Chapter 5: Romantic Objectivism: The diagram in contemporary art

“Art is the imposing of a pattern on experience, and our aesthetic enjoyment is recognition of the pattern.” 178

Alfred North Whitehead

The aim of chapter five is to provide an insight into the scope of contemporary diagrammatic art in order to begin to map out the variety of ways that contemporary artists incorporate the diagram in their practice. Chart 1 juxtaposes one hundred diagrammatic artworks from the last one hundred years, classifying them into sub-groups in order to explore the ways in which these artists and their works relate to one another. From this list, six artists have been selected to highlight the great range of media capable of being incorporated diagrammatically, and to underline the complex range of issues that a diagrammatic approach to art allows them to explore.

The above quote from the physicist Alfred North Whitehead can be brought up to date by adding that there is a certain type of enjoyment to be found in not entirely recognizing what one is looking at, when, in Umberto Eco’s words, the interpreter “tries to accept the challenge posed by this open message, and to fill the invisible form by his or her own codes”. 179 The visual aesthetic style of the diagram is normally associated with a clarity and precision of explanation, an authoritative presentation of information made plain. When the diagram is involved in the construction and erosion of literal meaning in an artwork, we are left with a Romantic-Objective resonance, the uncertainty felt among a multiplicity of meanings, which the viewer must deal with in a poetically-constructive way.

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1 Michael Craig Martin, Alphabet Series, Letter T, Screen Print, 2007
In discussing scientific diagrams as part of a *generative* cognitive field, Kenneth Knoespel writes that:

> Paintings, like diagrams, identify the cognitive space in which meaning is generated... While oriented by language, our thought process is shaped in fundamental ways by pattern recognition and pattern manipulation. Models and diagrams embody strategies of writing that function as vehicles for constituting idiosyncratic coherence and meaning. ¹⁸⁰

Diagrammatic art occupies all three levels of Bertin’s semiotic categories, from the Pansemiotic abstract work of Cy Twombly and Wassily Kandinsky, to the polysemic figurative works of Picasso’s analytic cubism and Francis Bacon. As we have seen in chapter four, several artists have made various attempts to reduce tones to their bare minimum, the most reduced of which are to found on map 1 in closest proximity to a central heideggerian clearing - an ideal, unreachable and self-contradictory goal of pure objectivity in artistic expression.

A commonly shared feature of all of these approaches (towards open and closed semiotic code systems) is that they present the viewer with a diagrammatic art work that is “… both a didactic work... based on a severe demand for objectivity... and a poetic work…”, as Roland Barthes describes the plates of the Renaissance encyclopedia, “ an aesthetics of bareness... and almost sacred simplicity... an austerity of creation.” ¹⁸¹

Other concepts around which artists works converge, as revealed in *Chart 1*, are:

- Diagramming Gesture: physically and restraint
- Sensorial diagrams: visual, acoustic and somatic
- Anatomical and psychological diagrams
- Hodological diagramming: restricting and controlling movement
- Mapping objects, concepts, places and experience
- Difference and similarity
- Complexity and Emergence
- Didactic diagramming
- Narratives
- Dimensionality and the attempt to depict higher dimensions
- Constructive and deconstructive diagrammatic forms
- Encyclopaedia-like categorisations
- Ideal Platonic forms
- Perspective
- Astronomy and astronomical alignments
- Colour
- Indexical diagrams
The Swiss artist Yves Netzhammer and the Dutch artist Mark Manders present us with methodological systems of investigation into the hidden psychology of space, object and image. Each artist has developed ways of inducing uneasy feelings of empathy within the viewer while maintaining positions of radical detachment. In a world ruled by understanding, they present us with objects, images and installations that cannot be entirely comprehended, leaving the viewer to rely upon their own subjective intuition in order to identify with the work.

Netzhammer begins with what he describes as a *stockpile of conjectures*, a growing collection of preliminary sketches that compose his process of visual thinking.\(^{182}\)
He then develops these ideas into finished drawings, animations, sculptures and installations, all with a distinct aesthetic of economised line, form, colour and movement (figure 45, 46). His use of computer illustration and modeling programs further distances the hand of the artist from his own work in a way that is reminiscent of Duchamp’s idealised paintings of precision, artworks purified of all irregularities that are left to exist in an airless, ideal realm.

Netzhammer explores the philosophical and psychological aspects of the complex relationships between humans, animals, objects and tools and the natural environment. Certain symbolic elements of his work are common to other diagrammatic artists, such as Mark Mander’s use of cross section, architectural spatial constructs, interconnected forms and the lines which not only divide but connect, and in some cases bind, objects and ideas together. Emotionally engaging elements within the work encourage feelings of both repulsion and empathy and serve to involve the viewer subjectively, accentuated by the antiseptic aesthetic of the imagery.

After initial studies in architecture where he received training in architectural draughting, Netzhammer enrolled at Zurich’s Hochschule für Gestaltung und Kunst, where he attended the figurative arts course.
Netzhammer depicts human forms in a way that highlights their artificiality: featureless, art school life drawing mannequins, crash test dummies and shop display models. These human forms are presented in spaces constructed in the idealised, neutral style of computer-aided design programs of architectural modeling, with a single light source to directed the viewers attention to the objective artificiality of this system of visualisation.

When questioned about his use of the diagrammatic format in his drawings, installations and video works, and what it affords him as an artist, Netzhammer replied that it started, in my case, in looking for another way to show a new form of subjectivity. I positioned the computer between me and my thoughts/wishes. I guess, I prefer the diagrammatic “style”, because I’m really trying to find “something” (connected to philosophical questions). Not in the common scientific sense of discovery, but something which appears close to our questions about identity. I hope that an artistic approach to forms of empathy can generate such results, especially, when it comes in a paradoxical format like drawings, which stands in the tradition of explanation. 183
Mark Manders describes himself as “a human being who unfolds into a horrifying amount of language and materials by means of very precise conceptual constructions.” Since 1986, Manders has been constructing what he calls a ‘self-portrait as a building’. He uses this conceptual framework to represent the fictional artist, “Mark Manders”, a distinct alter-ego that he describes as a “neurotic, sensitive individual who can only exist in an artificial world.”

The building as self-portrait exists as an evolving floor plan, a Platonic ideal or, in C.S. Peirce’s terms, a type, so that each exhibition results in a constantly-changing token installation (figure 48). Manders uses this architectural, diagrammatic concept to actively develop his work, referring to his ideal building as a machine which makes decisions that guide his practice. Such an approach simultaneously references both LeWitt’s idea of the art-making machine and Deleuze’s description of the diagram as abstract machine, with Manders writing that “The work wants me to do things that I would never do as a person.”

The building is fiction, but everything inside exists in reality. The building is like a gigantic stage set frozen in time with lots of rooms that all seem as if they have just been abandoned... Like an encyclopedia, the building is always ready, even though it keeps on changing and growing or shrinking.
Manders’ machines and factory-like constructions have been described by Stephen Berg as “laboratory constellations for uncertainty and unknowable discoveries, production plants for dissident thoughts, transmitters for contacting the fictional.” The viewer is presented with an authoritative air of preplanned functionality and methodological certainty, which, to a large extent relies upon the use of a diagrammatic format.

Like Netzhammer, Manders’ practice incorporates the diagrammatic format in all three of the ways that this thesis proposes the diagram is used in art; that is, the diagram as aesthetic, as creative tool and as organised (hodological) experience. Many of his sculptures present themselves as formal, diagrammatic constructs, models and pseudo-scientific experiments left unattended. Manders’ floor plans and delicate pencil drawings show his use of the diagram as a creative visual and conceptual tool, whilst the architectural nature of Manders’ installations guide viewers through carefully prearranged objects in a series of constructed environments, which the artist refers to as “memory spaces”.

In a short 1998 text *On Drawings*, Manders describes how the process of drawing “is more an investigation of thought than an investigation of observation. Before I’ve drawn them, the drawings are often as short and compact as thought. It’s interesting to look at yourself from the outside as you are drawing and see how the thoughts you portray are partly visual and partly linguistic... A drawing is a transparent skin suspended between the artist and the spectator for comparison.”
Manders' interest in linguistics is apparent throughout his practice, and is referenced sometimes as a title, as with the sculpture shown in figure 49, or in a series of works such as the artist's Newspaper project (figure 50). Manders claims to have compiled a finite database of all existing words in the English language, from which he constructs random texts to be printed as newspapers. Each word can only be used once, thus limiting the number of newspapers that can be made. The result is a chaotic, surreal and disjointed text, which he intersperses with photographs of his studio works in progress and ephemeral images of dust and detritus from his studio floor.

Figure 50: Mark Manders, *Perspective Study*, 2010, offset print on paper, pencil on paper, chicken wire, wood, 91.4 x 61 cm

This over-arching use of the diagrammatic format results in a feeling of conceptual coherency to the artistic practices of both Manders and Netzhammer. It is also strikingly apparent in the practices of Duchamp, Arakawa and Eliason, as observed in chapter three, and the practice and theoretical writings of Mathew Ritchie as discussed below.
5.2: The technological sublime: Maurizio Bolognini and teamLab

In 1988, Maurizio Bolognini began using personal computers to generate what he called *flows* of continuously-expanding random images. In the 1990s, the artist pre-programmed hundreds of computers with vast numbers of images and left them to run their algorithms, often sealing the monitor connections with wax to prevent any display of their graphic output. The images are forced to exist within the computers as binary codes, and viewers walk among the buzzing machines of the installation attempting to imagine the virtual aesthetic dimension in which the images could be said to exist (figure 51). Bolgnini states that:

I am not interested in the formal quality of the images produced by my installations but rather in their flow, their limitlessness in space and time, and the possibility of creating parallel universes of information made up of kilometers of images and infinite trajectories. My installations serve to generate out-of-control infinities. 191

Figure 51: Maurizio Bolognini, Untitled, 1992-2003, Installazione di Macchine programmate/Programmed Machines (Sealed series).
As opposed to an aesthetics of form, Bolognini’s work is associated with Mario Costa’s theory of an aesthetic flux and his notion of the technological sublime. The artist himself traces his work back to Dada, John Cage and conceptual artists such as Sol LeWitt, whose combinations of basic forms were also determined by external rules.  

Preferring the expression superimage to describe the virtual images generated by his machines, Bolognini’s concept of the metaphysical origins of his art is comparable to Goethe’s archetypal phenomena (Urphanomen) as discussed in Chapter two. Bolognini himself describes how he never thinks of computer code or devices in terms of style, but rather as a kind of DNA, and how new technologies allow artistic research to finally move from the representation of reality to the functioning of reality.

Bolognini’s SMSMS (Short Message Service Mediated Sublime) and CIMs (Collective Intelligence Machines) allows an intervention into the flow of superimages being created by his sealed computers. This is done by means of a mobile phone text message that temporarily allows images to be displayed by a projector on to a gallery wall. The system, which is based on a collective intelligence technique, causes the images to change continuously, according to the preferences of the public. (figure 52)

Figure 52: Maurizio Bolognini, SMSMS (SMS Sublime Mediated), series CIMs (Collective Intelligence Machines), installation (programmed computers, telephones, projectors), 2002-04.
teamLab is a group of “ultra-technologists” based in Japan, consisting of specialists from the world of information technology including programmers, user interface engineers, database engineers, network engineers, hardware engineers, computer vision engineers, software architects, mathematicians, architects, CG animators, web designers, graphic designers, artists and editors.

Figure 53a: teamLab, *Universe of Water Particles*, 2013, computer graphic, ultra high resolution monitor
Describing their work as an “ultra-subjective space”, they create artworks in virtual computer environments according to an aesthetics of logical construction that they consider to be unique to Japanese spatial awareness in art.\textsuperscript{194} Like the work of Bolognini, many teamLab projects interact with the viewer by means of smart phones and computer tablets.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig53b.png}
\caption{teamLab, computer model of geological formation for \textit{Universes of water particles}}
\end{figure}

\textit{Universes of Water Particles} is a computer simulation of a waterfall created in ultra-high resolution (five times that of current consumer HD display capabilities) which allows the intricacies of the work to be captured in overwhelming detail. Having first sculpted a computer model of a virtual rock (figure 53a), hundreds of thousands of water particles are rendered to simulate the physical motion of their cascade over the virtual geological form in accordance with the laws of physics (figure 53b).

However the aesthetic aim of the simulation is not entirely towards hyper-realism. Instead the rendering involves the subtle imitation of the depiction of fluid motion in traditional Japanese painting to create what this thesis refers to as a Romantic-Objective resonance within the work. In order to do so, teamLab create a time lag during the simulation, leaving afterimages of the particles as slowing fading lines.

\textit{Universes of Water Particles} embodies an integration of the modern objective world, as regulated by common sense, and the subjective world of our ancestors... When viewing the work, if one feels that rather than just it being a physical simulation of a waterfall, there is something within the lines from which they feel a presence of life, then perhaps there is an element of that subjectivity of our ancestors that is extant in our objective perceiving of the world today.\textsuperscript{195}
The algorithms employed by teamLab in order to model water embody a combination of essentialism (the deliberate simplification of a phenomenon), reductivism (the fragmentation of a phenomenon into its component parts for analysis) and idealism (the grouping of ‘kinds of things’ according to essential properties). The model also relies on our modern understanding of the molecular nature of water and the complex equations of fluid dynamics underlying the emergent properties of laminar and turbulent flow.

Viewers of the work are presented with the natural phenomenon of a waterfall whilst aware of its existence as a simulation arising from high resolution, data-intensive computing, thus aligning the work with Bolognini’s concept of flow made manifest in his SMSMS projects, and the technological sublime. In recent projects teamLab actively incorporate the wire-frame constructs of their computer models as part of the presentation, revealing the generative processes and rendering of the image via the monitor. Taking flora and fauna from traditional Chinese and Japanese genre-paintings, these organic forms develop, move and interact before the viewers eyes, often programmed in a way that produces Japanese Kanji (Chinese logographic characters) within the structure of the image. (figure 54)

Figure 54: teamLab, *Cold Life*, detail of still from Digital video, 2011, 7mins, 15sec (loop)
5.3: Complexity and emergence: Matthew Ritchie and Julie Mehretu

“If all this seems romantic, it is. The diagram is a trace of our collective efforts to articulate and negotiate an almost impossible circumstance: reality itself.” 196

Matthew Ritchie

The ambitious goals of Matthew Ritchie include not only to represent the entire universe, but also the conceptual and visual structures of knowledge and belief constructed by humans in their attempt to understand it. Ritchie compares this impossible task to “trying to describe and include what cannot be systematized”, correlating it to what is known as an outside context question. 197 Such questions include whether or not Bertrand Russell’s paradoxical ‘set of all possible sets’ can exist, issues of a priori consciousness and the origins of the source materials of the Big Bang.

In other words, Ritchie is attempting to reconsider new ways to “perceive the structure that contains the model of our perception.” 198 His practice deals with information and ways of mapping and interacting with it that ultimately lead to the emergence of new, and tangible objects. The ever expanding horizon of his project makes no discrimination between our personal knowledge structures and those officially sanctioned as scientific, so that conspiracy theories are placed alongside the Grand Unified Theory of science, and creationist debates set side by side with evolutionary theory.

Figure 55: Matthew Ritchie, Afterlives, 2002, oil and ink on canvas, 223.8 x 391.7 cm.
The process and results of Ritchie’s investigations constitute:

an omnivorous visualisation system constantly generating multiple meanings [driven by] a fathomless desire, both a weakness and a strength... in order to do such a thing, you have to turn information into a physical form. 199

The forms chosen by Ritchie include elaborate and interconnected constellation of drawings, prints, paintings, sculptures, projections, light box images, floor-to-ceiling installations, performance and short stories. The visual languages of these forms consist of complex, organic diagrams and models which unite the diversity of his work together into a narrative structure that evolves over time; from information, to map, to object, location and experience - abstract forces generating figurative environments.

The painting Afterlives (figure 55), taken from the 2002 exhibition of the same name, is an exploded diagram of the landscape in its literal sense, one of the themes running through the exhibition being a mythical narrative suggestive of apocalypse and the day of judgment. Amongst the turbulence of debris and disassembled figures are sketched lines that appear to denote clarity of position, movement and order within the chaos, as if the all knowing intellect of Laplace’s demon is at work, following in the most minute of details some epic, final process of deconstruction. 2 As a backdrop to the exhibition, black, acrylic wall drawings ran behind the paintings and a large mural Off the Hook, in sintra and enamel spills onto the floor and from which metal spears arise.

Ritchie’s practice is part of a lineage of artists exploring alternative ways of dealing with information in its pure form, and how it can be made manifest in a process mediated by the use of the diagrammatic format in its various guises. From the basic technologies involved in Sol LeWitt’s instruction based wall drawings to the pre-programmed computers and telecommunication networks of Bolognini’s SMSMS project, it is an interplay of deterministic order and pattern with the indeterminacy of chance and chaos from which a Romantic-Objective resonance arises. In LeWitt’s case there is a certain poetry to the gestural traces of the makers hand in contrast to the clinical logic of the process of execution. In Bolognini’s case the participant who accesses his closed system of flow has a momentary chance to interact with the sublime via their mobile phones.

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2 In 1814 Pierre-Simon Laplace proposed “An intellect which at a certain moment would know all forces that set nature in motion, and all positions of all items of which nature is composed, if this intellect were also vast enough to submit these data to analysis, it would embrace in a single formula the movements of the greatest bodies of the universe and those of the tiniest atom; for such an intellect nothing would be uncertain and the future just like the past would be present before its eyes.” According to a classical, deterministic view of the Universe, a creature of such vast intellect and awareness would be able to foresee the future. An entirely mechanical and thus predictable view of the universe is no longer compatible with the view of contemporary science due to the findings of chaos theory, thermodynamics and quantum dynamics. (Laplace, Pierre Simon, A Philosophical Essay on Probabilities, translated into English from the original French 6th ed. by Truscott, F.W. and Emory, F.L., Dover Publications (New York, 1951) p.4)
In Ritchie’s case however, the scope of his approach is vast and all inclusive, revealing the multitude of ways in which information can act as a fountain head for the creative processes. Ritchie draws upon the whole gamut of technological processes and construction techniques from engineering to manufacturing and architecture, proposing that it is the duty of the artist living in a knowledge and information based society to blur the lines between fact and fantasy, and to unlock the vast potential of our whole idiosphere, a conceptual landscape of memetic evolution where ideas are created, evaluated and evolve.  

What is also becoming increasingly apparent is that it is by diagrammatic means that we will access, manipulate and transmutate this abundance of information, and find new ways to deal with the stuff of thought through diagram’s close association with metaphor, the creative process and our experience of reality itself.

The evening line is a collaborative project between the artist and architects Benjamin Aranda and Chris Lasch, researchers who specialize in algorithmic design and write of how the project was imagined as a ruin from the future... a drawing in space, where each line connects to other lines to form a network of intertwining figures and narratives with no single beginning or end, entrance or exit, only movements around multiple centers that together trace out a dense web of ideas concerning the history and structure of the universe and our place in it.
The collaborative network which led to its design, construction and use spreads much further however, and includes other artists and architects, physicists, mathematicians, engineers, musicians, and performers, each of whom contribute specialist information to create new forms. Together they investigate the question how an architectural language can be developed where geometry and expression are intrinsically united.

Conceived of as both an autonomous and site specific modular structure, *The Morning Line* was envisioned as an infinitely scalable construct based upon a truncated tetrahedron, a unit referred to by Ritchie as a 'bit', a fractal building block. (figure 57) Sanford Kwinter believes that the project

...introduces a new type of object into our world: environmental but not burdened by rationale and utility as would be a standard work of architecture; logical in its propagation and organization yet also in a state of magic compression, like the cosmological constants that characterize at once the universe of the late-medieval cosmologist Nicholas of Cusa and the contemporary “scientific” universes of string and brane theory.  

Ritchie is also actively engaged in diagrammatic research, organizing conferences and exhibitions such *The Temptation of the Diagram* held in 2013 at the Martha Rosen Gallery, New York. The show consisted of hand-made diagrams, described by Ritchie as occupying:

the impossible space between idea and reality. Perhaps they can somewhat counter the residual presumption that thinking runs counter to aesthetic contemplation; that intelligence is not beautiful.
The intricate, architectural, narrative works of Julie Mehretu make various art historical references, from the mystical, geometric abstraction of Kazimir Malevich to the dynamism of the Italian Futurists. They also incorporate elements of Abstract Expressionist colour field painting. Mehretu describes how the use of abstraction allows her to fuse architecture and drawing to develop a form of “investigative drawing”, enabling the creation of marks that could not exist through rational thought processes alone. The way Mehretu uses these marks to help dictate forms relates her process of working to the diagram in the Deleuzian sense, and to that of Francis Bacon (as discussed in Chapter 1).

The architectural aesthetic of skeletonized blueprints and refined draftsmanship allow Mehretu a framework upon which she is able to build and develop a subjective poetics in her work, described by the artist as an “intuitive knowledge which is underneath the surface” of the painting. The diagrammatic aspect to Mehretu’s working process is also apparent in the way the artist talks about her preparatory work in the studio, how ideas for the work arise as a network of intuitive abstractions made from the many images which she surrounds herself with in her place of work. In this way, individual images don’t enter the work directly, but allow Mehretu to create her own visual language at a higher level of abstraction.

Figure 58: Julie Mehretu, *Stadia II*, 2004, Istanbul, Ink and acrylic on canvas, 272 x 355.6 cm
Each of Mehretu’s paintings acknowledges but also evolves away from the works which preceded it, in a cumulative nature that is similar to the working processes of Yves Netzhammer, Mark Manders, Maurizio Bolognini and Matthew Ritchie.

Within Mehretu’s deeply-layered images are diagrams of architectural facades, floor plans of international airports, stadium plans, and systems of public transport. These are overlaid one upon the other until they become a dense pattern of lines and intricate shapes. There are also contrasting sensitive and aggressive gestural marks, fragments of graffiti, newspaper photographs, tattoos and coloured brush strokes, all acting to emphasise the dynamic visual nature of the paintings that directs the gaze of the viewer among the various systems of her imagery.

Mehretu also draws upon various geographies, political histories and wars to create narratives that signify social agency, capturing a contemporary preoccupation with power, history and globalization. Her paintings also suggest the unraveling of a more personal biography, and a communal identity in relation to space and place.

Stadia II (Istanbul) was painted in the immediate aftermath of the 2003 invasion of Iraq by the United States, followed very closely by the 2004 Olympic games in Athens. (figure 58) This contrast of events, both set on the World stage, was the context within which Mehretu worked on her painting of stadiums depicted as super-imposed super-structures, volatile arenas of conflict and aggression, and saturated with so much signage as to become, in the words of the artist, “one abstract language”. Mehretu recalls the way in which everyone talked about both the events of war and international sports as if they were “happening in this massive arena. It felt like the whole world had been reduced to that kind of space.”

...the coliseum, the amphitheatre, and the stadium are perfect metaphoric constructed spaces clearly meant to situate large numbers of people in a highly democratic, organized and functioning manner...[It] is in these same spaces that you can feel the undercurrents of complete chaos, violence and disorder.

As in the work of Ritchie, the fragmented, dismantled and exploded view contained within this imagery appear as frozen snap-shots, and it is often difficult to tell whether the scenes captured are about to collapse in to a state of complete disorder, or remain in balance somehow on a knife edge between chaos and equilibrium. As in Leonardo da Vinci’s Perspective study for the adoration of the Magi, (see figure 11), the architectural framework provides a backdrop of order, repetition and structure against which the life’s dramas and distractions are played out.
Another diagrammatic aspect to Mehretu’s paintings are her use of multiple vanishing points, a technique she relates to her interest in Caravaggio, having based her black-and-white painting *The Seven Acts of Mercy* on Caravaggio’s *Seven Works of Mercy*, claiming that the painting is constructed using “seven unique vanishing points for the different acts so that each act happens in its own place while existing in the picture simultaneously with the others.”

In her recent exhibition *Grey Area* at the Solomon R. Guggenheim Museum, New York, Mehretu showed works that were made using an original process in which she built up primary structural layers of black and white line drawings, subsequently covering them with a second layer containing multiple colour washes (figure 59).

For this group of new paintings however, Mehretu added a new process of erasure, sanding the surfaces to remove sections of colour and structure, in a process reminiscent of Knoespel’s etymology of the word ‘diagram’ in relation to the wax tablet, as discussed in Chapter 1.

![Figure 59: Julie Mehretu, *Berliner Plätze*, 2008–09, Ink and acrylic on canvas, 304.8 x 426.7 cm](image)
5.4: Traces of thought: Nikolaus Gansterer and Alejandro Guijarro

In the landscape of contemporary and artistic operations, by which we can understand those practices which seem increasingly difficult to separate from theoretical work... the diagram- a writing or drawing “dia,” “through,” a scheme that is worked out or traversed by lines that are not only physical but also immaterial, lines of flight as well as lines that constitute dead ends and machines of capture – has become an eminently useful concept. 211

Sven-Olov Wallenstein

Figure 60: Nikolaus Gansterer, video still from Thinking-Matters-Lecture, 2013, chalk and objects on blackboard

Nikolaus Gansterer embodies Sven-Olov Wallenstein’s category of artists whose practice is becoming increasingly difficult to separate from theoretical work. Following his degree studies in anthropology, Gansterer went on to study sculpture and transmedia storytelling, producing work that examines lines of connection and separation between nature and culture, art and philosophy.

Gansterer revitalises the didactic, diagrammatic tradition of artists such as Paul Klee and Joseph Beuys, combining the diagram’s academic and authoritative appearance with its ability to show the traffic of concepts in real time, and the traces left by this process. His informational, teacherly aesthetic is contrasted against a delicate, poetic exploration of the ephemeral structures of thought and explanation found in cultural and scientific networks. (figure 60)
Gansterer's 2011 book *Drawing a Hypothesis* investigates “...the ontology of shapes of visualizations and... the development of the diagrammatic view and its use in contemporary art, science and theory”. It scrutinises the links between drawing, thinking, action and exploring by creating a collection of diagrams with their supporting texts and data removed, leaving a hermetic skeleton of pure notation.

Gansterer then asked artists to attempt to interpret these hieroglyphic images, the results of which range from the creation of fictional narratives to dry analysis of form and connection. Drawing a Hypothesis also contains a series of essays written by artists, writers and scientists about the speculative potential of diagrammatic sketches and their role in the production and communication of knowledge.

As an artist, Gansterer promotes the idea of the gallery as laboratory, and combines lecture programs, live performance and video projection, united by his use of diagramming and drawings which incorporate materials normally found in the classroom and lecture theatre. There is also a distinctly alchemical aspect to Gansterer's approach to research, image making and performance, in that he employs the diagram as “[a] tool for the making of relationships and for the abandonment of rational procedure.” His approach is reminiscent of the densely symbolic visual world of European alchemy, and the and hermetic, archaic, diagrammatic illustrations of the 16th and 17th centuries, with their emphasis on physical and spiritual transmutation. Symbolic codes are studied and deciphered, which in turn dictate the performance of rituals of an indefinite meaning and outcome. (figure 61, 62)
In describing the role of drawing within his practice Gansterer explains that

The drawing not as an end result—the framed artwork, but rather, taking it seriously as an activity, as verb, as a specific form of visual thinking and speaking. Concepts like spatial-diagram, diagrammatic thinking, and expanded drawing as a form of action using all means, and thereby generating relations that leave behind traces, play a major role.

Gansterer describes his interest in creating installations which develop through time, rather than being set in advance, so that entire exhibitions take the form of a material dance and are continually rebuilt every day, each time became more coherent until a point of stability is reached. As with so many of the artists discussed in this thesis, the diagrammatic aspect to his practice affords Gansterer a means to integrate indeterminacy into his practice, and to negate the prescribed and predictable whilst maintaining an important element of control. This approach means that for Gansterer

set disciplinary ways of operating might gradually become undisciplined, unlearnt, undone, reversed or upturned by experimenting ‘between the lines’ of drawing, choreography, and writing. What if line becomes movement or sound; what if language is danced; what if words are drawn rather than written?

Figure 62: Nikolaus Gansterer, Emma Cocker, Mariella Greil, Choreo-graphic Figures (part of Beyond the Line, Bonington Gallery), 2014, Photo: Julian Hughes
The photographs of Alejandro Guijarro present palimpsests of thought and explanation, albeit with an entirely different approach to that of Nikolaus Gansterer. In the *Momentum series* (2010-2013), Guijarro traveled to several international academic institutions that specialize in quantum mechanics: CERN, Stanford, Berkeley and Oxford. In a form of documentation, Guijarro photographs blackboards in university lecture theatres, meeting rooms and offices. The blackboards are then measured and the photographic images are printed at a 1:1 scale and installed, unframed, in the gallery space.

![Figure 63: Alejandro Guijarro, *Berkeley II*, 2012, C-type print, 112 x 236 cm (from the Momentum Series, 2010 -13)](image)

The resulting images capture the transitive nature of diagrams and mathematical notations at play in the creation and flow of information. (figure 63) The diagrams of science act as “either a stabilizing agent within ready-made science or as an agent that combines both rhetorical and instrumental functions within a domain of science in the making”, and it is the second notion, the diagram as an engine of knowledge creation in science, that separates the notion of the diagram in Guijarro’s work to its use in Berner Venet’s. 217

Whereas Venet presents the diagrams and formulas of science and mathematics as refined and perfected autonomous entities, Guijarro’s images provide a glimpse of the diagram in use as part of the generative process of explication and transmission of ideas. The photographs also provide evidence that this process is a physically involved, highly gestural performance. (figure 64) As the process of explanation unfolds, writing notation and images branch out following particular trains of thought or area of questioning. The act of erasure can also be considered diagrammatic in that it portrays the motion of the body, the disjointed abstract patterns of the partial erasures and of trial and error, or complete erasures which present themselves as rhythmic movement in
wave-like patterns, never quite achieving the tabula rasa. (figure 65) Guijarro’s project is reminiscent of Duchamp’s Unhappy Readymade (chapter 4.3), in that each image is a token of something lost, a record of thought manifesting itself visually in the world only to be erased, leaving only its physical substrate and traces of the signs and symbols of the embodiment of thought in the world. In Duchamps case, it is the wind and rain which adds entropy, in the case of Guijarro’s blackboard its is the hand of the professor, janitor and student.

Figure 64: Alejandro Guijarro, CERN (II), 2012, C-type print, 100x180cm, (from the Momentum Series, 2010 -13)

Figure 65: Alejandro Guijarro, Oxford (I), 2011, C-type print, 110 x 150 cm, (from the Momentum Series, 2010 -13)