



CARBON MONOCHROME: MANUEL DELANDA AND THE NONORGANIC LIFE OF AFFECT

Alan Boardman

Abstract

This paper focuses on the new-materialist philosophy of Manuel DeLanda and its application to visual-art theory through the material of contemporary monochrome painting. It asks: can the monochrome act as a 'material of thought' to orient DeLanda's new materialism toward theorising the materiality of art in the context of the anthropocene? The raw-earth pigment monochromes and landscape interventions of Onya McCausland and the lab-grown nanotube pigment monochrome and sculpture works of Frederik De Wilde provide iterations of the monochrome for this analysis. An analysis of carbon through these artworks as a 'material of thought' facilitates access to the materiality of artworks more generally. This article proposes a new-materialist interpretative framework that goes beyond the parameters where meaning is produced through a phenomenological approach, through artistic intention or viewer interaction, and instead locates the artwork within assemblages constituted by human and non-human affects. It provides the basis for a new-materialist theory of art that is grounded in materiality, that constitutes the contemporary art object as a nonorganic life and one that opens up new territories for thinking art in the anthropocene.

Keywords: new materialism, Manuel DeLanda, materiality, affect, contemporary monochrome painting, nonorganic life, anthropocene

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Biographical note

Alan Boardman is an artist and researcher based in Ireland. His practice is engaged with painting and the materiality of art in the context of the anthropocene. He makes objects that evoke the affects of our 'becoming-geological'. Alan is also engaged in a research project on the new materialism of Manuel DeLanda and its implications for a theory of visual art.

Banner image: Photograph of maggots, larvae and flies on bacteria culture in Edgar Lissel's *Bakterium – Vanitas* from his *Bakterium-series* (1999–2001). (Courtesy Edgar Lissel)

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Introduction

This article addresses the issue of accessibility of the materiality of artworks. It aims to go beyond James Elkins' (2008) criticism of those accounts of materiality as abstract and general, and produces a framework for 'material thinking' through engagement with particular artworks. It uses contemporary monochrome painting as a material to orient the new-materialist philosophy of Manuel DeLanda (1992, 2002, 2016) toward the issue of materiality in contemporary visual arts and its relation with the material world in the context of the anthropocene.

Elkins proposed that the difficulty for art historians, such as himself, in addressing and accessing the materiality of the art object lies firstly with the theoretical tools which art historians yield, namely that phenomenological and art-historical terms are too detached from one another to be deployed to open up particular material concerns. Secondly, art historians have inherited a fear of materiality, for instance, always seeing paintings, pictures or images rather than material objects. According to Elkins, they have become allergic to the materiality of the artwork, circumnavigating it in general terms but always keeping a safe distance. The third force preventing the art historian from fully getting to grips with materiality is due to what Elkins calls the 'slowness of the studio'. Elkins proclaims that the artist studio is a place of chronic, low-level pain, in which the art historian is denied quick and direct assimilation of material processes into discursive meaning, in short 'materiality gets in the way of thinking as well as looking' (Elkins, 2008, p.30). This article explores how materiality can inform thinking to better facilitate how we interpret what we see.

Elkins' claims are an interesting, if brief, articulation of the issue of accessing the material object from the art historian's perspective and is a helpful starting point for this article. As an artist, rather than an art historian, writing about the materiality of art, I will focus on the artworks' materiality first and foremost. This is done in order to propose a continuum between materiality and meaning; a continuum that is always present and which flows both ways. This article therefore advances that the meaning of an image is always tethered in some way

with its materiality. The particular objects of my focus are recent iterations of contemporary monochrome painting, specifically black monochromes, or, what I am calling 'carbon monochromes', from artists Onya McCausland and Frederik De Wilde. Furthermore, this focus will be grounded, not in a phenomenological methodology, but in a new-materialist one, specifically drawing on the philosophy of Manuel DeLanda. Influenced by Gilles Deleuze and Felix Guattari, DeLanda's thought shifts the human-centred approach to one with an emphasis on the independence of the material world from human conception.

My aim is not to show how the monochrome and its materiality can be re-thought through new-materialist concepts, but instead to deploy the materiality of carbon as a basis for thinking art in the contemporary world. Interpreting the art object in such a way activates a dialogue with the material world, a dialogue that is admittedly one sided, but one that opens to a possibility of speculating the non-human or non-organic realm. The 'carbon monochrome' is a material that reorients DeLanda's thought for an art-theoretical context. An analysis of 'the life of carbon', its multiple temporalities and its significance as a marker of both organic life and non-organic life addresses accessibility not just to the materiality of contemporary visual art but also to the world beyond the human, a world dramatically transformed by humans.

Methodology

New materialism is a methodological approach that draws on interdisciplinary knowledge production, bringing together philosophy, ecology, economy, politics, technology and art with a focus on how matter and meaning are entangled. Largely disavowing a representational framework, new materialisms ask not only 'how discourses come to matter' but also 'how matter comes to matter' (Barad, 2003, 2007). New materialism is concerned with materiality in all of its complex manifestations and interconnections. Even when the material world appears to fall away to the immateriality of ideas, new materialism holds that there are always degrees of materiality, nothing is ever immaterial, all is on the spectrum of matter and energy. The term 'materiality' itself is one that is widely used but often remains undefined. Tim Ingold (2007) has expressed frustration with the term, deployed to invoke the physical nature of things, only to become wholly conceptual as a place holder obscuring the lack of engagement with actual materials. While DeLanda does use the term, often interchangeably with phrases like 'material expressivity', it cannot be argued that he does not engage with the properties of materials. Throughout his career, DeLanda has explored the

properties, tendencies and capacities of matter in everything from geological processes to artificial intelligence.

The limits of phenomenological detail and its consequence for art writing emerges, for Elkins, between the gaps that detach the particular from the general and vice versa. Where phenomenology or aesthetics 'depend[...] on the particular as a counterpart to its interest in the universal and the general', art history 'depends on the general to create meaning for its investigations of the particular' (Elkins, 2008, p.27). This article investigates the materialities of particular artworks, not through phenomenology but through DeLanda's new-materialist philosophy in which the gaps between the particular and the general are navigable through incremental movements in scale, up and down, following the materials and their relations. For DeLanda, the existence of the general is contested and supplanted by the idea that in material terms there is only the particular (DeLanda, 2002). In the context of art writing and aesthetics, this methodology demands that we begin with the particular historically produced material configurations of the artwork from which we build meaning, finding relations with other artworks, affects and modes of thought.

Elkins' proposes that art historians have demonstrated a 'fear of materiality', relegating the physical or material conditions of artworks from the more important realms of historical, theoretical and critical accounts (Elkins, 2008, p.26). He boils this fear down to a divide maintained by the habits of writing and thinking, and the reluctance to explore beyond the point where writing becomes difficult. Looking to DeLanda, we can begin to cut through this imposition of a fear affecting the habits of art historians. He proposes that the phenomenological and broader idealist modes of thought, incorporating the presumption that the world is a product of our minds, have dominated academic departments resulting in a forgetting of the material life and a concentration on textual hermeneutics (DeLanda, 2010, p.29). Furthermore, this amnesia has led to a confusion between the discursive and the non-discursive where historical, theoretical and critical accounts of artworks became predominantly discursive practices. For instance, when an artist's studio practice or process was connected with a particular theoretical or critical interpretation it became discursive, the specific physical or material conditions taking place in the studio became insignificant and subsumed into the discursive art-historical context. The fear, to which Elkins refers, is actually an amnesia concerning the materiality of art.

Phenomenological and new-materialist methods also have differing approaches to art theory's primary

means of conceptualising the impact of the artwork, what Elkins describes 'as being attentive to what [...] bodies tell them about artworks', this is the notion of *affect*. From the phenomenological perspective, affects are the sensations in the human body, in the flesh, that give rise to state of feeling and emotion. While some accounts propose that affects are pre-subjective, pre-linguistic and autonomous (Massumi, 2002; O'Sullivan, 2001), others proclaim that affects are embedded with emotions and remain characterised as something that happens in human bodies alone. In recent accounts of affect in new materialism (Bennett, 2010), affect is expanded as a perturbation that is not limited or unique to humans alone. Affects erupt in a variation of bodies, organic, but also inorganic. Affects or 'capacities to affect and to be affected' can also be geological, technological or climatological. In some cases, humans are plugged into an assemblage where they are open to its affects, such as those occurring in environmental systems, but such affects also occur without human presence. In the DeLandian reading, affects are not just material bodily responses to a sensible and perceptible world but are intensive indeterminate events that animate matter itself.

In characterising affect in this way, new-materialist thought conceives of an array of affects not limited to those of purely human origin or significance. The accessible vocabularies of affect in new materialism are vast in comparison to those for the phenomenological outlook. Art is said to capture affects within its materiality, as a result, the way we can think about materiality is expanded beyond the abstract and general into the world of particular material affects. Accessing this repertoire of affects, however, remains both experimental and intuitive. This rest of this article will focus on how iterations of the contemporary monochrome capture affects and help to open up new perspectives on the materiality of the artwork.

The monochrome

Allied to a new-materialist methodology and informing its material thinking is contemporary monochrome painting. The carbon matter of the black monochrome, in two particular iterations from artists Onya McCausland and Frederik De Wilde, will be the intuitive and experimental materials working, alongside concepts of DeLanda's new materialism, to open up the issue of materiality in contemporary visual art and its relation to the material world.

Contemporary monochrome painting has a genealogy formed from two main threads. Kasimir Malevich's *Black Square* (1915), *White on White* (1918) and *Suprematist Composition* (1916) and Alexander Rodchenko's *Black on Black* (1918), *Pure Red Colour*, *Pure*

Blue Colour and *Pure Yellow Colour* (all 1921), introduce the monochrome with metaphysical and materialist intention respectively (McEvelley, 1996). Malevich's metaphysical monochromes were envisioned as portals to the absolute, into the void, to a new realm beyond form, beyond the post-World War I ruin of Europe, producing an image of nothing more existent than any image of something. Rodchenko's monochromes were opposed to the new spiritual aspirations of the time, instead he proposed his series to be the last paintings as plainly stated material objects with sculptural overtones (McEvelley, 1996, p.56). While their intentions differed, they both had radical social change in mind.

This genealogy remained largely dormant for a generation until monochrome painting reemerged in both Europe and North America after the second World War. Artists such as Yves Klein, Ad Reinhardt and Barnett Newman produced new iterations to open up the metaphysical, while Frank Stella, Robert Rauschenberg and Alberto Burri created variations on the materialist theme. The monochrome, specifically in its black-and-white examples, became a 'rite of passage' or 'a transition' for artists at the end of their careers or those just starting out (Rosenthal, 2007, p.73). In other interpretations, the monochrome became the 'central

icon of the sublime in the twentieth century' (McEvelley, 1996, pp.48–9)

These genealogies shared the premise of a perceived liberation from representation and that the historical meanings of art generally and painting in particular would be supplanted by a radical present (Staff, 2015, p.2). While both the metaphysical and materialist forms failed to realise their respective ambitions, Malevich's 'messianic utopian faith in art as an instrument for social change' (McEvelley, 1996, p.71) never manifested. Rodchenko's last paintings were repeated and painting never really went away, the monochrome endured as a form re-imagined within a divergent range of contemporary practices (Staff, 2015, p.3).

Carbon monochromes and the fear of materiality

Onya McCausland's practice situates the monochrome within a range of activities that connect studio processes with the landscape and its geological processes. A work from 2014 entitled *Attachment* is composed of a uniform and dense application of coal-black pigment in an asymmetrical geometric shape on a panel of aluminium (Fig. 4.1). Accompanying the sooty black pigment panel is a mirror image of



Figure 4.1: Onya McCausland, *Attachment*, 2014. Coal black pigment and aluminium panel (pigment sourced from Bideford, UK), plywood panel: 47.5 x 26cm, aluminium panel: 47.5 x 26cm. (Image courtesy of the artist)

the same pigment applied with a lighter density on a plywood panel. The two forms meet at the centre point of the work, conjoined to form a single incomplete circle. Alternatively, in a kind of visual trickery, we see two larger cropped circles coming into contact with one another. Two bodies coming into contact, one composed of densely packed matter and one an ephemeral fleeting mist of colour. In reference to her monochromes, McCausland explores how 'images have become separated from the material site of their production, from the world of things' and proposes that in her paintings 'images are inseparable from the physical properties of their material carrier' (McCausland quoted in Cornish, 2014). McCausland's works aim to reattach and make visible this connection between image and its physicality, between colour and the matter of the earth to reveal not just cultural significance but also the environmental significance and cost of an amnesia that separates them.

Viewing this work on the gallery wall, isolated in the white space, initially gives the impression that this work is primarily formal. Various geometric shapes coupled to their ghostly twin float in a vacuum. However, this is not the case as these paintings are components of broader invisible practices. McCausland describes her paintings' relation to other practices in the following way.

My paintings are just fragments, they are just as connected with the landscape they originate in as they are to the wall of the gallery space, they are fragments that belong with other fragments; of journeys in my car to places, collecting materials, the lengthy processes of turning the materials into usable pigment, and then paint, writing and films recording these processes. The paintings are a mark along this trajectory. In this way the monochrome painting is simultaneously a fragment of landscape.

(quoted in Cornish, 2014)

McCausland produces her own earth pigments from materials sourced directly in the landscape. Making journeys to sites across England, the raw materials that she uses are entangled within personal, social and geological histories. Sites include Oxted Quarry in Surrey, Todmorden Moor in Lancashire and, for the pigment used in *Attachment*, Bideford in Devon. The raw black rocks that McCausland sources from the sites she visits, become a material with which the artist negotiates through grinding, washing and filtering into a fine dust. The dust material is left to settle where it finds its uniform consistency ready to be bound with a medium and applied to a surface. There is a

sense of patient ritual in this work, of a considered relation and sensitivity to the materials and their sources. *Attachment* is a work that speaks to the deep interactive relations between human and earth in an age when humans are becoming a geological force.

Just as McCausland's practice reattaches the image to its materiality, Elkins bemoans how art historians have historically shown preference for the image, picture or painting discrete from its materiality. Further extending the critique into the context of the anthropocene is the narrative connecting the contemporary world of digital media and the mineralogical materials on which it depends. Jussi Parikka explores the material foundation of the 'dematerialized' images in his *Geology of Media* (2015). Parikka addresses the way theory and the visual arts respond and reveal the mechanisms through which the hardware of digital media relies on mineral excavation of the earth and how the aftermath of obsolescence is creating new geological layers of e-waste.

Not only does McCausland's carbon monochrome reattach the link between image and materiality in an art-historical context, producing compelling affective capacities between artwork and viewer, it also reveals the unique structural nature of carbon itself, bringing to the fore new awareness of carbon's ability to demonstrate affect in and of itself. There are several allotropes of carbon, meaning it has the ability to exist in various structural forms. Diamond, graphite, amorphous, fullerene and nanotubes are examples of carbon arranged into its different forms, producing seemingly different materials. The amorphous carbon materiality of McCausland's monochrome emerges from the deep time of the geological, making it a material common to cave painters in prehistoric times, a material that sat for millions of years only shifted under the slow geologic forces of plate tectonics. This form of carbon became the basis not just for industrialisation in the 18th century, but, more specifically, it is the material from which human endeavour uncovered the capacities of coal tar (Leslie, 2005). Dyes, pigments and later synthetic plastics and polymers would unfold from the curiosity that amorphous carbon inspired. Chemistry made carbon a material to transform, but it was messy and often accidental in its innovation.

A comparative form of the monochrome to McCausland's earth-pigment piece is provided by Belgian artist Frederik De Wilde, who, in 2014, produced the world's first blackest black artwork. De Wilde's blackest black monochrome consists of a square measuring 1500 x 1500 x 15cm consisting of 0.1% carbon nanotubes and 99.9% air. *NANOblck-Sqr#1*

is a painting that is grown on a surface from the atomic scale rather than painted through the application of pigment (Fig. 4.2). The 0.1% carbon is a material of structural colour rather than a traditional pigment. The nanotubes are the result of a process in which catalyst seeds or atom-sized particles are ‘sputtered’ across a substrate onto which a chemical vapour is applied, creating a “forest” of vertically aligned carbon nanotubes (De Wilde, 2014). The geometry of the tubes absorbs almost all visible light as well as some invisible light producing a void surface appearing as the blackest black.

The blackest-black is a poetic thought, an artistic concept and research project, a concrete series of artworks that are ‘born’ out of necessity, reactionism, subversiveness. The blackest-black concept and artwork help us to question our perception and reality. Additionally, the blackest-black holds potentially a ‘key’ to our survival as a species. So, the blackest-black is not just a nice coating with a nice effect, it’s the ultimate celebration of the unknown. It’s pure horizontal depth and a space of boundless immateriality.

(De Wilde, 2014)

De Wilde’s nano black monochrome is painting at the edge of scientific developments in nanoscale engineering and materials science. Within its boundless black surface, it captures light, it sucks light in and traps it in the attractive and repulsive forces that hold the forest of tubes together. As light is absorbed into the surface, it is transformed and dissipated as heat. The artist has remarked, the work is an expression of both extreme light and darkness together referencing the idea of quantum-world superposition in which light is both wave and particle at the same time.

De Wilde’s monochrome is made from a structural form of carbon known as C60 or Buckminsterfullerenes, named after their likeness to the geodesic domes designed by Buckminster Fuller. The structure was discovered and manufactured by scientists in 1985. The fullerene molecule can take a cylindrical, ellipsoid or tubular form. It was not until 1992 that fullerenes were found in nature in carbon rich Precambrian rock from Russia (Buseck, Tsipursky & Hettich, pp.215–17). This complex carbon structure provides a contrast to the structure of carbon used in McCausland’s practice. The earth pigments she produces are made from a form of amorphous carbon. Amorphous carbon is a free, reactive carbon without



Figure 4.2: Frederik De Wilde, *NANOblack-Sqr#1*, 2014. 99.9% air and 0.1% carbon nanotubes, 1500 x 1500 x 15cm. (Image courtesy of the artist)

crystalline structure, although it rarely occurs in pure form, often being mixed with polycrystalline materials such as graphite or diamond.

De Wilde's monochrome encapsulates both a metaphysical and a materialist tendency. It is a flat, horizontal surface composed of a material that is



Figure 4.3: Onya McCausland, *Charcoal Measure*, 2016. Charcoal compressed into trenches in the Forrest of Dean (UK), variable dimensions. (Image courtesy of the artist)



Figure 4.4: Onya McCausland, *Charcoal Measure*, 2016. Charcoal compressed into trenches in the Forrest of Dean (UK), variable dimensions. (Image courtesy of the artist)

darker than any material that came before it, but, at the same time, it is almost not even there. While the surface always remains a material, it is on the tipping point of Malevich's and Klein's proposal for an absolute void. However, McCausland's monochrome also encapsulates both the metaphysical and the material but in a much different way. More pre-modern than 21st-century and technology-inspired, *Attachment* is attuned to a different materiality and a different sense of time. The brute materiality of the coal-black pigment, produced over millions of years of organic deposition and decay, coupled with McCausland's subtle and time-consuming refinement, brings with it the resonance of the metaphysical implications of the deep time of the geological.

Works from both artists that complement the context of the monochrome, McCausland's *Charcoal Measure* (2016) and De Wilde's *MIne #1* (2015) respectively, further expand the relation between the materiality of carbon in art and its significance in designating the epoch of the anthropocene. These carbon works evoke the beginning of the anthropocene – in the form of excavated and exhausted carbon leaving its residues in the earth and atmosphere – to the contemporary world, in which carbon has become

a material of the technologies that re-structure and manipulate matter's capacities.

McCausland's *Charcoal Measure* (2016) was a site-specific installation in the Forrest of Dean, Gloucestershire, UK (Fig. 4.3). The work was initiated through an exhibition of commissioned artworks produced from the charcoaled remains of an iconic oak sculpture that had stood in the forest for almost 30 years. In October 2015, a charcoal clamp burned the remains of the sculpture on the site where it had once stood. *Charcoal Measure* is a line of charcoal in the forest that draws and maps out on the surface the scale of the coal excavations beneath. The cavities below are drawn up and onto the surface by the charcoal measure. A linear grid of charcoal runs through the site of the clamp and the surrounding forest highlighting the invisible cavities 1,000ft below (Fig. 4.4).

A complimentary work by Frederik De Wilde also deals with the legacy of coal mining. *MIne #1* (2016) is a 3D-printed sculpture in titanium with the same nanotube coating as his monochrome (Fig. 4.5). The sculpture, on a much smaller, gallery-suitable scale, was made with custom software to visualise data points from seven coal mines in Belgium. The data was rendered into a geometric form. A spherical branching



Figure 4.5: Frederik De Wilde, *MIne #1*, 2016. 3D-printed sculpture in titanium with blacker-than-black, nano-engineered coating, variable dimensions. (Image courtesy of the artist)

shape emerges from the process, a mine within a mine within a mine resembles a bird's nest or plant-like structure. The final aim of the project is to develop a 'sculpture that appears to be flat, a cut out, a perfect "black body" that acts as a super photovoltaic cell rendering sunlight directly into DC current' (De Wilde, 2016).

Nonorganic life of the monochrome

A concept that DeLanda uses to engage with the material world beyond the human is the idea of inorganic or nonorganic life (DeLanda 1992). The term is taken from Deleuze and Guattari, which in turn reference art historian Wilhelm Worringer's characterisation of the line in gothic art 'as the only perceptible expression of the non-living or the absolute' (1920, p.30). In his *Abstraction and Empathy: A Contribution to the Psychology of Style* ([1908] 1953), Worringer writes:

the first geometric abstractions appealed not to the intellect, but to the deepest physical and mental constitution of the observer. If one follows those physical and mental roots deep enough, one finds that they do not even belong to a body or a soul anymore, but rather to inorganic nature: static, inexorable, eternal.

(Worringer, [1908] 1953, p.246)

Worringer's idea of an inorganic life posits an underlying inorganic force that is tethered to the processes and structures of organic life, 'the morphological law of inorganic nature still echoes like a dim memory in our human organism' (1953, p.247). For Worringer, inorganic life is a manifestation of the will toward abstraction and with it spiritual agoraphobia, entropy and death, while organic life is the will towards rationality, empathy and familiarity. Joshua Dittrich (2011) offers a critique of Worringer's concept and its relation to philosophies of life and expressionism in which he outlines how the concept is a flight from reality, oscillating from mystical intuition into rational understanding without foundation or reason. In this initial incarnation 'inorganic life' does suffer from Elkins' criticism of materiality in that it is abstract and general.

In *A Thousand Plateaus* (1987) Deleuze and Guattari take up the term, expanding the context of abstraction through their analysis of the practice of metallurgy. They propose that metal has a privileged status as a conductor or catalyst of matter itself. Metal, they say, is 'the consciousness of matter-flow' or 'the non-organic life is the intuition of metallurgy' (Deleuze & Guattari, 1987, p.411). Metals exists everywhere, in organic and inorganic life. More recently, DeLanda has expanded

on this idea of a metallurgical life beyond the organism by defining the concept of nonorganic life as 'the mathematics of self-organization' (1992, p.140). In his essay 'Nonorganic life', DeLanda gives an account of the paradigm shift in scientific research that reveals how systems in nature are not closed, linear and predictable or, to use Worringer's terms, 'static', 'inexorable', 'eternal', but are instead subject to flows of matter energy that continuously move through them at varying speeds giving them potential dynamism and a state open to change (1992, p.129).

The significant development for DeLanda in his account of nonorganic life and materiality is the ability to follow such matter energy flows, to visualise or map the 'viscosities' or structures of these flows and to capture the affects that they produce. This requires what DeLanda calls intensive thinking (DeLanda, 2002). This is the study of materials or systems that are far from equilibrium with self-organising dynamics typically governed by singularities such as attractors and bifurcations. Materials far from equilibrium are characterised by differential relations and coupled rates of change in rapidity and slowness being cancelled over time. Intensive physical properties, such as temperature or pressure, produce extensive physical properties, such as length, area, volume or entropy. The material world emerges from morphogenetic processes structured by a realm of virtual multiplicities defined by 'zones of indiscernibility' (Deleuze & Guattari, 1994, p.173). It is, I am proposing, in these zones that affects emerge and disappear, leaving a residue of their intensity in material form.

DeLanda shows how 'stratometers' reveal the previously hidden self-organizing flows of matter energy and the ridged, supple and chaotic strata they lay down. The means through which these maps of self-organizing matter are produced is mathematical. However, DeLanda proposes that such measurements performed by a 'stratometer' need not be mathematical but can be intuitive and experimental (1992, p.155). The arts can operate as 'stratometers', capturing affects that emerge from matter energy flows that produce the various structures of the material world. Just as metallurgists developed sensual knowledge of the nonlinear and catalytic nature of metals prior to formal reasoning, so, too, do contemporary artists when probing the nonorganic life to reveal the novel affects embedded in their materials.

The black monochrome resonates with the concept of nonorganic life. Its evolving metaphysical and materialist genealogies act as a model of reference for the evolving notion of the nonorganic life. It has mystical and iconographical connotations in its

attempts towards presenting the unrepresentable. The monochrome and nonorganic life are forms of abstraction that seek out the possibilities of life beyond the organism. The carbon materiality of the monochrome is the most common element in organic life, more adaptable than any other in the periodic table in that it forms more compounds than any other element and is the most abundant element after hydrogen, helium and oxygen. Inorganic carbon sources include limestones, dolomites and carbon dioxide while organic sources of the element are found in coal, peat and oil. It is the element that designates the divide between organic and inorganic chemistry, effectively defining what is characterised as life or nonlife. Both McCausland's and De Wilde's iterations of the monochrome and their relation with the materiality of carbon and the carbon cycle are excellent examples of how contemporary art encapsulates the nonorganic life of affect. They summarize what Elizabeth Povinelli has called the 'Carbon Imaginary' which 'seeks, iterates and dramatizes the gap between Life and that which is conceived as before or without Life' (2016, p.32).

Mining the 'slowness of the studio' and the anthropocene

With regard to the practices of McCausland and De Wilde, the slowness of their respective processes is central to their relationship with the material conditions of their work. The difference between buying readymade pigment off the shelf and producing your own from materials sourced in the landscape would be an issue of irritation for the visiting art historian, let alone that this process does not account for the production of the painting. Equally for De Wilde, the studio is more a laboratory, where experimental trial and error eventually results in a material grown from atomic scale. It seems that issues of time are bound up with our ability to access and conceive of materiality. For McCausland, we have excavations in the deep time of the geological, but also the human time journeying the geography of England and the time taken to refine the earth's materials into pigments. For De Wilde, time is more future oriented, lab-time experimenting and growing material from the atomic level is more like a discrete quantum time, where materiality is produced rather than refined, where time is a continuous present rather than one that seeks out the past. Elkins highlights the slowness of the studio as a barrier for art historians and writers to engage with questions of materiality, I argue that tuning into the particular temporalities of artistic practices and processes is key to conceptualising and accessing the materiality of art.

The material world is a continuous transformation of matter in time, and the materiality of carbon plays a significant role in human relations with time. Radiocarbon dating is the method for measuring the age of an organic material through the dissipating properties of radioactive decay. Moreover, carbon's relationship with time has become more complex as humanity becomes a geological force itself. Radiocarbon dating has become more complicated with the burning of fossil fuels, such as coal and oil, and through the impact of nuclear testing. The altering of the carbon cycle in the age of the anthropocene further contextualises the carbon monochrome as a 'stratometer' for art's relationship with the shifting conditions of the temporal and material world. Kathryn Yusoff has investigated human entwinement with a 'geologic life' as 'a mineralogical dimension of human composition [...] crucial to modes of subjectification in the Anthropocene' (2013, p.780). She outlines how the 'material, temporal and corporeal conceptualisation of fossil fuels' are a platform for a 'more expansive inhuman thought' (2014, pp.779, 780). To this end, Davis and Turpin have attempted to respond to the entangled agencies of both the political and social implications of the anthropocene as well as the material transformations that such 'geological reformation of the human species' brings about (2015, p.3). They argue that living in a diminished and toxic world is a sensorial phenomenon. Equally it is a visual phenomenon where 'data visualisation, satellite imagery and climate models' frame our conceptualisation of humanity as a geological phenomenon (pp.4–5). This article has sought to evoke the materials of the anthropocene, through the investigation of carbon, in order to push beyond the sensorial and the visual. Contemporary art's engagement with materiality can activate its recognition and characterisation as a 'non-organic life'.

Conclusion

The evolution of the concept of 'nonorganic life' from mystical abstraction to metallurgical vitalism to self-organising flows of matter energy provides a conceptual tool to probe the issue of materiality in contemporary art. Such probing leads to the uncovering of more particular material conditions, the example in Deleuze and Guattari was metallurgy, a vitalist and catalytic capacity within matter itself. In my analysis, this was carbon, the materiality of the black monochrome, a material with the capacity to take on many structural forms. Furthermore, a new-materialist methodology allows us to unfold meaning through the self-organising flows of matter energy that give us insight into the material conditions of carbon.

Perhaps the black monochrome is a figure for the space between life and nonlife, a figure for Povinelli's 'Carbon Imaginary', a material surface on which a static, frozen encapsulation of past and future is suspended in the present. At the same time as providing a liminal space between life and nonlife, it enables the possibility for a map of the nonorganic life. The black monochrome, encapsulating its historical context from Malevich to Reinhardt to Stella and to contemporary iterations, is a map or 'stratometer' in the DeLandaian sense. It is not just a spatial map of topographies but also a map of temporalities. This combined presentation of spatial and temporal structures through the monochrome is a measure of the viscosities of stratification. The stratification of the variable structures of the material world from the ridged to the malleable to the fluid points of transition. From Malevich's original black monochrome to McCausland's geologically inspired carbon-chromes to De Wilde's chemical nanotube monochrome, the carbon surface in art is a material that opens up new understandings of and relations between visual art and the material world. In the contemporary moment, the carbon monochrome resonates with the designation of the anthropocene, where conceptions of visual art defined in material terms provide important insights for our changing material world. The monochrome is a stratometer for the nonorganic life of affect, uncovering the relation between the materiality of contemporary artworks and the material world as it is continually transformed.

DeLanda's conception of nonorganic life based on the physical processes of the material world, coupled with the artwork as a material that captures dissipating affects, provides an experimental method for probing the materiality of art. This method can reawaken our relation to the nonorganic world. With these new insights, there need no longer be 'fear of materiality' for if we can only attune ourselves temporally to the flows of matter energy, we may be able to respond more fully to our new geological agencies and their impacts.

Bibliography

- 1 Barad, K. (2003) 'Posthumanist performativity: Toward an understanding of how matter comes to matter', *Signs*, vol.28, no.3, pp.801–31.
- 2 Barad, K. (2007) *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Durham and London, Duke University Press.
- 3 Bennett, J. (2010) *Vibrant Matter: A Political Ecology of Things* Durham and London, Duke University Press.
- 4 Buseck, P.R., Tsipursky, S.J. and Hettich, R. (1992) 'Fullerenes from the geological environment', *Science*, vol.257, no.5067, pp.215–17.
- 5 Cornish, S. (2014) 'Questions for Simon Callery, Lawrence Carroll, Angela De La Cruz, and Onya McCausland: Enantiodromia part I and II', Fold Gallery, <http://www.foldgallery.com/press/questions-for-simon-callery-lawrence-carroll-angela-de-la-cruz-and-onyamccausland-enantiodromia-part-i-and-ii/>, accessed 23.8.2018.
- 6 Davis, H. and Turpin, E. (2015) *Art in the Anthropocene: Encounters among Aesthetics, Politics, Environments and Epistemologies*, London, Open Humanities Press.
- 7 DeLanda, M. (1992) 'Nonorganic life' in J. Crary and S. Kwinter (eds) *Incorporations (Zone 6)*, New York, Zone Books, pp.128–67.
- 8 DeLanda, M. (2002) *Intensive Science and Virtual Philosophy*, London, New Delhi, New York and Sydney, Bloomsbury.
- 9 DeLanda, M. (2010) 'Materialism and politics' in W. Schirmacher (ed.) *Deleuze: History and Science*, New York and Dresden, Atropos Press, pp.29–50.
- 10 DeLanda, M. (2016) *Assemblage Theory*, Edinburgh, Edinburgh University Press.
- 11 Deleuze, G. and Guattari, F. (1987) *A Thousand Plateaus: Capitalism and Schizophrenia*, Minneapolis and London, University of Minnesota Press.
- 12 Deleuze, G. and Guattari, F. (1994) *What is Philosophy?*, New York, Columbia University Press.
- 13 De Wilde, F. (2014) 'NANOblck-Sqr#1', *Frederik De Wilde*, <https://frederik-de-wilde.com/project/nanoblck-sqr/>, accessed 9.12.2016.
- 14 De Wilde, F. (2016) 'MIne #1', *Frederik De Wilde*, <https://frederik-de-wilde.com/project/mIne/>, accessed 9.12.2016.
- 15 Dittrich, J. (2011) 'A life of matter and death: Inorganic life in Worringer, Deleuze, and Guattari', *Discourse: Journal for Theoretical Studies in Media and Culture*, vol.33, no.2, pp. 242–62.

- 16 Elkins, J. (2008) 'On some limits of materiality in art history', *31: Das Magazin des Instituts für Theorie*, no. 12, pp.25–30.
- 17 Ingold, T. (2007) 'Materials against materiality', *Archaeological Dialogues*, vol. 14, no. 1, pp. 1–16.
- 18 Leslie, E. (2005) *Synthetic Worlds: Nature, Art and the Chemical Industry*, Reaktion Books.
- 19 Massumi, B. (2002) *Parables for the Virtual: Movement, Affect, Sensation*, Durham and London, Duke University Press.
- 20 McEvilley, T. (1996) 'Seeking the primal through paint: The monochrome icon', in *Capacity: The History, the World, and the Self in Contemporary Art and Criticism*. Amsterdam: G & B Arts International.
- 21 O'Sullivan, S. (2001) 'The aesthetics of affect: Thinking art beyond representation', *Angelaki*, vol. 6, no. 3, pp. 125–35.
- 22 Parikka, J. (2015) *A Geology of Media*. Minneapolis, University of Minnesota Press.
- 23 Povinelli, E. (2016) *Geontologies: A Requiem to Late Liberalism*, Durham and London, Duke University Press.
- 24 Rosenthal, S. (2007) *Black Paintings: Robert Rauschenberg, Ad Reinhardt, Mark Rothko, Frank Stella*, Ostfildern, Hatje Cantz.
- 25 Staff, C. (2015) *Monochrome: Darkness and Light in Contemporary Art*, London and New York, I.B. Tauris.
- 26 Worringer, W. (1920) *Form Problems of the Gothic*, New York, G. E. Stechert.
- 27 Worringer, W. ([1908] 1953) *Abstraction and Empathy: A Contribution to the Psychology of Style*, New York, International Universities Press.
- 28 Yusoff, K. (2013) 'Geologic life: Prehistory, climate, futures in the anthropocene', *Environment and Planning D: Society and Space*, vol. 31, no. 5, pp. 779–95.