

**An Autopoietic Exploration With the Structural Dynamics of Time  
and the Emergent Consequences of Form, Realised Via  
Contemporary Painting.**

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National Art School, November, 2019.

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## **Abstract**

Setting out to re-orient the genre of *landscape painting* from its aesthetic relation to nature as recognisable *form*, this Masters Research Project speaks directly of the autopoietic creative method and the resulting paintings which are viewed as *post abstract* and *post landscape environments*.

When applied to the work of art, *Autopoietic form* is offered as an alternative to the traditional Platonic and Aristotelian view of *forms*, set to reconsider the formal qualities of landscape painting via a contemporary understanding of living systems.

The application of autopoiesis as a creative method is understood via Chilean biologists Humberto Maturana and Francisco Varela who explore the complex philosophical implications of the self-maintaining chemistry of living cells. As such, this paper views the work of art as extending a causal intervention, via the mode of paint and artist *techne*, in order to give way to higher synthesis of creative processing within the formal qualities of the painted surface.

Concerned with how autopoiesis can present rather than represent the landscape via an extension of a technical, rather than subjective deviation of artistic praxis, a critique of the practices of Thomas Gainsborough, Casper David Friedrich, M.W. Turner and Claude Monet are viewed via the autopoietic method. This understanding of artistic praxis is extended to the contemporary practices of Ian McKeever, Emma Kunz and Jackson Pollock.

Finally, the autopoietic method is explained, and considered in contrast to other system based modes of art production. This is to clarify, how, it [autopoiesis] can become a means by which to liberate *nature*, (viewed as recognisable forms), away from these limiting formalist constraints of representation and into a mode of creative production which can be considered in a sense closer to how nature may in fact *act*.

## **Introduction**

The works in this studio research project seek to develop a non-Euclidian geometric treatment of the painted surface, activated by an autopoietic method. The autopoietic method is based on function rather than subjectivity, and as such is essentially a tool which diverts the artist's self-consciousness from the task of composition.

The autopoietic approach to painting requires reorienting the ego of the artist in order to liberate the work of art beyond the ideology of artist as origin, into creative processing, and to ask what this implies, as a creative process, and consequently, the nature of the work of art.

The autopoietic method applied to the paintings in this research investigation, results in the unfolding of emergent formations within the parameters of the works; an embodied flux of self-informing dialogues between Euclidean and non Euclidean geometric formations, viewed as responsive structural *form*. These paintings can be read as cartographic moments of reflection on creative death and renewal, set to activate emergent processing in both the work and the viewing. As such, the paintings in this studio investigation are intentionally viewed as natural systems as a consequence of the reactive nature of the autopoietic painting process.

To achieve this, the autopoietic method sets out both theoretically and as a creative function to reflect the behavioural characteristics of natural systems; the artist's *techne* coupled with the mode of paint enact these systemic behaviours, and this performance becomes the formal qualities of the works. As such, the catalyst of this studio investigation supports the immersive inclusion of artist, materials and viewer as the encompassing environmental grounds for the formal qualities of the works. These works embody an interaction with landscape by applying the autopoietic method.

It is then of primary interest for this research investigation to view the autopoietic method, in its contemporary application, as a creative function which is working across existing genre and stylistic models. This is to say, the theory of representation and its divisions into genres, like abstraction, have remained persistent in the history of aesthetics and consequently have defined the work of art

into its domain. Hence this research investigation reflects on the representation of the landscape rather as an immersive event.

Chapter One - *Autopoiesis - Theory, Philosophy and History*, identifies the antithetical function of autopoiesis against aesthetics traditions. This chapter considers the work of art as *autopoietic form* against traditional ideologies of form such as representation and abstraction. This is to say the Platonic and Aristotelian world views of form, applied to the work of art are challenged in this chapter. Both the philosophical and methodological implications of this analysis are approached with a view to illuminate autopoiesis as an approach to creative decision making which may liberate the formal components of the work of art from formalist aesthetic analysis.

Chapter Two, *Autopoiesis - A Review of Field and Artistic Precedents*, illuminates examples of autopoietic methodologies occurring in both historical and contemporary works of art. This chapter seeks to suggest a select group of artists work and intentions are the result of identifiably autopoietic led practices. This is to illuminate that an analytical dialogue pertaining to the autopoietic system of creative computation may speak more fundamentally of the creative process than a formalist derived dialogue may have the capacity to.

Chapter Three - *Studio Methodologies*, will discuss the generative conditions<sup>6</sup> set by the autopoietic creative method for this studio led investigation. Discussed is the methodological intervention of artist and materials, the realisation of creative computation viewed as process, (rather than artist origin reflection), and thus the incremental nature of this type of processing - which considers artist and materials as equal in the paradigm of cause and effect.

To extrapolate, the observation of phenomena in the living universe operates under the assumption that both actual systems and human models, operate on the same selection criteria of the immeasurable variables of possibility. This evokes a formidable new way to consider approaching creative computation; methodologically, systemically and in terms of anticipated outcomes of the work of art.

This project ultimately sets out to redefine landscape, away from its aesthetic relation to nature as recognisable form, representation or as an abstraction of such, and speaks directly of the autopoietic creative method as the work, resulting in paintings viewed as post abstract, and post landscape environments.

## **Chapter One**

### **Autopoiesis - Theory, Philosophy and History**

#### *Autopoiesis*

Autopoiesis from Greek—*auto* meaning self, *poiesis* meaning creation or production, is a term founded in 1972 by Chilean biologists Humberto Maturana and Francisco Varela, to define the self-maintaining chemistry of living cells. Autopoiesis, is an explanation for the nature of living systems, which considers a single living cell as a complex production system housed within a membrane wall. Importantly, autopoiesis describes the *relationship between the organism and its medium*.<sup>1</sup>

Autopoiesis is staggeringly complex; the observable production system which takes place in the confines of the cell walls, sees the entire macromolecular population of a given cell renewed completely about 10,000 times in the span of it's existence.<sup>2</sup> So fascinatingly not only does the cell consequentially create something else as the result of continuous emergent reformations, it creates itself. Autopoiesis is this process.

Notably, this observable phenomenon sees the cell maintain its distinctive qualities and relative autonomy. Milan Zeleny explains, '[t]his maintenance of unity and wholeness, while the components themselves are being continuously or periodically disassembled and rebuilt, created and decimated, produced and consumed, is so called autopoiesis.'<sup>3</sup> Autopoiesis as a creative methodology views and treats *form* in this manner. In short, this explanation by Zeleny of the manner in which the observable characteristics of the nature of living systems perform, will henceforth be applied to the work of art in what I will describe as *the autopoietic creative function*.

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<sup>1</sup> Zeleny M, *What is autopoiesis? Autopoiesis: A theory of living organisation*. Elsevier: North Holland, New York NY: 4–17, 1981

<sup>2</sup> *ibid*

<sup>3</sup> M. Zeleny, 'What is Autopoiesis - a theory of living organisation', *Constructivist Biology*. New York 1981, [ceps.info/1194](http://ceps.info/1194)

## Plato and Aristotle and Form

So what is form? To ask what form is might be to question the shape of something, its appearance, and how it is assembled. This includes the visual particulars of something's existence; the size, texture and colour of a tree, for example. In short, something's material properties embodied, or actualised. The object in this case is a synthesis of formation, in being.



**Figure 1.** Platonic world of ideal forms determining the forms of appearance in the physical world.

Source: <https://atozschoollofthoughts.wordpress.com>

For Plato, form meant something more real than objects. Plato believed that objects imitate forms, and this to Plato was the essential basis for reality.<sup>4</sup> To use the analogy of the tree once again, Plato's belief assumes the tree was essential or predetermined before it came into being. This world view of forms approached by Plato, then assumes form as located in a transcendent dimension, and thus ideal or an *idea*. So forms to Plato, were eternal, always existing. In short, Platonic form is the origin, and will be taken in this paper to represent an abstract ideology.



**Figure 2.** Aristotle's Four Elements and Four Properties  
© Science Media Group.

<sup>4</sup> Gail Fine, *On Ideas: Aristotle's Criticism of Plato's Theory of Forms*, (Oxford Scholarship Online), 1995, pp.2-18



Aristotle differed from Plato when considering *forms*. Aristotle believed that *forms* are intrinsic to the objects themselves and cannot exist separately from them, or constitute their origin. For Aristotle, there was no predetermined ideologies that separate a *form/object* distinction. Aristotle believed that the *form* is formation, and so *form* and *object*, (or matter) must be considered in relation to each other, and cannot be viewed separately. Thus, the Aristotelian world view of *forms*, is that they are not ideas nor do they exist in a transcendent or supernatural domain as Plato considered, but in nature. In short, Aristotle challenged Plato on the grounds that *form* and *matter* exist together, and thus come into being via a simultaneous process of unfolding actualisations.<sup>5</sup>

Despite these differences, a commonality on *forms* does exist between Plato and Aristotle. For both Plato and Aristotle *form* is essential: that is, *forms* are considered as *essences*. As such, for Plato, *forms* in their essential original dimension impose themselves on nature in a top down design. For Aristotle, the essential *form* is embedded or pushed into materiality and then assumes the matter of solid essences; becoming or nature.<sup>6</sup>

### *Platonic Form, Aristotelian Form and Art.*

For Plato, as *forms* exist in their transcendent dimension, and are indifferent from nature and the world, the Platonic view of *forms* is considered closest to ideals giving rise to a philosophy of nature as a representation of *forms*. All earthly things are copies of these divine *forms*. To consider the creation of the work of art from this Platonic worldview of *forms*, a further consequence is supposed: art is a *mimesis*, a copy of a copy, so the work of art is considered most distant from the truth of *forms*.<sup>7</sup>

The Aristotelian model of *forms* is closer to how contemporary science considers how things come into being; *matter* and *form* as intrinsically bounded. For Aristotle, this explained how nature's eternal *forms* give rise to finite natural beings

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<sup>5</sup>Gail Fine, *Ideas: Aristotle's Criticism of Plato's Theory of Forms*, (Oxford Scholarship Online, 1995), pp. 2-1

<sup>6</sup>ibid

<sup>7</sup> Albert Hofstadter, Richard Kuhns, *Philosophies of Art and Beauty: Selected Readings in Aesthetics from Plato to Heidegger*, (The University of Chicago Press, 1964).

(like humans or trees) - a process of actualisation and death, a driving recursive force to be considered as a constant state of unfolding.<sup>8</sup> The work of art then, considered by Aristotle has a very different sort of status. For Aristotle, artists (*technites*) do not imitate *forms*, but rather imitate the process that nature follows to bring things into being; to use their intelligence to influence *form*, to participate and to deviate the very *forming* process nature undertakes.<sup>9</sup> In other words, the artist uses their intellectual intentionality to create, which is to *deform* or *reform* natural *forms*: wood into a boat, or bronze into a sculpture.

### Form as Autopoietic

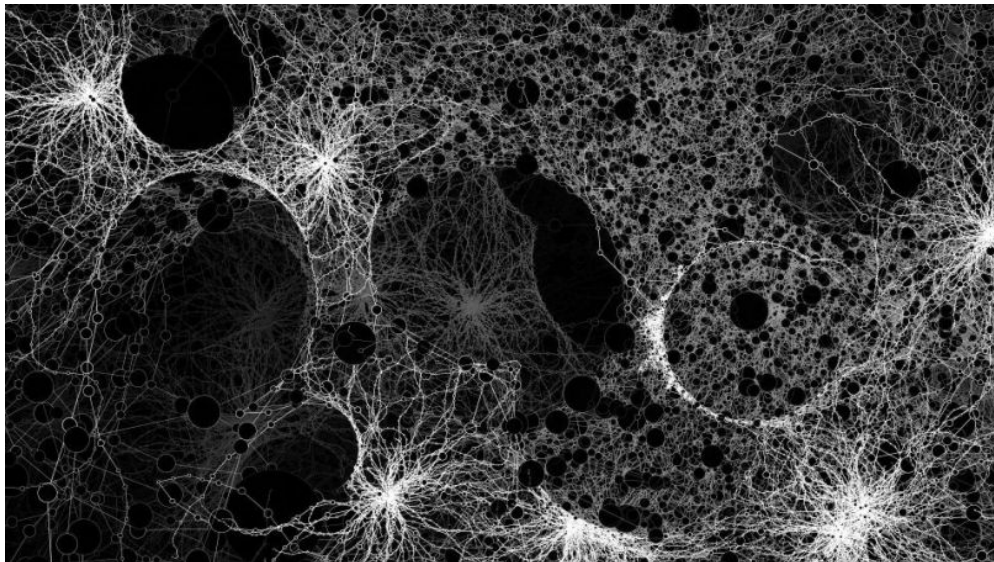


Figure 3. Autopoietic form has no essence <https://altexploit.wordpress.com>

Autopoiesis offers an alternative account of *form* to both Plato and Aristotle. Autopoiesis challenges the view that *forms* have an eternal and fixed existence prior to what comes into being. Autopoiesis challenges essentiality, and rather considers what constitutes *form*; *is the process of becoming itself*.

In a sense, autopoiesis could be considered a synthesis of both Aristotle's and Plato's ideas of *form*. Like Aristotle, *formation* takes place out of natural processes,

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<sup>8</sup> Gail Fine, *Ideas: Aristotle's Criticism of Plato's Theory of Forms*, (Oxford Scholarship Online, 1995), pp. 2-18

<sup>9</sup> John Marshall, *Art and Aesthetic in Aristotle*, (The Journal of Aesthetics and Art Criticism, Vol. 12, No.2 1953), pp. 2228-231

and like Plato, it is a higher order or organisation that does not exist in its material terms. However, where autopoiesis radically differs from both, is that during autopoiesis, the higher order *form* is something that *emerges* from the natural, material processes. Autopoiesis is not *form* as Platonic ideal nor Aristotelian nature, but *emerges* from a sufficiently complex autonomous process.

### Autopoiesis as a creative method

Autopoiesis is not only a branch of philosophy and science which focuses on the intrinsic relationship between *matter* and *form*, it is a stem of systems theory.<sup>10</sup> Autopoiesis as a creative method understands how autopoiesis, as a systems theory, can be applied to the creative process. This in contemporary application includes such disciplines as art, design, architecture or social planning systems.

The autopoietic systems theory for creativity is now generating interesting views on superior creative decision making. When applied to the creative process as a tool for creative decision-making, the autopoietic method holds possibilities and outcomes unavailable to more traditional approaches to the creative process, and hence has been described by authors Jane Burry and Mark Burry as, 'outwitting a modernist perspective on aesthetics.'<sup>11</sup> For example, the autopoietic painter works to create the conditions from which *form* emerges, rather than toward the solidification of *form*, creating the conditions by which the viewer participates to complete the art works *form*, or understand the painting. This is to say autopoiesis equally understands the absence of the essentiality of *form* as coming from the artist, as it does the passive position of the viewer. As such, autopoiesis could be understood as creating a precedent for a viewer's actualisation of *form*.

The autopoietic creative methodology views *form* as a process (*formation*). As an artistic praxis, *form* emerges from a synthesis of the creative action (*technē*), and the materials. The ensuing emergent formations are redistributed back into the process becoming the materiality for the formal qualities of the work. This interaction

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<sup>10</sup>John Mingers, *Self-Producing Systems: Implications and Applications of Autopoiesis*, (Plenum Press, New York 1995), Chapter 1, pp 2

<sup>11</sup> Jane Burry and Mark Burry, *The New Mathematics of Architecture*, Chapter 2 – Chaos, Complexity, Emergence, (Thames and Hudson, 2010).

between technician and the physicality of the materials, performed within the boundaries in which those materials operate, is the autopoietic creative method.

As with the successful outcomes of both a representational art work and an abstract art work, a technical skill set is brought to the autopoietic creative process. However, the difference in the application of this skill set during the autopoietic methodology is the orientation of the artist's relationship with their subjectivity while making the work. Experientially, the autopoietic artist is positioned so as to function via potentiality rather than predetermination; as the case may be when supposing the work of art via realism or abstraction. To suppose either a reproduction of the world, or an abstraction of natural form, is to suppose the artist as the origin of the work; (essential or original). However, when applied, the autopoietic methodology navigates the artist's subjectivity via the application of technical skill or artist *techne*, in a recursive interaction with the art making materials. In doing so, autopoiesis negates a predisposition with desired outcomes of the work which comprises a more conventional representational or subjective origin in the artist, based on artistic nature or cognition.<sup>12</sup> In this sense, the autopoietic method overcomes the criticisms about artistic practice from post-modern and cultural theory, on the basis of discrediting originality. Autopoiesis identifies this difference between originality and creativity via its systemic identity as a process. What is new or innovative, in this case, emerges from the creative process: this is the focus of the autopoietic method in its application to the works in this studio research project.

J.Mark Bishop and Mohammad Majid Al-Rifaie in their article titled 'Autopoiesis in Creativity and Art', draw reference to concerns of "Creative Systems Theory", and viewing the creative process, via the autopoietic method, as an alternative to creative practices based on formal origins. Autopoietic *form*, synthesised by emergent discoveries, results from a performance informed by a set of creative criteria governed by seeking and solving problems, rationale formation, observation, and theme selection.<sup>13</sup> These criteria are put in place to support the

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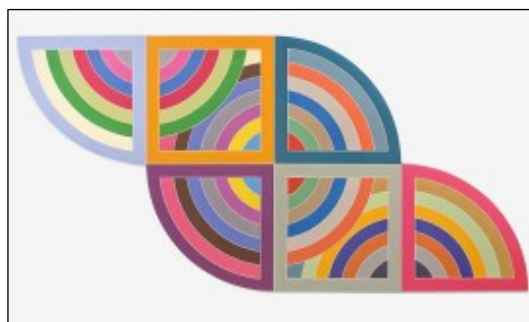
<sup>12</sup> Tuckwell addresses this difference between originality and creativity that can be applied to the difference between representation and autopoiesis: 'We may deduce a prior existence of an origin, like the universal singularity in cosmology. But this does not make creation collapse into the original, but rather establishes the inverse; that is to say, our speculative search for the origin is derived from our immanent experience of creative transformations.' Jason Tuckwell, *Creation and the Function of Art*. Bloomsbury, pg. 46

<sup>13</sup>Mark Bishop and Mohammad Majid Al-Rifaie, '*Autopoiesis in Creativity and Art*', Article, University of London, London, UK, 2016.

autonomy of the works unification. As such, autopoiesis understands the autopoietic method most importantly as about what constitutes the reality of creative practice. Takashi Iba in his paper 'Autopoietic Systems Diagram for Describing Creative Processes', states, "Creative processes are autopoietic systems whose elements are 'discoveries', emerged by a synthesis of three selections: idea, association, and consequence."<sup>14</sup> The autopoietic works in this project are considered as enduring dialogues of structural shifts operating via this system. Bishop and Al-Rifaie continue, "Autopoiesis is a self referential process which facilitates access to and learning from, previous experiences and knowledge."<sup>15</sup> Autopoiesis understands these characteristics mentioned as the operative values of cellular behaviour, intrinsic to all life, and as such I claim that the works in this studio project which follow such operative values are no longer distant from nature, by actualising autopoiesis as my painting method.

### Autopoiesis and Generative Art

To distinguish between the causal modalities of autopoiesis and the historical or contemporary models of system and method based art production, is to guard autopoiesis from collapsing into the rhetoric of simply being a system based art form. This distinguishing is also to make sure that autopoiesis is not misunderstood as simply a form of generative art not too different in production to that of humanising a computed algorithmic equation.



**Figure 4.** Frank Stella, *Harran II*, polymer and fluorescent paint on canvas, 10x20ft, 1967

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<sup>14</sup>Takashi Iba, *Autopoietic Systems Diagram for Describing Creative Processes*, Science Direct, (Procedia-Social and Behavioural Sciences, 2011), Volume 26, pg 30-37,

<sup>15</sup> Ibid

The term Systems Art incorporates Cybernetic Art, Generative Art, Process Art, Systemic Art and Systemic Painting. Systems Art possibly rooted in Systematic Art, (a term coined by Lawrence Alloway in 1966), was used to describe the methodological aspects of such artists as Kenneth Noland, Al Held and Frank Stella.<sup>16</sup> The first to coin the phrase *Systemic Painting*, Alloway discusses the flexibility of the term, which can encompass anything from Frank Stella's shaped canvases, Kenneth Noland's Colour Field Paintings, or the hard edge style defined by art historian Jules Langsner, to the simple, but detailed repetition found within the early Minimalist works by artists such as Jo Baer and Agnes Martin.<sup>17</sup>

Generative Art, which could be viewed as a contemporary of Systems Art, uses generative systems and are usually a result of the stimulation of computer software algorithms or mathematical processing. Ally Spittel explains, Generative art often works to,

...draw inspiration from modern art, especially pop art or systems based art that makes heavy use of orderly geometric patterns. However, it is a very broad and rich category of art created with code as a central characteristic. Generative art incorporates a self-governed or autonomous system in some way. Randomness is one type of autonomous system. By incorporating chance into a piece of code art, you get a different, completely unique piece of art each time you run your script, load your page, or respond to some user interaction.<sup>18</sup>

Pascal Dombis is a French digital artist who uses computer algorithms as a means of producing unpredictable system driven works, resulting in complex configurations, deriving from a single line.<sup>19</sup> Dombis' most recent work, a collaboration with architect Gil Percal, sees his system based multi line curve generative work, realised in glass, as the result of an organic growth pattern algorithm, which Percal explains,

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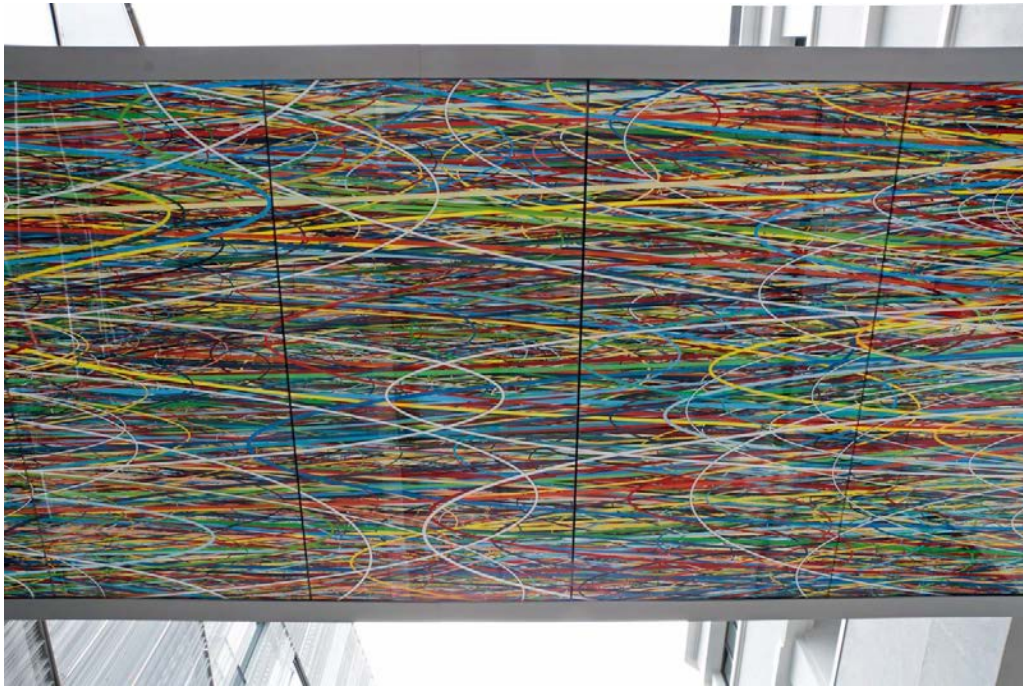
<sup>16</sup><https://www.guggenheim.org/artwork/movement/process-art>, The Solomon R. Guggenheim Foundation, 2019

<sup>17</sup> *ibid*

<sup>18</sup> Ally Spittel, *An introduction to Generative Art: What it is, and how you make it ?* (freecodecamp.org, 3rd October, 2018)

<sup>19</sup>Pascal Dombis, *Irrational Geometrics*, Press release, <https://www.artsy.net/show/artandonly-pascal-dombis-irrational-geometrics>, (Mar 8th – Apr 30th 2016).





**Figure 5.** Pascal Dombis and Gil Percal, *Irrational Geometrics*, digital ceramic ink print on 3-component glass panels, 6,00 x 2,80 m in total (5 panels, each panel : 1,20 x 2,80 m), 2015

“...makes the line-curve proliferate endlessly and at various scales. It employs randomness in colour, so that each line-curve has a unique colour, producing a vibrant visual effect as one walks past the piece.’<sup>20</sup>

The terms just used by Spittel to describe Generative Art such as generate, autonomous system, and self governing, are also used in dialogue to describe attributes of autopoiesis. It is this sharing of terminologies which calls for distinguishing the fundamental difference between autopoietic and generative art forms. This distinction is clarified by Jason Tuckwell via a blog page written on my work, and approaches this element of my practice, and specifically, the works in this studio research project.

What radically differentiates the autopoietic methodology from generative art is the artist’s point of intervention in the process. In generative art, the artist’s creative agency is restricted to the creation of the initial conditions (the rules, co-ordinates and algorithms) and the formal properties realised in the work arise from their manipulation. For example, this applies to the relationship between a software designer and their algorithms. The artist creates and manipulates the initial conditions of the algorithm, but the generation of the work is performed by the computing device. Form here is generative, but the limitations of the computing

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<sup>20</sup>ibid

device, restricts the process to repetition of the initial rules and to the emergent effects that fall out of them by chance; it is these mechanical limitations in the generative process that do not open the opportunity for an autopoietic interaction.

For the autopoietic method, the artistic practitioner similarly establishes the constructive limits of a rule-based system, but rather than outsourcing the construction of the work to a computing or mechanical device or else to other agents (like plants, animals, statistical data, or so on) the artist executes or 'computes' the generative process. In this regard, a more continuous causal intervention from the artist throughout the process, constitutes a crucial component for the realisation of the work. Formal intervention here happens in the incremental realisation of the work. Forms arise from the generative conditions, but they are progressively deviated and transformed by the act of painting within the given limitations set. This higher synthesis in the forming process, is what I identify as autopoietic. To achieve this higher synthetic formation arising from process, requires a more sustained intervention by the artist at the level of technique: the additional forming element is not constitutive of an ideal form, but a progressive, deviating formation where the artist's *technē* creates continuous divergences upon the primary, generative process. This technical, rather than subjective deviation, is what distinguishes a properly autopoietic methodology.

From this perspective, it is possible to argue the autopoietic method has a broad precedence in the history of painting. It might more closely account for the nature of artistic practice than a representational explanation for painting's formal interventions.<sup>21</sup>

As I will later discuss, this technical requirement to realise the autopoietic methodology was already the case with Claude Monet (1840-1926), in his implementation of technical and compositional limits he applied to his practice in order to realise his works; pallet restrained, repetition of similarly applied mark making for example.<sup>22</sup> As just mentioned these limits applied to the painted surface differ from the limitations of computing software in that the limitations are conditions set by the computer artist into the limitations of a computing algorithm, rendering the relationship between artist and materials non cohesive hence unable to be considered via the model of autopoiesis. So for autopoiesis, the presence of the artist, and indeed the richness of the artists' lived experience, is essential for the

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<sup>21</sup> Jason Tuckwell, *A note on autopoiesis and generative art in Connell's Phase*, <https://wordpress.com/post/devianttechne.wordpress.com/252>, posted June 17th, 2019

<sup>22</sup>P.D.Stokes, *Variability, Constraints and Creativity: Shedding Light on Claude Monet*, (American Psychologist, 2001), Abstract.



material to work through. The constraints which solidify the computer algorithm disable this process.

### Topic Orientation - Autopoiesis and Genre Coding.

Autopoiesis does not imitate the process of nature described previously as *Aristotelian form*. This challenges the idea that landscape painting is necessarily characterised by the representation or solidification of nature by imitating natural forms. Rather than represent painted forms, the works in this studio project create spaces in which form emerges, (as discussed). This seeks to recreate the conditions of the *landscape*, (viewed now as the living environment), as the painting process, and open the consideration that the artist may be shaping, rather than directly affecting the outcomes. This offers an exciting prospect of the creative process being a collaboration with nature rather than a mimesis of nature, and as such this studio project assumes the production of the works to operate as post landscape and post representational paintings.

Similarly, the autopoietic methodology shares aspects of methods employed in abstract painting, but only where abstraction is not dominated by the visual recognition of real world objects. Vered Aviv argues,

abstract art frees our brain from the dominance of reality, enabling it to flow within its inner states, create new emotional and cognitive associations, and activate brain-states that are otherwise harder to access. This process is apparently rewarding as it enables the exploration of yet undiscovered inner territories of the viewer's brain.'<sup>23</sup>

This function of abstraction is likened to the autopoietic function as intuitive visual free play, rather than object recognition. What makes autopoietic works different, or in another way, *post-abstraction*, is that the formal qualities of the work are not abstracted from the artist's subjectivity and then reinterpreted by the viewer. Rather, the autopoietic process determines visual perimeters for the viewer; who abstract the formal properties of the work for themselves. Thus, while abstract

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<sup>23</sup>Vered Aviv, 'What Does the Brain Tell Us About Abstract Art', (Frontiers in Human Neuroscience, February 2014), Article, 28

painting succeeds in overcoming the representation of nature, it does so through an Aristotelian reliance on the artist's subjectivity to determine the painting's formal properties and a Platonic acknowledgment of the artist's mind as the ideal origin of this form—in order to direct the completed form of the painting.

In contrast, the autopoietic method overcomes this formal intention by evoking the process of natural formation within the work. The formal properties of the image are not complete or fixed but dynamic and occur in the viewer. To this extent, the works in this studio project are also considered to operate in terms of post-*abstraction*.

In recasting the traditions of generative art, landscape and abstract painting, a direct use of the autopoietic thesis is enabled: this is to access a function where the painted surface can be assumed as another natural environment. Autopoiesis is the means by which I believe this desire to understand creation and nature via contemporary painting has been made possible. These are the terms in which I consider this project to be operating, via autopoietic methodology into the genre of both *post-abstraction* and *post-representational landscape*.

In the quest to research and understand autopoiesis as an applied creative methodology, this project seeks to distinguish what is particular to autopoiesis as a systems theory for artistic praxis; particularly in its capacity to effect both the metaphysical aspects of the creative function and the materials as the work. As such, to identify evidence of autopoiesis in works outside of this project, is not to seek evidence of formal properties which are identified as autopoietic, but rather to seek the activation of autopoietic processes via their effect. This is because process and effect are the means by which autopoiesis recognisably operates.

Painting has been used to illuminate ideas of the spiritual, solidify political ideologies, embellish religious hierarchies, philosophical concepts, and so on. These sorts of uses, along with the necessity to work within the bounds of recognisable aesthetic conventions, have defined the field of painting up until today. Until recently, enquiry into the observational aspects of the creative function, or to consider the work of art via systems observation have been over-coded by such concerns. But, where modes of creative production are recognised and harnessed with a knowledge of their systemic particulars, innovative creative outcomes can emerge, leaving

generic formalist frameworks ill equipped to identify what the work is *doing*, regarding the particulars of this fundamental facet of the art making process. Attending to the creative process can assist here by clarifying that the activation of autopoietic processes is widely applicable, not only across disciplines but also within the confines of a given genre, like painting. This means the application of the autopoietic methodology cannot only be researched and applied to the outcomes of works which illuminate overt interest in the function alone, (as is the case with this studio project), but can also be incorporated into representative or abstract works of art to reinterpret how they relate to formal properties.

To orient this body of work into the history of the field of painting, the following section is set to distinguish the autopoietic process as operating autonomously in recognisable essential art forms in the art works acknowledged. The following section will seek to illuminate evidence of the *functional* aspects of autopoiesis operating through the tradition of painting which has been left unaccounted for by aesthetic discourse. As such, the acknowledgment of an autopoietic synthesis activating amidst the stylistic support frames of landscape painting, realism or representation will be pursued in these works of enquiry.

Historical works applying an autopoietic method have succeeded so potently at times that the sensibility of the work has been brought into question. This question of artist intention could be considered as a critical account of these history paintings which is speaking to the presence of the autopoietic functioning. As such the conversation surrounding the following artists is of great interest to this studio investigation.

## Chapter Two Autopoiesis - A Review of Field and Artistic Precedents

### An autopoietic revision of Early Historical Landscape Painters

Thomas Gainsborough, (1727 – 1788)



**Figure 6** . Thomas Gainsborough, *Mrs Richard Brinsley Sheridan*, Oil on Canvas, 219.7 x 153.7cm,

Thomas Gainsborough, born in Suffolk, England and known as one of the lead founders of the British Landscape School is arguably an important precursor of the autopoietic method.<sup>24</sup> Gainsborough was characterised in his time as, 'an artist whose primary interest is in the observation of nature.'<sup>25</sup>

Due to the more profitable reality of painting portraits at the time, Gainsborough pursued portraiture. He painted from his observations of *nature* which forged its way into his observation of human *nature* in his portrait paintings, activating a sense of his observations of *nature* to arise from his human subjects.<sup>26</sup> The technical success of Gainsborough's portraits arose from an interaction with the creative process whereby facets of the formal qualities of the works were not predetermined. Gainsborough's works were remarkably processed through a sense

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<sup>24</sup>Mary Woodall, *Gainsborough's Landscape Drawings*, (Faber and Faber, 1939), pp 1

<sup>25</sup>Amal Asfour and Paul Williamson, *Splendid Impositions: Gainsborough*, (Berkeley, Hume, (journal article), *Eighteenth Century Studies*, The Mind Body Problem, 1998), Vol.31, No 4, pg 403

<sup>26</sup> *ibid*

of realisation of the unfolding aspects of nature as process then applied to portraiture. His portraiture derived from an inquiry into something more fundamental than the representation of a person.<sup>27</sup>

This as a reality of Gainsbourg's process is evident in the critical language directed toward his style; as being a departure from the accepted technical formalities of academia at the time. An 1856 review by George Williams Fulcher reads as such.

It is certain, all those odd scratches and marks, which on close examination, are so observable in Gainsborough's pictures, and which even to experienced painters appear rather the effect of accident than design : this chaos, this uncouth and hapless appearance, by a kind of magic, at a certain distance assumes form, and all the parts seem to drop into their proper places, so that we can hardly refuse acknowledging the full effect of diligence, under the appearance of chance and hasty negligence.<sup>28</sup>

Adrian Hamilton reiterates, '... he used his work not to recapture a place or a person but as a means of constant experimentation in composition and mood.'<sup>29</sup>. This research project views Gainsborough's method based success of activating the transient qualities of nature into the subject of human nature as transcending the artist/ representation relationship and informative to the methodologies utilised in this body of work.

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<sup>27</sup>Amal Asfour and Paul Williamson, *Splendid Impositions: Gainsborough*, (Berkeley, Hume, (journal article), Eighteenth Century Studies, The Mind Body Problem, 1998),Vol.31, No 4, pg 403

<sup>28</sup>George Williams Fulcher, *Life Of Thomas Gainsborough*, (Longman, Brown, Green and Logmans, London,1856).

<sup>29</sup>Adrian Hamilton, *Gainsborough: a new view of the artist*, Article, (Independent, 2011).

Casper David Friedrich (1774 - 1840)



**Figure 7.** Casper David Friedrich, Monk by the Sea, oil on canvas, 1.1x1.72m, 1808-10

German born Casper David Friedrich's innovation of landscape painting was realised via an intense connection to the living environment, utilising the lens of emotion. Friedrich impressed onto the landscape a solidly spiritual fusion of nature and human experience.<sup>30</sup> From the perspective of the autopoietic view of form as process, Friedrich's understanding of his relationship between creative methodology and his observation of the natural world eventuated in the representational aspects of his work assuming ambiguity as a result of methodological effect. Arguing this Joseph Koerner, a critic of Friedrich's time, questioned evidence of this effect in Friedrich's work,

Cultured visitors to Friedrich's studio sometimes mistook his mountain scenes for seascapes, or praised pictures which they viewed upside down on the easel, mistaking the dark clouds for waves and the sky for sea....they [the paintings] indicate that the barren scenes of thicket, grove and hovel were achieved only through a deliberate and epochal purgation of landscapes painting subject. What is the intended goal of this askesis? What are Friedrich's canvases the experience of?<sup>31</sup>

This disorientation of critic rhetoric is viewed by this project as evidence of a lack of knowledgeable language to apply to creative methodology. As such, this research project extrapolates evidence of the autopoietic method in Friedrich's work.

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<sup>30</sup>Joseph Leo Koerner, *Casper David Friedrich and the Subject of Landscape: Second Edition*, (Reaktion Book LTD, London, 1990), page 2.

<sup>31</sup>ibid

J. M. W. Turner - (1775 - 1851)



**Figure 8.** J. M. W. Turner, *Snow Storm*, oil on canvas, 91cmx1842, 1842

Both acclaimed and criticised in his time, J. M. W. Turner was a painter who diverted the zeitgeist, in that his work sought to bring to the viewer a new stylistic version of nature.<sup>32</sup> Turner set out to portray the transcendent qualities of the environment, through the intentional consideration of the *nature* of his paintings being the *nature in which* the materials functioned.

Criticised stylistically as a blob painter, Turner's relationship with the creative function sought within the production of his works, to treat form as process via the material of paint rather than essential re-presentation. John Ruskin, the most influential art critic of Romanticism said of Turner's work in 1843, 'Turner's painting's enabled us to see the world in a new way, a world of colour and light, to acquire once again the state which one could call the innocence of the eye, through a childlike manner, through which one perceived spots of colour as such without knowledge of their meaning.'<sup>33</sup>

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<sup>32</sup>Michael Bockemuhl, *J.M.W. Turner - The World of Colour and Light*, (Taschen, 2000).

<sup>33</sup>Michael Bockemuhl, *J.M.W. Turner - The World of Colour and Light*, (Taschen, 2000).



Michael Bockemuhl draws attention to this autopoietic effect in Turner's paintings,

The question remains how he developed a style of painting through which both nature and art could reveal themselves in a new way. A conscious understand of the complex effect produced by Turner's pictures requires one to take into consideration a multitude of factors. It presupposes a complex interaction of creative possibilities in art. His later pictures are intended purely for the eye, and their comprehension depends on a conscious understanding of the manner in which they disclose themselves to the eye. It is thus necessary to examine the creative elements interacting here, to take notice of their effect on the viewer.<sup>34</sup>

### Claude Monet - (1840 - 1926)



**Figure 9.** Claude Monet, *Waterlilies Morning With Willows*, oil on canvas, central panel, 1915-26

The Impressionists set to surpass the representation of recognisable objects as the catalyst for the works via the use of repetitive thin lines or stroke interactivity. With an avoidance of hard edges, and the working of wet paint into wet paint on the canvas, The Impressionists innovated both the stylistic and aesthetic models accepted by the academia of the time. An essay by Professor Meyer Schapiro explains of The Impressionists, 'The painter has approached (environment/ landscape), with an eye to its momentary aspect, its light, atmosphere and traffic.'<sup>35</sup> It is this acknowledgment of landscape as 'atmosphere' and 'traffic', that gives some evidence of an autopoietic processing which is central to the performance of the

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<sup>34</sup> ibid

<sup>35</sup> Professor Meyer Schapiro, *Impressionism – Reflections and Perceptions*, Essay Excerpt, (George Braziller, 1997).



works in this studio project. Thus, the Impressionists can be considered to reflect the process and effect by which autopoiesis recognisably operates.

Claude Monet was noted as once explaining, '...for me, a landscape does not exist in its own right, since its appearance changes at every moment; but its surroundings bring it to life, through the air and the light, which continually vary.'<sup>36</sup> Monet sought to innovate the canvas by means of a direct interaction with nature. The compositional elements of the landscapes in Monet's work stood to indicate how this observation of nature could be considered as the subject of the works. Form viewed as such can be understood as emergent, and as such, this project views Monet's vision of form as autopoietic formation; colour and tone variants achieving fractal like properties produce the effect of momentary change, rendering the representational values of form as transforming. These innovations to the understanding of form governed by representation, recognises the importance of Monet as an informative and influential figure in the development of the autopoietic method.

Monet's success in considering each work via the constraints of the limits of the canvas was achieved via a recursive interaction, where form emerges from the process of the work's construction. A play with a constrained repetition of existing elements in boundaries of each works autonomous materiality and form was performed by Monet in order to illuminate the continuum of nature. Monet's success in allowing his works to function as a singular autonomous experience, is a direct employment of the autopoietic function. In terms employed theoretically to autopoietic function, this evidences *autonomous unity*: an integration of elements, connected by means of recognition and replication. This element in Monet's work directly parallel methods employed in-studio for this research body of work, in that the works of this project too, are intentionally viewed as living systems which operate through self regulation and self reference. P.d.Stokes considers the presence of this method in the work of Monet.

Recent experimental research suggests that high variability is maintained by constraining, precluding a currently successful, often repetitive solution to a problem. In this view, Claude Monet's habitually high level of variability in painting was

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<sup>36</sup>Paul Hayes Tucker, *Monet in the 90's - The Series Paintings*, (Museum of Fine Arts Boston and Yale University Press, 1989).

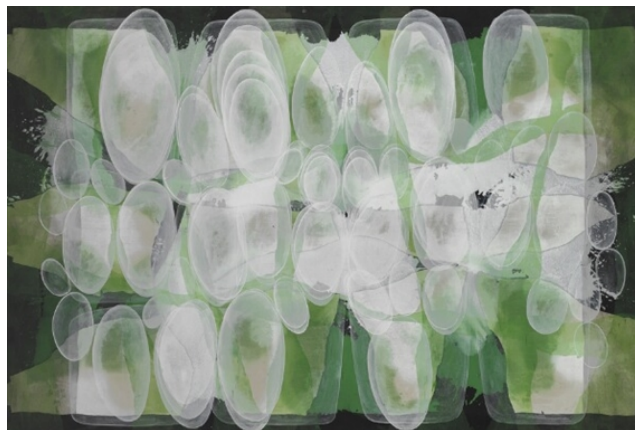
maintained throughout his adult career by a continuous series of task constraints imposed by the artist on his own work.<sup>37</sup>

### Recent Autopoietic Artists

In this section, some prominent artists will be overviewed who can be considered to be working with an autopoietic method, and are closely aligned to the intentions of this studio project.

For both the works comprising the studio section of this project and those that follow, there is a concern to surrender form, as solidifying representational aspect of the world, to the autopoietic process of the work. Such an approach to the creative moment results in the formal elements of the work to reflect only the method by which they have come into being. As such, paintings concerned with the dynamics of the immediacy of process and materials, rather than any stylistic constraints adhering to aesthetic conventions. These artists and their work consequently have perplexed formalist critics, whose dialogue falls short of an adequate definition for the complex formal aspects of their work. This opens the question of whether autopoiesis might then identify something common to these artistic practices: not in relation to the history of art theory, nor for their originality, but in relation to their mode of creative production.

### Ian McKeever - b.1946



**Figure 10** . Ian McKeever, *Temple Painting*, oil on canvas, 2005, 270x400cm,

<sup>37</sup>P.D.Stokes, *Variability, Constraints and Creativity: Shedding Light on Claude Monet*, (American Psychologist, 2001), Abstract.

The biomorphic worlds of Ian McKeever are built mediative spaces, which allow a journey for the viewer to fall into his evolving cellular landscapes. McKeever succeeds in extending sensations of the lived experience of the *internal landscape* onto the painted surface, building exterior landscapes, which intentionally elude the viewer to the solidification of recognisable *form*.

McKeever's success in innovating the landscape genre beyond the formalities of representation has enlightened this research project to the scope of results possible of the autopoietic methodology and has informed aspects of the manifestation of my project's body of work. Emily Tapp writes that,

...it is clear that McKeever is more concerned with embodying the imperceptible transient sensation of 'being', rather than portraying a visually discernible subject. The dualities lend to this in his contrasting panels, acting as a metaphysical rendering of a reaction to the external world.<sup>38</sup>

McKeever's method, more concerned with art as the *particular or the subject* of his practice, parallels the negation of essences or origins in painting, in a way consistent with the autopoietic method. McKeever says, "Being an artist now means to question the nature of art. If one is questioning the nature of painting, one cannot be questioning the nature of art... because the word art is general and the word painting is specific. Painting is a kind of art."<sup>39</sup> McKeever further clarifies this as he speaks of his relationship with his paintings, stating, "I think a good painting actually doesn't give you an answer; I think paintings should block you off. I think you should be seduced into them; they should take you into them, but they shouldn't give you any answers. Really good paintings should push you out again."<sup>40</sup> McKeever's engagement with the creative encounter in this sense is translated by this research project as questioning methodological effect rather than representation.

If the autopoietic method offers an alternative to conventional modernist aesthetic categories, then McKeever's work might already have worked toward such an end. McKeever's application of transparent layers of paint to build dialogues on the canvas, that often work to erasure of formal traces (paint) in favour of

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<sup>38</sup>Emily Tapp, emilytappart.com, (Essay – June, 20016).

<sup>39</sup>Marjorie Allthorpe-Guyton, Michael Tucker, Catherine Lampertlan, *McKeever Paintings*, (Lund Humphries, 2007), Foreword.

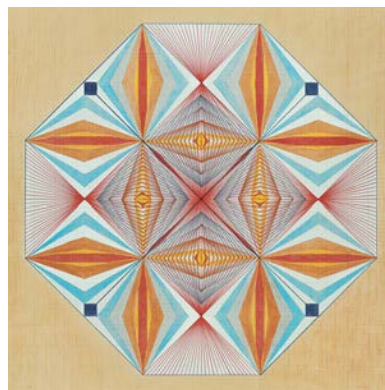
<sup>40</sup>Ian McKeever, *Mystery to the Viewer – Ian McKeever*, channel.louisiana.dk › ... › (Louisiana Channel, 2009).

encouraging emerging formations through a repetitive performance, is an example of the autopoietic method in action. As Mara-Helen Wood writes,

McKeever has pioneered a visual language that subtly moves between figuration and abstraction, but which is neither narrative nor symbolic. With their distinctive quality of suggesting transparency and emerging light, the paintings are built up using layer upon layer of transparent paint to establish structures, which at time appear to hover and float between a sense of presence and absence, while evoking residual bodily form.”<sup>41</sup>

McKeever’s approach to the physicality of the paint as the *subject* of his paintings, parallels the treatment of materials in this studio project. The autopoietic methodology considers the materials, (canvas, pigment and binding oils), and the painting process,(artist *techne*), as subjected to the autopoietic method. As such, the material elements of painting are important components of the formal properties or ‘the subject’ of the paintings. Bishop and Al-Rifaie support this sentiment of the autopoietic interaction with materials as they make reference to aspects of ‘creative knowledge’, they state, ‘Autopoietic creative systems stand ‘structurally coupled’ with their medium; fundamentally embedded in a dynamic of changes, exercised via appropriate sense-action coupling. This continuous dynamic can be considered a rudimentary form of creative knowledge.’<sup>42</sup>

### Emma Kunz - (1892 - 1963)



**Figure 11.** Emma Kunz, *Work no. 003*,

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<sup>41</sup>Marjorie Allthorpe-Guyton, Michael Tucker, Catherine Lampert, *Ian McKeever Paintings*, (Lund Humphries, 2007),Pg 9.

<sup>42</sup>Marjorie Allthorpe-Guyton, Michael Tucker, Catherine Lampert, *Autopoiesis in Creativity and Art*, (Mark Bishop and Mohammad Majid Al-Rifaie), (University of London, London, UK, 2009)

Classified at times as an outsider artist, Swiss born healer and artist Emma Kunz exhibited for the first time after her death in a show entitled, 'The Case of Emma Kunz'.<sup>43</sup> Kunz, a prominent influence on this master's project, practiced outside of formal aesthetic and representational frames. Often paralleled with Agnes Martin and Hilma Af Klint, Kunz proved difficult to define for art theorists.<sup>44</sup> Her posthumous exhibitions saw her life work subjected to range of scattered genre classifications, including formalism, geometric abstraction and outsider art. Today, these early categorical attempts are regarded as misunderstandings of Kunz's practice, and have motivated retrospective shows of her work, curated specifically to pay due respect to the unacknowledged autonomy and brilliance of her work. Catherine de Zegher notes on the occasion of an exhibition of a selection of works by Hilma AF Klint, Emma Kunz, and Agnes Martin, '...the absence of rigor applied to these three women by art historians due to the supposition that, a world, not as an outline of forms, but that of energy fields, is translated as being met with suspicion or disease. These problems are coined as 'esoteric issues' outside of the analytic purpose of art history.'<sup>45</sup>

Kunz's process, regulated via the practice of *radiesthesia* - a diagnostic mode aided by the intuitive use of a metal pendulum - was used to inform the creative decisions animate in her works. Kunz states her process considered '...design and shape as dimension, rhythm, symbol and transformation of numbers and concepts.'<sup>46</sup> Here, Kunz exemplifies the difference between generative and autopoietic approaches to making work. Kunz's autopoietic method is realised by applying her thesis via the repetition of a single straight line, applied to a grid formation. This results in dazzling fractal formations, emerging into complex hologram like structures. These structures, realised via a recursive interaction based on problem finding and solving, arise from the structural shifts which occurred during the process, operating upon the rule-based geometries of line and grid. Kunz's method of seeking an autonomous unity in her compositions was methodologically

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<sup>43</sup>Katherine de Zegher, *3 X Abstraction – New Methods of Drawing. Hilma AF Klint, Emma Kunz, Agnes Martin*, (Exhibition Journal, United States, 2009), pages 23-40, Abstract

<sup>44</sup> *ibid*

<sup>45</sup>Katherine de Zegher, *3 X Abstraction – New Methods of Drawing. Hilma AF Klint, Emma Kunz, Agnes Martin*, (Exhibition Journal, United States, 2009), pages 23-40, Abstract

<sup>46</sup>Emma Kunz, <https://www.emma-kunz.com/en/emma-kunz/>

driven via a process of discovery, realised through an evolving interaction of structural play with existing elements of the work. This replication of form, fed back into the structural dialogue of the work, is the autopoietic method of creative decision making, earlier identified. This method, resulting in a transformative fractalising effect, continues to act in the viewer, resulting in emergent formations of complex colour interactivity and *in effect* acts to complete the work, rendering this effect as the formal properties of the work. Kunz's work here also transgresses representation into a sense of the environmental, a precedent of painting considered by this project as *post-landscape*. Kunz regarded her work as, "*spaces to walk into.*"<sup>47</sup>

Set to evoke healing properties to aid her clientele Kunz's work functioned by placement in-between her client and herself, creating a new dimension of space for her to work through. As such the intersection of thousands of coloured lines, fragmenting into new colour forms on intersection performed as kinetic healing charges. This function of the autopoietic as a healing tool in Kunz's work opens the question for this research project, of whether the categorisations that the tradition of aesthetics has applied to the work of art could have encumbered *art* from moving past the institution. This is to say, to liberate the creative function, to a power of intent, it may find application to such fields as healing, art based research or other meaningful extensions of its functional capacities outside of the white cube.

To suppose the liberation of the creative function via the model of autopoiesis is to embrace creativity as untameable by categorisation, then to acknowledge this as empowering potentiality for the work of art. This research project acknowledges Emma Kunz's work as participating in such a functional realisation for art.

Kunz's deeply personal work, as an interaction with a method based process of live systems, is in both the power and the success of her works – attributed to the complexity of the emergent qualities which ensue.

### Jackson Pollock - (1912 - 1956)

Pollock's works, manifested by a ritualistic meditation on *creation* as method, innovated the potential of the painted canvas and set early autopoietic precedents; process materialised into the formal qualities of the work, colour interaction as form, fractal geometry as movement, canvas as potentiality. Pollock, speaking in a 1944

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<sup>47</sup>Emma Kunz, <https://www.emma-kunz.com/en/emma-kunz/>



**Figure 12.** Jackson Pollock, Autumn Rhythm No 30, enamel paint

interview with the 'Journal of Arts and Architecture' stated, "...when I am in my painting I am not aware of what I am doing."<sup>48</sup> This erasure of artistic subjectivity as the origin of the paintings formal properties, is what strongly characterises Pollock's practice in autopoietic terms, and which further extends to the mechanical properties of Pollock's relationship with paint.

The subjective de-centring in Pollock's process sparked interest in the art world; the interest focused on the question of the role of the artist in the creative process.<sup>49</sup> In a 1952 article published in *Art News*, Rosenberg, reflected on Pollock's method of innovation in the creative process, explaining that .. '... most importantly [of Pollock's work] was not the development of subject or style, but the *role* played while creating."<sup>50</sup>

Memoirs on Pollock's time as a student studying under Thomas Hart Benton are illuminated by a fellow student from *The Art Students League*, Axel Hornat, ...those who enrolled in *Benton's* classes at the school were compartmentalised individuals, with a similar need to break down the total complex problem of creating a work of art into it's smaller components, (Benton's teaching philosophy). He, (Benton) published a series of articles titled, *The Mechanics of Form and Organisation*, in a popular periodical, *The Arts*. In these articles Benton described how to gain compositions equilibrium and rhythmic balance by the repetition of

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<sup>48</sup>Ellen Landau, *Jackson Pollock*, (Abrams, New York, 1989), pg 44

<sup>49</sup>Ellen Landau, *Jackson Pollock*, (Abrams, New York, 1989), pg 44

<sup>50</sup> Ibid pg. 16

similar factors in a dynamic sequence at altering intervals; and how to organise a work from the edges inward or outward from the centre.”<sup>51</sup>

Pollock took these identifiably autopoietic methods of creative computation, (Benton’s teachings), of how to manipulate the formal aspects of compositional structure and cohesion toward successful formation of painted *rhythms*. It was this innovation of using method to turn the materiality of the paint into the subject of the work that synthesised recursive, rhythmic form, resulting in emergent form - as the formal quality of the works.

Significant to this research project the autopoiesis of Pollock’s practice, resulted in the consequential fractal phenomenon often associated with Pollock’s work. As with generative art practices earlier discussed, the implication of the generation of autonomous processes diminishes or replaces the presence of the artist in the making of forms. Also previously discussed, the role of the autopoietic artist is to participate via the artist *techne* entering the process and becoming enmeshed into the formal qualities of the work. So the creative work of the artist in this regard, is not supposed as subjective but rather a consequence of the artist’s action. This point has been raised again to illuminate the role of the presence of the artist during the practice of the autopoietic method. The fractal phenomenon of Pollock’s work evidences fractal pattern formation arising from the subconscious, and being transmitted via human behaviour to his work. David Pincus Ph.D. writes for *Psychology Today*

In the past 10 to 20 years, researchers in psychology have been finding increasing examples of fractal patterns across each of the domains of psychology: including intentional behaviours, visual search, and speech patterns. The study by Kitzbichler et al (2008) has added to much prior research suggesting that the brain exhibits fractal behaviour. This makes a necessary link between the physical process of the brain and each of the larger scale fractals we see in broader personality and social relationships.<sup>52</sup>

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<sup>51</sup> *ibid* pg. 28

<sup>52</sup>David Pincus, *Fractal Brains: Fractal Thoughts - Our Brains are fractal, with far reaching branches*, <https://www.psychologytoday.com/au/blog/the...life/.../fractal-brains-fractal-thoughts>, Posted Sep 05, 2009



Such data opens the possibilities to the autopoietic creative method to question whether human interaction with materials, as an autopoietic process, can generate elements of emergent consequence, whereby the artist's neurological footprint, can occur in the work as fractals or other phenomenological consequences.

To speculate the consequence of the emergent phenomenon of fractals in Pollock's work, is to also make inclusive, as previously mentioned, the participatory role of the viewer to complete the autopoietic creative encounter by reestablishing the process. Richard Taylor, concludes that in his study of the effect Pollock's work has upon the viewer,

Sophisticated neuroscience experiments (involving techniques such as eye-tracking, MRI etc.) demonstrate that the human visual system responds in the same way to Pollock's patterns as to nature's fractals and computer-generated fractals. If Pollock's look exactly the same as other fractals then they are fractal. If you prefer to rely on computer analysis of the patterns to answer the question, 10 independent groups have successfully quantified over 50 Pollock's using fractal parameters. As Benoit Mandelbrot, the inventor of the term fractal, summed up: "I do believe Pollock's works are fractal."<sup>53</sup>

The emergence of such forms as a consequence of Pollock's process is arguably reflective of autopoietic and emergence methodology, and as such reflects the intention of this studio project.

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<sup>53</sup>Richard Taylor, *The facts about Pollock's fractals*, <https://blogs.upregon.edu/richardtaylor/2017/01/04/the-facts-about-pollocks-fractals/>, January 4, 2017

## **Chapter Three: Studio Methodology**

Autopoiesis has been broken down into basic concepts by Milan Zeleny, Professor of Management Systems at Fordham University, New York. Zeleny identifies these basic concepts as: *unity; production process; organisation; structure; closed organisation; autonomous unity; system; and topological boundary*.<sup>54</sup> This methodologies chapter will now go on to extrapolate on Zeleny's writing by transposing his summary of the behavioural characteristics of autopoiesis, and applying it to the autopoietic creative process. This is in order to make clear the relationship between these observable behaviours of the autopoietic biological cellular function, (the relationship between the organism and its materials) with the works of art in this studio project.

### **Methodology**



**Figure 13.** Christopher Connell, Diffusion 1, oil on canvas, 2 panels, 16 x 98cm each, work in progress, 2019

***Unity*** - assumes the work as an entity differing from its environment in its observational aspects as whole.

***Production process*** - a process of becoming or transformation realised by means of the disintegration of its given components. So the elimination of a component

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<sup>54</sup>Milan Zeleny, *What is Autopoiesis?*, (Constructivist Bibliography, New York,1981).

gives way for a new element or component. This is a means by which the work/cell can continue to act.

**Organisation** - the basis of self regulation and recognition - so the relationship amongst the structural elements must not vary other than in relation to themselves. This is in order to maintain the work/cells identity basis, or cohesion. This element of the autopoietic is causal to the emergent aspects of the work. A given work of art will maintain a relationship with its parts, rendering it identifiable in this aspect.



**Figure 14.** Christopher Connell, *Nell*, oil on canvas, 56x120cm, work in progress. 2019

**Structure** - the arrangement of space realised once again in relation to the overall elements of the work to allow accessibility for emergent function via the continuation production. This aspect of structural production is pivotal to the generation of creative problem and problem solving paradox, resulting in the formal qualities of the work. Structural choices are made with a view to extend the dialogue of the process.



**Figure 15.** Christopher Connell, work in progress, A3 Graphite Study, 2019

The consideration of the emergent structural qualities of the works are realised by utilising flexible subjectivity, (explained in footnote below.)<sup>55\*</sup>



**Figure 16** Christopher Connell, *Associate 1*, oil on canvas, 122x91cm, work in progress, 2019

**Closed organisation** - a recursive, self dependent, self opening, self closing organisation based on the original limitations set for the work. A limited palette, a set parameter (size of the canvas), an initial form or shape with which to initiate the generation of change or emergent processing; these aspects must not change. The success of the work relies on the maintenance of autonomy, stemming from a set of limitations, performed in a closed organisation.

**Autonomous unity** - an integration of elements, connected by means of responsive recognition and self supported regulation.

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<sup>55\*</sup>The idea of innovating the work of art to the autopoietic method is in one respect to shift creativity past an artist as origin approach to the work of art. To innovate the creative *space* past the subjective experience of the artist is understood in the work of the English psychoanalyst W.C. Winnicott via his inquiry into artistic subjectivity. For him 'the self', or that which produces a feeling of oneself, is never unequivocally defined, but is generated in a continuous process, which happens in what he calls a 'potential space'; a formless zone between the I and the other where the creative drive is convoked. The treatment of the artist subjectivity in this studio project, parallels Winnicott's thesis on subjectivity as a space of potentiality. This space of creative function favours process over resolution or ideas of origin, and as such is likened to the artist relationship with the autopoietic method in this project investigation; a concern with the potential of emergent outcomes in the work.



**Figure 17.** Christopher Connell, Diffusion 2, oil on canvas, 150x192cm, work in progress, 2019



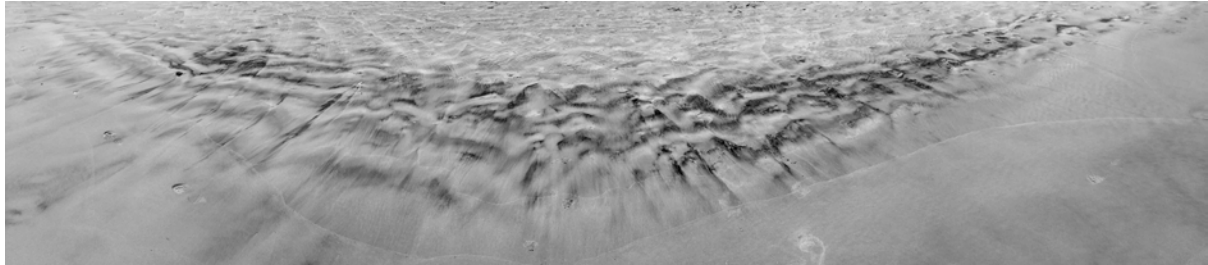
**Figure 18.** Christopher Connell, A3 Graphite Study, work in progress, 2019

**System** - the composite of the cell/dialogue of the painting as characterised by its very organisation and structure, so self recognition and ultimately 'process'. This element of autopoiesis is considered *hylomorphic* - the inseparable relationship between matter and form.



**Topological boundary** - a cellular wall, equated to the edge of the work or the canvas; this renders the autopoietic system as observably unified.

### Method Process



**Figure 19.** Christopher Connell, untitled photos, field trip, 2017

The paintings in this studio investigation evolve from graphite and print based studies, which inform the paintings. These studies explore the functional capacity of an *increment*.

These *increments* derive from photographic field trips, which explore evidence of pattern theory, in both 'natural' and urban environments and are the material for the autopoietic method, set to follow nature's method of continuum. The increments are sourced for their Euclidean and non-Euclidean geometric potential, when applied to the autopoietic method - the visual complexity of the increment is considered. As such, the erosion patterns that order the spatial qualities on a seashell, fractures in a concrete footpath or the manner in which light travels through water may be considered potential reference.

In the generation of my paintings, I simplify and then work with these increments to constitute a ritual poiesis; a dialogue between relational geometric formations based on the three autopoietic functional elements of interaction previously mentioned as; idea, association and consequence. It is in the transformation between these functional elements that the autopoietic method is kindled, and leads to the realisations of the increment's emergent potential, and consequently the graphite studies.

The studies are then subjected to print exercises on acetate and paper stock which are generated from architectural plan printing technology and photocopy technology by superimposing and rerunning the visual data from the graphite studies. This results in further emergent consequences, or maps of autopoietic dialogues, building an ontological visual diary of emergent behaviours - the visual data for the ensuing works and supporting theoretic component of the studio investigation. If this exercise with generative print can be equated to emergent phenomena, it is because growth patterns and self-organisation are governed by the repetition of a single task applied to an assumed unity.



**Figure 20.** Christopher Connell, graphite study, 2018

Hence the paintings in this studio project are consequential of the artist assuming the role of the mentioned print technology. During this process of ritual poiesis a non subjective or generative platform by the artist is assumed and artist techne begins a rhythm based interaction with the works, set to follow natures mode of iterative continuum, namely the autopoietic creative method. I further employ various strategies for encouraging generative formations during the execution of the work. These methods of formative generation include grid transposition, and stencils retrieved from existing elements within the works.

Glaze recipes are used to dilute oil paint to transparency. The glazes oscillate in pigment density set to the effect of vibration. This method is employed to avoid the solidification of the formal properties of the works into recognisable form. This *vibration*, the result of visual accessibility of the entire process of the paintings, enacts structural dynamic changes, toward the emergent outcomes of the paintings. The outcome of each painting varies for this reason. The transparent value of the works allows them to act via their varying stages, of searching and becoming. The



**Figure 21.** Christopher Connell, work in progress, detail, 2018



predictability of the outcomes of the works is difficult to anticipate, as the process is generative of the autopoietic method.



**Figure 22.** Christopher Connell, *Cosmos*, oil on canvas, 200-350cm, 2019, work in progress. detail.

Major works on paper follow the just mentioned methodologies of the oil paintings, differing only in so far as dry pigment and graphite powder, applied with a dry brush to paper stock take the place of paint and canvas. Each layer of graphite is



**Figure 24.** Christopher Connell, *Graphite Major Work*, detail, 2018

fixed with workable fixative and then the surface reworked following the just mentioned methods. These works on paper then, also operate into post-landscape and post abstraction, and are cast into the extended field of painting.

## Conclusion



**Figure 23.** Christopher Connell, *Chorale*, oil on canvas, work in progress, 2019, detail

The works in this studio project are the result of the autopoietic method; which is both the process by which the works are constructed, and the responsive encounter which continues in the act of viewing. This method is essentially a tool utilised to divert artistic self-consciousness from the task of composition. Its primary task is to liberate the creative encounter with the work of art away from formalist precursors toward the work of creative computation. In acting upon these aesthetic traditions by engaging with a method based on function rather than subjectivity, a reorienting of the artist's work from originating forms to their creative processing is performed. The formal properties of the work emerge from this processing. Autopoiesis works to create the conditions from which form emerges, rather than toward the solidification of an idea which is the traditional pre tense of the creative encounter. As such, Autopoiesis has broad application across many creative disciplines, by emphasising the role of creative computation.

Applied to contemporary painting, Autopoiesis as creative method means to primarily observe creative computation via the materiality of the work; a ritual poiesis which utilises creative problem finding and solving between artist techne and materials. This, ultimately, is set to interrupt the accepted understanding of form when considering the painted surface, by intentionally activating emergent processing in both the construction of and viewing of the works. The formal qualities of the works, considered as self-informing dialogues, reflect the behavioural characteristics of natural systems offering an alternative to the objective formalist aesthetics dominant in realms of representation and abstraction. Autopoiesis as a method, works creatively upon natural or abstract form, so a formal dynamism both constitutes the work and continues in the viewing.

As such this research investigation has reoriented the representation of the landscape into an immersive event, which now views landscape as distant from its aesthetic relation to nature as recognisable form, and speaks directly of the autopoietic creative method as the work; challenging the idea that landscape painting is necessarily characterised by the representation or solidification of nature by imitating natural forms. This has resulted in this body of work presenting the landscape rather than representing the landscape. In this sense, this reapplication of creative practice to work upon natural and abstract forms, is what constitutes these works as post abstract, and post landscape, autopoietic environments.

The incremental nature of autopoietic processing - which considers artist and materials as equal in the paradigm of cause and effect, offers that this fundamental method of creative processing has been working, unacknowledged as such, across existing genre and stylistic models throughout the history of art production and continues today in contemporary practices. Autopoietic methodologies occurring in both historical and contemporary works of art suggests that an analytical dialogue pertaining to the autopoietic system of creative computation, may speak more fundamentally of the creative process, implying that autopoiesis might have identified something common to artistic praxis; not in relation to the history of art theory, but through the study of creative methodologies. To this extent, it has not been the task of this research project to lay claim to new discoveries; this research project rather acknowledges the intrinsic relationship between autopoiesis and the creative function.

Fundamental to the understanding of the Autopoietic creative method is the consideration of the artist role in the process. This has been understood in this paper by means of considering the antithetical processing methods of other generative art forms. Whether a computer algorithm created with code as a central characteristic, or geometric paintings created via abstraction or minimalism, these system based art forms can only continue to generate within the confines of the limitations by which they are identifiable. In other words, to determine the works formal properties as though they are restricted to a set of original instructions or conditions as purely determining the composition. What differentiates Autopoiesis from both computer based generative art forms and other system based art forms is indeed the lived experience of the artist; that in setting up these original formal constraints, the creative work is meditated or given over to the application of technical skill or *techne*. The limitations set by the autopoietic creative method are via materials and nature of the initial mark making only. This, then followed by the constraint ritual of *seeking and solving problems, rationale formation, observation, and theme selection*, enables emergent processing to flow seemingly endlessly. The consequence of initial limitations set to creative processing, rather than creative processing set to stylistic or genre constraints, is interestingly what frees the autopoietic method into limitless processing, allowing the work of art complexity measurable to the behaviour of living systems. This is identifiably the autopoietic creative process of creative computation, and indeed why this method is a point of such interest for this research project in its consideration of the landscape.

It is within the consideration of the painted surface as pure potential that this research project found its initial direction of enquiry, and this projects conclusion is that a deeper understanding of Autopoiesis has only expanded the supposition of such potentiality.

To understand a painting as an autopoietic environment means to allow the artist and the work a platform from which to suppose an encounter with creation, and consequentially to interrupt the constraints of determinism. The flexibility of autopoiesis as a creative method can not only be rationalised as an autonomous creative methodological tool by which to explore creative processing; resulting in works of art that speak in a very pure sense of the creative encounter, but also autopoiesis can be applied to existing genre or stylistic models as a means by which

to open windows of creative complexity. It is within this understanding of the Autopoietic creative method that this research project concludes that the question of art creation will always be within the nature of the encounter rather than any ideologies of origin or determinism which may usher the phenomenon of the creative encounter with the work of art into the domains of aesthetic definitions.



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