehearsal*

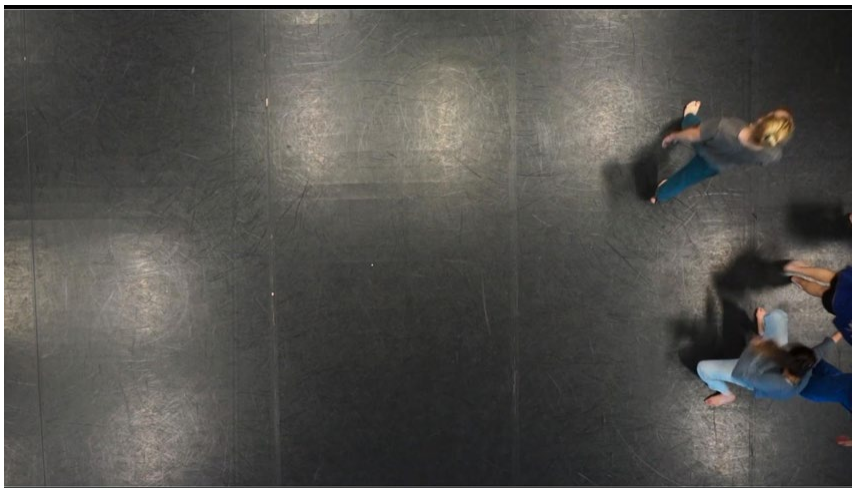


Figure 112, *dAnCing LiNes, Rehearsal*

The key feature of *dAnCing LiNes* is the flock logic which applies the model of flocking to a group of twelve dancers to investigate how collective motion would inform choreographic patterns and formations. These new artistic methodologies consider how dancers respond to each chosen location through the assertion of choreographic scores that explore the extension, reorientation, and variation of the dancers' bodies in dynamic dialogue with the environment (Figs. 111, 112). The model of flocking was central to the group's dynamic, the social interactions and the overall choreographic compositions as it facilitated the kinaesthetic interpretation of the dancers'

movements and gestures. Insights into design principles such as human crowds, animal groups and mobile robotic network systems were used as reference for these experimentations. They were inspired by the complex and beautiful formations of bird flocks, and by the knowledge and understanding that collective group motions in the animal realm emerge not from a prescribed choreography, nor from a designated leader, but from simple rules of response to which all parts involved comply equally. There is no hierarchy within the group but pure instantaneous response and impulse. The academic paper *In the dance studio: Analysis of human flocking* (Leonard N E, et al., 2012) explains that the movements of a flock of birds are governed by:

> *how each individual moves in response to the position or motion of its close neighbours. Basic flocking rules typically have a cohesive element and a repulsive element. The cohesive element requires that while each individual moves around it should remain a comfortable distance from a few others; the repulsive element requires that each individual should move away from others that get too close in order to avoid collision.*
>
> Leonard *et al.*, (2012)

The dancers were challenged to consider how models of flocking may translate when applied to a human context. As an overall guideline, the twelve dancers were tasked to move according to flocking's rules of cohesion and repulsion in response to the relative position and motion of who was closer to them in terms of its proximity. Moving accordingly to an established simple set of rules and with consideration of their relative positions in space and to the architecture whilst retaining the flocking model as a modus operandi, the group interacted with its surroundings, adapting according to the space they inhabited. At the same time, the space inhabited influenced the dancers' movements, forcing the group dynamic to change in accordance with any unexpected external event that may have happened.

During the exploratory stages it became apparent to both the choreographer, Simon Birch, and myself that when the dancers slipped into a default performance mode their movements were becoming subtly automated. When a dancer lost concentration on the task for even a moment there was a tendency to 'perform': they adopted a position where they appeared to step outside of themselves, as if there was a degree of self-consciousness, resulting in the antithesis of the desired group-consciousness of movement characteristic of the flock logic. It was interesting to see when the task or directive was unwittingly superseded by an automatic impulse to 'perform' or embody a habitual physical musicality. Both these 'states' assume a degree of hierarchy, which works against

the flock logic. Likewise, when we added music or sound it did not work. The dancers started responding to and interpreting the sound/music which became like a filter that sifted out or diluted the pure intention of the dancers' moves. There was a subconscious response evident in the body. The decision was in fact not to use any sound/music effect. We agreed that the only sound would be the ambience sound of each location in the public domain.

In this respect improvisation has been a central strategy throughout the development of *dAnCing LiNes* as it supersedes the natural dancers' inclination to 'perform'. As Crickmay and Tufnell (1990) state:

> *Improvisation as a strategy for discovering and developing images demands and creates a whole range of skills, the most important of which is the ability to be still and open one's attention to the present moment.*
>
> Crickmay and Tufnell, (1990: 46)

The underpinning rationale and the guiding principle operating at collective level was responsiveness to one another. This implied that kinaesthetic awareness came into play alongside the conceptual instruction-based framework. The dancers' movement started from a certain level of consciousness of the body in movement. It was 'the presence of the body, on a visual and physical level' (Rosenthal S, 2011: 13) that mattered, not necessarily in an aesthetic sense, as it had to do with bodily consciousness and the way things formed. Choreographic movement came about in between times and locations: prosaic temporal actions where the immanently present task-line is promoting drawing as a conceptual activity. Essentially each task-line is determined by the group's dynamics responding to the different locations. Predetermined rules dictated the beginning of the actions in each location, which ended when the dancers acted out the instructions. The intention here was twofold: inter-relational amongst the dancers (i.e. flocking systems), and in relation to the architectural space. The five live events were performed over two days. The model of the flock remained constant in each external location, yet adapted and took on different configurations according to the specific settings of each location (Figs. 113 to 120).

Figure 113, *dAnCing LiNes*, (2019/20), The Moor

Figure 114, *dAnCing LiNes*, (2019/20), The Moor

Figure 115, *dAnCing LiNes*, (2019/20), Pendennis Field

Figure 116, *dAnCing LiNes*, (2019/20), Jacob's Ladder, *Stepping up and down,* Ground Camera View

Figure 117, *dAnCing LiNes*, (2019/20), Gyllyngvase Beach

Figure 118, *dAnCing LiNes*, (2019/20), Gyllyngvase Beach

Figure 119, *dAnCing LiNes*, (2019/20), Prince of Wales Pier, *Pillars and Beam*

Figure 120, *dAnCing LiNes*, (2019/20), Prince of Wales Pier, *Pillars and Beam*

The intention was to activate each environment by drawing attention to elements of the surroundings that may have been overlooked by passers-by in their day-to-day interactions with each location. This meant subverting the normal function and altering the perception of each given location. The locations included industrial as well as natural settings. For example, Jacob's Ladder, *Stepping up and Down* is an action where the function of the ladder is subverted as the action is not about climbing up and down to go from A to B, but a rhythmic exercise in situ (Fig. 115). Whilst Prince of Wales Pier, *Pillars and Beam,* the dancers were tasked to transpose the grid structure underneath the pier to the surface by walking and intersecting only alongside the pillars and beams that support the pier (Figs. 119, 120).

These live events in open spaces effectively blurred any distinctions between real and performative space. It is important to clarify that *dAnCing LiNes*' interventions in public locations did have the purpose of making the spectators and passers-by participate; nevertheless, the dancers were instructed and trained to integrate within the scores any unexpected events such as passers-by entering their field of action, which equally provoked a collapse between the moment of production of movement and its reception. Dance, drawing, and architecture come together through these interactions between space, bodies, and time. This relational condition in *dAnCing LiNes* focuses on relational actions of the dancers' bodies and their gestures in each location. In this respect, *dAnCing LiNes* offers an interesting proposition of how dance and drawing intersect which is deeply entrenched with how bodies in movement may continue beyond their physical boundaries into real space.

The geographer Professor Doreen Massey explains that whereas historians concentrate on the temporal dimension of how things change over time, geographers concentrate on the way in which things are arranged geographically in space. In this respect, geographers, and choreographers view space through similar lenses. As Massey (2013) states in a conversation on space with Nigel Warburton:

> *If time is the dimension in which things happen one after the other, it's the dimension of succession, then space is the dimension of things being, existing at the same time: of simultaneity. It's the dimension of multiplicity.*
>
> Massey, (2013)

Geography is about connections and space; it is a dimension where different things happen simultaneously. What this means is that space propounds the existence of the other. Paraphrasing

Massey it could be said that *dAnCing LiNes* concentrates on the way in which things are arranged 'choreographically in space'. This relational spatial characteristic, which has social implications in both dance and choreography, suggests a view of drawing as an inter-relational activity that happens amongst bodies, spaces, and the surrounding environments. The emphasis is on the relationality of the moving body beyond its physical boundaries into actual spaces. The extension of the line in space through the use of both live and mediated representation brings to the fore the interdependence between moving bodies and the space they inhabit. This means that both the dancing bodies and the space are experienced as alive, with potential for continuous reconfigurations. Displacement and adaptability occur when a shift takes place to the flocking model because of an external condition; this is reflected in each new configuration that forms.

Massey (2013) asserts that analysing spatial relations between people, activities and space is key for understanding politics and power dynamics. This perspective extends the scope of the discipline of drawing into the realm of social practice, where the value of physical involvement is the essential precursor for social change and a sign of political commitment. This means that relational activity is the condition by which drawing as a social practice is established. With this approach, the notion of mark- making or gestural tracing of the body in movement on a flat surface is severed. Drawings are created conceptually through the dancers' relational and social activities which propagate and disseminate outwards into the environment. Here, the lack of hierarchy inherent to the logic of flocking in *dAnCing LiNes* offers a model of coexistence. In this respect, *dAnCing LiNes* hints at the fundamentally political question of how to live together, yet this perspective is not analysed in this thesis because it eludes the remit of my argument, which advocates for a view of drawing as a social practice[18].

Methodology *in* Context

Participation and collaboration play a key role as modes of engagement to enact the body/site relation in terms of the relational possibilities that they liberate for interpreting dance as drawing. The emphasis is on inter-relationality, group dynamics and interaction with the world

[18] It is to be noted that the premise of working together in groups was interrupted during Covid-19. *dAnCing LiNes'* live events were subsequently after lockdown when Covid-19 social distancing restrictions were in place as the project reached a stall at the start of the pandemic. The flocking model proved to be a prophetic proposition when the new social norm of gathering two metres apart was implemented at the time. This added poignancy to the project because essentially flockings are governed by how each individual moves in response to the relative position and motion of its close neighbours, yet the overall group maintains equal distance from each other. This resonated strongly with how society became accustomed to being spatially responsive to each other in public spaces in order to keep social distance. For the live events, the dancers' positioning in each location in outdoor settings incorporated social distancing to the flock model rule of being responsive to one another. For example, Gyllyngvase Beach, *The Rule of Six,* reflects the requirement which at the time denied gatherings beyond six people, and The Moor, *Social Distancing Island* requires the dancers to maintain the two metres rule in each position. See *Appendix Five* which illustrates the selected instructions and choreographic scores that the dancers were given for the live events in *dAnCing LiNes*.

around; whereby dance as drawing is relational and made of connections. This brings to the fore an important characteristic of dance and choreography, which is the human agency implicit in the collaborative and participatory methodologies embedded in these two disciplines, as effectively both are 'by nature' social endeavours.

Referring to Louis Althusser's philosophical definition for relational aesthetics as 'materialism of encounter', Bourriaud states that the point of departure of this form of materialism is life contingency, which has no pre-existing order or sense. Here the essence of humankind is purely trans-individual, made up of bonds that link individuals together in social forms[19]. In *dAnCing LiNes,* the dancers' engagement in a series of performative actions, actualise a 'materialism of encounter' with the surrounding environment. Extending the scope of Bourriaud's trans-individual bonds, to include the environment, the collaborative and participatory methodologies adopted for *dAnCing LiNes* establish a reciprocity between dance, choreography and drawing which echoes Rob La Frenais' suggestion that 'real performance is defined by a zone of entropy, a non-closure, a refusal of crystallisation…' (1993).

dAnCing LiNes' methodological strategies explore the boundaries between collaboration, participation, live events, and drawing. The collaborative and participatory nature of the flocking model is central to this endeavour because the system defies the assumption that choreography is something implemented from the outside. As Susan Leigh Foster (2011) points out:

> *Choreography could be defined as an external power or force whereby bodies/things are being choreographed.*
>
> Foster, (2011: 37)

On the contrary, the flock model gives individual agency to the dancers over the choreography; it brings to the fore the spatial and social implications that this approach entails, facilitating the interpretation of dance as drawing. Patterning of movement would not exist without all the parties involved participating in the choreography. This is a model inherently democratic as it emphasises how change self-generates and that everyone is an equal collaborating protagonist. The notion of flocking focuses on the fact that there is no hierarchy within the group but pure

[19] Bourriaud in *Relational Aesthetics* (1998: 19) Quote - What do we mean by form? A coherent unit, a structure (independent entity of inner dependencies) which shows the typical features of a world. The artwork does not have an exclusive hold on it, it is merely a subset in the overall series of existing forms. In the materialistic philosophical tradition ushered in by Epicurus and Lucretius, atoms fall in parallel formations into the void, following a slightly diagonal course. If one of these atoms swerves off course, it 'causes an encounter with the next atom and from encounter to encounter a pile-up, and the birth of the world'... This is how forms come into being, from the 'deviation' and random encounter between two hitherto parallel elements. In order to create a world, this encounter must be a lasting one: the elements forming it must be joined together in a form, in other words, there must have been 'a setting of elements on one another (the way ice 'sets')'. 'Form can be defined as a lasting encounter'.

instantaneous response and impulse. The notion of the rhizome[20] is a useful reference in this respect because it implies a non-hierarchical way of interacting and responding with multiple entry and exit points of presentation, representation, and interpretation.

Tino Sehgal, an artist with a background in dance and choreography, is a contemporary example of these approaches. Using participation and collaboration as methodologies for art making, in his artwork *These Associations* (Fig. 121), he presents one of the most radical and human live commissions for the Turbine Hall of Tate Modern which consists purely of live encounters between people. Sehgal uses rules and instructions as guidelines for playing games. Small groups of performers generate a number of activities in the gallery space, moving around in clusters and engaging in conversation with the viewers. In these relationships, the distinction between performers and viewers becomes blurred. Enticing the viewers through questions based on a script inspired by *The Human Condition of Hannah Arendt* (1958), the performers talk about their feelings, and their experiences to the audience, including the public who become participants of an enactment of Sehgal's underpinning conceptual approach to the performance. These actions are strongly entrenched with social and political meaning, encouraging connections between people. As Agnieszka Gratza (2013) points out, participants in *These Associations* became aware of each other collectively and were responsive to one another. The pace of their walks changed, breaking into sudden sprints or losing formation. There was a sense of flock, and everyone was moving in the same direction without any obvious leader. The ultimate test of this was in the moments of free flow - free and less structured moments - as by then participants had learned to take cues from one another.

[20] Deleuze and Guattari's notion of the rhizome in *A Thousand Plateaus* (1987), refers to a system of roots that attach themselves to one another and grow in all directions. The simultaneity and heterogeneity of the process implies that there is no hierarchy between elements. The rhizome connects and assembles in movement without giving more importance to one element over another. Felix Guattari's notion of collective annunciation, which stands for collaboration and collective conversation, is also a relevant reference in relation to collaborative and participatory methodologies.

Figure 121, Tino Sehgal, *These Associations,* (2012) Tate Modern, Turbine Hall

Although *These Associations* focuses on a different set of concerns from *dAnCing LiNes*, which as aforementioned deals with the use of dance and choreography to extend the understanding of drawing as a spatial social activity, the methodological approach for working with dancers as participants has some overlap with the methodologies adopted by Sehgal. In particular, the concept of free flow in Sehgal's work, which is based on the participants' ability to be responsive to one another, echoes some of the strategies adopted at the early stage of development of *dAnCing LiNes* especially with regard to participation and collaboration for the flocking dynamics. These strategies evolved from a series of workshops that I participated in during the preparation of *These Associations* in 2012. Sehgal's use of defined rules served as a guideline for the participants, and it provided a structure for enticing the viewers to enact his conceptual approach to performance with the social implications this implies.

In *dAnCing LiNes* a similar predisposition based on responsiveness facilitates the negotiation of individual singularities, group's dynamics and the surrounding three-dimensional spatial conditions. In this way the inherent relational potentialities of dance and choreography come to the fore; *dAnCing LiNes'* live performances enact these relations and the conditions through which they are created. Nicholas Bourriaud uses the term 'relational practices' to indicate:

> *A set of artistic practices which take as a theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space.*
>
> Bourriaud, (1998: 28)

From this perspective *dAnCing LiNes'* live performances are the means by which relations are engendered. To draw *in relation* is to create connections. Side stepping individual subjectivities, the collective dimension of *dAnCing LiNes* expounds a view of drawing as a spatial social practice. A key aspect of the live performances lies in the quality of movement which requires the dancers to be actively reactive to impulses from each other and the surrounding environment without necessarily utilising any dance's moves. This approach foregrounds the affirmation that our experience of life is in motion, relational and in a continuous state of becoming and establishes the dancing body as a mode of encounter, a vehicle of what Tim Ingold (2016) names 'human correspondence'[21]. Merleau-Ponty touched on these ideas in an essay entitled *Indirect Language* (1964: 55) where he talks about collaborative and participatory acts that embrace the self with its orientation towards the other; here the embodied self is situated where it may collide with new possibilities. From this perspective, the relational possibilities that are inherent to dance and choreography allow an opening up of the understanding of dance as drawing, encompassing more abstracted interpretations of relations between bodies, movement, and space. The interaction between the artwork and its context is constitutive of this approach which essentially incorporates the impact the environment may have in any of the interventions in each of the public locations. The meaning of the artwork is distinctive to each specific public environment and reveals itself in relation to its context (see *Appendices Five* and *Six* for reference).

The next section considers how ideas associated with the model of flocking in *dAnCing LiNes* help to generate a collective consciousness of movement.

Collective Consciousness of Movement

This final section of *Drawing as Spatial and Social Practice* considers how conceptual activities and kinaesthetic awareness come together in *dAnCing LiNes* to create a kinaesthetic collective consciousness of movement which offers a model of coexistence. This principle allows the

[21] Tim Ingold*, The Journal of the Royal Anthropological Institute*, Vol. 23, No. 1 (March 2017), p. 9-27. Ingold proposes the term 'correspondence' to connote the affiliation of living beings. The premise is that every living being should be envisaged not as a blob but as a bundle of lines. By joining with one another, these lines comprise a meshwork, in which every node is a knot. And in answering to one another, lifelines correspond. Also in Tim Ingold, *The Knowing body* in Marres, *Training the Senses:* Spring Session #4

interpretation of the dancers' movements and gestures kinaesthetically as a choreographic collective movement for drawing in space, which establishes the conditions for interpreting dance as drawing as a social practice. As previously discussed, the notion of kinaesthetic collective consciousness of movement is central to the flock logic because collective group motion is based on responsiveness to one another and not from a designated leader. As such the model of flocking implied that the dancers developed a collective kinaesthetic consciousness in their interactions with each other and with the surroundings. In this respect, the dancers were instructed to move as 'one body' in order to actualise a collective consciousness of movement which expressed both a spatial and a social context specific to each location.

It took several weeks of researching this choreographic concept in the studio with a series of movement prompts such as movement continuation, i.e. sequence prediction, pair/group improvisation, and predictability and surprise, for the dancers to hone their kinaesthetic skills in response to the task. This practice-based methodological enquiry was followed by a group discussion allowing the inner thoughts of the dancers to be exposed and analysed. What grew out of this research was a high degree of shared and embodied knowledge and a strong group unification. Each dancer became more skilful in performing as part of a group-entity, a contributor to a group intention. This effectively opened new possibilities for the body in movement beyond its physical boundaries. The following images represent an example of materials developed during the workshop that was subsequently discussed and analysed (Figs. 122 to 125).

Figures 122, 123, *dAnCing LiNes*, 2019, Flocking Workshops at AMATA Studios, Falmouth University

Figures 124, 125*, dAnCing LiNes*, 2019, Flocking Workshops at AMATA Studios, Falmouth University

To refer back to the work of Trisha Brown the physical traces of the body in movement establish a transitive relationship with surface and open up an ever-shifting relationship with space that '... does not always successfully harmonise with artificial, socially organised and structured time…' (Krauss R, 1986: 211) because the traces had their own modalities. Krauss identifies Brown's traces as 'motions of the self' (Krauss, 1986: 211). Whereas in *dAnCing LiNes* the dancers' gestures are the traces and are ruled out by the flock logic, hence the intention for generating movement shifts from individual subjectivities towards a collective group consciousness.

Husserl's phenomenological investigation into kinaesthetic consciousness[22] which is characterised by motility and is tied up with inter-subjectivity was influential for the implementation of these ideas. His complex intertwining of perception and bodily movement related to the self is overridden by a kinaesthetic collective consciousness of movement. This facilitates an infinite potential of configurations, whereby the singular body reaches out towards that which it becomes through group dynamics and interaction with the surroundings. For example, the dancers incorporated the social distancing rules with the flock model rule of being responsive to one another in their encounters with the public and interactions with the surrounding architecture, hence testing the notion of collective consciousness of movements of the dancing bodies to move as one body through rule-based instructions that orchestrated the final scores.

In this context, accumulative repetitive rhythms of movement and gestures, played out through rule-based instructions, improvisation, and process-based participation, manifest not only

[22] As Doyon points out, Edmund Husserl's phenomenological studies on kinaesthetic consciousness address 'the notion of norm-responsiveness that is relevant to perceptual experience has less to do with epistemic justification than with perception's capacity to guide action or elicit certain behaviours... On his part, Maurice Merleau-Ponty invokes the notion of norm in reference to our capacity to skilfully move our bodies and alter our points of view according to the particular demands of our perceptual situation' in *Perception and Normative Self-Consciousness* abstract in: Doyon, M., Breyer, T. (eds) (2015), *Normativity in Perception, New Directions in Philosophy and Cognitive Scienc*e, Palgrave Macmillan, London, p.38–55.

as a linear dimension of the group dynamics, but also as a transition between subjective immanent states of potentiality for movement of the dancing bodies and their relation to other bodies in spaces.

In this way, *dAnCing LiNes* actualises a kinaesthetic collective consciousness of movement responding to each location which, as Catherine de Zegher suggests, 'shifts between the intimate and the social between the sheet and the street' (2002)[23]. Here dance and drawing manifests as a relational activity which means that the relational activities of the moving bodies in space are strongly entrenched with social meaning. These become the conditions by which drawings are created.

In this respect, the theoretical and social concerns that emerge from the interpretation of dance as drawing in *dAnCing LiNes* attempt to distil the essence of what Andrew Hewitt defines as *Social Choreography*. *Social Choreography* proposes a view of the aesthetic experience as 'something that is not merely shaped but also shaping' (Hewitt A, 2005: 2) historical dynamics. Through bodily experience, the aesthetic experience acquires historical agency; dance is viewed as an 'enactment of social order that is both reflected in and shaped by aesthetic concerns' (2005: 2). In *dAnCing LiNes* drawings in space are created through the encounter of the dancers' bodies with other embodied agents as well as architectural and environmental elements.

Hewitt, extending Phelan's performance's historical traditions[24], argues that choreography can function 'as a structuring blueprint for thinking and effecting modern social organisation' (Hewitt A, cited in Rosenthal S, 2011: 17). It is from this perspective that *dAnCing LiNes* reframes performative drawing beyond the gestural trace of the body in movement. This is because the emphasis shifts towards a choreographic view of drawing. The focus is on the organisation of movement in space, an approach that requires going beyond the readability of traces or marks made by one dancing body in movement on a flat surface. In this respect, whilst dance offers a 'renewed visuality' (Lepecki A, 2011: 155) to drawing, choreography provides:

> *the necessary tools for rearticulating social-political dimensions of aesthetics. In this move, dance reinvents itself deeply, shedding its modernist identity as the art of movement, while embracing its capacity to critically decode forces already choreographing our*

[23] De Zegher curated the exhibition *Performance Drawings* at The Drawing Centre in New York in 2001; the exhibition returned to the theme of process through the work of the artists Milan Grygar, Alison Knowles, Erwin Wurm, Christopher Taggart, and Elena del Rivero. In Drawing Papers 20 De Zegher writes: 'The happening of drawing and performance consists of a multiplicity of experiences shifting between the intimate and the social - between the sheet and the street', p. 2.

[24] In *Unmarked: the politics of performance*, Phelan traces back the birth of performance to three historical traditions: the first was born as a way to counteract theatre realism, the second emerges from the history of painting with Jackson Pollock action paintings, and the third one Phelan defines as a form of returning to the body, which she traces back to shamanism and alternative healing arts.

gestures, habits, language, thoughts, tastes, desires (even our desire to dance and to see dances).

Lepecki, (2011: 155)

From this perspective, *dAnCing LiNes* offers an alternative framework for performative drawing which aligns with the legacy of the historical transformation that unfolded for drawing during the last century and that mostly refers to the intersection of drawing with dance and moved-based performance as discussed in the introduction to *Drawing as Spatial Social Practice*. Hewitt's notion of 'social choreography' alongside Ingold's notion of 'human correspondence' previously aforementioned, underpins the proposition of drawing as social practice. Considering this, *dAnCing LiNes*' live events can be interpreted as a form of re-enactment of the twentieth century's concern with dance and drawing described by Butler as 'dance moving beyond the image or readable gesture and as drawing transcending bodily form or trace' (2010: 140). It is in the interaction of the dancers amongst themselves and with their surroundings that *dAnCing LiNes* transcends 'bodily forms or trace'. From this perspective the act of drawing is revealed through inter-relationality in each public environment.

It is this inter relational nature of *dAnCing LiNes* that facilitates the translation of dance as drawing emphasising the centrality of the trans-disciplinary dimension of the project. In this respect, framing the argument of the research from the perspective of what dance and choreography offer to drawing is perhaps a one-sided viewpoint as relational exchanges are inherently reciprocal. As Bishop states, many examples of social participation exist outside the discipline of art history and 'Important work remains to be done in connecting these histories to participation in visual art' (2006: 16). In fact, the implications of adopting participatory approaches in this project touch upon some of the concerns that wider debates across the histories of dance, theatre and architecture provoke, particularly in relation to ideas of spectatorship and audience engagement. The emphasis of *Drawing as Spatial Social Practice* in this respect aligns with the prevailing paradigms of performative arts such as dance and choreography, which is the focus on 'the dynamics of the 'work' of art as a system of production rather than the artefact itself' (Hewitt A, 2005: 5). In this respect, rather than in relation to the flat surface *dAnCing LiNes* expounds a view of dance as drawing as a relational activity.

In contrast, the following section of this chapter, *Drawing as Mediated Representation*, combines the live performance with digital technology, where dance as drawing exists through data visualisations generated through the information gathered during the live events that is subsequently reinterpreted to create a new dimension of visual communication for drawing.

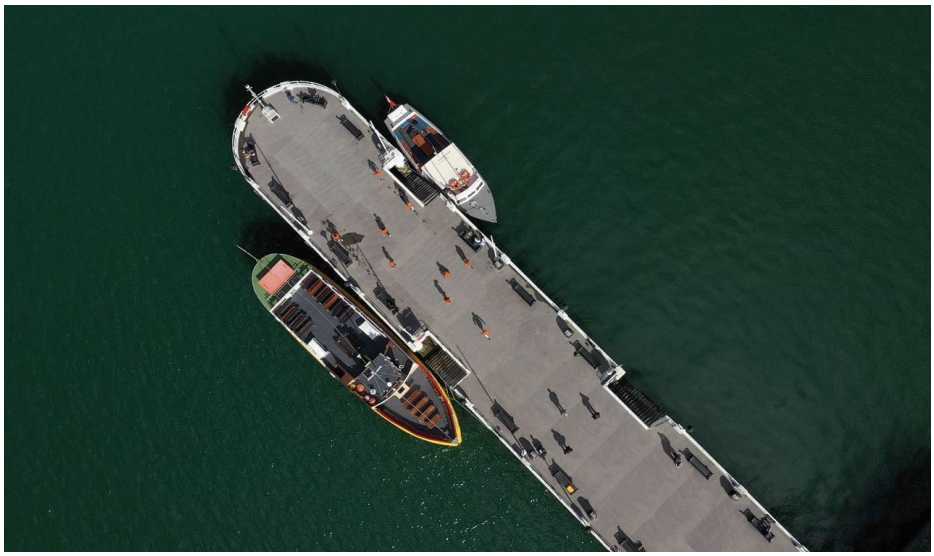


Figure 126, dAnCing LiNes, (2021), Prince of Wales Pier, *Pillars and Beams*; drone's footage

Figure 127, dAnCing LiNes, (2021), Gyllyngvase Beach, *The Rule of Six,* drone's footage

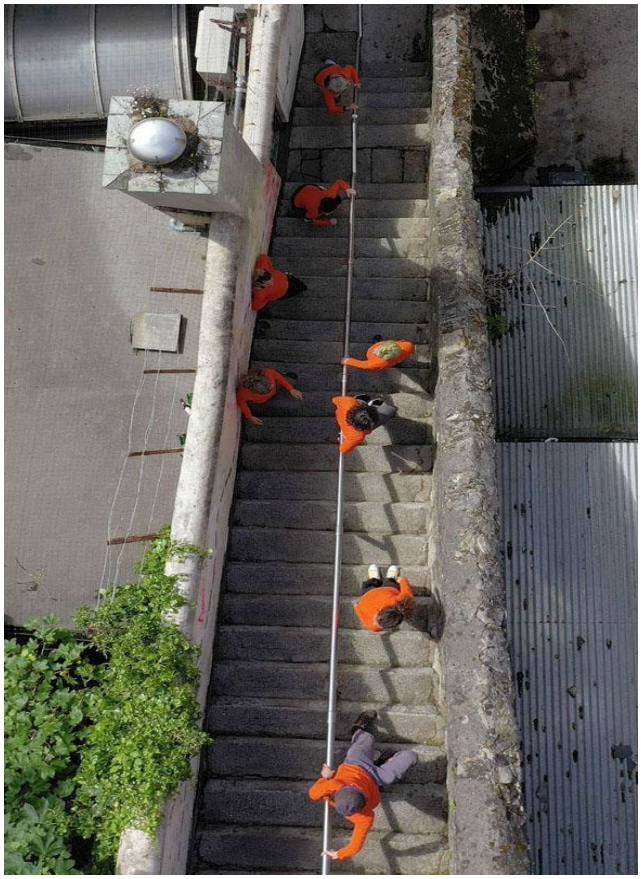


Figure 128, *dAnCing LiNes*, (2021), Jacob's Ladder, *Stepping up and down,* drone's footage

Figure 129, *dAnCing LiNes*, (2021), *Pendennis Field, Rope Flocking,* drone's footage

*Drawing as Mediated Representation***,** the last section of this chapter, focuses on how *dAnCing LiNes* develops diagrammatic digital drawings that integrate data visualisation and physical movement beyond gestural mark-making. This approach emphasises a shift from what Butler (2012: 191) defines as a 'radical return' towards the line in current practices of dance, drawing and movement-based performance since the 1960s. This affirmation points to recent trends across

disciplines that tend to resist the digital-age and formulate 'a practice of the everyday that refigures the consciousness of the viewer, focusing on line, time, space' (ibid).

In *dAnCing LiNes,* these two trends coexist: analog and digital. Returning to Westerman's question (2015) what does it mean to think of performance as a medium? Or more specifically, what does it mean to think of dance as drawing? *dAnCing LiNes* considers both the live and the mediated implications of this question through an interpretation of dancing bodies as tools for drawing. The former, i.e. the live approach, I have just discussed in the previous section of this chapter *Drawing as Spatial Social Practice.* The latter, i.e. the mediated approach, I discuss in this section. The following analysis therefore focuses on how the mediated methodologies of *dAnCing LiNes* generate new ways to represent dance as drawing through technological means. Specifically, data visualisation and physical movement are explored as a form of expanded drawing through the use of the diagrammatic. This methodology allows a certain abstraction from the original sources i.e. the live events, which facilitates the abstraction of the dancing bodies. Choreographic formations and interactions with other bodies and places originating kinaesthetically in the dancing bodies during the live events are reinterpreted conceptually through the use of the diagrammatic, bringing attention to the organisation of movement in space and time. The concept of allographic instructions, understood as a set of instructions enacted by another used in the live events, reverts to the machinic by integrating data visualisation and physical movement. This approach relies on the elaboration and conceptual reconstruction of an assemblage of data information gathered during the live events through the use of drones and data capture technologies that integrate data visualisation and physical movement. (Figs. 126 to 129 and *Appendices Six, Eight* and *Nine* for full details).

Establishing cross artform approaches with data capture and drone specialists was the premise for investigating dance as drawing through mediated representation. In collaboration with data visualisation expert David Hunter from the University of Colorado at Boulder and visual artist Zach Duer from Virginia Tech, new methods for engagement in public locations were tested through drone data surveillance. This implied considering how to represent a multi-participant choreographed performance in a large, open, dynamic, and public space. Capturing chorographic scores and task-based instructions through digital means, the data visualisations in *dAnCing LiNes* interpret how the agency of dance moves from the performative to the visual via technological means. This approach allowed the exploration of the relation between drawing and movement through the lens of the diagrammatic. This methodology offers not only the possibility of re-interpreting the choreographic configurations of movement in space but also of expanding the

potential of audience engagement by disseminating the data visualisations through alternative platforms such as *Gather Town*. This is an online exhibition set up for *Creativity & Cognition 23;* a conference at the University of Chicago, which investigates ways in which artists, architects, and designers can create environments which extend the scope of how and where live events have taken place (See *Appendix Ten* for the documentation). Through these processes, live actions are transformed from one form of visuality to another, from gestural self-expression to a codified process that expresses movement as physical thinking. In this way, the act of drawing is redesigned from being a directive that establishes a set of instructions to be publicly re-enacted, to a coding system that happens over time.

Index versus Diagram

According to Peggy Phelan 'performance's only life is in the present' (1993: 146), and any reproduction whether photographic or other mediums, betrays the ontology of performance that is that 'performance becomes itself through disappearance' (1993: 146).

As Phelan (1993) states:

> *Performance cannot be saved, recorded, documented, or otherwise participate in the circulation of representations of representations: once it does so, it becomes something other than performance.*
>
> Phelan, (1993: 146)

Aligning with Phelan's position which argues for the raw immediacy of performance, the visual imagery developed in *dAnCing LiNes'* data visualisations is not intended as a means of documentation but for a new artistic production: related yet autonomous from the source. Here drawing is approached as a series of relational systematic diagrams that reinterpret the dancers' movements and the choreographic patterns and formations as new artworks which explore innovative ways of visualising drawing. Sitting in between a map and a diagram the data visualisations in *dAnCing LiNes* are a sort of hybrid form of representation, in between an index and a diagram. This hybrid notion of the diagram which Iversen (2012) refers to as a graphic trace, in *dAnCing LiNes* retains elements of indexical registration of the live events, yet it elaborates the data information into diagrammatic abstractions of choreographic patterns and formations. The resulting diagrammatic reinterpretations of the performances offer:

> *a 'view from elsewhere'. Indeed, ... the diagram offers a bird's-eye perspective, precisely 'from above' ... On the other hand, however, we*

> *are always already 'on the ground' and in the thick of it, and, as such, this perspective can only be a kind of fiction. A diagram, especially as a drawing, often leads ahead of conceptual thought.*
>
> O'Sullivan, (2016: 21)

Exploring the tension between being 'on the ground' and 'conceptual thought' through the use of digital technologies *dAnCing LiNes'* visualisations map the trajectories of the bodies in movement in relation to each other and to the surrounding space. As in Deleuze's understanding of cartographic maps, which do not include factual visual representation but reveal something of their own, *dAnCing LiNes*' data visualisations emphasise the spatial qualities of movement and choreographic dynamics exposing hidden perspectives of the same live events.

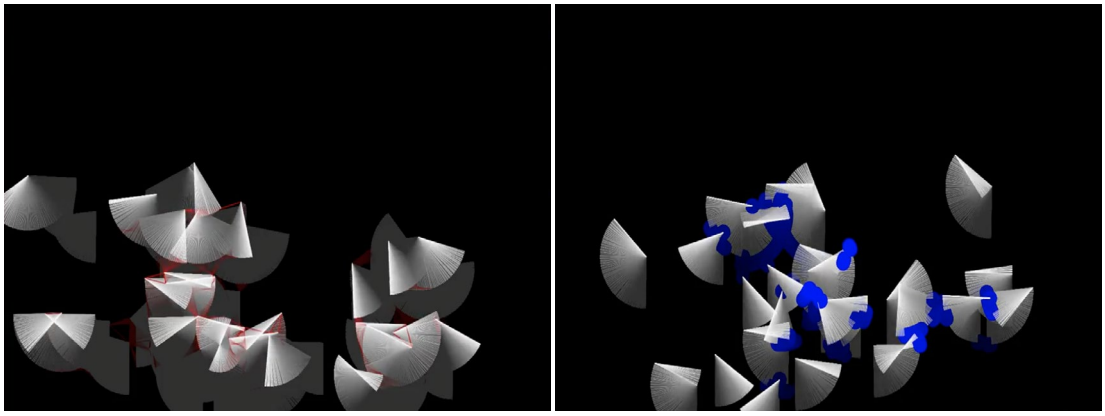
These diagrammatic representations developed in post-production allow the revealing of the underpinning patterns of the chorographic by establishing a set of relations that capture the trajectories of the moving bodies as a single field of vision exposing a visuality of perception unavailable during the live events. Digital technology allows the generation of this indexical recorded information drawn directly from the group dynamics of movement and the surrounding spatial environment. In this way, the analytical and formal qualities of the live events generate new artistic meaning through the diagrammatic, whereby the meaning of the work relies on the work's rhetorical qualities. Referencing Deleuze's cartographic ontology which precedes the diagrammatic, Pombo and Gerner (2010) explain:

> *With a diagram we may create a new way of relating to uncharted territory. Diagrams succeed when they are able to instil what may be termed an effective dynamic of orientation. The diagram is a method or a tool used to extend an already existing body of knowledge. The diagram differentiates the initially vague or inchoate in a new way, so that the structural parts of any entity in its rational relations appear and shows itself more clearly. Diagrammatics is, however, not so much about the concrete shapes and forms of geometrical representation or configuration of knowledge. The diagram also presupposes a specific mode of conceptual reflection. Diagrammatic thinking is concerned with issues and with strategies of transformation of one order towards another.*
>
> Pombo and Gerner, (2010: 170)

'The *pure rationality* of the diagram as logic of relations' (Pombo O, and Gerner A, 2010: 183) is put into practice in *dAnCing LiNes* and applied to the data visualisations to create new

iterations of the choreographic formations rather than as representational tools for documentation. In this respect, the hybrid diagrammatic dimension of the data visualisations of the live events in *dAnCing LiNes* is a model of representation which eludes 'representations of representations' (Phelan P, 1995: 167)[25].

By abstracting the dancing bodies, notions of embodiment and subjectivity are removed beyond the phenomenological experience of the body in movement in *dAnCing LiNes*. In this respect, the visualisations are not 'a record of the dance', but are seen as orientational maps (Figs. 130, 131) instigated by inter-relational processes of choreographic activities. 'It is not therefore merely a matter of deciding, whether the map is indexical or related with a material object (the territory) or whether it is the territory itself' (Pombo O, and Gerner A, 2010: 183).



Figures 130, 131, *dAnCing LiNes* (2022) Pendennis Field, Data Visualisation stills early experiments

Simulation versus Documentation

These orientational maps developed through inter-relational processes of choreographic activities in *dAnCing LiNes* manifest themselves through a methodology of simulation. It is the use of digital technologies that unleashes this methodological approach whereby the choreographic activity in the live events is reinterpreted as new ways of drawing through the diagrammatic. Here, simulation does not refer to systems of representation such as gestural marking in performance drawing, but to simulations of group dynamics and patterns of behaviour such as flocking. These simulations have been generated by applying the same instructions of the scores to a computer program that generates a coding system which has been created following the same instructions. For example, the scores that the dancers performed during the live events become a directive interpreted via the coding system that emulates the dancers' actions (Figs. 132, 133). This procedure

[25] Laurence Louppe also argues about the impossibility of representing dance: 'Representation supposes the absence of the object, the absence of being … To return danced movement to a site of inscription is therefore grave. It amounts to the reimposition of a figure from which dance has slipped free … The paper in no way retains a record of the dance, it retains a trace which itself cannot be consigned anywhere else' Louppe, (1994) p. 11 to 22.

evidences the choreographic intentions: a sort of mechanical simulation of the scores which act as replicas of the scores' rules performed in the live events. (For full details see *Appendix Six*: *dAnCing LiNes'* Live Events Final Scores and Visualisation Explanations).

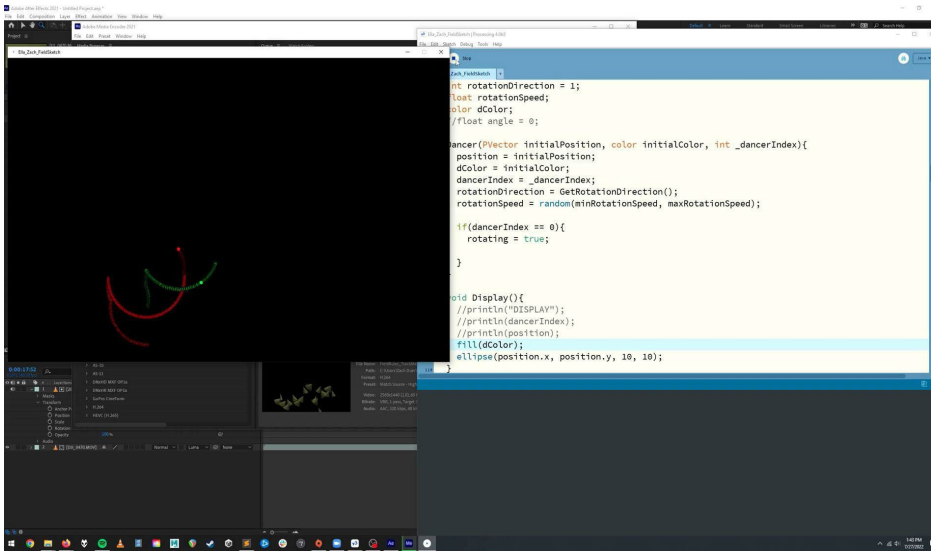


Figure 132, Data Visualisations, screenshots of the process of working for Pendennis Field's video

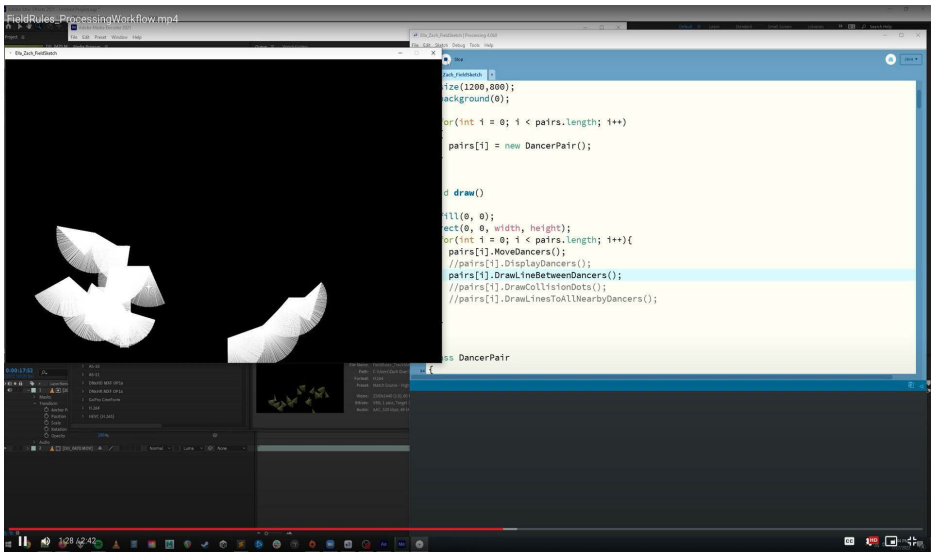


Figure 133, Data Visualisations, screenshots of the process of working for Pendennis Field's video

In these visualisations the act of drawing is reinterpreted as a choreographic activity using the same flocking principles that the dancers performed during the live events. In terms of mechanics, the simulations of the live performances in the first instance are extracted from the data collected, and then superimposed back onto the footage of the live performances. As the choreographic underpinning of the dancers' actions is more complex to identify in external public locations, simulation allows modelling of these complex systems, reducing them down to simple rules and then visualising those rules. This has been an effective methodological tool for visualising the dancers' scores because it stripped down the performances to the choreographic rules that

govern the overall system, which were not apparent in the live events. By portraying the rules, simulation offers a new experience of choreographic activities which facilitate the understanding of the underpinning rules in the group dynamics and reframing them as drawing.

This methodology builds on the legacy of early computer art from the 1960s with artists such as Frieder Nake, who is one of the pioneers that started generating computer drawings. Nake's drawings (Figs. 134, 135) were developed via computerised procedural coding that 'follow mechanical instructions to create drawing on paper'[26]. The properties for the drawings were given to the computer for it to work out the details and develop an endless chain of variations.

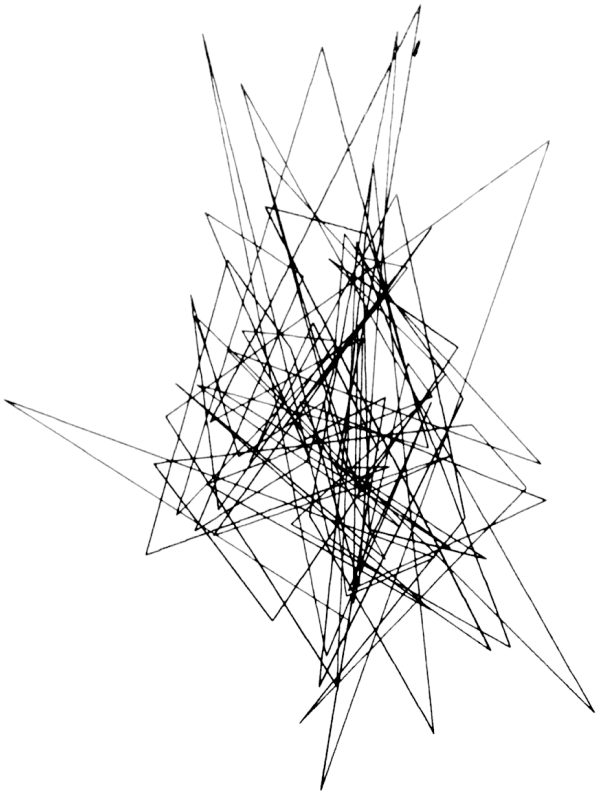


Figure 134, Frieder Nake, 1963 *Random Polygon*

[26] Foa' Mc, Grisewood J, Hosea B, McCall C, (2020), in *Performance Drawing - New Practices since 1945*, Bloomsbury Visual Arts, London. 'The definition of allographic - a term coined by Nelson Goodman - refers to artwork in which the artist's intention is conveyed as a set of instructions using language or visuals, stored as a text or image and then delivered to another, who will interpret the instructions and carry them out as a collaborator ' p.7.

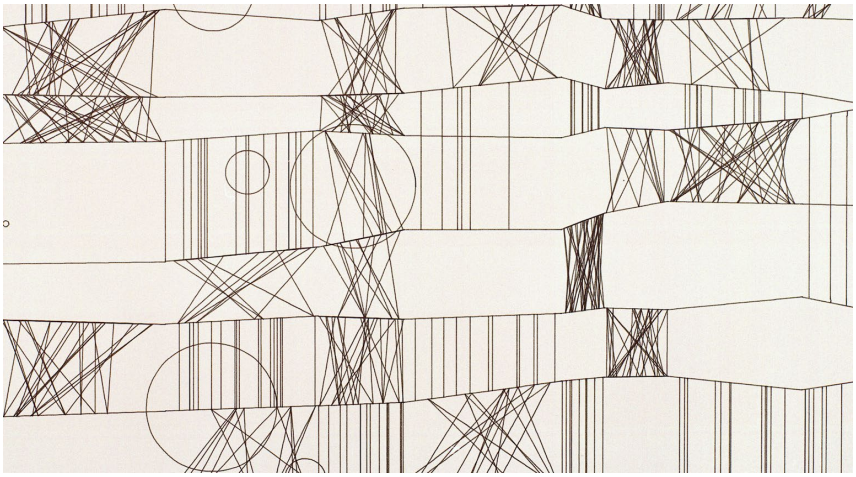


Figure 135, Frieder Nake, 1965, Nr. 2 (Homage to Paul Klee) (detail)

Likewise, the data visualisations in *dAnCing LiNes* are the result of mechanical instructions that follow the same rules of the dancers' scores. In *The Rule of Six* at Gyllyngvase Beach (Figs. 136 to 138), for example, the dancers in the live event were tasked to design a series of squares on the sand and could only move from square to square. The rule being no more than two dancers in one square at a time, so if a third dancer arrived one dancer was displaced and created a new square. The visualisations of *The Rule of Six* follow the same rule, here the motion of the dancers, and the squares that they created and abandoned throughout the performance, are highlighted through video's filters. The original footage and the simulation come together by overlaying the filtering system on top of the footage to which the same rule set applies. The underpinning rule becomes apparent because of the forming and disappearance of the squares.

Figure 136, Gyllyngvase Beach, *The Rule of Six,* Final Visualisations, still from the video

Figure 137, Gyllyngvase Beach, *The Rule of Six,* Final Visualisations, still from the video

Figure 138, Gyllyngvase Beach, *The Rule of Six, Final* Visualisations, still from the videos[27]

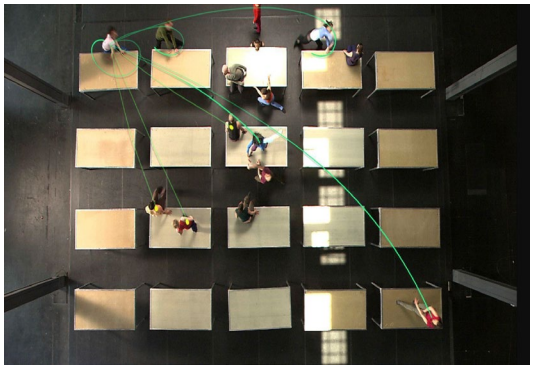
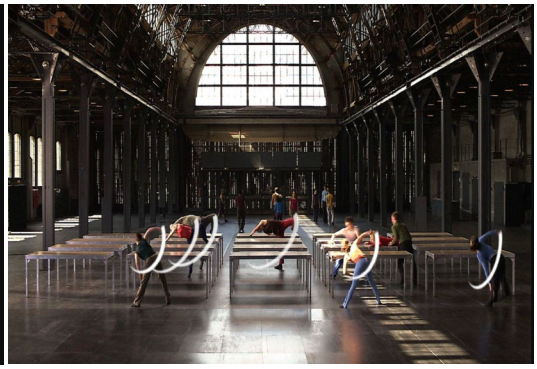
These digitised iterations of the live events in *dAnCing LiNes*, whether facilitating an appreciation of the live events or revealing something else about the performances, retain a connection to the original but become artworks in their own right. With these simulations the parameters to differentiate the performances from the documentation merge, from one visual textuality into another one. In this way, the translation of the live events into data visualisations not only helps to rethink dance as drawing in its relation to performance and digital media, but also generates new artistic production which sets itself aside from the more commonly established notions of documentation in performance-based work. In this way the historical notion of documentation in visual arts is reframed through the disciplinary exchanges of dance, drawing and performance. This approach expands the scope of how post-discipline specificity may be understood because there

[27] *Hyperlinks in the figures' captions to access the videos of the data visualisations*

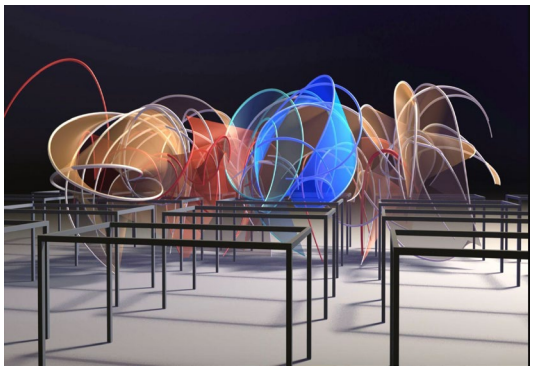
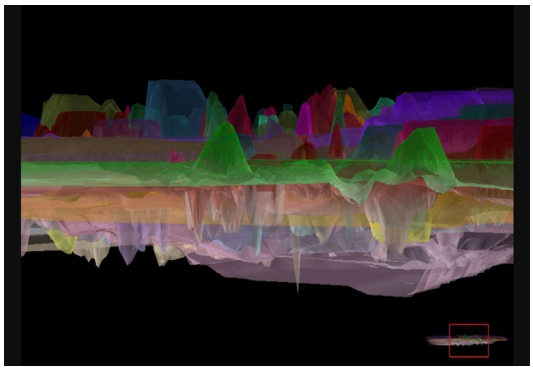
are no definitions in terms of medium in relation to these works, only different ways of framing the aesthetic experience and critically positioning it in relation to drawing. Aside from the fact that this discussion touches upon wider trajectories of media that are not the focus of my argument, it is important to reiterate that in *dAnCing LiNes*' data visualisations dance and choreography become original generative modalities for drawing. These temporal simulations created from the same principles/rules as the performances distance themselves from the notion of documentation as mediated representation that is commonly used within the visual arts field. Here, performance is not necessarily an autonomous event for an audience, but can be enacted and photographed, filmed, or streamed online. It is the document whether visual, audio-visual or artefact, that often becomes the only space in which the performance reoccurs in this context. On the contrary, the data visualisations in *dAnCing LiNes,* despite evidencing a residue of the live activities, do not provide a means of possible future reconstruction. A further iteration of this process transfers the choreographic patterns and formations onto paper through the use of a computer numerical control (CNC) drawing machine which translates the codes back onto a roll of unfolding paper 'live' in the gallery space**,** hence becoming a form of 'collaborator' in the art making process.

In terms of reception of the artwork, with two-dimensional work as opposed to temporal work, it is the time that one spends experiencing it that changes the relationship to the work. As Louppe (1994) explains, in drawing movement is its fundamental nature, two dimensional representational strategies tend to crystalize the implicit movement of lines. In examining a drawing, if looking closely the viewer can trace the lines and recreate the hand movements; equally it could be seen very differently if one just steps back. The lines in a drawing are fixed yet imply gestures, such as for example the patterns of the movements that make them, which then create an accumulation of static marks. This is something that is very difficult to achieve in live performance and video work. Mediums such as live performance and video do not usually change these relationships for the viewers. Their structures are conveyed only in time. Yet this is something that can be done easily in two-dimensional work. In this respect, *dAnCing LiNes'* visualisations offer all sorts of possibilities of interfacing between these two modes: the outcome of the movement that happened at a particular time in a particular space becomes available through different processes.

This approach builds on William Forsythe's project and interactive website *Synchronous Objects - One Flat Thing Reproduced* (2009) (Figs. 139 to 142). Here Forsythe investigates 'whether choreography can elaborate an expression of its principles that is independent of the body' (Rosenthal S, 2011: 8) and uses technology to generate visualisations of patterns and formations that explore how structures and elements of the choreographic may be reimagined.

Figures 139, 140, William Forsythe, (2009) *Synchronous Objects for One Flat Thing Reproduced*

Figures 141, 142, William Forsythe, (2009) *Synchronous Objects for One Flat Thing Reproduced*

Synchronous Objects - One Flat Thing Reproduced consisted of a broad range of visualisations that revealed the organisational systems that underpinned the choreography. The process of transformation from dance to 'choreographic object', as Forsythe calls it, required cross-disciplinary collaboration to enable the structural principle of the choreographic to be represented in its entirety through visualisations. The materialisation of the shifting relations of movement and the underlying spatial structures of the choreography expressed through diagrams, scores and maps offer new interpretations and connections that point to the relationship dance has with drawing mostly through the use of animation.

As Forsythe explains: 'the project starts from the recognition that choreography is an organisational practice that employs fundamental creative strategies relevant to many other domains' (2009). Forsythe's underpinning question of 'whether choreography can elaborate an expression of its principles that is independent of the body' (Rosenthal S, 2011: 8), resonates with the relational systematic diagrammatic visualisations of the body in movement put forward through mediated representation. In this respect, *dAnCing LiNes*' visualisations have been conceived as a process of transformation of information not reproductions of the dancing bodies during the live performances.

Relational Drawings

Similarly, to *Synchronous Objects - One Flat Thing Reproduced*, *dAnCing LiNes'* approach to the act of drawing through choreographic activities emphasises the potential for abstraction of the dancing bodies. As Johannes Birringer notes in *Afterdance*, *dissolutions and re-tracings*:

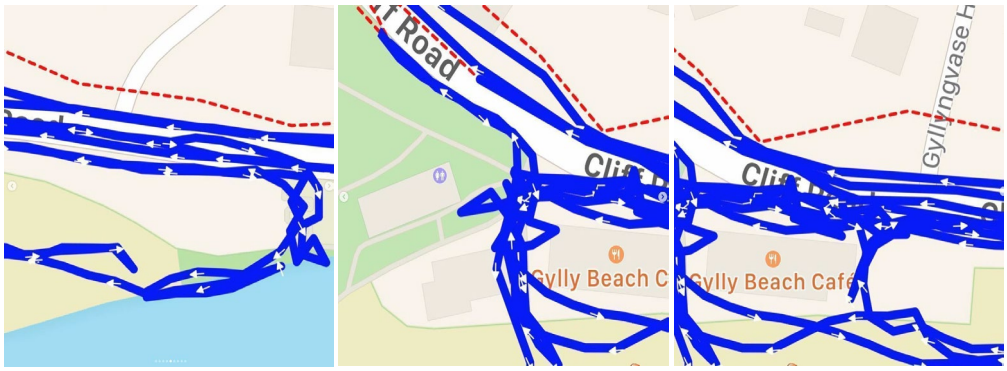
> *In the context of contemporary postmedia, the notion of live traces assumes a beautifully complicated depth of meaning and touches on the maddening paradoxes of dance, if we were to understand it as a kind of choreographic object.*
>
> Birringer, (2011)

In the attempt to bridge the gap between mark-making, drawing and dance, the data visualisations in *dAnCing LiNes* add an additional layer of interpretation to this complex relationship between movement and its representation. Forming a conceptual alignment of dance, choreography, drawing and time through technological means allows the expectations that the act of drawing contains, in terms of the representation of the body in movement, to be extended beyond notions of traces of movements of the body. It may be through drawing as the body moves or drawing the abeyance of a gesture that cannot be captured because of its fleetingness. Intention and impulse are the generative sources of movement for the dancers, and in the live events the actions themselves are the marks and the lines which form the basis for the visualisations. Within the technological system of *dAnCing LiNes'* visualisations, the dancing bodies merge with the digital articulation of movement, as Birringer (2011) states:

> *… performer and technical milieu become intermingled. The fact of the matter, then, is no longer an issue of content (information) but of deviating behaviours.*
>
> Birringer, (2011)

All the data of the live events, including the surrounding spatial conditions, were gathered with four different technological means: overhead video drone footage, GPS tracking, film recordings, and body cameras attached to various parts of the dancers' bodies such as hands, feet, elbows, knees, head, and ankles. Overhead drone footage focussed on the collective movements and the generation of form through the choreographic repetitive patterns and configurations. The GPS tracking recorded the positions and movements of all the dancers at any given moment in time throughout the day (Figs. 143 to 151). The ground level footage captured an overview of the actions as well as any external occurrences and interjections, and the body cameras attached to the

dancers' bodies reflected the internal point of views of the body when moving. This information was elaborated upon in post-production through the use of different methodologies.



Figures 143, 144, 145, *dAnCing LiNes*, 2021, GPS tracking collected on the dancers' mobile devices with Easytrails Application

Figures 146, 147, 148, *dAnCing LiNes*, 2021, GPS tracking collected on the dancers' mobile devices with Easytrails Application

Figures 149, 150, 151, *dAnCing LiNes,* 2021, GPS tracking collected on the dancers' mobile devices with Easytrails Application

The principles behind these methodologies are based on transforming the information derived from the live actions and the surrounding spatial conditions into diagrammatic arrangements of material, which reveal the rules of the underlying choreography in each location but also computationally play with and exemplify those rules on a per location basis (five in total). Although retaining a connection to the original live events, these visualisations have their own unique identities which reflect the characteristics of each location. This is an important distinction because it leads to considering these visualisations as system-based relational drawings rather than

merely documentation of the representation of choreographic movements of the dancing bodies in space during the live events. The overhead video footage and the GPS tracking record variations in the dancers' movements as time evolves, and the graphs are representation of these transitory conditions. The prescribed protocol for interacting, together with the GPS trajectories and the overhead video footage reveal who is responding to whom in the various configurations, and it is possible to identify if, and under which conditions, certain individuals, if any, emerged as leaders. In the GPS tracking, the marks delineate indexical positioning at any given moment in time and space (Figs. 143 to 151); whilst the body cameras provided a viewpoint from the moving bodies. The viewpoint varies for each dancer because they positioned their mobile phone cameras on different parts of their bodies (i.e. arm, leg, shoulder, chest, and so forth). Offering a view of the body as it moves, this footage composes what could be called movement/drawings with the camera. Looking at this footage, the viewer experiences the movement in time inside the action and as an outsider standing in front of the screen witnessing it (Figs. 152 to 161).

Figures 152, 153, *Prince of Wales Pier,* Body Camera footage, stills

Figures 154, 155, *Jacob's Ladder,* Body Camera footage, stills

Figures 156, 157, *Jacob's Ladder*, Body Camera footage, stills

Figures 158, 159, *Jacob's Ladder*, Body Camera footage, stills

Figures 160, 161, *Jacob's Ladder*, Body Camera footage, stills

The body camera footage draws attention to the architecture of the space, the movement dynamic with its rhythm, and change of speed and the moments of stillness. The choreographic actions become the material and method of mark-making developed through the proximity of the body cameras with the surfaces of the surroundings. These movements' drawings echo the dancing bodies in each location. The specificity of the locations shapes the movements' drawings determining the surface of the different images. In synthesis the architectural structure and the characteristics of each space shape the resulting movement's drawings. Different environments offer different possibilities and restrictions and dictate on a physical level a range of limitations that

in turn offer a range of possibilities arising from restriction and conformity. Passing members of the public, vehicles, and architecture meet the criteria for being used in the drawing and contribute to the visualisations. Thinking about the relationship between drawing, dance and choreography, this approach opens up many possibilities yet to be explored with today's technological means, which gives scope to reinvent the relationship between live performance and drawing.

Diagrammatic Visualisations

Returning to O'Sullivan's definition of diagram as 'a kind of view from elsewhere' which 'offers a bird's-eye perspective' (2016), the computer technology adopted for *dAnCing LiNes*' visualisations provided the means for the simultaneous representation of the live events, which was unavailable to the viewers during the live performance. The cumulative effect of information gathered through the range of digital devices, filtered of any excess data, produces a graphic trajectory of the group dynamics, making visible that which occurs simultaneously in terms of movement in the same way a set of marks that have been laid out on a paper determine form. Through visualisations these marks become an abstract entanglement of lines and shapes that occupy space simultaneously, signalling presence, though demarcating a clear distinction whether its context is identifiable or removed. Tracking the dancing bodies through a range of devices in *dAnCing LiNes* results in the production of an artwork that sits between an index and a diagram. It is indexical because it retains a tenuous relationship to the original source; it is diagrammatic because it 'performs a certain abstraction (from its various sources)' (O'Sullivan S, 2016: 21).

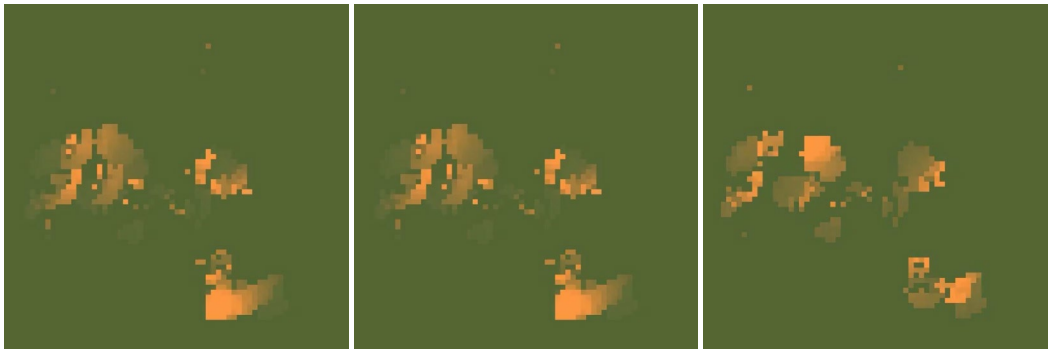
According to O'Sullivan (2016: 21), the definition of diagram taken from different sources is that it is commonly understood as an abstraction from the body and from the world. Diagrams tend to have an objective status as is the case of computers' technical drawings for example. Their content and concerns are notably abstract and formal, as drawings often lead to conceptual thinking. In addition, within a contemporary art context the diagrammatics as an expanded aesthetic practice:

> *… suggests connections and compatibilities (across different terrains), and ultimately offers a certain kind of perspective (a meta-modelization) that might be considered a speculative fiction.*
>
> O'Sullivan, (2016: 21)

In this respect, d*AnCing LiNes*' early experiments test the visualisations of the live actions removed from the surrounding context, whereby notions of embodiment and subjectivity were detached from a phenomenological understanding of the body in movement. Echoing the colours

of the surrounding environment, the graphic positioning and the different times of the day, the presence of the body is removed in these diagrammatic representations and the tracking trails seem suspended in a sort of voided space. Converted using algorithms, these digital recordings produce lines, points, dots and blocks of coloured shapes that delineate absence though pointing at existing relations in the live performances. The images below, developed from drone footage, are part of these early visualisations: an encoded interpretation of reality translated into lines, points, and coloured block shapes (Figs. 162 to 176).

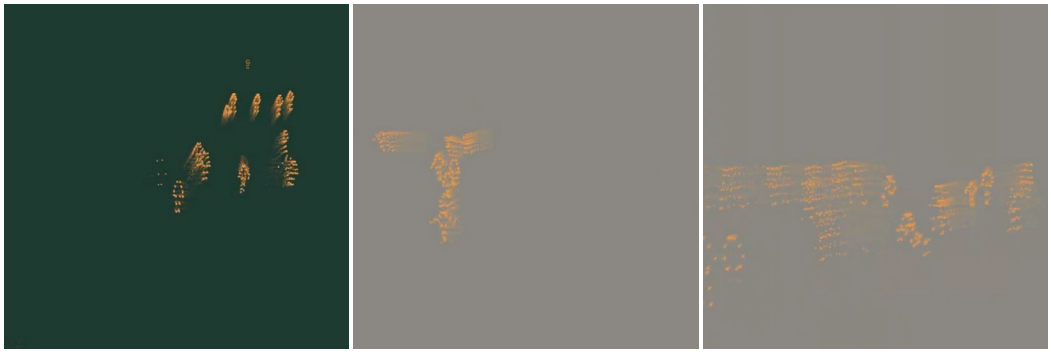
Figures 162, 163, 164, *dAnCing LiNes,* (2021), *Gyllyngvase Beach*



Figures 165, 166, 167, *dAnCing LiNes,* (2021) *Pendennis Field*

Figures 168, 169, 170, *dAnCing LiNes,* (2021) *The Moor*

Figures 171, 172, 173, *dAnCing LiNes*, (2021), Pendennis Field



Figures 174, 175, 176, *dAnCing LiNes,* (2021), Transitional tracking in between locations, stills

These experimental visualisations seem to capture the ephemerality of dance as an art form. Yet the 'apparatus of capture' (Lepecki A, 2007: 120) implied in the structural methodologies that belong to the choreographic remains central to the approach and it provides a range of ordering systems for abstracting the dancing body further away from its material properties. This creates a world in space through lines that reveal how different configurations between bodies, space and materials have been reimagined and codified through mediated representations. The attempt to re-introduce the space/location where each action occurred proved problematic because as Susan Morris states:

> *The space of being, of at-one-ness with the world, where one is not different or separated from it, has no form.*
>
> Morris S, (2012)

Extracting points of connecting lines from the choreographic, *dAnCing LiNes*' visualisations create diagrammatic interpretations of the live events forging connections between drawn marks and the transience of dance in performance. Interesting interferences happen when the generation of form is dependent on transformations of information. These methods, ruled by the organising principles that are in the choreographic, attempt to reflect the experience of space when the dancing body moves:

> *Space draws itself as one moves through it, in relation to a horizon line, to gravity and to one's own verticality (which one can sense even with one's eyes closed) and in relation to objects outside oneself, such as other people … The act of perceiving it, however, causes space to wrap itself around the perceiving subject, like threads pulled from the body… There is no representation without the Other, but no self either. How, then, is it possible to make a mark where being occurs?*
>
> Morris S, (2012)

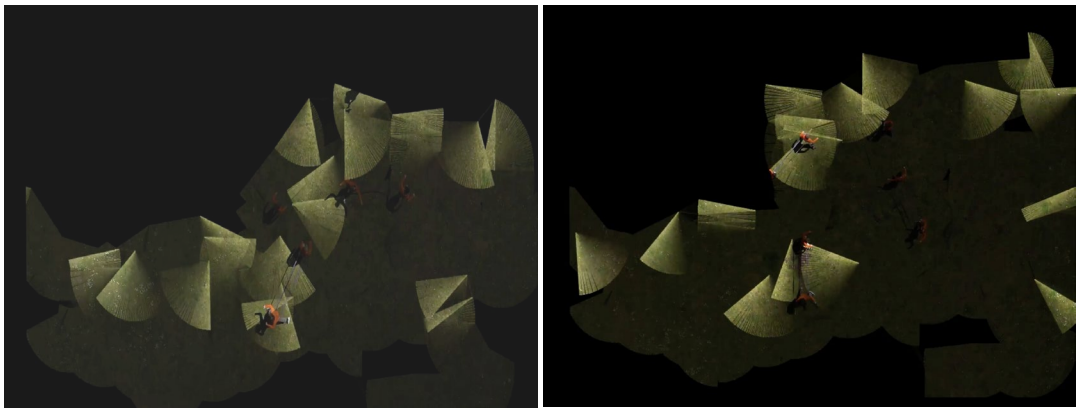
From this perspective, in their digital manifestations, these artworks bring together choreographic structures of movement in time, representing suspended encoded realities echoing bodies' movements or group's dynamics devoid of space. In this way, *dAnCing LiNes* evolves from the live to the mediated, through a series of very distinct bodies of work that translate the live into the diagrammatic, which yet indisputably still reflects the presence of unlocatable bodies. This approach could be seen as a form of restaging the live events using a system of representation devoid of the dancing bodies. The two-dimensional diagrammatic images of the visualisations of the live events become like 'staged performances', in which the dancers are simultaneously the subjects and the viewers, a condition that mirrors the *Dancer's Two Bodies* articulated by Jalal Taufic (2015), addressed in Chapter One.

In a further iteration of *dAnCing LiNes*' visualisations, they highlight not just the movement of the dancers, but also visually interpret the abstract instruction models that guided the movement generation. Here the use of digital systems visualises the connections and the relationships between different agents in the virtual and digital space, with the resulting video being overlaid on top of the drone footage of the actual performance. This is a sort of side-by-side system where the two physical systems of dancers and a digital system of the digital agents that are following the same rules come together. This is the case in Gyllyngvase Beach, *The Rule of Six* and Pendennis Field, *Rope Flocking* (Figs. 177 to 180). Here the data was not extracted from the dancers' movement, but the same rules system was applied[28]. This method allowed some flexibility to interpret and visualise performances in such dynamic environments. In these iterations, despite the fact that this method for selecting and filtering video and creating data allows some control, the environment creeps into these computationally interpreted worlds.

[28] In these visualisations a combination of established computer vision techniques from *OpenCV* like *Optical Flow*, *Blob Detection*, and image thresholding based on the colour of participant outfits, were used. These could computationally highlight the participants and use their position and movements to generate drawings and animated visualisations. The series of these visualisations were created in *Processing*, the popular creative coding application. Machine Learning tools were also tested but proved difficult to accurately extract participant presence and pose or identify humans from overhead drone footage.

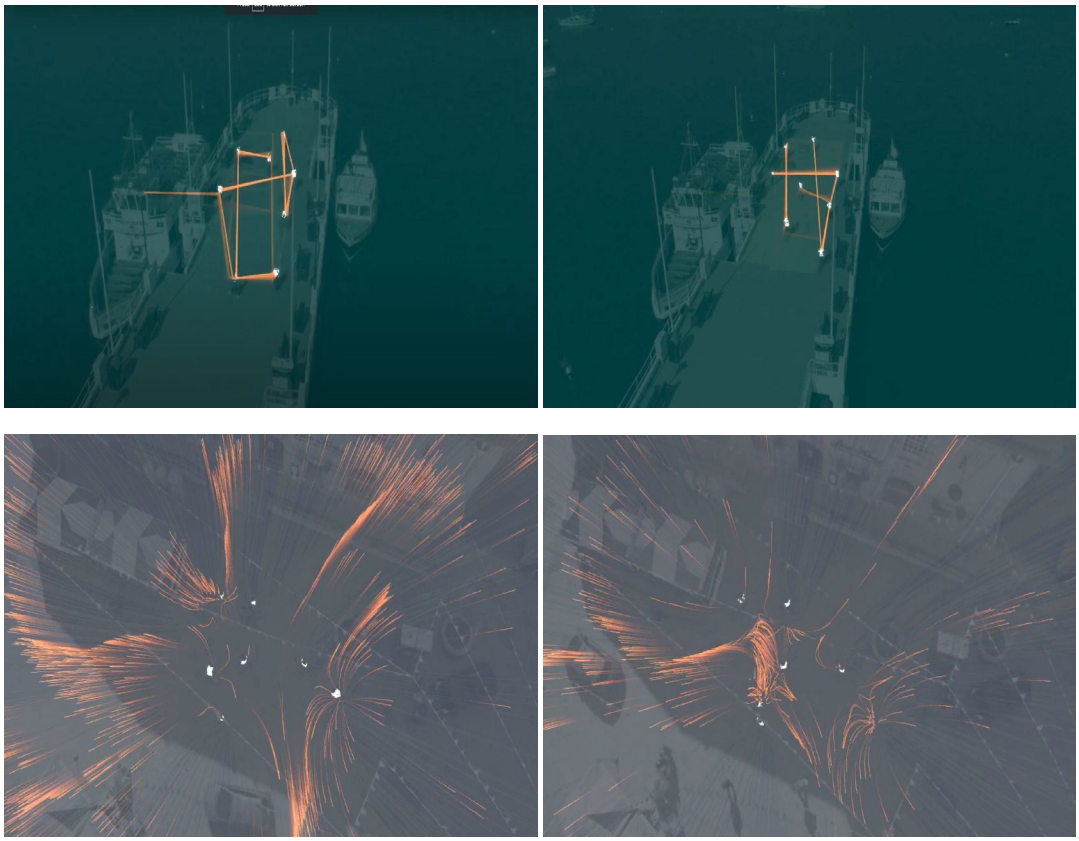
As a consequence of this, in these iterations of the live events it is possible to retrace the transmutations of the live performances through digital means in greater detail. The proposition here is that the specificity of each context and set of movements calls for something different in terms of its approach. It is not about applying pre-set instructions, but instead dealing with the particularities of each particular work. There are a certain number of indeterminacies implicitly built into the method of processing technologies, which accounts for the inherent instability of the digital realm. This leaves me with an open question: should these visualisations be restricted to the performers themselves for an accurate interpretation of dance as drawing or how much (if any) of the environment and context should remain included? (See *Appendix Six* for final visualisations and explanations.)

Figures 177, 178, *dAnCing LiNes* (2022), *Gyllyngvase Beach*, Data Visualisation with After Effects, first version



Figures 179, 180, *dAnCing LiNes* (2022), *Pendennis Field,* Final Visualisations, stills with Processing and After Effects

Figures 181, 182, *dAnCing LiNes* (2022) *Jacob's Ladder,* Final Visualisations, stills from the videos



Figures 183, 184, 185, 186, *dAnCing LiNes* (2022) *The Pier*, *The Moor,* Final Visualisations, stills from the videos

Returning to the question of this chapter which considers – what does it mean to think of dance as drawing? Effectively *dAnCing LiNes* opens up this question to consider what the relationship between dance and drawing elicits in terms of both live and mediated strategies of representation. Questioning if the body in dance can stop being a body when dance becomes drawing, *dAnCing LiNes* in the first instance suggests the possibility of a 'collective body', a socially and politically engaged body that acts in unison and with a common intent. The live performances demonstrated that drawing as social practice has to do with intentionality, and with the way things form, not necessarily in an aesthetic sense, but through a collective consciousness of movement.

This methodology asks the dancers to place themselves inside the event and act through a responsiveness to spatial and inter-relational structures. It begins with the dancers' purposeful state of consciousness not with their movements. *dAnCing LiNes*' live events put forward this proposition through the processual organisation of choreographic activities whereby systematic structures relative to flocking movements are played out by dancers through dynamic relations in different locations. These collaborative and participatory choreographic activities were performed as a series of interventions in the public realm. Here, drawing (the discipline) becomes a social practice and drawing (the verb) becomes an inherently performative act. This social and political dimension of *dAnCing LiNes*' live events, using collaborative, participatory and allographic methods, allows different disciplines to come together as one form transmutes into another, hence challenging the assumptions on authorship. By focusing on inter-relational encounters and embracing 'the self with its orientation towards the other', the live events explore interaction and group dynamics, whereby the dancers performing the scores set in motion the conditions for enacting a choreographic view of drawing whose genealogy is the line but 'whose legacy is social' (Butler C, 2010: 172). Raising questions on how we consider people - individually and as a group, politicised or socialised, *dAnCing LiNes*' live events engender a collective dimension for human social coexistence through collaborative, participatory and allographic methodologies. In this way *dAnCing LiNes* implements drawing as dance. By treating the live events as choreographic and processual activities that emerge from inter-relational encounters activated through instruction-based actions, dance becomes drawing.

With regard to the artworks developed in post-production, it is the choreographic view of drawing that emerges from the live actions and whose genealogy is the line in motion of a flocking system, and that forms the basis for constructing a visual language of abstraction through the data visualisation. As indexical archival diagrams, the data visualisations are elaborations of the live events during which the use of technological devices facilitate generating a body of work that illustrates how dance becomes drawing. This process suggests an interdependency across artistic forms even though the body of work produced is distinct. This interdependency which defies hierarchies across disciplines is a phenomenon that to some extent Robert Morris described already in the 1960s when he talked about what the hand and arm in motion can do in relation to flat surfaces. Accounting also for possible engagement with technological means, Morris affirms that:

'In this light the artificiality of media-based distinctions (painting, sculpture, dance, etc…) falls away' (Morris R, 1970: 73 to 75)[29].

On one hand, experiencing drawing as a live event opens up the social and political implications that emerge from working with bodies, movement, time, and space. On the other hand, exploring drawing as mediated representation emphasises what the cultural theorist Stuart Hall argues about how any message for public viewing is transmitted. Including artworks in this category, Hall states that the process of communication to an audience goes through different stages which are like a coding system. Using Hall's terms: 'The artist's intention is encoded into the work and, as this happens within a specific historical, economic, cultural, and social context, these ideological factors are also encoded in the work. After it has been made, the artwork is then open to interpretation by the viewer' (Hall S, cited in Foa' M C, *et al.*, 2020: 79). In this respect, the immanent dichotomy between the interpretation of dance as a live act and of choreography as an organising principle, is played out in *dAnCing LiNes.* These distinct and to an extent antithetic outputs across media and disciplines, mirror Hall's stages of transmission for a message or an artwork.

From this perspective, *dAnCing LiNes* reflects what Buchloh (2006) argues is one of the historical dialectical oppositions for drawing: the authentic corporeal trace of the body in movement that captures a narrative of process inextricably intertwined with materiality and embodied experience, versus an 'externally established matrix' that alludes to a 'deliberate evacuation of the body and subjectivity, or at least their disciplining and control' (Buchloh B, cited in de Zegher C, 2006: 117). In *dAnCing LiNes* these contrasting positions coexist: the dancers themselves who perform the scores in the live events, versus the choreographic exploration developed through data visualisations in post-production. Here technology becomes the collaborator for drawing. 'On one side, drawing as desire', on the other, drawing 'as self-critical subjection to pre-existing formulae' (Buchloh B, cited in de Zegher C, 2006: 117). In this respect, *dAnCing LiNes'* artwork developed in post-production using mediation draws attention to the fact that performance art today is increasingly consumed and disseminated as a mediated act and interpreted through digital mediums.

The films developed for *dAnCing LiNes*, which will be presented at the Viva, will encompass both source material collected during the live events as well as the visualisations developed in post-production. Different rhythms, typically of improvised interaction of the dancers and the surrounding architecture, come together with overhead footage of choreographic patterns in

[29] Other writers that were important in theorising the work in dance and sculpture developed by the Judson Company in New York include Annette Michelson, Jill Johnson, and Phil Lieder.

different locations. These elements, combined with the subsequent abstractions of the group dynamics and its movements through data visualisations, create a mesh of visually diverse interpretations and re-enactments of the live actions across the visual and the performative. These in turn then offer a diversity of ways into the experimental laboratory that has been *dAnCing LiNes*. To further understand and expand how the methodologies I implemented to rethink dance as drawing in *dAnCing LiNes* impact on both fields of knowledge, in future iterations of this work it is my intention to take into consideration the incorporation of a comparative study that incorporates a socio-spatial perspective. This would serve to elucidate the impact of the environment on each live performance, thereby adding further complexity to the interplay between data visualisation and physical movement.

[After] Words

By way of reflecting on the intentions of this research, the main claim of which was that dance thinking, theories and practice can be used to conceptually re-conceive and extend the possibilities of drawing; my practical and theoretical research has provided a template for implementing drawing as a choreographic activity which extends the potential of performance drawing beyond the notion of gestural mark- making. This research puts forward dance and choreography as two distinct but closely related modes of the same endeavour, which is specified by the body in becoming as the condition by which dance becomes a medium for drawing. In this exploration of dance as drawing, dance offers a phenomenological perspective whereas choreography, being the 'event of the mind' that metamorphoses 'a simple pavement walk into dance' (Portanova S, 2013) metamorphoses dance into drawing.

A key concern throughout the research has been whether the body could be reconsidered in a different light and be present conceptually in the work, rather than as a physical presence. Through the development of original visual art works, I have been able to articulate a view of drawing that yields simultaneously two aesthetics positions: the live which owes its integrity to its point of origin which resides in the dancers' bodies, and the mediated which through technological means offer a complexity of composition that goes beyond the singularity of the dancing body.

To recap on the argument which unfolds throughout my thesis: Chapter One repositions drawing in its relation to dance and choreography through a historical recount of seminal artworks from the 1960s and 1970s that come into being through a narrative of process inextricably intertwined with materiality and embodied experience. Extending the scope of art works such as Nauman's *Mapping the Studio*, *Graphic Traces*, a project referenced as an example of my practice in Chapter One, approaches dance as a form of notation. Incorporating live actions, drawing, sound and video projections, *Graphic Traces* removes the boundary between process and performance by focusing on the dancer training and the rehearsal space, whereby rehearsal and performance become one and the same. This is an approach that endeavours to illustrate how the notion of processuality in drawing aligns with the idea of rehearsal and physical training in dance and choreography, in terms of the basic repetitive techniques of production typical for dance and choreography.

The notion of the dancing body as body in becoming is fundamental to this approach because it emphasises a process rather than a product. The body/becoming lends itself as a method

to analysing how dance may generate drawing through movement in the two main practice-based projects of this thesis: *WhiteNoise* [Chapter Two] and *dAnCing LiNes* [Chapter Three]. The dancing body as a body in becoming allows us to identify how the impact of dance as drawing helps to open new territories for contemporary performative drawing. Having affirmed that the intention for this paper was not merely representing the body in movement through drawing, nor tracing through mark-making bodily gestures, the dancing body as a body in becoming, becomes the medium for drawing. The function of the body in movement shifts from being a subject to being an instrument for drawing, a 'doer' of the scores. The notion of mark-making, such as in Trisha Brown's work where the traces establish a transitive relation with surface and open up an ever-shifting relationship with space, is left behind. This is because Brown's approach does not 'always successfully harmonise with artificial, socially organised and structured time' (Morris S, 2012) because traces have their own modalities; as Krauss states, Brown's traces are 'motions of the self' (Krauss R, 1986: 211 cited in Morris S, 2012). In the two practice-based projects presented in this paper, the emphasis for drawing shifts towards the notion of collective motion.

Lepecki's proposition that bodily movements and gestures have 'nothing to do with mark-marking' (Lepecki A, 2006: 72) establishes the ground for Chapter Two, which puts forth, through its main case study *WhiteNoise*, the proposition of a processual understanding of the dancing body as a form of becoming. This is because essentially dance comprehends itself as a time-based ephemeral condition that vanishes before the viewer's eyes. This methodological understanding facilitates a view of dance's relationship to drawing as temporality. Thinking within the spatio-temporal qualities characteristic of dance, drawing as temporality in *WhiteNoise* is developed in the process of making through collaboration; this processuality brings about what Eco and Tormey define as a 'poetic of open-endedness and indeterminacy' (Eco U, 1989 and Tormey A, 1974, cited in Cvejic B, 2015: 197). Rather than fetishizing the dancing body in performance, dance as drawing focuses on repetitive, linear, and rhythmic strategies as modes of expression. The body/becoming in space in *WhiteNoise* signals a series of repetitive situations that take place in time as drawing. From this perspective, the dancing body shifts away from the cognitive and sensorial properties of the moving body to become an archival gestural glossary, a measuring tool to sequence movement in time and space. This is when dance and choreography coalesce, furnishing the lexical elements that put forward the proposition of dance as drawing. The act of drawing here is a verb: 'Drawing in and drawing out' (Graham J, 2015), a continuously modified interpretation of movement in space. Here the focus is on the gestures of the moving body, no longer on drawing as a means to 're-present'.

Marking a step beyond the specifics of the moving body as an archival gestural glossary that sequences movement in time and space, Chapter Three introduces the notion of a collective consciousness of movement to put forward the proposition of drawing as dance as social practice. In *dAnCing LiNes*, the dancers' embodied collective kinaesthetic experience emerges as drawings through patterns and formations, which indicates the workings of the choreographic composition of movement in time and space. Through this process, the dancing body and movement are involved in a composition of relations with the environment and in so doing, the trajectories of movement, i.e. the dancers' actions and their gestures, become the marks. The intention and the impulse to draw are present in the body: any distinction between the process of movement, drawing and the dancing bodies collapses. Participation is critical to this approach as it comprises strategies such as interaction, relationality, and collaboration. Bypassing conventional notions of performing, or of attending performances, *dAnCing LiNes'* live events implicate visitors as passers-by being part of the live events in a flux of unbounded unregulated motion. The dancers were instructed to integrate any potential recipients into their activities. Any participation in these instances was accidental; it was not intended to formally complete the artwork. This is a position that aligns with the process of the open work put forward by the Neo- Avant Garde in the 1960s, and 1970s. As Cvejic states with regard to the open work:

> *Participatory strategies seek legitimacy in the claim of a causal relationship between the aesthetic experience of an artwork and individual/collective agency.*
>
> Cvejic, (2015: 154)

Reflecting on how the agency of dance moves from the performative to the visual, *dAnCing LiNes* extends the understanding of drawing across both live and mediated representation. The principles behind the artworks developed in post-production are based on transforming the information derived from the live actions and the surrounding spatial conditions during the live performances into diagrammatic arrangements of the material.

The underpinning conceptual model adopted for 'documenting' *dAnCing LiNes*' live events relies on the elaboration of an assemblage of information rather than the representation of choreographic movements in different locations. Specifically, *dAnCing LiNes*' data visualisations rely on the transformations of choreographic principles and information from the choreographic scores. The model of flocking adopted for collective actions is the main reference for this. In this process, the body/becoming is abstracted via technological means. If on one side, something fundamental that dance and drawing share is that both align with the lived experience. On the other hand, data

visualisation exemplifies how in the twenty-first century our lived experience is deeply entrenched with technology. As Johannes Birringer (2011) writes in his text *Afterdance - dissolutions and re-tracings:*

> *Movement articulations within a technological system are always blurred, as performer and technical milieu become intermingled. The fact of matter, then, is no longer an issue of content (information) but of deviating behaviours.*
>
> Birringer, (2011)

As for the technology adopted for *dAnCing LiNes*' artworks developed in post-production, ultimately these visualisations affirm dance and choreography as methods of composition with an aesthetic of complexity and sophistication that can exist apart from the dancing body. A position that is not grounded in self-expression that inheres in the body as such, unlike any expression of performance drawing as gestural marking, but is based on an interpretation, manipulation and abstraction of the information gathered during the live events. This position aligns with Forsythe's concern in *Synchronous Objects, One Flat Thing*, reproduced (2000), which sets out to question choreography's entrenched relationship with the dancing body asking: 'If it was possible for choreography to generate autonomous, accessible expressions of its principles without the body?' (in Rosenthal S, 2011: 8).

With the premise of defying stereotypical expectations of what the relation of dance as drawing may entail, the research follows an unconventional trajectory that charts the historical connections of dance and choreography with movement-based performance since the 1960s. Considering the tendency of art galleries and organisations to use dance and choreography to 'animate' art spaces, this research has focused on bringing the two disciplines' histories together and reflecting on what the encounter would generate. The implications of this approach and the theories and theoretical concepts I refer to throughout my thesis, enable the identification and the amalgamation of the best dance and choreography theories that also work for visual artists, gathering examples of how dance and choreographic thinking, and practice expand the scope of contemporary performance drawing. In doing so, my research sheds light on this currently under-theorised territory (Lepecki A, 2012:14), highlighting the potential for further research on the interrelationships between these disciplines: drawing that is performative, dance and choreography.

In synthesis there are four distinct aspects to my contribution to knowledge addressed throughout the thesis:

- My practical and theoretical research provides a template for implementing drawing as a choreographic activity which extends the potential of performance drawing beyond the notion of gestural mark-making.
- The historical notion of documentation is reframed through the disciplinary exchanges of dance, choreography, performance and drawing. In each of my case studies the medium specificity of dance, choreography and performance is used as a mean for new artistic production, and critically repositioned as aesthetic experience in relation to drawing.
- Historically the indissoluble nature of drawing as a temporal process has been overshadowed by the notion of materiality in Process Art Movements from the 1960s and 1970s. My research shifts the emphasis towards drawing.
- The research elaborates on why artists look to dance for artmaking, articulating the reasons that led to dance becoming 'a crucial referent for thinking, making and curating visual and performance-based art' (Lepecki A, 2012: 14) in the art scene of the last two decades.

Regarding artworks produced overall during this research, each of the projects has contributed to the shifting landscape and evolving relationship between dance and performance drawing within contemporary art discourse.

Appendix One: *Graphic Traces*

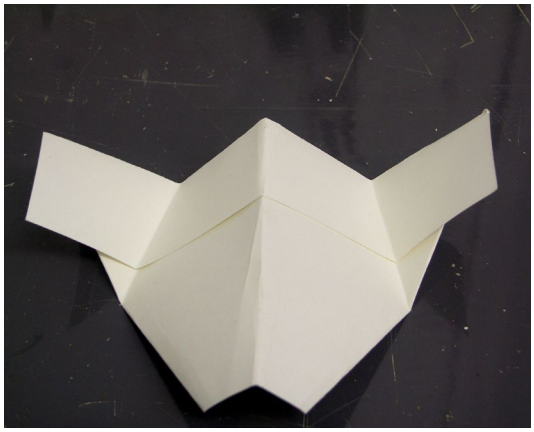
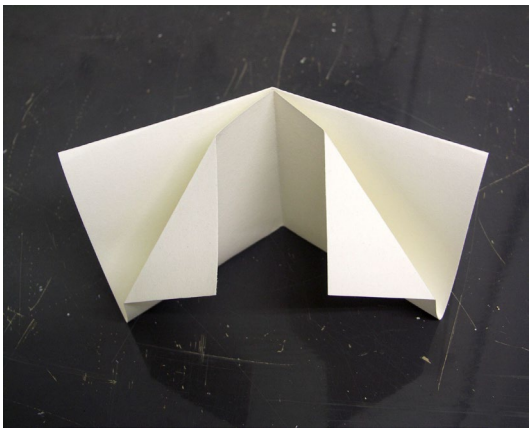
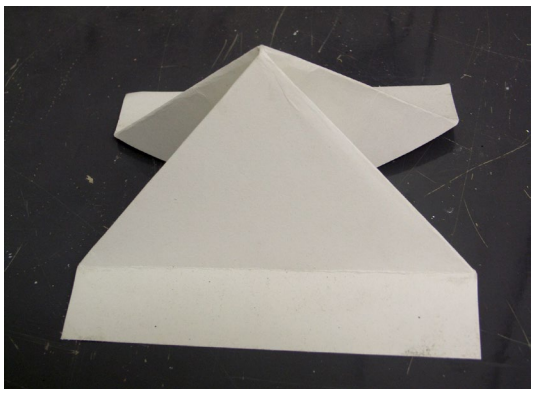
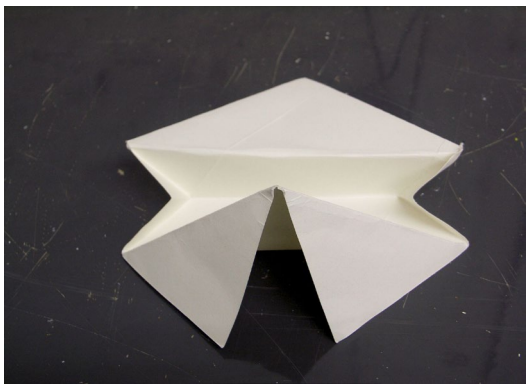
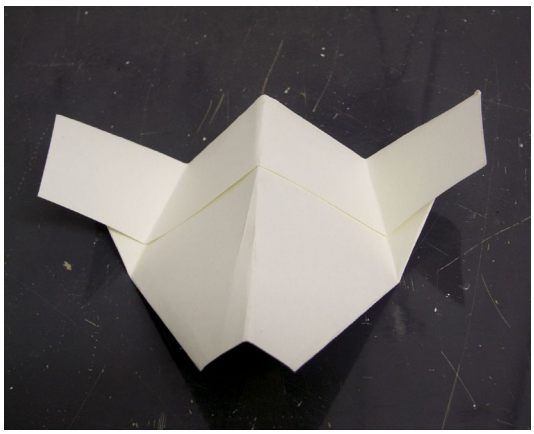
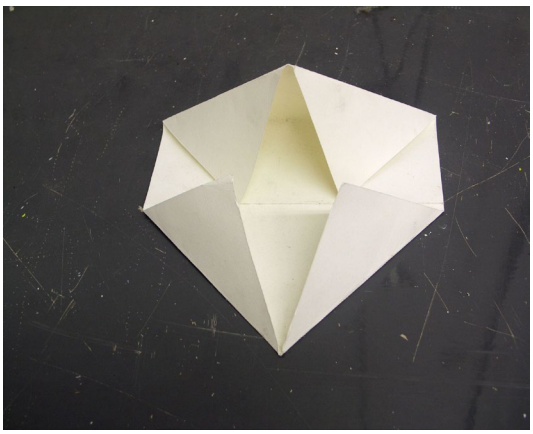
Early experiments at the Laban with Toni Thatcher, in Camberwell with Lauren Bridle and the BA Drawing students and at the English National Ballet School - https://vimeo.com/802274086

Figure 187, Early experiments at Camberwell College of Arts

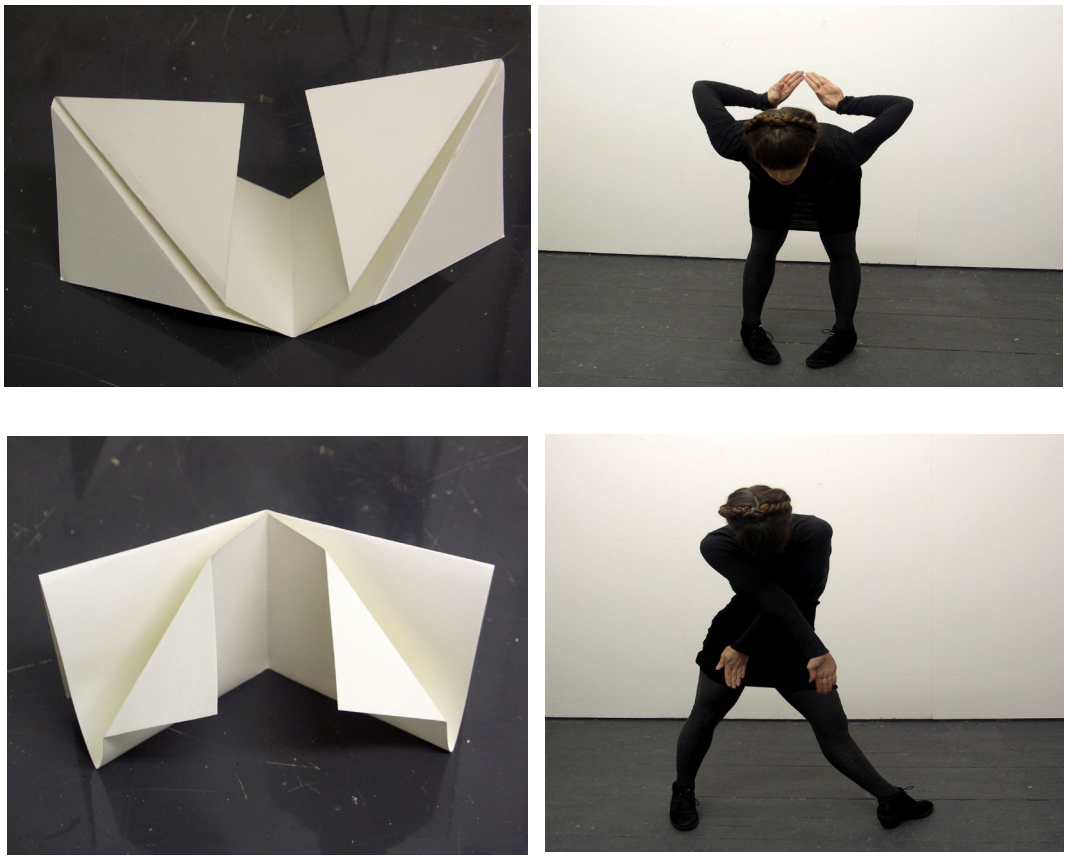
Figure 188, Early experiments at Camberwell College of Arts

Figure 189, Camberwell College of Arts and Laban Workshops


Figures 190, 191, *Laban Performance,* Link to the video above

Figures 192 to 197, *Breaking down the Line,* body/line experimentations of paper; lines with dancer Lauren Bridle



Figures 198 to 201, *Breaking down the Line,* body/line experimentations of paper and lines with dancer Lauren Bridle

Appendix Two: *WhiteNoise,* conversation with Greig Burgoyne

Extracts of conversations published in WhiteNoise Bookwork[30]

Greig Burgoyne

In some ways I was attracted to the collaborative space between playing and players.

This culminated in an exhibition to test the scope for drawing and push new ways to think how space can be activated in regard to its structure, order and experience; through process, accumulation, endurance, duration and repetition.

Rossella Emanuele

Dialogue is an inbuilt part of the collaborative process.

It was apparent that Greig and I had contrasting approaches to process led work in relation to the moving body in space and the notion of becoming.

The starting point of the collaboration:

Using performative working methods to take the gallery space beyond a condition of stasis to one of translation and flux, a site of experience rather than location. We used ubiquitous stationary material (Post-it notes, round sticky dots, A4 white paper) as a working strategy and aesthetic choice.

WhiteNoise began in an empty gallery project space in London.

Working methods and processes:

(a) Non-traditional art materials.
(b) Generate rules to displace decision-making and allow for accumulative agency.

[30] Please note that the text layout in this *Appendix* mirrors the design of *WhiteNoise Bookwork* in that Greig Burgoyne is the normal text and Rossella Emanuele is italics.

I began with some packets of Post-it notes and A4 photocopy paper.

I didn't want to force something; it was simply about arriving and responding to the day and the space, with an open mind.

The gallery looks out onto Highbury & Islington, a busy overland and underground station. The station has its own timings and durations; people waiting and getting on and off trains, trains arriving, waiting and departing; a multitude of times and rhythms.

I explored aspects of observing time and duration, which resulted in winding lengths of twisted paper, one sheet into another. Each sheet was added to whichever end the train at the station was leaving from. If the train departed from left to right, then the left 'end' of the paper line (paper trains) was added to and vice versa.

When a train arrived, I would stop rolling and twisting the sheets together and only recommence when the train departed.

When not rolling paper, I would post sticky notes on the gallery walls, only stopping when the train departed, then continue twisting sheets of paper together until the next train arrived on that platform and so on and so forth.

This resulted in a vast paper train/trail that emerged in the space, an urban-like accumulation of Post-it notes, across specific areas of the gallery walls in the form of grid-like blocks.

After a week, the durational lines that had become manifest in the space appeared too immobile and I felt it needed to be activated through physically pushing the line around the space.

At first this was through moving from one end of the space to another, in turn this led me to become aware of the space's edges and limits.

The duality of this dialogue, between the space's limits and the contracted physical mass of durational lines led to more organised drawing actions.

Rossella and I then devised 9 'walking drawings', as a way to test and comprehend the site.

Each ‘walking drawing’ represented the blocks of spaces that made up the gallery; by walking all 9 symmetries, then stopping when all nine had been completed, introduced both a tension and sense of flux and chance.

I started exploring how we existed in the space; how we moved within the space and the energies that existed outside the space.

Initially I used my body as a means to measure the space and my actions throughout the day, noting down how many steps it took for me to go from A to B, how long I performed the same action and so forth. Then the Post-it notes became a unit of measurement, drawing a series of trails, which Greig expanded upon.

The small dimensions of the gallery contributed to redirecting my focus outward towards the station, the trains, the platforms, and the people.

I discovered that the gallery was originally the train station ticket office.

I made a blackboard with the departure and arrival times of the trains and with self-adhesive coloured dots on computer matrix paper, I started making observational drawings, headlines of the people waiting and moving along the platforms.

The dots were akin to the lines of people arriving and leaving the station. I set for myself a self-imposed rule: my viewpoint from the window and position in the space determined the area of the paper I was working on.

Slowly through the repetitiveness in my actions, counting, recording the present passing, the play between real-time and a sense of durational time started to emerge.

Numbers are important.

They refer to the accumulation of departure, arrival and waiting times; to scoring and choreographing as an ordering system, sets of instructions.

I used the numbered Post-it notes on the gallery's walls and constructed numbers in black tape, from 1 to 9. I repeated them twice, front, and backwards.

Greig's durational lines, made by twisting A4 paper having filled the space, conditioned our movements. This orchestrated the beginning of our 'walking drawings', first, as improvised action/reaction movements then subsequently as structured and choreographed actions.

Instructions: walking all 9 symmetries in the space, 9 times at our own speed.

Complying: navigating the space without stepping over the Post-it notes trails.

Following: following each other (a metaphor perhaps of our collaborative processes).

Waiting: Follow and repeat the movements of the people waiting onto the platforms focusing only on their feet.

We had reached a limit.

The gallery walls and ceilings were saturated by trails of Post-it note lines. It was distracting.

We distilled the gallery space from one that was imploding, to an experience of space as a site of renewed possibility.

The next day we completely emptied the walls and ceiling of Post-it notes, which landed in their hundreds on the floor, giving the space more flux and potential as they stuck to our feet.

Stripping back the space of Post-it notes trails created a distilled space that merged logic, contingency and potential as a performative site.
The Post-it note dance: an obsessive attempt to free myself from the Post-it notes sticking onto my legs. The Dotty Mask: sticky round adhesive dots form a mask for my face, a slow, repetitive and lived-through experiential gesture in which, one by one, I peel off the adhesive-coloured dots stacked all over my face. The material becomes performative.

It's about extension, contraction, accumulation, and repetition and how and what that resists or comes into collision with.

Next, I applied a rule-based process adding self-adhesive coloured dots to the 'paper trains'.

The dots corresponded to the different people waiting for trains on the platform.

Yellow dots signify kids, blue: men, red: women and green: couples.

In this way they became 'parallel trains' to the trains in the station. The dots were akin to a line observed which I then placed upon a durational line (the paper train). The dots were placed on the 'paper train' at the approximate points where the passengers stood on the platform.

The resulting clusters and concentrations, directed by the movement and amassing of the public, is perhaps a form of grafting one space (the physical and visual) over another (the durational and experiential).

The interplay of the present passing and our actions in the space, became for us the becoming-form of the experience, articulated through the relational movements between Greig and I. Which developed, through improvisation, performative actions, and interactions with the artefacts in the space, into a form of 'experiential experimentation'.

The use of the camera allowed situating ourselves simultaneously inside and outside this process, a transition from a moving time-space condition in the present to a durational and multi-layered environment.

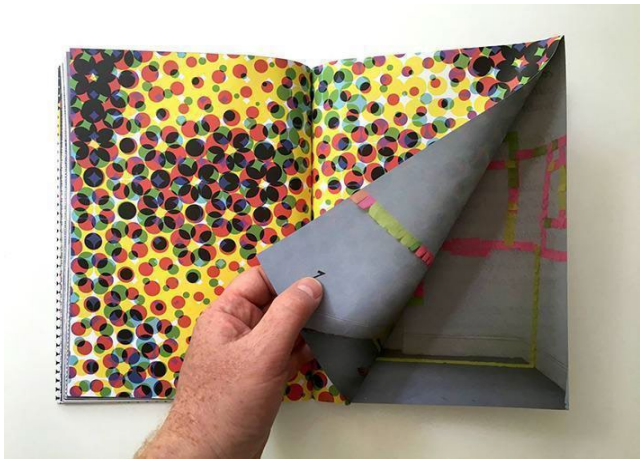
New structures. Speculative acts beyond the contingent and playful into a purposeful and selective development, which evolved through both process and rule-based actions.

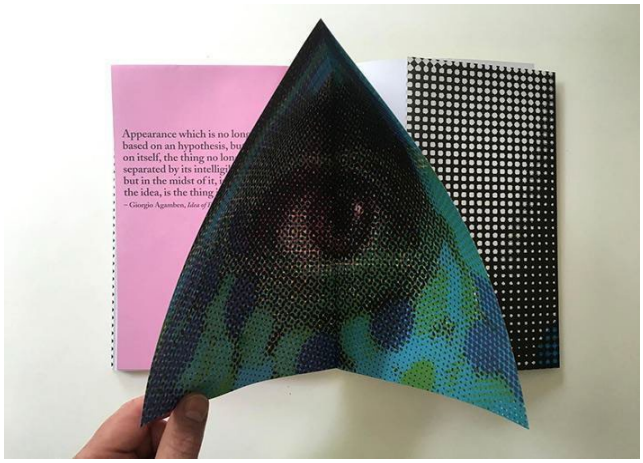
A culmination of a finite physical reality (akin to constitutive rules) alongside one that is infinite mentally (akin to regulative rules).

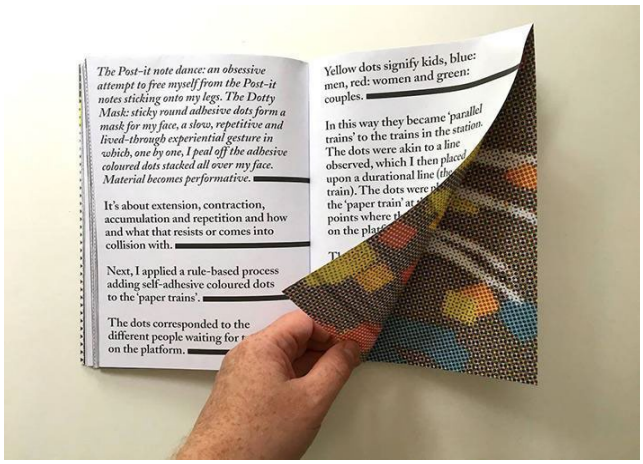
Through collaborative working we sought to extend and immerse the viewer in what exists between

'…two moments in time, perhaps entirely foreign to each other and yet coming together within their shared foreignness' Maurice Blanchot.

Appendix Three: *WhiteNoise Bookwork*







Figures 202, 203, 204, *WhiteNoise Bookwork,* 2017

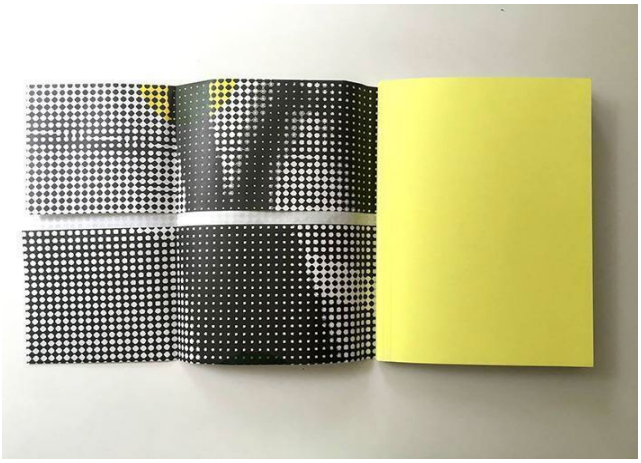


Figure 205, *WhiteNoise Bookwork,* 2017, with removable front and back cover/poster

WhiteNoise Bookwork[31] (Figs. 202 to 205) is an artist book conceived as an extension of the immersive, contingent and expansive collaborative residency and exhibition that has been *WhiteNoise*.

The scope of *WhiteNoise Bookwork*[32] was to explore the themes that have become associated with *WhiteNoise* in the form of a book. The fluctuating condition that has been *WhiteNoise* evolved in this reiteration into *WhiteNoise Bookwork*. Conceptually, visually, and physically *WhiteNoise Bookwork* opens up a new iteration in the exploration of possible interpretations of drawing as a temporal and collaborative experience. Combining commissioned writing and conceptually driven design akin to the process led, performative and rule-based agency that the residency explored.

Beyond mark-making and performance but rather with French folding and colour coding, *WhiteNoise Bookwork* deployed a rhizomatic orientation with multiple entry and exit points akin to the approaches we developed during the residency. Offering a systematic dialogue between hand and eyes, *WhiteNoise Bookwork* translates the performative dimension that was *WhiteNoise* with its durational materiality and its ordering, chance-led, repetitive systems into a bold and immersive bookwork. Generating in the form of an artists' book, a space of becoming that acts as a re-reappraisal of contemporary drawing within current drawing and performance practices.

[31] Printed with a fold out dust jacket, incorporating French folds and overprinting, *WhiteNoise Bookwork* is designed in collaboration with *CHK Design* studio in London, published by *Marmalade Visual Theory* London and distributed by *Central Books*. The book comprises images of the residency, of the exhibition, extracts of a conversation between Rossella Emanuele & Greig Burgoyne and a commission text by Dc Joe Graham. It has been printed in the Netherlands by *Wonderful Books*, a specialist in delivering outstanding limited edition bespoke bookworks.

[32] Published by *Marmalade Visual Theory* London & distributed by *Central Books*. Limited edition of 250 copies. Full colour incorporating French folds & overprinting. Stitch and sewn/bound with card cover with 84 pages.

Appendix Four: *dAnCing LiNes'* Locations

Figure 206, *Pendennis Field*

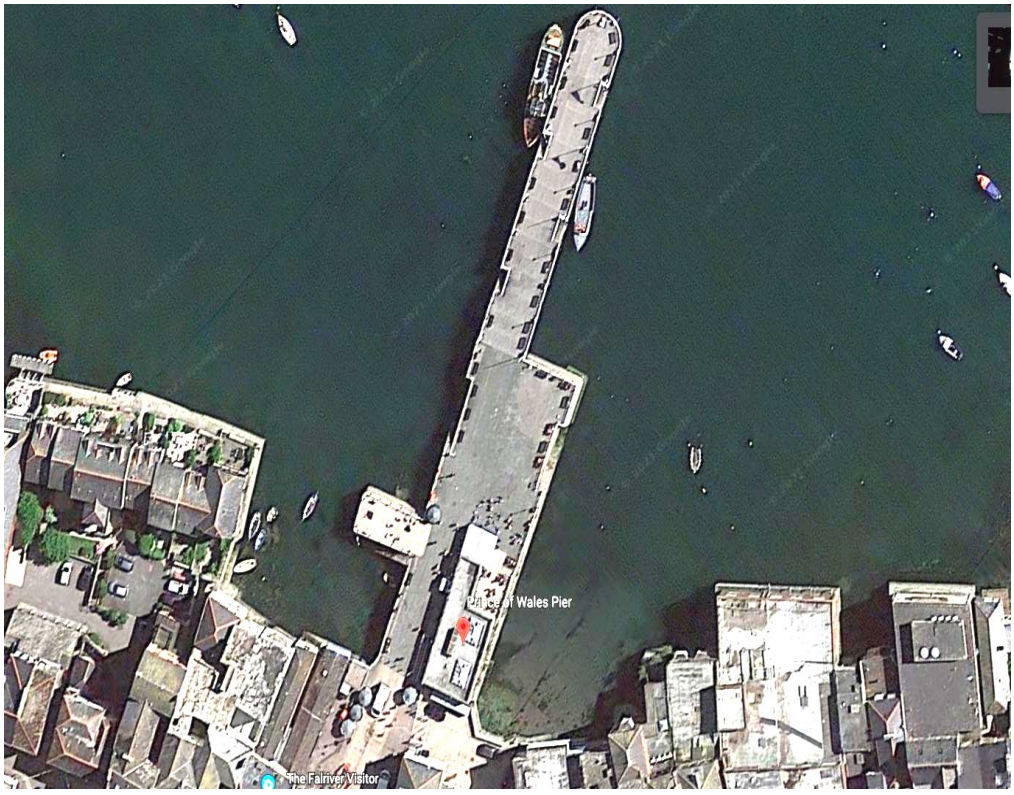


Figure 207, *Prince of Wales Pier*

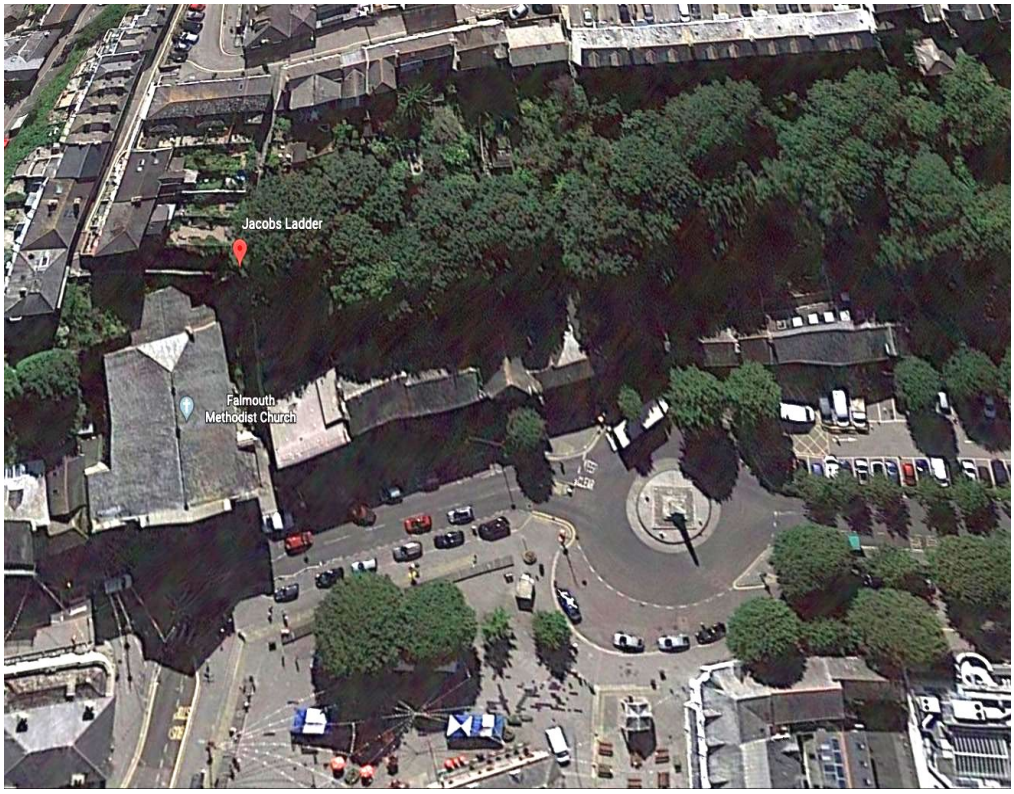


Figure 208, J*acob's Ladder* and *The Moor*

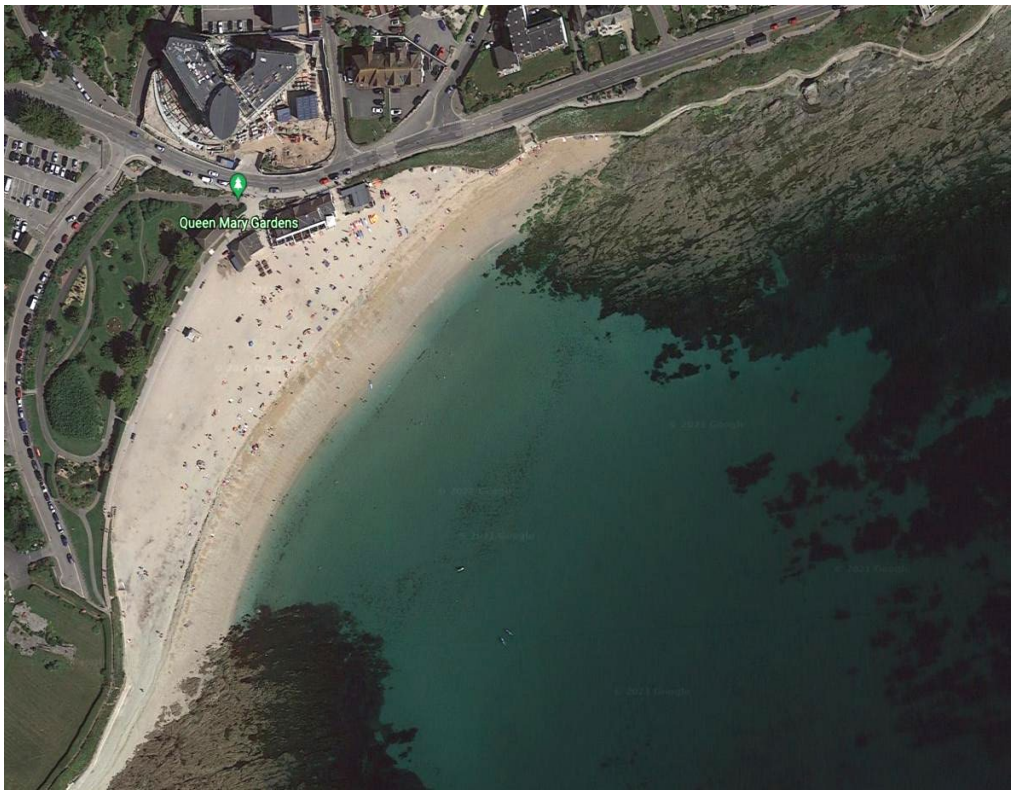
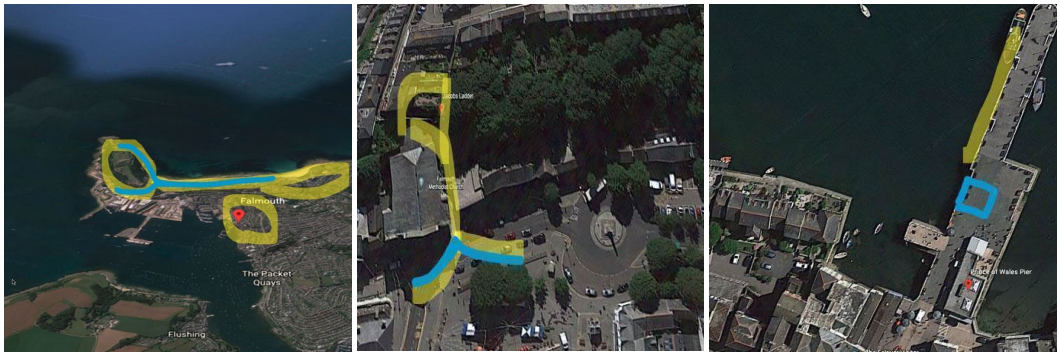


Figure 209, *Gyllyngvase Beach*



Figures 210, 211, 212, *dAnCing LiNes,* (2021), Jacob's Ladder, Prince of Wales, overhead shots of journeys

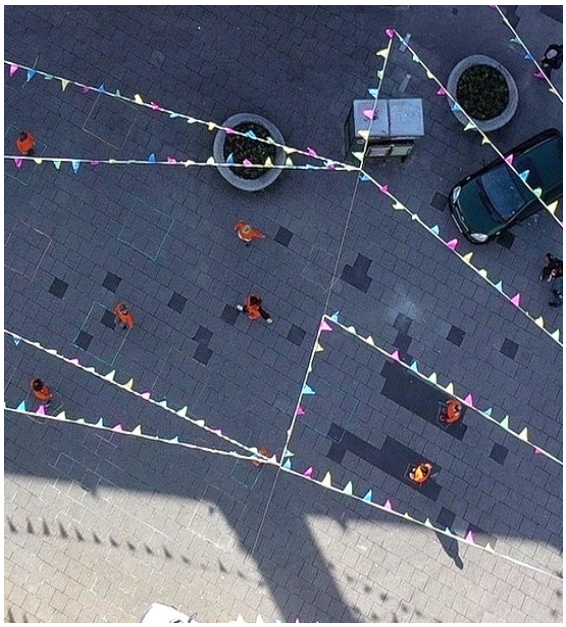
Figures 213, 214, *dAnCing LiNes, (*2021), Pendennis Field, Gyllyngvase Beach

Figures 215, 216, *dAnCing LiNes,* (2021), Journey Overview, The Moor

Appendix Five: *Instructions for dAnCing LiNes'* Live Events

The Moor - *Social Distancing Island*

Social Distancing Island, a waiting game - the dancers are instructed to draw a series of squares on the floor where the market usually is. Two dancers at a time can move from square to square, each time drawing a new square where they stall. The rule is one dancer per square at any given time.

Figures 217, 218 *dAnCing LiNes,* (2021) The Moor

Jacob's Ladder - *Stepping up and down*

Two groups of dancers, one group starts from the top, one from the bottom of the stairs. Six dancers in each group, congregated, one group at the top of the steps, the other at the bottom. The group at the top make their way down and the group at the bottom make their way up. The dancers should keep a five-step distance between their group members and should move from side to side of the steps at least once in every five steps. This action should be used to navigate passing one another. Dancers can vary the speed of their ascent and descent and should be responsive to one another.

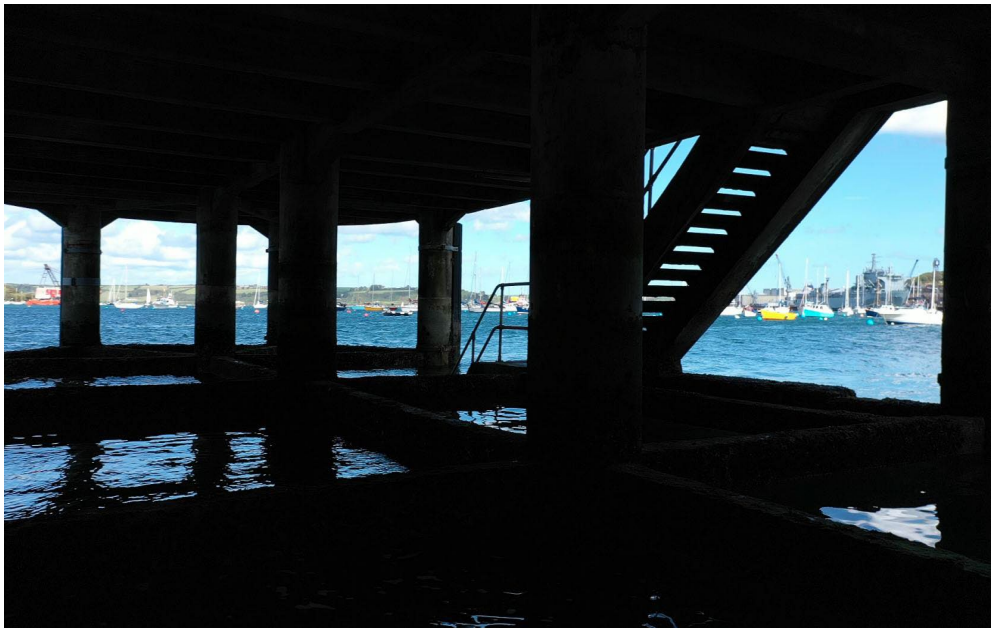

Figures 219, 220, *dAnCing LiNes,* (2021) Jacob's Ladder

Group 1

- Six steps down/Five steps up
- Seven steps down/Six steps up
- Eight steps down/Seven steps up
- Nine steps down/Eight steps up etc…

Group 2

- Six steps up/Five steps down
- Seven steps up/Six steps down
- Eight steps up/Seven steps down
- Nine steps up/Eight steps down etc…



Figures 221, 222, *dAnCing LiNes,* (2021) The Pier

Prince of Wales Pier: transposing the grid structure underneath the pier to the surface. The dancers follow the lines and should keep a relationship with another dancer, so they follow and/or lead their partner, navigating their way but avoiding pedestrians and any of the other dancers – playing with keeping distance. The intersections of the grid are the points of pause and suspension before then tipping, timing the lean with each other, to move to another intersection.

Gyllyngvase Beach - *The Rule of Six*

Figures 223, 224, *dAnCing LiNes,* (2021) Gyllyngvase Beach

The rule of six, series of squares are marked on the sand, the dancers can move from square to square, the rule being - no more than two dancers in one square at a time; so if a third dancer arrives one dancer is displaced.

For twelve dancers we work with five squares, during one round six nominated dancers will draw a new square and when they do the square nearest to them becomes redundant and should not be occupied.

Pendennis Field - *Rope Flocking*

Figure 225, *dAnCing LiNes,* (2021) Pendennis Point

The dancers work in pairs. Two yoga belts are linked together to create a loop, which is placed round the waists of each couple. The couples move together keeping the belts in tension. The couples are instructed to constantly move forward, circling around each other as they traverse the space. In a larger space, multiple pairs work together and attempt the same thing, whilst wearing the belts.

For a video with extracts from *dAnCing LiNes*' live events click **here**

Appendix Six: *dAnCing LiNes'* Live Events Final Scores Explanations

Authors: Ella Emanuele in collaboration with choreographer Simon Birch, data visualisations by David Hunter and Zach Duer.

The Moor

The choreographic rules are around social distancing. To this point, particles are generated by dancer movements in the direction of their movement. The dancers' presence creates repulsive forces that move the particles away from their point of origin and avoid other dancers, just as the dancers avoid each other.

The Pier

In this choreography the dancers trace the underlying structure of the pier they perform on. This visualisation looks for alignment between dancers, connecting them as a temporal structure.

Jacob's Ladder

Dancers move up and down the staircase according to a changing rhythm and in reaction to other dancers. Computational performers are generated by movement of the dancers who carry out the same rules in their own 'space'. Each computational performer moves down or up with side steps and must avoid clashing with other performers where possible.

Gyllyngvase Beach

The rule of six, series of squares are marked on the sand, the dancers can move from square to square, the rule being - no more than two dancers in one square at a time; so, if a third dancer arrives one dancer is displaced. The visualisation applies video filters to highlight the motion of the dancers and the squares that are created and abandoned throughout the performance.

Pendennis Field

The dancers work in pairs. Two belts are linked together to create a loop, which is placed round the waists of each couple. The couples move together keeping the belts in tension. The couples are instructed to constantly move forward, circling around each other as they traverse the space. Similar to Jacob's ladder, computational performers follow a version of the same rules (both ludic and physical) that applied to the dancers. The generated dancers rotate around each other while attempting to move upward, stay in the middle of the performance area, and avoid other dancers.

Appendix Seven: *dAnCing LiNes,* Conversation with Simon Birch

Ella Emanuele

Hi Simon. Thanks for agreeing to meet me to discuss your contribution to *dAnCing LiNes.* Could you start by introducing yourself?

Simon Birch

I am a freelance movement and visual artist and part-time senior lecturer in dance and choreography at Falmouth University, UK. My practice crosses dance performance, multi-disciplinary art installations and visual art.

Ella Emanuele

How did you get involved in the project?

Simon Birch

Soon after Ella Emanuele started her lecturing role at Falmouth University, we met to discuss her Arts Council funded research project *dAnCing LiNes* and she invited me to collaborate on the choreography and movement research for the project.

Ella Emanuele

What interested you about the project?

Simon Birch

My interest in *dAnCing LiNes* grew out of my fascination with the notion of choreography as an act of drawing. I have always perceived my choreography as 'drawing with time and space'. My own practice started in fine art before my interest in movement led me to pursue training and a career in contemporary dance and, specifically, choreography. I have always viewed choreography and visual art practice as one and the same. Therefore, *dAnCing LiNes* interested me not only because my artwork bridges the disciplines of dance and visual art but also because I was interested in further exploring and forwarding my practice.

Ella Emanuele

What has been your approach to the project?

Simon Birch

From my perspective the project was approached in two ways, firstly from the point of view of my own practice and secondly from my role as a lecturer.

dAnCing LiNes gave me the opportunity to research ideas around scale, landscape dance, movement intervention in public spaces, the generation of choreographic scores and how physical movement can be reframed as drawing using digital technology. It also provided me the chance to be part of a new collaborative team, working with Ella, dancers, filmmakers and digital artists.

From the perspective of my role as dance lecturer, the project provided enhancement activities for undergraduates on the BA(Hons) dance and choreography degree programme and enabled me to invite professional dance artists from Cornwall to participate in research at Falmouth University. *dAnCing LiNes* meant that Ella and I could work across subject areas and build working relationships within the professional dance network in Cornwall.

Ella Emanuele

What methodologies have you applied?

Simon Birch

Ella, the dancers, and I worked intensively to develop a movement language and methodology. The initial ideas grew out of Ella's interest in 'flocking' and, with the dancers, we workshopped a variety of approaches to exploring these concepts in the dance studio. We filmed what we created and tested the scores we devised outside on campus prior to transposing these improvised events to the Moor, the Pier, Gyllyngvase Beach and Pendennis Field, where we filmed using drones.

Ella Emanuele

Evaluation on early experiments and final performances.

Simon Birch

Ella, the dancers, and I spent several weekends researching movement and choreographic concepts in the studio, which led to the dancers, who regularly attended, honing their kinaesthetic skills in response to performance tasks we set them. What grew out of this research was a high degree of embodied knowledge and through group improvisations a strong unification and shared knowledge, each dancer being more skilful in performing as part of a group-entity, a contributor to a group intention.

This period helped Ella and I establish our working relationship and identify, in response to the scores we devised with dancers, what best served our ideas. Through trial and error, we refined our instructions to the dancers, realising that clearly identifying and articulating the instructions were paramount to communicating the intention and impulse behind the movement/drawing, but somehow more than this, the instructions became the impulse.

The momentum of the project was hindered by the COVID lockdowns, which meant that some of our original students graduated and left Falmouth and as a result, we lost some of the embodied knowledge and expertise we had accumulated during our earlier practical studio-based research. Nevertheless, and in order to complete the project, we made a call-out to students and local professional dancers and gathered together a group of dancers which meant that, over a period of three days, we could rework our ideas with them and, on the final day, have the work performed and filmed. The film footage gathered was then used by Ella in collaboration with David Hunter and Zachary Duer in realising digital visual imagery.

Ella Emanuele

Has this project informed your work as a choreographer at all? How?

Simon Birch

I continue to reflect on how the *dAnCing LiNes* research project has informed my practice. It has led me to look more closely on how I bridge the dance and visual aspects of my work. I am drawn to developing the project further and can envisage further research resulting in some form of exhibition/event. The areas that interest me are:

1. Interior and exterior space – relationship between the two, linking outdoor activity to indoor gallery spaces to generate a live 'drawn' event.
2. Sound resulting from the dancers' movement, in a similar way to the use of the body cameras in the pilot research project, I would be interested in exploring ways to capture the sound of movement and realising the sound as drawings.
3. Livestream GPS tracking capturing the movement of outdoor performance being relayed live to dancers inside who then respond to the live mapping through treating this data as an evolving score, not only transposing data into movement but also the movement generated back into data/line.
4. Notions of disruption and intervention in public spaces through the development of the live outdoor events we have already piloted.

5. Continue to explore the ideas of scaling-up, in terms of the number of performers and using different landscapes as the stage/canvas for the work. Considering notions of distance, scale, and proximity.
6. Working with experienced professional dance artists to explore more nuanced ideas around intimacy. How can the act of touch, through physical partnering work, become drawing? How can sensation, pressure and intimacy of the dancer's touch be captured and realised visually?

Appendix Eight: *dAnCing LiNes,* Data Visualisations with David Hunter

Ella Emanuele

Many thanks for agreeing to meet me to discuss your contribution to dAnCing LiNes, would you like to start by introducing yourself?

David Hunter

I am David Hunter, currently I am studying for a PhD in Creative Technology & Design at the ATLAS Institute in the University of Colorado at Boulder. My research interest is in making tools and experiences to interact with situated data. I'm also interested in nature engagement and exploring where there are overlaps between data, wildlife and the environment, and interface design for Augmented Reality, Immersive Visualisation, Data Physicalization, Tangible User Interfaces. I just started the PhD one year ago, and prior to this I was a Course Leader and Senior Lecturer in UX/UI Design and Graphic Design at Ravensbourne University London. I worked there for over a decade and before that and with some overlap I was a freelance designer/developer making interactive 'things' like websites, apps, installations for brands.

Ella Emanuele

How did you get involved and what interested you about the project?

David Hunter

We had a mutual associate, Piero Zagami, who was initially involved in setting up the collaboration and early experiments with drone footage and visualising with computer vision. I have enjoyed lots of mo-cap projects, such as Universal Everything's work, but they have a certain type of focus on the body. Ella's interest in visualisation and drawing approach is quite novel to me. The dynamic nature of the performance in public spaces, rather than the studio, presented an extra challenge. Capturing space and visualising events in that space has been a long interest of my own practice and I had some experience to help with how we could track or infer movements of performers.

Ella Emanuele

What has been your approach to data visualisation at the start and what methodologies have you applied?

David Hunter

Before talking about visualisation, we should discuss capture as the method of capture to some extent determines what you can visualise. We experimented with drone footage, handheld footage, body camera footage, GPS sensors in mobiles, and sensors attached to bodies to track the performers' location. The sensors would have worked nicely but would have been incredibly expensive to scale to many performers and track in a large space without constraining the performers. In the end the drone footage proved most effective. From then it was all about trying different Machine Learning and Computer Vision algorithms to isolate the dancers from the background. We used Optical Flow to detect movement and colour thresholds to pinpoint the dancers. Graphically we use simple lines and shapes, quite consistent with data visualisation conventions, to represent the performers' position in the footage. We extracted colours from each environment to give each visualisation an identity and played with layering that colour, visualisation graphics, the performers, and the background. Those graphic forms are imbued with agency as Computational Performers and execute the choreographic rules themselves in relation to one another. In this way the outcomes are very generative and unique to each performance. I think that makes the computational visualisation side really well aligned with the choreographic aims.

Ella Emanuele

Has the project changed the way you think about data visualisations at all?

David Hunter

I have enjoyed the openness and particularly this idea of computational performers which are triggered by the real dancers and execute the choreographed movements in their own space.

Ella Emanuele

Evaluation on early experiments and final visualisations.

David Hunter

I think the time taken over the project has been the result of external forces out of our hands, but it has helped to improve the visualisations. They are more concretely rationalised through colour choices, different forms that encode and visualise the data, and how that tie to each performance and location.

Ella Emanuele

Has this project informed your work? How? Did the project extend your approach to data visualisation over all?

David Hunter

Working with Machine Learning and footage has felt aligned with my own research and certainly given me some good technical experience of these technologies. I would like to build on these in future projects. I'm interested in real-time data visualisation and while we used recorded footage for this, it has strengthened my interest to work with real-time data.

As I mentioned before the computational performer felt like a new way of visualising for me; creating agents and their behaviour visualises the choreographic system and state. I'm not sure it is a model to replace a bar graph or pie chart, but there might be use cases beyond Ella's project.

Ella Emanuele

What were the challenges, if any?

David Hunter

We had a lot! We started this project several years ago and our first run at completing the project was hampered by bad weather so the drones couldn't fly. Then there was the pandemic and performers couldn't gather for rehearsal or performances. We have also been maintaining this collaboration across different parts of the UK, Italy, and USA. So it has been logistically very challenging.

Working with different Machine Learning models was a challenge, but fun. They worked well with some footage but not with others. In the end we didn't use ML for extracting poses or tracking performer movements and relied on more traditional methods from Computer Vision like Optical Flow.

The extended project time over the outcome has helped certainly in terms of my own contribution and learning from the other collaborators.

Ella Emanuele

What has been most rewarding about the process?

David Hunter

Maybe after a long time in the making, it is to finally resolve the project with a clear outcome. Five different locations, five different performances, five different visualisations.

Ella Emanuele

Any ideas for ways forward?

David Hunter

I think there are lots of opportunities for related work. The whole workflow from drone to visualisation could be optimised and improved. It would be great to see results in real-time so as performances are captured the performers and choreographer, and even in-situ audience, see how the visualisations would look. This could create an interesting collaborative tension between the creators and the system of visualisation. It would be great to have more locations and build a map of performances, and view that location selection for performances seen as part of the choreography or an act of drawing. There are a lot of opportunities in mapping the space and tracking movements. Machine Learning skeleton tracking is improving all the time, as is depth estimation, and more possible on smaller and smaller sensors or devices. Using NeRFs or photogrammetry could mean no need for drones or using drones in different ways.

Appendix Nine: *dAnCing LiNes,* Simulations with Zachary Druer

Ella Emanuele

Thank you for agreeing to meet me to discuss your contribution to *dAnCing LiNes,* the project that informs the last Chapter of my PhD research. Before we start, would you like to introduce yourself?

Zach Duer

My name is Zach Duer, I'm an assistant professor in the School of Visual Arts at Virginia Tech and I'm a visual artist that works a lot with computers and digital media, and I have a lot of interest in visualising different kinds of work, including and especially dance work.

Ella Emanuele

I am Ella Emanuele, Course Leader on the BA Drawing at Falmouth University, and visual artist with origins in dance. In the summer of 2022, I went to Virginia Tech for a residency. The residency had a real focus which was exploring how digital technology can help generate a choreographic view of dance as drawing through data visualisations. I was interested in exploring what digital technology and data visualisation in particular could offer to the interpretation of dance as drawing. Additionally, I was keen to expand the scope of how the aesthetic of data visualisations of movement may manifest. Coming from a fine art background I was interested in bringing to the fore the conceptual element as it would have really helped to reframe dance as drawing.

I presented my project to the other participants at the residency and met Zach. Because of common interests we started a conversation. I showed some of the experimentation I already did with David Hunter, who also contributed to the project as data's visualisation expert. Zach immediately understood my concern of not wanting a 'software aesthetic' to overshadow the conceptual element of the project and happily engaged with my project.

Zach Duer

One of the things that struck me right away when we talked was the particular approach to the movement work, which was largely at least in some of the pieces, systems based.

So, the dancers were following particular choreographic and movement rules to determine how they moved through space.

This immediately made me think of a technical creative class in my school where we teach with a programme called processing. Processing was in part made by an artist and researcher named Casey Reese. Casey Rees made the series of pieces called *Process Compendium* approximately back in 2004. And this is something that I teach in my class, and we think about this as a way of

visualising complex systems and taking complex systems and reducing them down to simple rules and then visualising those simple rules. It seemed like there was a lot of overlap between these two ideas because if you look at these beautiful videos of the movement work, they are really complex, right? There's a lot going on, the details of each person are highly complex. But you can also simplify it down to the rule set that they're following.

And of course, the rule set doesn't capture all of the minutiae of the movement and the emergent outcome, but it can be used as a sort of template for what's going on. And so, one of the things I thought would be interesting to do would be to recreate essentially a digital simulation following the same rule set. So, there's digital agents that essentially function as dancers and the agents attempt to follow the same rules that the dancers are following.

The idea would be to take that digital system and visualise it and visualise the connections and the relationships between these agents in the virtual space and the digital space, and then take a video of that and overlay it on top of the drone video. The above top-down drone video of some of the movement work. And so, for example, there's one piece of a big open field where I'm not actually visualising the data of the dancers, I am not pulling from that data, but I apply the same rules. It's a sort of side-by-side system where we have two physical systems of dancers and a digital system of these digital agents that are following the same rules.

That was one piece and then another piece, this other really beautiful work of these dancers on the beach and thinking about the rules they were following. But instead of making a parallel system, so kind of moving away from this idea of creating a second digital system, trying to highlight, began thinking about the rules that they're following, trying to highlight the rules that they're following and doing that using just digital video filtering to bring out and make apparent.

What the dancers are seeing when they're thinking about the rule system that they're following because they have a lot of visual information coming in and tactile information, they're thinking about a lot of things in terms of how they move. But all the time they have this rule set that's what they're trying to follow. And so just using some basic techniques of highlighting and sort of like temporal blurs so that we can see not just where they are right now, but where they've moved in the past, in the recent past, in the last 10 or 15 seconds.

Because they wore these bright orange shirts that stand out from the background. And so, it's very, very clear where they were. So those patterns changing over time start to emerge. For example, in this piece, they're moving within these squares that they draw on the sand. They're creating these squares and then abandoning these squares. And if there's too many people in one square, they have to leave. And so, the visualisation makes that rule set hopefully apparent while also keeping

the complexity of the movement work itself. So, we're still just about to see the dancers, but we're sort of seeing them highlighted in a different way through the rules in the work.

Ella Emanuele

I became very interested in the possibility of a process of simulation of the rules through creating a coding system that runs parallel to the dancers' actions because this methodology seems to be an effective strategy to convey the system within each score and the specificity of each public location. There was a direct connection between those two approaches through two very different mediums. I was keen that all the elements remained in the visualisations: the scores, the environment, and the movement. Effectively, where each action had taken place alongside the visualisation of the movement and the location. So, there was some work to be done in that respect back and forth to sort of really tease out what was possible.

From the video footage, we had the information we gathered. The reason that the dancers had orange shirts was, because bright colours from the perspective of data visualisations, are very clear and really stand out amongst a number of other information that the data would have recognized also as movement such as the trees and the leaves' movements. The possibility to differentiate types of movement and trace choreographic trajectories and the dancers' movement in the specific location really appealed to me because each data visualisation became a specific interpretation of the location, and the aesthetic varies with each location. It is specific to that location and that rules. This definitely opened up a territory for further investigation as the possibilities going forward were endless. We tried for example to bring a pictorial element into the visualisations if you like, by reproposing the dominant colour of each location, whether it was the sea, the sun, the rocks, and the field. There is a lot more that can still be done in this respect. But equally for now to the right time to stop because the intentions of the research and development of the project were achieved. The idea of simulation rather than representation is an interesting one. Performance it could be said is a sort of simulation as it is re-enacted daily. This perspective seems to offer one way of answering the main question of my research: can dance be a medium for drawing? Simulation enables reframing dance as drawing, whereby the data visualisations not only help rethinking drawing in its relation to digital media, but also help generate new artistic production which sets itself aside from what is generally understood as the documentation of a performance. What's your take on simulation versus representation Zach?

Zach Duer

In the visualisations, simulation has been approached by overlaying on top of the footage some sort of other filtering and the scores' rule set. For example, with the beach piece, the rule is drawing these squares. We know of their existence in these sort of imaginary squares as we can see them forming and disappearing. It's always interesting when you see a drawing or a painting and generally with static 2-dimensional works as opposed to temporal works where we have all of the information right away theoretically right. It's all there. There's nothing hidden from you. It is the time that you spend experiencing the work that changes your relationship to it, as opposed to getting different information overtime in a temporal sense, whether it's a choreographic work or a music work, right, any sort of temporal work. It gives you this very different relationship as when you examine a drawing, you can with your eyes trace these lines and you can sort of reimagine and recreate movement yourself, or you can just step back from it and see it at different levels of scale. Thinking about how you might see a drawing, when you look very close up to it when you're 2 inches away from it, you're looking at the tactile quality of the pencil marks and the gestures of the drawer whatever material it is on. If you step back to the typical like 6 feet and you sort of see representation or you step back again to 20 feet and you sort of see this abstraction that becomes more of a unified set of lines that don't represent something anymore necessarily. And this is something that is very difficult to do with video or live performance work. Really, those mediums don't usually change these relationships for the viewers. But this is something that we can do very easily with 2-dimensional work and so there's all these sorts of other possibilities of interfacing with the outcome of the movement that happened at a particular time in a particular space and using these different processes. Whether it's appreciating that more or just appreciating something else that is a sort of artefact result of that, and it may have some connections or some sort of tenuous connection to the original but becomes its own sort of unique identity as an artwork itself.

Ella Emanuele

This is exactly because of the conclusion of my research, which effectively remains aligned with Peggy Phelan's position that *performance's only life is in the present*, also with regard to the use of the digital technologies of reproduction. Phelan (1993) emphasises the irreproducibility of performance. Performance cannot be documented. Entering the economy of reproduction betrays the promise of performance's own ontology, which is representation without reproduction.

Simulation offers a different model to rethink these relationships. I was more interested in going along those lines as it gave me the possibility to reinvent performance and to reinvent drawing.

Thinking about the relationship between drawing dance and choreography it seems that this approach was opening up a lot of new possibilities that perhaps had been less explored especially

with the technological means we have now. These ideas in itself open up new territories of inquiry, which exceed the scope of my research.

To me what has been central in the use of data visualisations for art making has been to honour the conceptual rigour throughout the process. Effectively it is this rigour that has been driving the decision-making process. People that are heavily involved in technological mediums tend to be interested in what the software can do, there is the risk that the aesthetic of the software overshadows the artwork. I entered the world of digital technologies as an artist, my intention has been to use the software and data visualisations as a means to an end.

One of the reasons David Hunter, the other digital technology expert that has contributed to the project, has been interested in the project in the first place is because I was coming from such a different angle. I wanted to approach things maybe slightly differently. Zach, you arrived last in the project, and I am really grateful you did as your contribution has been most valuable. I wonder if we should end with you telling how being involved in this project has been meaningful for your practice and in which way and if there is anything that you would like to pursue further.

Zach Duer

That's a good question. Thanks for asking. I mean, I think that there is something really beautiful about the specificity of each particular piece. Right. And first of all, before I directly answer your question, just thinking about the future of these works too, because you mentioned that. We talked about not going back, going forward and performing these works again and recording these works again, perhaps in different spaces or with different movement artists, different visuals, different drone technology, whatever. And then coming to those recordings and to those performances and dealing with the specificity of them and thinking: Do I want to use the same approach again or is there something about the specificity of this video of this particular set of movements that calls for something different in terms of its approach? I think that one of the things that for me is really rewarding about this work is not necessarily applying a pre-set idea, kind of: *Oh well, this is the way I work. This is the kind of visualisation I do. This is the kind of work I want to do*. But instead dealing with the particularities of each particular work that I really enjoy and it's really important to me. And so I got the chance to apply to these pieces some ideas that had been kicking around in my head for years and years and I'd never really found the right context for it. Now I think you know, at any given point in time, and I'm sure this is true for all of us, I might have 20 or 30 different ideas for things and never time or place or appropriateness for any of them. And then you hear about a new piece. Do you see something, or you talk to someone, and it sort of clicks in: Oh yes! This is the thing I've been thinking about doing, and realised this is the right time for it all of a sudden. So,

I have been given the opportunity to apply some of these ideas in ways that are appropriate to these particular pieces. Finding that things matched-up has been really rewarding.

Ella Emanuele

Thanks, for saying this Zach. It is very nice to hear. It has been choreographic synchronicity! Right moment, right time … The fact that my ideas have resonated with your area of interest and expertise is really central to how collaboration works. Collaboration has been another important methodological device that I adopted throughout my research. In reframing drawing, I extend the way we think about the discipline by putting forward the proposition of drawing as relational practice. Collaboration is embedded in dance and choreographies' methodologies of working; this served me well in my endeavour to rethink dance as drawing. I think we may be able to draw our conversation to close now. It has been very interesting, which I'm really thankful for. Is there anything else we haven't touched upon that maybe you still wish to mention Zach?

Zach Duer

Thanks for asking. No, I think that's great. It's actually funny how 30 minutes of conversation boils out to be quite a lot of text.

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