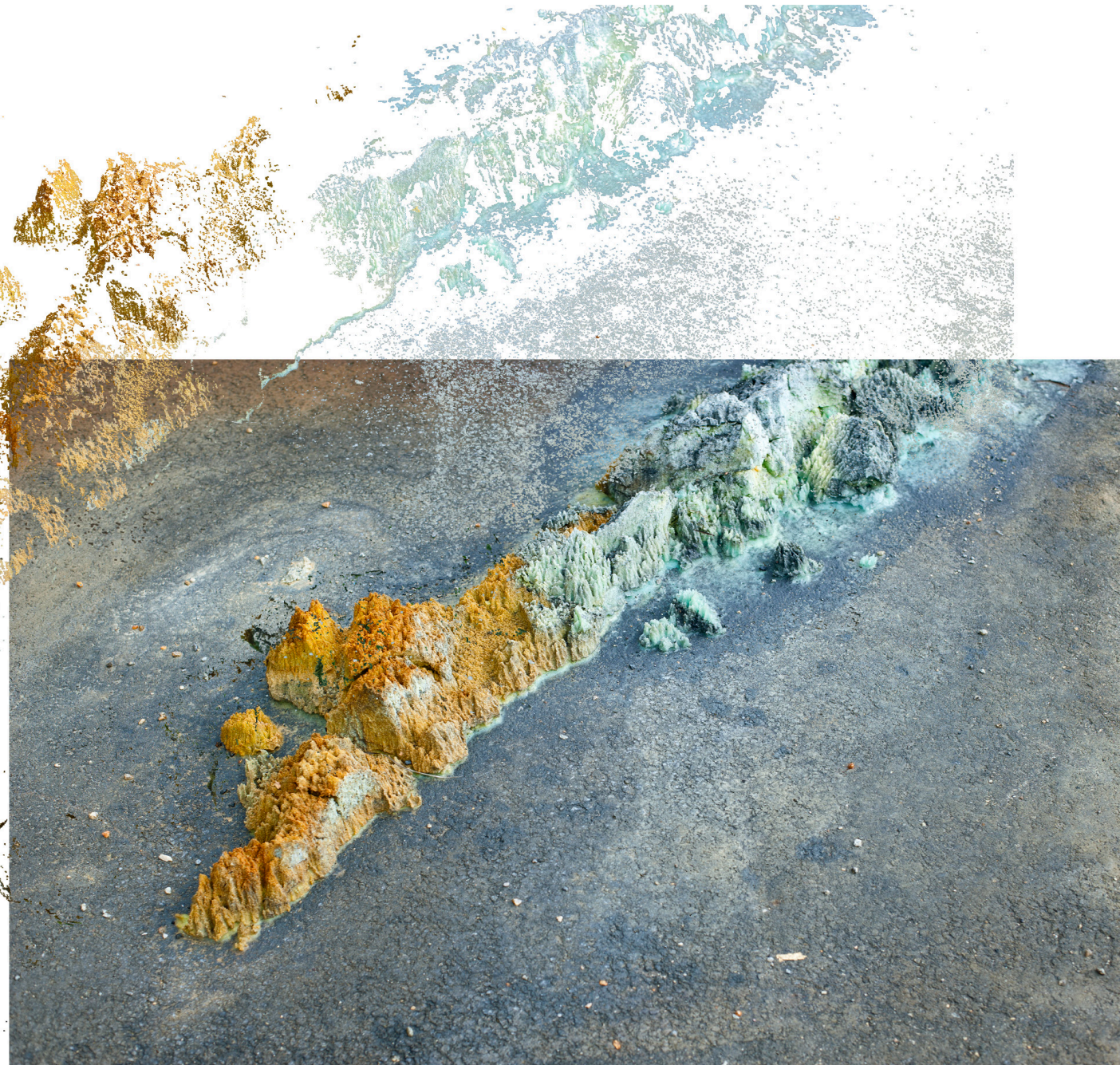


Marte Johnslie

Circumstantial Sculpture

REFLECTION



**Doctoral Degree in Artistic Research
Oslo National Academy of the Arts**

Circumstantial Sculpture

Marte Johnslie

About the project

The artistic research project started in October 2016, with the working title *Sensitivity as Strategy*. In August 2019, it acquired its final title: *Circumstantial Sculpture*. As a research fellow in Artistic Research in the department of Art and Craft at the Oslo National Academy of the Arts, I have completed the program's joint professional training component (20 study points) and individual professional training component (10 study points). The artistic research PhD project (150 study points) is presented as: experimental ceramic sculpture, studies in photography, writings, artist's books and the Reflection.

The artistic results will be presented in the exhibition *Hvitt til jord*, at ROM, Oslo. The exhibition will be open to the public in the period 21 January to 23 February 2020.

The Reflection consists of an introduction and five texts. The first three texts are reflections on specific works. The fourth text, 'White to Earth', is an essay about titanium dioxide (TiO₂), which will also be published in a book with the same title for the exhibition at ROM. The fifth text, 'Circumstantial Sculpture and the Three-Point Process', is a summary of working methods and use of references in the project *Circumstantial Sculpture*.

REFLECTION

Contents

Introduction	5
TEXT NO. 1: Lost Form	6
TEXT NO. 2: A Square on a Sphere	17
TEXT NO. 3: The Blue-Green Line and the Materiality of Colour	32
TEXT NO. 4: White to Earth	46
TEXT NO. 5: Circumstantial Sculpture and the Three-Point Process	64
Bibliography	81
Acknowledgements in Norwegian	85-86

Introduction

The project *Circumstantial Sculpture* aims to address the question: how can ideas expressed through sculptures and their circumstances challenge a dualistic worldview and promote a perspective that focuses on connections and relationships? The use of ceramics as a point of departure invites a wide-ranging discussion of the question, due to the medium's use of both man-made and natural materials and processes. The project will look at how ceramic objects can embody the referential material and form a synthesis with the chosen topics.

According to my concept of circumstantial sculpture, the use of ceramic materials and techniques has the potential to create synthesis with large contexts and thereby challenge common conceptions of the topics. Some of the contexts that I deal with are: ecology, nature, perception and systems/networks. The materiality of colour and clay's ability to bond with other materials are two aspects of the medium which are central in my work. In my work with titanium dioxide in the project *White to Earth*, I experiment with the effect of the material in ceramic sculpture and connect it both to the way it performs as an agent in the commercial world and its negative effect on our environment. The documentation from my research on the material, and the experiences I have gained during my work in the ceramic labs, are folded together in the process to expose potential connections between them. Such intermediate connections are also activated in the project *A Square on a Sphere*, which is concerned with our perception of space and physical dimensions and makes use of the technique of steel-reinforced ceramics.

The artistic research work *Circumstantial Sculpture* is a multifaceted and experimental investigation of sculpture in general and, more specifically, of ceramic objects and materials. At its core lies the idea that art can be a powerful means for making connections between materials and phenomena, through its ability to speak of that which is *in between*. The project moves outside established traditions and formats in an attempt to highlight hidden points of connection.

TEXT NO. 1

Lost Form

About the text

The text is based on the sculpture series *Lost Form*. The work was presented at the Vigeland Museum as part of the Sculpture Biennial 2017, curated by Steffen Håndlykken.

The work consists of a series of sculptures in clay, plaster, iron and iron oxide that were placed on Vigeland's old sculpture stands.

Text no. 1 is a detailed description of my process-based work with the sculptures. I reflect on the position of the materials in my work and my aim of connecting the material processes to the contextual and referential material.



Installation view *Lost Form*, the Vigeland Museum

All installation photos: Anders Valde







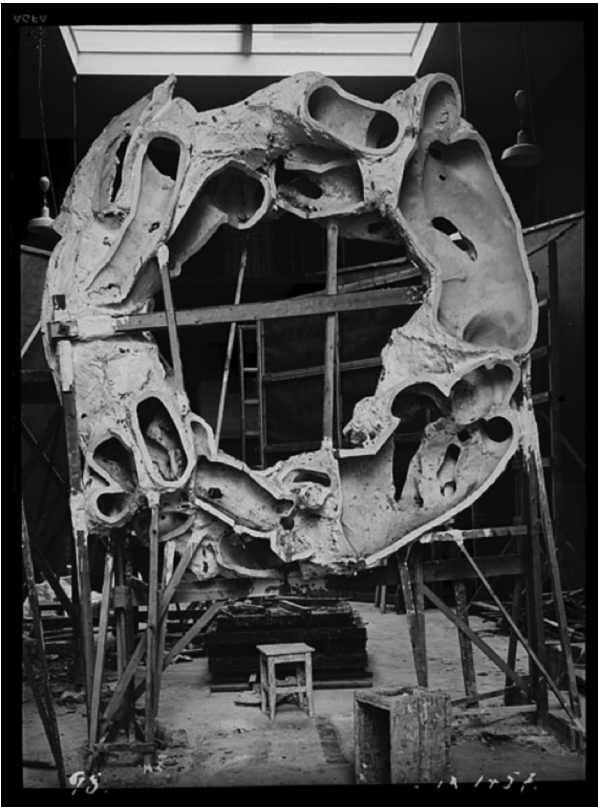
Lost Form

Gustav Vigeland (1869–1943) is an artist whose oeuvre rests heavily on questions of existence and the cycle of life. His subject matter is the common human experience of life: birth, joy, love, pain, death. His naked human figures in stone and bronze perform the ‘human theatre’ of traumas and joys in symbolic gestures and poses. And, being of my time, the visual language does not intuitively appeal to me. What I used to think was that Vigeland is not relevant to my practice as an artist and sculptor. This changed, however, when I saw photos of his working processes and the techniques he used. Via these process photos, I found a new interest in his work.

The title *Lost Form* derives from one of the sculptural techniques Vigeland used. It is a procedure for transferring a sculptural form from one material to another, from clay to reinforced plaster. The process is initiated while the original clay sculpture is still soft. First, the sculpture is divided into sections by sticking thin metal plates into the form. Then, the clay is covered in plaster in order to create a hard shell, which will function as the casting mould. Having applied the first layers of plaster, a steel armature is fixed to the structure and more plaster added. After the plaster has hardened, it is possible to remove the mould in sections and to dig out the clay. Once the positive form has been removed, we are at the point where the original is *lost*, hence the name of the technique. The inside of the mould is then prepared with a reinforcement armature of steel and wood, and a release agent. The mould is put together again, and plaster is poured in. When the mould is removed, a master copy in plaster has replaced the original in clay. This is called the plaster original.¹

This photograph from 1934 shows *The Wheel of Life* in progress, at a stage in the lost form process when the original clay sculpture has been dug out of its plaster mould. Here, they are preparing for the second plaster cast, which will become the plaster original. At this stage, the sculpture has no positive shape, only a negative shape in many sections. The sculpture only exists as the void between the inner walls.

In the photo, the sculpture can be sensed as a soft indentation on the inside of the plaster shell. It can only be ‘seen’ if you manage to alter your perception to view the negative shape instead of the positive.



The Wheel of Life (in progress), Gustav Vigeland. ©Vigeland-museet



From the Vigeland Museum



From the Vigeland Museum

We can look inside the sculpture due to the fact that some sections of the shell have been removed. The way the shell is cut in pieces with straight edges creates a strange impression of dissection. Vigeland's work lies dissected in front our eyes, and the optical effect is striking. The straight edges of the shell's sections expose the figures' silhouette; their contour is outlined. The contour is sometimes easy to read, at other times it abstracts the body parts.

The outside of the shell offers a different landscape, visually speaking. The roughness of the plaster mixed with cloth only hints at the figure it covers. But it is not difficult to see that it conceals a human figure, and the roughness of the materials and their raw expression create a stark contrast to the softness of the inner shape. It looks grotesquet and surprisingly refreshing; as a contrast to the smoothness I associate with Vigeland's work.

On the left side, a leg has been divided into two parts in order to be rendered in all its complexity in the casting of the positive form. The leg appears separated from the rest of its body. It is as if it has taken a wrong step out of one reality, into another. In Vigeland's final works, for example the sculptures in the Vigeland Park, there are few examples where he uses optical space as a means to convey the message of the cycle of life; the figures don't seem to cross over into another reality. They appear to be comfortable in their private dimension, and as a viewer I'm forced to look at their gestures and postures to read their message.

Another way to put this is to say that the sculptures don't unite with their material self. The material is a vehicle to convey the shape, and through the artist's technical expertise, they become 'something other than what they are'. The granite has a softness to it, the bronze a fineness, both materials perform exactly the purpose they are meant to; they depict the story Vigeland wanted to tell.

The conscious use of space/dimensions and an explicit interest in the inherent qualities of the materials are missing in Vigeland's work. But in the process shown in the photograph above, and in his intermediate sculptures, both of these elements come into play. The lost form technique involves mediations between positive and negative shapes, in a many-layered procedure which seems to move in and out of our physical reality. I choose to think of these as his temporary sculptures, and it is here I feel his material and his message merge. To Vigeland, however – a man of his time – they were a means to an end, not the aim of his work.

A dance towards decomposition

At the beginning of my project for the Sculpture Biennial, I was allowed to visit the museum's basement, where the intermediate stages of Vigeland's work are stored. Here, we find the plaster



From the Vigeland Museum

originals, sections of casting moulds, half-finished sculptures and a lot of models and maquettes. I went there to specifically look for examples of how Vigeland combined materials without thinking of the problems the conservation department would face a hundred years later. There were several examples of this. His use of iron reinforcements proved to be rough and ruthless, all for the sake of creating supporting structures for the main goal: the final sculptures.

In some of the plaster originals one can see the negative consequences of the combination of materials. The iron elements embedded in the plaster create rust that discolours and decomposes the plaster. The *lost form* technique depends on two materials with conflicting qualities: the plaster needs a steel armature in order to be robust in larger works. However, the water of the wet plaster makes the iron oxidise, and the iron oxide causes the dry plaster to disintegrate. The two materials start a slow dance towards decomposition from the moment they are combined. The conservation team in the museum is fighting a futile battle against the humidity in the air. With every rainy day, and every year the museum building ages, the decomposition processes go faster; the dance speeds up.

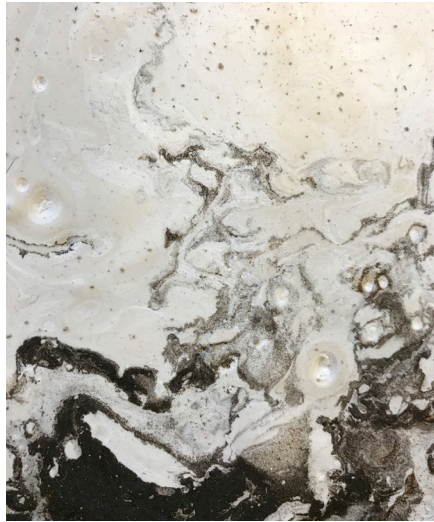
Another thing that struck me in the basement was the constant visual transitions between the inside and the outside of the forms, the positive and the negative, and the abstract and figurative shapes that the moulds exposed. The visual richness of Vigeland's sculptural processes became an inspiration for me as I embarked on my material investigations.

The theatre of materiality

At the beginning of my process, I started experimenting with plaster and iron. I sprinkled iron filings into moulds and poured wet plaster over them. I used a stick to stir around the wet plaster, and then let it solidify. On contact with the water, the iron immediately starts to oxidise, a process that continues until the iron has completely rusted away. This takes a long time. But for the first few hours after taking the form out of its mould, the process can be observed, as the black iron filings change to a clear red rust colour. The following day, even the smallest iron particles are visible; they have been 'developed' in the plaster's chemical 'darkroom'.

My first tests were chunks of white plaster marbled with rusty iron. The rust appeared similar to what I had observed on the visit to the Vigeland Museum's basement. In my case, however, the rust patterns were more controlled and exaggerated. I decided to continue my experiments with these two materials, and also to combine them with clay and various found casting materials.

I collected pieces of reinforcement cloth and iron from around the casting workshops in the



Iron filings and plaster



Plaster and iron filings in wet clay mould

Oslo Academy. Taking a plaster mould in the shape of a hollow hemisphere, I lined it inside with a 1 cm thick layer of white clay, onto which I sprinkled iron filings. Then, while the clay was still wet, I filled the hemisphere with plaster. Having also pushed several pieces of thin armature rod into the pool of plaster, I left it to solidify. Once the clay had started to dry and the plaster had hardened, I lifted out the compact hemisphere from the mould. The iron rods were held fast in the plaster, while the surface of the sphere had received an imprint from the iron filings in the clay. The remaining clay shell dried and cracked into many pieces. These I bisque-fired, with the result that the clay turned whiter with a rust red colour on the surface where the iron filings had been.

I rearranged the pieces inside the plaster mould. Due to the fact that the clay had shrunk during drying and firing, there were gaps between them. I used some wet plaster to fill the cracks and left it to set. I then carefully took the hemisphere out of the mould. It was strong enough to be turned upside down on a table. I applied a thick layer of plaster to the outside of the hemisphere. The result, when turned over again, was a reconstructed ceramic bowl fixed in plaster.

The other elements of the sculpture series were created using similar processes, combining clay, plaster and steel in a continuous series of experiments.

The material's message

The aim of the project was to investigate how the materials' inherent qualities could be used alone and in combination with each other in order to establish a dialogue with Vigeland's work. I searched for a way to make the materials – when enlisted to perform in *my theatre* – express the notions of birth, joy, love, pain, death. I experimented with combinations of the materials, alternating between the positive and the negative shapes and structures, and played with figurative and non-figurative expressions. The sculpture installation was composed around and on top of Vigeland's old sculpture stands, surrounded by his work in the museum.

Lost Form became an investigation into how I can make materials and construction techniques merge with content to the point where they end up living the message, instead of simply being vehicles for my message.

The aim for me as an artist is to make the message emerge from the situation imposed upon the sculptural elements. In the case of the *Lost Form* installation, the construction materials clay, plaster, iron and iron oxide were employed to perform the various roles they were given based on their qualities. The clay, for example, has several tasks in the installation: on the one hand it performs

as the casting support for certain forms, while on the other it works as traditional sculpture, alluding, for example, to an amorphous human skull. The iron rods work both as reinforcement and – when the sculptural element is turned upside down – as legs for a sculpture that appears as if it were crawling across the stand. The iron oxide functions both as a destructive material in the plaster, and as a black glaze on the fired ceramics.

Why weave?

The installation *Lost Form* is inherently connected to the museum building and Vigeland's practice as an artist. The work was made to be presented inside the museum, where I chose to enter into a dialogue with the historical artist. And in my view, the line can be drawn even further than that. It was also an aim for me to raise questions concerning our relationship to the material and the legacy of the modernist artist. Why do we as an audience tend to admire the artists who set out to tame their material and to make it perform according to the rules they imposed? And, as a contemporary artist, how should I relate to this tradition? By creating works that assume a contrary position, or by trying to build a bridge between us? I chose to look for points of connection between my work and Vigeland's and found them in the photos of his process.

In the sculpture installation *Lost Form*, I experimented with the materials' constructive and destructive qualities in combination with each other. I created an interplay between the positive and negative shapes, and between the abstract and the figurative. These tensions, contrasts or contradictions, are to be found in the photo of Vigeland's work in progress, which is the starting point that I kept returning to.

In *Lost Form*, I tried to make the materials perform the message. I searched for points of connection between Vigeland's practice and mine, by working with the same materials and sculptural techniques that he used. For me, *Lost Form* became a series of sculptures which reflect on the place of materials in an artist's work. And I believe this relates to several contemporary philosophers' thinking on our relationship to the material world, which has become increasingly important in the age of the Anthropocene.²

The anthropologist Tim Ingold has contributed to studies of human perception and the environment with his writings on art, craft and architecture. In the text 'On Weaving a Basket', he writes about the inferior position of materiality to culture:

This is why, in the extensive archaeological and anthropological literature on material culture, so little attention is paid to actual materials and their properties. The emphasis is almost entirely on issues of meaning and form – that is, on culture as opposed to materiality. Understood as a realm of discourse, meaning and value inhabiting the collective consciousness, culture is conceived to hover over the material but not to permeate it. In this view, in short, culture and materials do not mix; rather, culture wraps itself around the universe of material things, shaping and transforming their outward surfaces without ever penetrating their interiority.³

Ingold argues that we need to look beyond the distinction between the material and the cultural, and to look at how they interact to identify where *making* finds its place. By drawing a parallel between the inferiority of material to culture on the one hand, and the inferiority of material to conceptual thinking in fine art on the other, can we use his text also to challenge the latter distinction?

With the recent emergence of thinkers on art and the Anthropocene, like Ingold, it has become clear why the division is unfruitful – our relationship to the material is a cultural construct that artists should challenge through the work of both hand and mind. In the mix between the material and the thinking there is potential for making to take place – one that combines both form and concept.

References

1 Siri Refsum, 'Livshjulet av Gustav Vigeland: Tilblivelsesprosessen, tilstandsbeskrivelse og vedlikeholdsforslag' (graduate thesis, University of Gothenburg, 1996), 17-20.

2 'The Anthropocene Epoch is an unofficial unit of geologic time, used to describe the most recent period in Earth's history when human activity started to have a significant impact on the planet's climate and ecosystems. The word Anthropocene is derived from the Greek words anthropo, for "man", and cene for "new", coined and made popular by biologist Eugene Storer and chemist Paul Crutzen in 2000.' 'Anthropocene', *National Geographic*, accessed 25 January 2020, <https://www.nationalgeographic.org/encyclopedia/anthropocene/>.

3 Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (Routledge, 2000), 340-41.

TEXT NO. 2

A Square on a Sphere

About the text

The text is based on the work with the series of sculptures and the book *A Square on a Sphere* that I presented at Lillehammer Art Museum as part of my solo exhibition of the same title, in the period October 2018 – February 2019. The exhibition was curated by Cecilie Skeide.

The work consists of a series of sculptures in steel-reinforced ceramics, placed on low plinths of wood and glass. The book was launched at the opening of the exhibition. It consists of an introduction by the editor and curator Cecilie Skeide, an essay by art historian Ingrid Halland, and photographic documentation of my process from sketch to finished works. The book contains printed photos of the sculptures that are mounted into the book by hand. The book won gold in the category for catalogues in *Visueltprisen* 2019.

Three of the pieces from the series *A Square on a Sphere* were shown in the exhibition *Sweep~Landskip*, 14 April–26 August 2018 at Kinokino Kunsthall, Sandnes. The exhibition was curated by Roberto Ekholm.

Text no. 2 is a detailed description of my process. I reflect on the technique of steel-reinforced ceramics and its position in my work, and my aim of connecting the artistic processes to the contextual and referential material.



Installation view *A Square on a Sphere*, Lillehammer Art Museum

All installation photos: Adrian Bugge







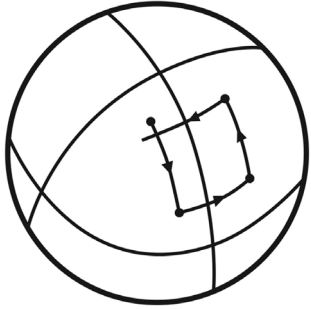






Book design and photos by Work in Progress





A Square on a Sphere

In the project *Lost Form*, I experimented with steel, plaster and clay in various combinations. Sometimes the materials had a constructive effect on each other, for example when I dug a hole in a lump of clay and it immediately became a mould for a plaster object. Other times, the materials had a negative effect on each other, for example when the clay was left to dry around the plaster and the shrinking process made it crack. The materials' inherent qualities and the tensions between them became the basis for the work that resulted in an installation of sculptures.

One of the combinations I tried was to squeeze clay into a steel mesh. On drying, the clay made a web of cracks, but still it remained hanging in the wire mesh. I decided to fire it in a ceramic kiln. There was an element of risk to this, since we didn't know how the two materials would react at high temperature. The first test was successful, however, and I decided to continue experimenting with reinforced ceramics in a separate project.¹

The idea of reinforcement is to strengthen something from the inside. A reinforcement supports a material, enabling it to perform at a higher level. In this case, the steel mesh gives structure to ceramic shapes that are otherwise impossible to achieve by using clay alone. But to call the steel a reinforcement is not completely correct: the steel loses its strength from 1,000 degrees and upwards. But when covered by clay it can be fired up to 1,240 degrees and still keep some flexibility. The stoneware clay becomes stronger when fired to temperatures of between 1,100 and 1,240 degrees. In order to make the two materials work together, one has to fire them at a temperature where the steel keeps its strength and the clay sinters and becomes ceramic. In other words, the technique of reinforced ceramics involves an act of balancing the two materials. After the pieces have been fired to 1,240 degrees, the clay holds the steel in place as much as the steel gives support to the clay.

The grid pattern of the steel mesh is covered in clay, but will be visible in areas where the clay is only thinly applied. The thicker the clay, the less visible the grid. However, if applied too thickly, the clay will break away from the steel mesh during or after the firing.

The premise for the clay to bind to the steel mesh is that the steel mesh does not move



Clay and steel mesh



Steel-reinforced ceramics after firing

too much during and after the firing. If the construction of the steel gives any room for movement, the risk is that the clay will break away. During the firing, the steel reaches a temperature where it becomes flexible. This means that the positioning of the piece during the firing is essential to the shape it will take; the force of gravity will make it collapse if the position allows it to. You could say that the kiln is the 'development machine'. The technique of steel-reinforced ceramics has a set of codes that I need to understand in order to produce sculptures that can hold their shape and structure.

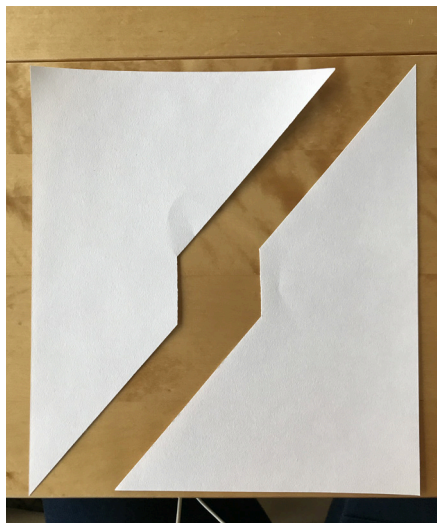
To cook and to curve

It is impossible to gain full control of a process which involves two contradictory materials being fired up to 1,240 degrees. And the fact that the sculptures go through a development process, whereby, on the one hand, the clay and the steel react with each other, and, on the other, the glazes react with the clay, makes the work both more challenging and more interesting for me as an artist. It involves giving the material a more central role in the work. The materials need to be listened to, understood, and confronted in order for the sculptures to come to life. And in the case of reinforced ceramics, I have no references in the field to lean on, since I am developing the technique myself.

The sculptures made in reinforced ceramics distort to varying degrees. Their buckled appearance gives them personality. The process they have been through is visible in their very structure: their straight and geometrical beginning has been lost in the harsh environment of the kiln. Instead they have started to look like something organic, something *lived*.

The cracked surfaces of the sculptures give the works a fragile appearance; they appear to be in the process of natural decomposition. The cracks resemble dried earth, or asphalt that is breaking up. Most of us will associate the pattern with some form of decay. The sharp geometry and smooth surfaces of the pieces are radically deformed during the firing. But, paradoxically, it is after the firing that the works gain their strength and lasting power as sculptural objects. It is a paradox that interests me.

The fact that I can use the technique to create shell-like structures without a core is also of interest to me. I have previously made several works in a similar manner using other materials and techniques. It appeals to me that I can create structures that visibly retain their two-dimensional origins, while at the same time launching into three-dimensionality through the act of folding and curving. The fact that this can be done in a spontaneous manner is also of importance. After cutting the metal mesh and covering it in clay, I can curve and fold it into the shape I want before firing. Or I



can construct a steel structure, cover it in clay and see how it warps or collapses during firing.

The technique of steel-reinforced ceramics gives me the possibility to work with large, shell-like structures that, despite their size and material, remain relatively light weight, but which, despite their thin and core-less structures, are strong and resilient. But most importantly, the technique resonates with my artistic interests and convictions.

Where does it come from, this strong drive I have towards the folded and the core-less sculptures? And why do I often aim to capture the middle-ground between the two- and three-dimensional? The project *A Square on a Sphere* is an investigation of these topics.

Traditionally, carving was described as a way of releasing the hidden sculpture from within the material. The nature of revealing one form from within another is the essential feature of the act of subtractive carving. The idea of the sculptor liberating the figure from inside the stone became the idealised version of sculpture in classical art and has been a central sculptural technique ever since. In opposition, the technique of steel-reinforced ceramics revolves around the practice of combining and curving the materials to create structures. I don't carve, I curve.

Increasing complexities

I use this notion of *curving* as a point of departure for my sculptural project called *A Square on a Sphere*. This consisted of a series of objects in steel-reinforced ceramics. The flat pieces rest on shelves on the walls, while the three-dimensional objects are placed on low plinths of wood and glass.

The flat pieces are rectangular. Each rectangle is divided in two by a line that stretches from one corner to its diagonal opposite. In each piece, this line changes direction two or more times. The more shifts in direction there are, the greater the complexity of the division. Each panel has a corresponding plinth. On the plinth, the two diagonal shapes from the panels are reproduced and curved into three-dimensional forms. The colours of the respective diagonal forms are also reproduced.

On closer inspection, viewers may discover the connection between the flat and the sculpted pieces – that they are based on the same form. The diagonal division defines the shape of the curved form. The more changes of direction in the diagonal line, the more complex the three-dimensional form becomes.

The sculptures are curved. To curve something means that the initial shape is still present in the final form. The initial shape transcends into a more complex structure in a different dimension.



Maquettes for curved sculptures



From the series *A Square on a Sphere*

In the curved objects, the realities of both dimensions are present at the same time. In the same manner as I am trying to merge the two conflicting materials steel and clay, I am trying to balance between the two-dimensional and the three-dimensional. Perhaps one could say that the objects dwell in the 2.5th dimension.²

The book *A Square on a Sphere*, which was published for the exhibition at Lillehammer Art Museum, is a visual account of the making of the works.³ It contains sketches which show the connection between the two-dimensional diagonal shapes and the three-dimensional sculptures. It depicts the whole process from idea to finished sculptures. Considering the experimental nature of the steel-reinforced ceramics, I use the catalogue to make a comprehensive visual guide to the technique that I have developed. Hence, on the one hand, the book is a technical documentation of my work, and on the other, it is a site where the conceptual material and the physical work merge.

Plural dimensions

The title *A Square on a Sphere* is inspired by the book *The Tao of Physics* by the systems thinker and physicist Fritjof Capra (1939–).⁴ He explains how ideas from Eastern philosophy are present, and sometimes even proved correct, in modern Western physics. It is a fascinating book about the Western worldview and what Capra describes as our culture's blind spot: our lack of ability to understand how we are connected to nature and the physical world. He traces this back to our concept of reality and uses the example of our weakness at imagining other dimensions outside the three-dimensional to demonstrate our inability to visualise our place in the larger, ecological system. To illustrate the concept, Capra uses the symbol of a two-dimensional square on a three-dimensional sphere. He shows how the square distorts when you try to draw it on a sphere by using the same geometrical principles that apply in the second dimension. The same can be said to happen when we try to imagine realities in more than three dimensions – we fail to imagine how a higher dimension can expand and alter our physical reality.

Capra claims that our lack of understanding of our place within the ecological system can be traced back to our perception of reality. Thus, if humans are to mitigate their destructive impact on the global climate, we need to become critical of how we perceive our surroundings.

As we penetrate into matter, nature does not show us any isolated 'basic building blocks', but rather appears as a complicated web of relations between the various parts of the

whole. These relations always include the observer in an essential way. The human observer constitutes the final link in the chain of observational processes, and the properties of any atomic object can only be understood in terms of the object's interaction with the observer. This means that the classical idea of an objective description of nature is no longer valid. The Cartesian partition between the I and the world, between the observer and the observed, cannot be made when dealing with atomic matter. In atomic physics, we can never speak about nature without, at the same time, speaking about ourselves.⁵

A critical take on the viewer's conditioned perception was also the starting point for the direction Systems Art.⁶ This was launched with a text by the American writer on art and technology, Jack Burnham (1931–2019), which he published in *Artforum* in 1968.⁷ The text 'Systems Esthetics' is now considered a landmark in the development of a theory of systems thinking in the arts. With this text, he becomes the first writer to publish a theory of how artists relate to structural systems, from digital networks to natural ecosystems. He forecasts how artists in the post-formalist and post-minimalist future will abandon the object and focus on the interconnectedness of things. He writes: 'We are now in transition from an *object-oriented* to a *systems-oriented* culture. Here change emanates, not from things, but from the way things are done.'⁸

The text has been 'rediscovered' in recent years, due to the increasing focus on ecology and network theory in contemporary philosophy and the arts. Both the New Materialism and the Object Oriented Ontology movements can be seen as branches of the structural philosophies from the 1960s.⁹ Concepts of cybernetics and ecological thinking from the late Modernist era have returned in today's discourse on art and technology, but this time with a darker undertone which we know as the global climate crisis.

In 2012, Caroline A. Jones wrote an article about Burnham's texts from the late 60s. Here, she refers to Burnham's claim that the value of art as a knowledge-producing activity lies in its capacity to 'reveal the constructedness of consciousness'. She continues by giving an explanation why Burnham's ideas faded from the art discourse in the 80s and 90s, but concludes with the following:

If Burnham turned from the systems he prophesied, we would find it impossible to do so. We cannot turn from them because they are turning within us, the dynamic engine of our imbrication in many aspects of lived reality—the art world, but also the economic, legal, ecological, and political worlds we navigate and that seem to implode or explode daily. Whether or not we want to see or name them, systems are us.¹⁰

In the project *A Square on a Sphere*, the viewer was encouraged to reflect on the stages in between the two- and the three-dimensional, as the sculptures were presented in both dimensions, before and after being folded. I strove to attack the topics of perception and the construction of the real through the use of visual means. The simple act of making the flat pieces transcend into three-dimensional sculptures was an attempt to make viewers pause and look for patterns in the installation.

The pieces fluctuate between the constructed and the spontaneous, between the natural and the industrial, between the organic and the man-made, between primary colours and earth tones, and between amorphous shapes and the geometric. *A Square on a Sphere* was an attempt to make the sculptures in clay, steel, glass and ceramic glazes establish a micro-system of their own, based on the energy between the various shapes, dimensions and contradictory materials.

References

- 1 I wish to thank Knut Natvik, head technician of the ceramics department at the Oslo National Academy of the Arts for all his help and technical support.
- 2 Thank you to Trond Lossius, former head of research at the Oslo National Academy of the Arts, for coming up with this term.
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TEXT NO. 3

The Blue-Green Line and the Materiality of Colour

About the text

The 'fresco objects' are a series of 7 sculptures made in 2017, made from fresco painting on ceramic objects. A part of the series was exhibited in my solo exhibition *Throwing a Disc, Catching a Ball*, at Noplace, Oslo, in May 2017, together with a series of framed watercolours. Three of the fresco objects were later shown in Galleri Riis' presentation at Chart Art Fair, August 2017. And two of the pieces featured in my solo exhibition *A Square on a Sphere*, at Lillehammer Kunstmuseum, 2018–19.

'The Blue-Green Line' is a text I wrote in the period February 2017 – January 2019, intended for oral presentation. The first time I presented parts of the text was at the Artistic Research Spring Forum at Klækken Hotel, in March 2017. The final presentation took place during the Artistic Research Week in January 2019, at the Oslo National Academy of the Arts. For the final presentation of the text I experimented with making a theatrical situation in the Room Lab, with sculptures as stage elements. The reading lasted 25 minutes and was presented three times.

Text no. 3 combines reflections on my experiments with fresco objects and the staged reading of the text 'The Blue-Green Line'. And it dwells on how both processes relate to the topic of 'the materiality of colour'.



Installation view *Throwing a Disc, Catching a Ball*, Noplace, Oslo

Installation photos: Anders Valde



Fresco Objects

Installation photo: Marte Johnslie







The stage for the the presentation of 'The Blue-Green Line', Room Lab, Oslo National Academy of the Arts

Photo: Marte Johnslie



From a presentation of 'The Blue-Green Line'

Photo: Kristine Jakobsen

The Blue-Green Line and the Materiality of Colour

First excerpt from the text 'The Blue-Green Line'

Around 2.5 billion years ago, a phenomenon was taking place on Earth that changed the future of life on the planet: the oceans started coming alive. The blue-green bacteria, also called the cyanobacteria, started a process that all life on earth depends on. And one can claim that the colour of the tiny organisms, which comes from the blue-green chlorophyll they contain, was crucial in the process of making Earth a habitable space. The chlorophyll of the blue-green bacteria reflects exactly the right wavelengths from the sun back into the atmosphere to create the optimal temperature for photo-synthesis to take place.¹ And on this basis, the blue-green bacteria started transforming carbon dioxide into oxygen – an essential step in the development of life on planet Earth. The oxygen that started filling up the oceans initiated a sequence of reactions with other elements. One of them was iron. There was plenty of it in the seas, and it suffered severely from the introduction of oxygen. Oxygen caused the iron in the water to oxidise. Iron oxide fell to the bottom of the sea in thick layers, and the masses were later pressed and pushed around by the movement of the earth's tectonic plates.² The oxidised iron coloured the clay on its way, and transformed it to the rocks that humans have excavated from caves and mines and made into pigment to paint with. The iron oxide pigments are known to us as ochre, sienna or umber. And they have been used in cave paintings, and all other forms of art, ever since.³

A room for experimentation

The staged reading of the text 'The Blue-Green Line' was presented in the midst of a scenography built from the modular system of the Room Lab, a small lab at the Oslo National Academy

of the Arts made for spatial experiments. The modules functioned as pedestals and supports for a group of sculptures in steel-reinforced ceramics. Three ceramic panels with a graphic pattern of black and red, green or blue were set up facing the audience. Arranged in front of each panel were coloured sculptures of different sizes and shapes: a yellow tube, a pair of blue-green curly shapes, and a figure with a cracked white and brown surface.

The audience entered at the back of the space and sat on the same type of white modules as the sculptures were placed on. The space was dark and intimate and the sculptures were lit by four spotlights. The room had a theatrical feel to it. I entered from behind the scenography and read the text aloud while moving between the sculptures and modular walls. The presentation lasted 25 minutes. The text is a meditation on the connections between colour perception, language and ecological thinking, departing from various blue-green phenomena in history. By juxtaposing elements from linguistics, science, ecology and art, I claim that until we start seeing blue-green as a specific colour, and referring to it with the singular name *grue*, we will not discover the world as the web of inter-dependent species and materials that it really is. The text was a culmination of research on colour phenomena, the nature of pigments and how colour can affect our understanding of the world. The reading was an experiment in how I, as a visual artist, could place the verbal story of my reference work centre stage, with the sculptures converted into theatrical elements to be viewed by the audience from afar.



Lemon Yellow Cube, Marte Johnsen, 2009.
Chicken wire, textile, plaster and pigment.

Pigment – the micro-world of perception

When I was pregnant with my first son in 2009, I developed severe pica cravings. Pica is an eating disorder characterised by an abnormal desire for substances with little or no nutritional value, such as ash, chalk, ice, paper, soil, etc. I had an extreme craving for powdered materials like plaster, washing powder and cement. Additionally, my vision became hyper-attracted to colours and textures, and the two yearnings merged in the use of colour pigments in my studio work. The first ‘pica sculpture’ I made was a small cube that was squeezed together and covered in plaster dyed with yellow pigment. The feel and the colour of the cube was everything I desired: a matt, dry, powdery surface with a lemon-yellow colour. Ten years later, my mouth still waters when thinking of the sculpture; it brings back the pica to me.

I have worked with pigmented materials for many years since then. I have mixed pigments in plaster, acrylic plaster, concrete and various filler materials to develop sculptures where the colour is an integral part of the structure. And what I have learnt is that every pigment behaves differently



From the fresco course at Atelier Lilleborg, Oslo



Coarse and fine lime plaster for fresco

from every other. Particle size and colour intensity vary from one colour to the next, resulting in, among other things, various degrees of pollution to the surroundings. Some pigments are easy to control, others are impossible to use without making a mess; they drift about the studio with the smallest breeze. There is also a difference in the degree to which they mix with other materials. Yellow and red pigments are generally easy to combine with construction materials, whereas blue and brown pigments can be very difficult to mix with water-soluble fluids.

Pigment is the micro-world of perception. Colour, as we learn when we are young, is the light that reflects back at us from the object. Colour comes from immaterial light waves, and the paler the colour on the object, the more light it reflects back from the light source. To me, pigments are mystical substances; we perceive them in the form of light waves whereas they are in fact micro-particles with physical attributes. Pigments are mechanical reflectors of sunbeams that throw the light back into space at various angles and with varying degrees of intensity. The oxymoronic phrase 'materiality of colour' is a major topic in my artistic practice, and it points to my interest in the physical premises of the human perception of colour. When a pregnant woman wants to eat a colour, maybe it's not so crazy, all things considered.

Crystallised painting

In November 2016, I participated in a course in fresco painting.⁴ The ancient painting technique on wet lime plaster is technically demanding. It calls for a strong hand when laying the plaster, and precise timing in applying the colours. The difficulty when painting on wet plaster comes from the fact that the pigments are mixed with distilled water and applied in a very thin solution. However, it was of great interest to me to try this, since it was the first time I had practiced a painting technique that did not involve the use of any pigment binder. Al fresco is a technique which 'develops' the painting: calcium carbonate is formed as a result of carbon dioxide from the air bonding with the calcium hydrate in the lime plaster. The forming of calcium carbonate is a crystallisation process which binds the elements of the plaster, the terracotta wall and the pigments together. In fact, the chemical process replaces any non-organic binders and makes fresco the only pure organic method of painting.⁵

Fresco painting has a beautiful quality to it, since the colours sit within the material. The al fresco technique lets the pigments come to life in a refreshing way; the colours do not have the oily or plastic-like appearance that acrylic or oil paints generally have, and the coarse texture of the



Pigment for fresco at Atelier Lilleborg, Oslo



Fresco Object Miniature, Marte Johnslie, 2017

underlying plaster gives the surface life. The development of the colours takes about four weeks, and continues for years, until the pigments eventually start to fade. The painting reacts with its environment, and even cleans the air of carbon dioxide. Fresco painting is a technique that breathes.

Second excerpt from the text 'The Blue-Green Line'

James Lovelock's Gaia Theory from the 1960s derived from his observations and experiments across various fields of science. Gaia Theory asserts that living organisms and their inorganic surroundings have evolved together as a single living system. They co-exist in ways that maintain the conditions for life on Earth – controlling global temperature, atmospheric content, the salt levels of the oceans, and many other factors. His theory is now recognised as an important scientific contribution to our understanding of the human impact on the global climate. The human species is affecting the very balance of Earth's self-regulatory system, which is the basis for all life on the blue-green planet. The system was born with the blue-green bacteria, and life on Earth must be seen as a continuation of the process that started in the oceans 2.5 billion years ago.⁷

Three-dimensional frescoes

During the fresco course that I attended, we used ready-made terracotta tiles for testing. The lime mortar binds to the terracotta in the same crystallisation process as the binding of the pigments. While working on these tiles, I started to think of brick walls as essentially ceramic, a thought that had not occurred to me before. It was followed by the idea that I could make my own substrate for fresco painting from ceramics, which would allow me to work with fresco in any shape I liked. My mind kept returning to the theme, and the idea that I could even create frescoes on curved ceramics – making 'fresco objects' – was born.

Before I was ready to paint my first fresco objects, I had to go through a long and demanding process. As a beginner in ceramics, I had a steep learning curve and experienced several set-backs. But when at last I was ready to do frescoes on three-dimensional ceramic pieces, the process was spontaneous. I laid the mortar, prepared all the pigments, and started painting with no other plan than to intuitively place the colours on the curved surface of the object. I built the painting by adding



Ceramic glaze tests with various oxides

layer upon layer, from the light to the dark pigments. If I was not careful, the curved surfaces made the diluted pigments run. I indulged in the colours, but tried to stay aware of the inherent quality of each individual pigment. Cadmium yellow is extremely vivid, burnt sienna mixes easily with the plaster, while Milori blue must be avoided – the colour disappears in the chemical reaction with the alkaline lime plaster, and the blue tones turn grey overnight.

The fresco objects were time-consuming to produce. They became very heavy, and I did not feel at home in the technique, due to it being closer to painting than sculpture. Despite its interesting feature of being an organic technique, and the fact that I had succeeded in the experiment of applying fresco to three-dimensional objects, the fresco objects ultimately represented a dead-end in my artistic practice. But it was an important road to go down, since it made me move from plaster to clay, and from pigments to oxides; it brought me to ceramics.

The use of clay to construct sculptures, the oxides and glazing materials used to produce colour and texture, and the natural and chemical processes induced by firing – these are elements that I am naturally drawn to investigate in my sculptural work. The materiality of colour, a concept I keep returning to in my practice, is a natural term to use in connection with ceramics, since coloured glazes are a result of mixing chemicals in the form of powdered substances and their subsequent firing in the kiln. It is a very concrete process, which can result in vivid colours and textures. The chemical process which develops colour in ceramics reacts with the underlying clay, wiping out the borders between body and surface. The chemical processes the materials undergo make ceramic objects relevant for the investigation of how colour materialises on three-dimensional sculptures.

The experiments with fresco objects launched me into the world of ceramic sculpture, and I have continued on this road ever since.

Readings on colour

By January 2018, I was fully immersed in the making of ceramic sculptures using various techniques. Parallel to this, my research into the chemical and natural processes in ceramic materials, and how they relate to questions about ecological sustainability, economics and our perception of the world, was intensifying. I spent an increasing amount of time writing, and I was eager to experiment with new ways of balancing the referential material and the sculptural works against each other. In my practice, I consider the references and the documentary material equal to the sculptural work, but the referential material is often presented in a less conspicuous form, for example as a printed

publication that accompanies the sculptures. What would happen if I turned the tables, and let the reference material be the protagonist of the work? That question resulted in the public reading of the text 'The Blue-Green Line'.

In the presentation, the sculptures acted as props on the stage. Due to their vivid colours and textures, they visually highlighted elements in the text I was reading. I noticed a pattern in the way the audience shifted its attention between looking at me and looking at the sculptures during the reading. When I was talking about a specific colour, especially if it involved mentioning red, blue or green, the audience tended to look at the sculptures with the respective colour. To me it seemed as if the sculptures served as illustrations for the text.

Third excerpt from the text 'The Blue-Green Line'

In the mid-1960s the two scientists Paul Kay and Brent Berlin started researching the topic of colour and language. They published their results in 1969 in the monograph *Basic Color Terms*. It became a ground-breaking study of the evolution of language⁸ and prompted a long series of debates on the topic of linguistic relativity; how does language affect the way we view the world? Through their study of colour terms in 98 languages from all over the world, Berlin and Kay concluded that there's a pattern in how languages develop a set of terms to differentiate the colour spectrum. They identified eleven possible basic colour categories: white, black, red, green, yellow, blue, brown, purple, pink, orange, and grey. And through their study they defined what we can call the seven-stage evolution of colour terms: Hypothetically speaking, if a language has only two words to refer to colours, then they will be white and black. This is the first of seven stages. If a third word is introduced, it will be the name for the colour red. The next colour to get introduced into a language is either yellow or green. It isn't until we reach stage 5 that we start to see blue emerging as an individual colour term.⁹ According to their study distinct terms for brown, purple, pink, orange and grey will not emerge in a language until the language has made a distinction between green and blue. This is called the 'blue-green distinction'.¹⁰

Down to earth

Writing about colour and the materiality of colour is a challenging task. Colour may be

the best example of how language affects the way we see the world. And to address the question verbally, as I did in the presentation of the 'The Blue-Green Line', was a very demanding exercise. I realised that I had stepped into a tradition of verbal storytelling where I lacked experience and tools to communicate. The experimental format of reading the text in a scenography of sculptures made me feel that I had pushed my work too far from the core of my practice. The sculptures seemed to resist the role of being props on a stage, and I felt uncomfortable in the guise of a performer.

Hence, the performative presentation of my work became another dead-end in my research period, following that of the fresco objects. I returned to the studio, started to look again at my material, and made the decision to take the work back to the concrete, and to bring it back down to earth. I picked up one of the sculptures in steel-reinforced ceramics which I had glazed in a familiar material: titanium dioxide. And I decided to spend the last year of my fellowship investigating the white pigment – and to interweave its history, its chemical properties and its role as a material agent in ceramic sculpture and in society at large. I started the work *White to Earth*.

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TEXT NO. 4

White to Earth

About the text

The text is written for the publication *White to Earth*, which will be published on the occasion of the exhibition *Hvitt til jord* at ROM, Oslo. The publication contains my text about the titanium dioxide industry and its impact on the modern world together with my photographs from the ilmenite quarries Titania AS in Sokndal and the titanium dioxide factory Kronos Titan AS in Fredrikstad, and photographs of details of ceramic sculptures.

The publication will be launched at ROM on Thursday 23rd January 2020, as part of the program for Artistic Research Week 2020, Oslo National Academy of the Arts. On the event of the book launch, there will be a conversation between me and Markus Degerman, Dean of Arts and Craft department, about the project. The event will be open to the public.



Opencast mine, Titania AS, Sokndal



Opencast mine, Titania AS, Sokndal



Sand deposit, Titania AS, Sokndal



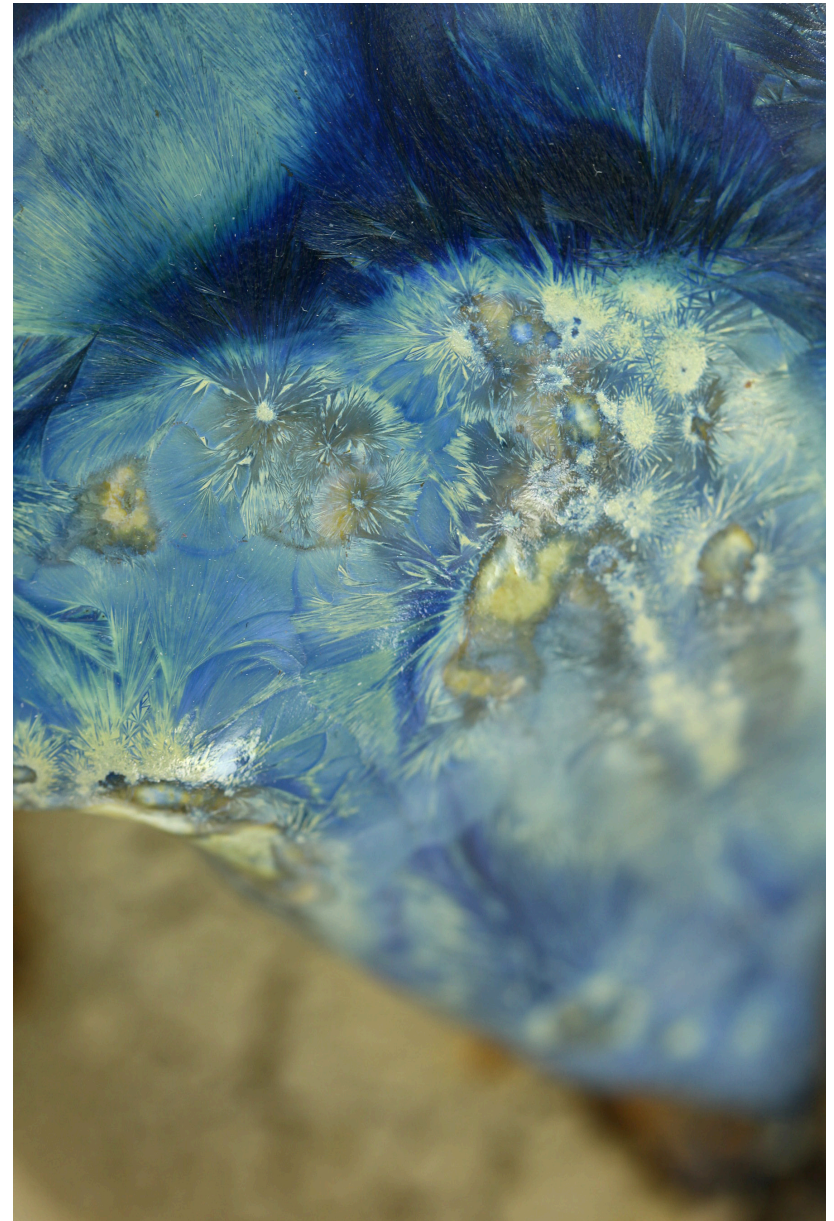
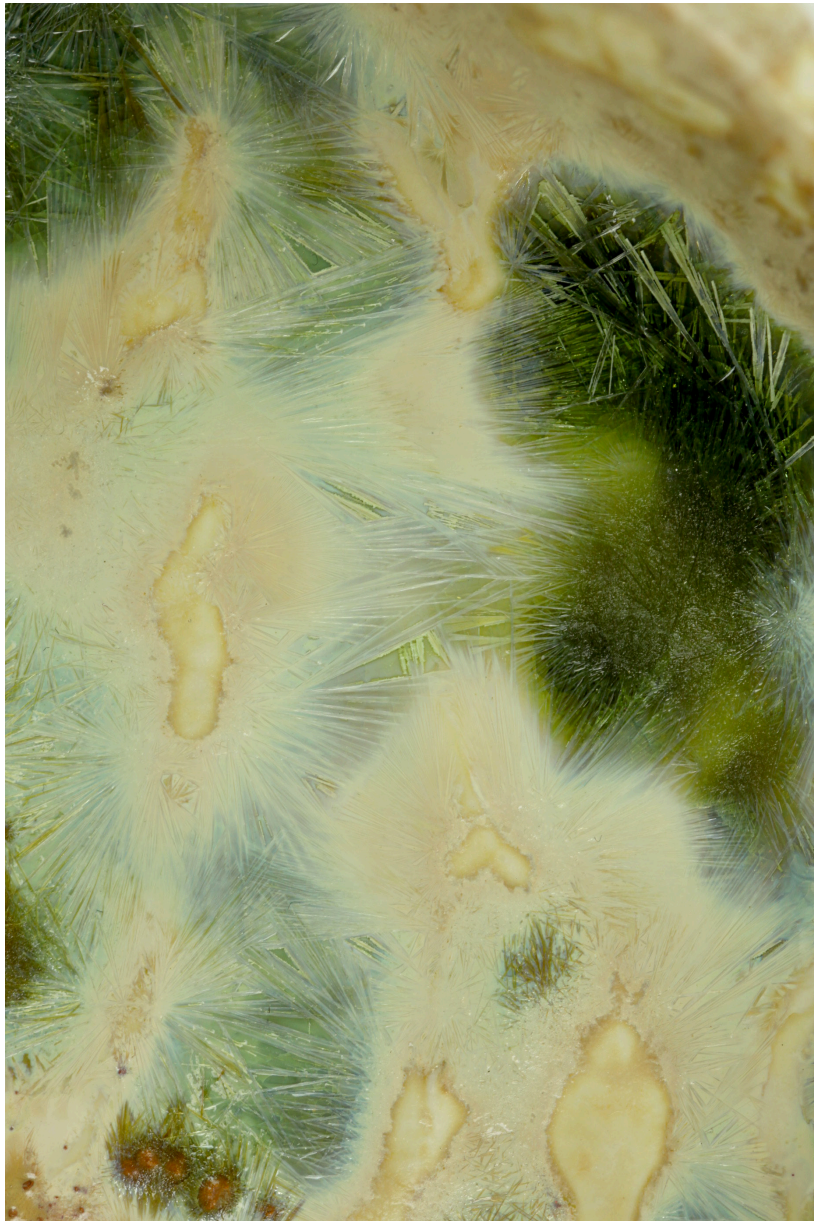
Ilmenite deposit at the titanium dioxide factory Kronos Titan AS, Fredrikstad



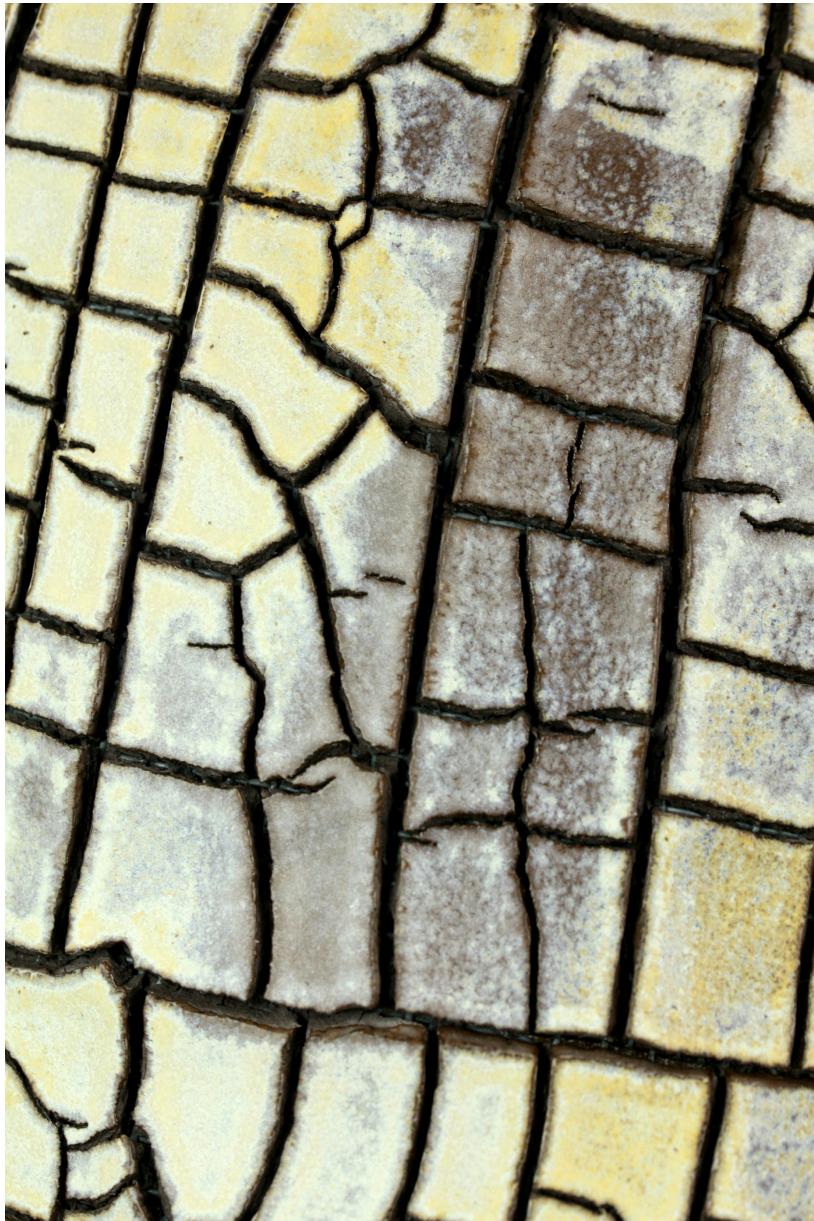
Iron sulphate deposit at the titanium dioxide factory Kronos Titan AS, Fredrikstad



Interior of the titanium dioxide factory Kronos Titan AS, Fredrikstad



Experiments with titanium dioxide in crystalline glaze



Experiments with titanium dioxide in opaque glaze



All photos in TEXT NO. 4: Marte Johnslie

White to Earth



When a Titanium atom bonds with two oxygen atoms, the molecule titanium dioxide (TiO_2) is born. The chemical compound TiO_2 is represented by a symmetrical symbol – it appears as if the titanium atom is given wings of oxygen. On a metaphorical level this is true. The chemical compound TiO_2 travels extensively through our systems, most of the time without us being aware of its existence.

The new, the bright, the clean

Titanium dioxide (TiO_2) is a white pigment that has been used in the mass-production of materials and goods for a century. On its discovery, it quickly became the preferred white pigment in the production of paint and varnish. It is estimated that TiO_2 is now an ingredient in two-thirds of all the paints in the world.¹ All white hues and all light coloured paints contain it. But the large amount of TiO_2 produced every year is also due to the fact that it is the main pigment in both paper and plastics. Without the white pigment, paper would be browner and more transparent. In plastics, the pigment creates clear white and uniform colours. It is used in all types of plastics, from the hard plastic covers of the Apple iPhones to the soft bags inside boxes of corn flakes. It is also in plastic coatings on textile, cardboard and leather, for example in printed T-shirts or food wrapping. It is present in all kinds of pastel coloured ink, used in inkjet printers and light-hued tattoos.

TiO_2 acts as an efficient mechanical filter in sun-creams, and is used extensively in the cosmetics industry, being found in all types of make-up, such as foundation creams and highlighters.

It is used in toothpaste and pharmaceutical products. Medicinal pills would not always look so bright and clean were it not for the TiO_2 pigment that covers them.²

Titanium dioxide, TiO_2 , or 'the whitest white' – the whitening agent has many names. When used as a food additive, the material is called E171. It is used as a whitener, thickener or texture enhancer. In chocolate, for example, it can provide smoothness.³ TiO_2 is used in a variety of processed foods as a food pigment, for example in fish products, sweets, cheese, chewing gum and milkshakes.

The qualities of TiO_2 define something about the modern era in Western industrialised societies. Without it, the colour white would be far less prevalent in our age. Whites would have tints of other colours, like grey, blue, red and yellow, and they would be less brilliant. Without TiO_2 pigment, the pure white surfaces of paper, walls and plastic would not exist to the extent that they do. Our food would look less inviting, and medicinal products would appear less neutral, hence less trustworthy. The new, bright, clean white products and materials we surround ourselves with, and which are the objects of desire in a capitalist system, would be duller, and therefore less attractive. All things considered, TiO_2 has contributed significantly to making the modern world from 1920 to the present more desirable and more commercially potent. The white pigment is one of capitalism's closest allies. It is a globally distributed material with a large impact on our perception of objects, surfaces and interior spaces. We are in daily contact with a material that is often reduced to a symbol – TiO_2 , E171, $\text{O}=\text{Ti}=\text{O}$ – and which most people do not know the name of, and far less its underlying history.

The mining of whiteness

Titanium dioxide is a man-made material discovered around 1900 through experiments with minerals containing titanium. It is a chemical compound that Norway was at the forefront of developing. In 1909, professor Dr Peder Farup and Dr Gustav Jensen started collaborating on producing coloured pigments from ilmenite, and they obtained the world's first patent for the production process of titanium white pigment.⁴ The area around Sokndal, in south-west Norway, was known for having large quantities of the mineral ilmenite, and the two started their experiments with a commercial interest in finding a more profitable use for the titanium-rich mineral than steel and iron production. The largest market was to be found in the demand for white pigments. In 1918, the mass production of titanium white pigment for the global market began in the mine in Sokndal (Titania AS), and at the sister company in Fredrikstad (Kronos). Titania AS produced the ilmenite from the open mine in Tellnes, while Kronos in Fredrikstad developed the ilmenite into TiO_2 .⁵ Production

is still going strong, more than one hundred years later.

The Tellnes ore of Titania AS is known to be the world's largest deposit of ilmenite on land, and it is estimated that the ore contains 12% of the world's resources of ilmenite. This is enough for mining to continue for several hundred years, based on the current rate of extraction. The annual production of ilmenite from this single mine supplies 6–7% of the world market for titanium minerals. This makes Norway one of the biggest suppliers of whiteness in the history of the world.⁶

Into the abyss

The train to Egersund moves through an idyllic landscape. The rounded mountain tops and slow rivers form a peaceful scenery. The rotund peaks in this area are pale grey in colour, but dramatically decorated with dark, vertical lines. It looks as if the mountains were leaking a dark liquid that is slowly dyeing the mountains black. The zebra-striped mountains are a sign of valuable minerals that do not normally appear at the Earth's surface. They make this area interesting for both geologists and the mining industry.

The first time I visited Titania AS in Sokndal was in 2012, in preparation for a project entitled *The Whitest White*.⁷ Seven years later, I arranged with Titania AS to be guided around the same places I photographed on my first visit. I wanted to revisit the mine because TiO₂ and the story behind it were becoming increasingly important in my work with ceramic sculpture.

The impact of Titania AS on the surrounding nature is so extensive that it is difficult to comprehend without experiencing it in person. The production area of Titania AS consists mainly of three parts. First, we have the opencast mine. This covers an area of 1.35 km² and is approximately 130 metres deep. 13 million tons of ore are excavated every year.⁸ Second, there is the production area for the ilmenite. Here, the ground ore undergoes mechanical and chemical processes in order to extract the ilmenite. Third, there is the land deposit containing the left-over sand (tailings) from the extraction process.

There are lines in the landscape surrounding the opencast mine; huge pipelines cut across the softly undulating coastal terrain. For every step in the production process, the material shifts place and changes form. The huge rocks that the explosives break loose are gradually broken down into smaller and smaller fragments until they reach a particle size of less than 0.5 mm. At this stage, the ilmenite is separated out, and the remaining material is flushed through pipes in the consistency of a soup, until it reaches the final destination: the sand deposit. Ending at this tailings pit, the pipes

eject tons of fine sand and water into the landscape every week. When standing at the 'shore' of the lake of sand, one can see trees that are slowly being swallowed by the mass of waste. Further down is a lake containing water, algae and rust with the colours of a poisonous rainbow.

The extraction of ilmenite involves transforming enormous amounts of solid rock into fine sand. On the one side, this process leaves a huge gash in the landscape, and on the other, massive amounts of tailings. The land deposit is growing by 2 million tons every year.⁹ The first landfill, which was initiated in the early 1990s, now covers a whole valley. It will reach its limit in 2024, by which time it will have reached a maximum depth of 100 metres.¹⁰

The land deposit poses problems for local residents when the sand is blown about by the wind. But more serious problems occur deep down in the deposited mass. Due to the pressure from the weight of sand, molecules can split, releasing toxic minerals like nickel, copper and sulphur. These enter the groundwater and are eventually washed into the sea.

Although Titania AS is the largest mine in Norway, the general public know little about it or its products and environmental impact. There has been no major public debate about the industry since the late 1980s.

From black to white

From the fjord in Sokndal, the ilmenite is transported by boat to Titania's sister factory in Fredrikstad: Kronos Titan AS. Every month, the boat transports 200 tons of ilmenite to Kronos's own harbour, where it is unloaded and stored in an open warehouse by the river Glomma. Kronos AS produces 30,000 tons of TiO₂ every year, and 90% percent of it is exported worldwide.

Ilmenite, in its matt brown-black form, covers the inside of the open warehouse by the river. Big heaps of the material create mountain-like silhouettes against the steel roof. The ilmenite climbs up the pillars and covers the ground. It colours the surroundings brown. The part of the factory where the ilmenite is still in its dark form is called the 'black part'; the other side of the factory is called the 'white part'. It is easy to understand why, because the white pigment has dyed the complete interior of the factory. Every part of the interior that has been touched by a hand, trodden by a boot or buffeted by the wind has a dry, opaque white surface. TiO₂ is *sticky*, and neither plastic nor iron escape the tiny bright pigment particles.

The TiO₂ colours the complete interior of the factory. But in the course of the 22 processes the material must undergo in order to complete its cycle from black to white, a by-product is produced,

namely copperas, or iron sulphate, which is transported out of the factory on conveyer belts. At this mid-point between the 'black part' and the 'white part' of the factory, the grey and rusted structures are dominated by a blue-green material.

Copperas crystals drizzle from the ceiling of the open-sided hangar forming huge heaps of fine, blue-green powder. The hangar looks like a post-apocalyptic candy store. Bulldozers are constantly at work shovelling the pastel material away. Copperas is in fact Kronos Titania AS's primary product when measured by weight – 70% in total. Ilmenite contains more iron than titanium, so the blue-green copperas is a substantial by-product, albeit of much lower value than the main product.

Copperas reacts with its environment at the outdoor storage facility and changes colours in a way which is hard to grasp. Sometimes almost white, other times clear mint green, the material seems to defy any definition; my eyes can't 'catch it'.

Further away from the main factory building, in another open-sided hangar, all the materials are mixed in the waste deposit. Here, rusty copperas, polluted titanium dioxide and left-over ilmenite are brought together in a colourful scenario. Viewed from afar, the ilmenite and rusty copperas form an autumnal landscape. The blue-green copperas looks like a distant ocean, and on the tops and peaks of the foreground there is a layer of what looks like snow; bright, white titanium dioxide.

Dominating nature

In a ceramic glaze lab, there are separate drawers for every ingredient used in glazes, including one for ilmenite and another for rutile. Both minerals contain titanium, and both are used in the production of TiO_2 . The ilmenite oxide used in ceramic glazes looks very much like it does when found in nature, only in powder form. It has a dark, warm brown colour, and I recognise it from my observations of the landscape and the open-cast mine in Sokndal.

In the drawers containing metal oxides, one also finds titanium dioxide. This white powder is dense and very bright. It does not look like anything found in nature. It has a brightness and a synthetic feel that reminds me more of a chemistry lab than a mountainside. It is used in ceramic glazes to create opacity, and for crystalline effects. When used as an opacifier in glaze recipes, it makes the glaze cover the clay and gives it a stone-like quality. It generally helps to produce matt dry surfaces on clay objects. The oxide loses its whiteness during firing, becoming yellower as the kiln's temperature is increased. TiO_2 affects the consistency of the glaze even when added in small quantities.¹¹

On cracked surfaces, TiO₂ clearly shows its capacity to create opaqueness by enabling the glaze to cover even the sharpest corners of the cracked clay. TiO₂ seems to make the glaze cling to the clay body in a convincing manner. I think it is right to say that titanium dioxide, in combination with other ceramic materials, has a dominant nature.

However, when used for crystalline effects, TiO₂ acts very differently. To make the crystals appear, one must strictly control the firing process. The ceramic object is swiftly fired to a very high temperature, 1,250 degrees C, then rapidly cooled to around 1,100 degrees C, where it is kept for a few hours, before slowly cooling to room temperature. The slow cooling allows the crystals to grow, or should I say forces them to grow. In contrast to the dominant and opacifying nature of TiO₂ in most glazing processes, the resulting effect of the crystallising process appears dramatic. It is as if the slow cooling process forces TiO₂ crystals to break out despite the nature of the substance. TiO₂'s capacity for creating even, opaque, stone-like surfaces is thwarted by the crystallisation process. It seems like the material is shocked into a desperate attempt to flee from the top of the remaining glaze, resulting in the most beautiful crystal shapes.

Blinded by oxide

Titanium dioxide – a material that is omnipresent but which we do not notice – has been closely connected to Norwegian nature and industrial history for about 100 years. The methods for producing this bright, white material cause immeasurable damage to local nature and the ecology of the sea. But as an artistic material, it has made the colours of paintings glow brighter and last longer than any other pigment in the history of art.

Titanium dioxide – the chemical compound with wings of oxygen – exists inside and outside of us. Its existence in our bodies and surroundings resonates with Timothy Morton's thinking on what he has called the *hyperobject*. In his book of the same title, he defines hyperobjects as follows:

Hyperobjects have numerous properties in common. They are viscous, which means that they 'stick' to beings that are involved with them. They are *nonlocal*; in other words, any 'local manifestation' of a hyperobject is not directly the hyperobject. They involve profoundly different temporalities than the human-scale ones we are used to. (...) Hyperobjects occupy a high-dimensional phase space that results in their being invisible to humans for stretches of time. And they exhibit their effects *interobjectively*; that is, they can be detected in a space that consists of interrelationships between aesthetic properties of objects.¹²

All of these properties apply to TiO₂.

The way TiO₂ binds with other materials has been defining for its journey through the modern era. Its ability to interact with materials of so many different types, and the stable bonds it creates with them, have made it into the ubiquitous material it is today.

White to earth

White is the colour that is closest to our idea of light, hence it is normally appreciated for its non-material qualities. But the story of TiO₂ shows that there is a different side to this. The British film director and artist Derek Jarman (1942–94) challenges the idea of white as the immaterial colour in the way he described whiteness and the pigment TiO₂ in his book *Chroma*: ‘All the whites with the exception of the chalk-based grounds like gesso are metal oxides. White is metallic.’¹³

Jarman experiences the colour from a material perspective, with the idea of the white pigments deriving from metal. Furthermore: ‘White shuts out, is opaque, you cannot see through it. Power-crazed white.’¹⁴

Titanium white travels seemingly invisibly throughout our systems. It is charged with an undefinable energy by the culture from which it was born. It has a growing commercial market despite its non-essential cosmetic use and its destructive effect on the environment. The production process was a Norwegian discovery, but it is not part of our national consciousness. Titanium dioxide is hard to fathom. It can be described as a hyperobject that defies locality and observation. We consume it both with our eyes and our mouths. We apply it to our skin, and we place ourselves in the path of the light it reflects. Most of us are unaware of its existence, and few of us think of it as a material that sticks to its surroundings and even bonds with our gut bacteria.¹⁵ Nevertheless, it is a material with physical qualities far stronger than most of us perceive with the naked eye.

The material runs in pipelines from Sokndal to every corner of our society. Starting from the mines in Tellnes, the pipelines discharge the left-over sand into the landscape and let the ilmenite continue the journey further down the duct toward its bright, white future as titanium dioxide. The material continues to move. It is ground in ball mills and floated in chemical baths. It flushes through kilometres of channels and tubes. The particles become smaller and smaller, the material turns increasingly brighter.

In the ceramic glaze lab, in drawer no. 37, the white material looks neutral and innocent. Separated from everything, put into a system that does not judge, one can look at the white powder

and believe it has been made just for this: to be an ingredient in glaze recipes. However, in ceramics, titanium dioxide shows its true face as a viscous material agent. The allure of the white disappears in the firing process and is replaced by a substance that either clings to or flees from its surroundings. In ceramics, light becomes mass, and opacity becomes stone-like surfaces. Here, brightness becomes substance; white returns to earth.

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through its connection to art history. I made a long and associative investigation into the idea of *whiteness* in the work of Malevich and other Suprematists. This brought me to the fringes of modern art history – to the mystics Gurdjieff and Ouspensky and their influence on the Russian Constructivists. Looking back, I can see how the message that I wanted to convey became obstructed by my obscure references and perhaps made the audience feel estranged from the work rather than connected to the history. Since 2012, things have changed and I now want to return to this project and to investigations of the material TiO₂. This is due, first of all, to the increasing importance of understanding our impact on the ecological system. Secondly, I have become increasingly interested in working with the inherent qualities of my material as a method of investigation in my work. As a research fellow at the Oslo National Academy of the Arts, I have been given the opportunity to specialise in ceramic materials and thus to investigate TiO₂ as a chemical material. Thirdly, during the past seven years, there has been no public debate about Titania and Norway's role in the production of the white pigment, and I feel that it is urgent to cast light on it.⁸ Titania AS.

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TEXT NO. 5

Circumstantial Sculpture and the Three-Point Process

About the text

In this summary text, I elaborate on my working methods and use of references. Here, my goal is to put my thinking on artistic method in a broader context, by comparing it to other artists' practices and writings. In this chapter, I dwell on the main question of my research project *Circumstantial Sculpture*: how can art, in the form of sculptures and their circumstances challenge a dualistic worldview and promote a perspective that focuses on connections and relationships?

Circumstantial Sculpture and the Three-Point Process

My working method is manifold: on the one hand, I gather information, search for first-hand experiences and do field research for my projects. On the other, I work with abstract sculpture and installations based on ideas and concepts that I extract from the collected material. My work is conceptually founded in the use of references, as opposed to working with materials to create autonomous artworks. The way I use the reference material to inform the work – and vice versa, how the sculptural work can affect the role of the reference material – is part of the research project *Circumstantial Sculpture*.

The notion of ‘the three-point process’ has grown from my project-based practice over the last decade. The sculptures I exhibit derive from a long process that involves doing research on the chosen topic and experimenting with the material. In contrast to this, the techniques I use to create the sculptures generally have an element of the spontaneous and uncontrollable to them, for example the ‘fresco objects’ and the steel-reinforced ceramics sculptures.

An important principle in my practice is to approach the physical material and the information material with a similar mindset. Another principle is to create conditions for the physical material and the reference material to establish points of connection, in order to challenge the common understanding of the topic. Various principles of growth, for example natural processes, chemical bonding and building techniques, often provide anchor-points in the projects. During my work over the last three years as a research fellow, knowledge about the materials I use has become increasingly central to my artistic processes. The materials and the techniques that the sculptures are made from can provide a point of reference in themselves, making the sculptures self-referential.

I consider the reference material an essential part of the project, and the sculptural works are usually accompanied by books, documents or photographs that present aspects of my research. The reference material can assume many forms, as long as it informs my work in one way or the other. It can consist of texts, quotes, photographs, historical documents, scientific illustrations, other artists’ work, or any other form of knowledge dissemination. The relation between the sculptural work and the reference material is investigated in the research project *Circumstantial Sculpture*,

for example with the publication *White to Earth*, that accompanies two series of sculptures in the exhibition *Hvitt til Jord* at ROM.

The multi-referential

The three-point process can be described as the method of building the content of an art project by anchoring it in multiple points of reference. The method is flexible as to what type of references these may be, but they gain significance in the project in the way they connect to each other.

To illustrate this, I will use the project *White to Earth* to show how I establish connections and potentially create an energy between the varied aspects of the material through the use of references, which in this case are the following:

- The way the white titanium pigment relates to nature and how the production of the material alters the landscape and affects the environment.
- The significance of the white pigment in the history of modernity, both in the commercial field and the arts.
- The white pigment as a visual and material agent, explicitly investigated in ceramic glazes.

These three aspects of the material titanium dioxide define what I call the anchor-points for the project. Looked at separately, they can provide fruitful insights into the material, but my artistic concern is in the lines of connection between them.

In the project *Hvitt til Jord*, I investigate the protagonist titanium dioxide by looking at how it travels in our biological and commercial systems and by making it perform in the sculptural works based on its qualities as a material. Having circled in the three themes as anchor-points for the artwork, I start the process of making them interact and affect each other by 'folding' the various elements together. I let the sculptures be charged with meaning from the research material: The massive pipes running through the landscape around Titania AS in Sokndal serve as inspiration for the tubes of steel-reinforced ceramics. The pool of rust and algae by the sand deposit informs my work in the glaze lab. I experiment with the minerals I read about in my research: nickel, ilmenite and rutile, thereby gaining first-hand experience of their qualities. And I let the history of how the white pigment has infiltrated our modern culture inspire my work with the formal sculptures.

Parallel to working on the sculptures, I read and write about titanium dioxide, and study and

edit photographs from the production sites I have visited. At this stage, the experience from working with the materials and my discoveries begin to feed back into my work with the reference material. In the case of titanium dioxide, my experiments from the glaze lab give me a deeper understanding of the material's viscous qualities, altering the way I look at the photographs showing how the material sticks to its surroundings. The knowledge of TiO_2 also helps me to recognise the presence of it in every-day products, which in turn makes me realise the commercial importance of the white pigment. The warm colour of ilmenite and its mild appearance in comparison to synthetic substances affect my understanding of the nature of the material and how it contributes to the character of the landscape in Sokndal. The experience with ilmenite has given me 'sympathy' for the mineral. I have started caring for it.

Hence, the sculptures I present are the results of multifaceted processes of exchange between the ceramic materials, the visual associations, the historical facts, the scientific and political connotations of titanium dioxide. And the text and photographs are charged with emotions and subjective experiences, which are brought together with the rest of the story of TiO_2 in the publication *White to Earth*. The connections which occur between the various work processes become the project's narrative of titanium white and its circumstances.

For me, a multi-reference work has a different energy from a single-reference work. If I had chosen just one of the anchor points as a reference for my sculptural work, I would have called it a 'two-point process'. This is a process when the artist anchors her work in one reference point, and makes the sculptural work and the point of reference communicate with each other in a linear way. This type of work is characterised by a faster and more direct communication with the viewer than artworks that use a three-point process. Many works based on the 'two-point process' do not incorporate the material qualities and/or construction techniques of the artwork as part of the concept, something one is more likely to do when using the three-point process.

Two-point process

To make the distinction clearer between the two- and three-point processes, I will start by looking at two examples from contemporary art in the last decade which I believe exemplify the differences between the two approaches: Christian Marclay, *The Clock* (2011) and Marcus Coates, *Self-portrait as Time* (2016).

There are obvious similarities between these two artworks: both are video/film works with the clock as protagonist. Both films use real-time material; Marclay's lasts for 24 hours, while Coates'

is looped in 12-hour sequences. Marclay's film consists of found footage of clocks and watches, whereas Coates' movie only shows the repeated movement of his finger 'touching' the second hand of a ticking clock, which he recorded during a 12-hour session.

In Marcus Coates' work, the artist creates an interesting dynamic between his finger and the watch. He 'touches' the second hand of the watch for every move it makes. The action gives the impression that he is controlling the time with his finger, pushing it one step forward for every second. Or, it looks as if the finger is 'teasing' the second hand by pretending that it is trying to make it stop for every second that passes and for every move the second hand is forced to make. The movie was made during a 12-hour recording session, and it is presented to the audience as a real-time video work. The fact that the piece lasts 12 hours is interesting and impressive in its extremity. But conceptually, the fact that he repeated the action for 12 hours does not have a great impact on the work. The work still rests heavily on the linear approach of the artist: the touch of his finger on the second hand of the watch that makes it appear as if he influences the passing of time. For me, this makes the artwork an example of the two-point process, because the concept rests on the linear exchange of energy between the watch and the artist. The format of the work does not merge with its contents. The simplicity of the work, however, makes it communicate in a direct manner to the audience. It has a lightness to it, a playfulness, and its complexity lies more in the performative execution of the video, than in the conceptualisation of the idea.

In Marclay's movie *The Clock*, the energy is a different one. Here again the movie is based on a simple logic – to compile a 24-hour sequence that shows the actual time on every clock and watch that appears.

Marclay's movie is made of found footage from the history of cinema. His team worked for several years to find clips of clocks and watches that together show every minute of the day for 24 hours. The resulting movie is a mesmerising collage of clocks, that when presented in real time makes the movie into a clock in its own right. Due to its self-referential quality – a movie about clocks, acting as a movie-clock – the artwork gains an extra dimension by merging the format and the content. The movie is a meditation on the passing of time and the history of cinema. And I would claim that Marclay in this work uses a three-point process, rather than a two-point process. His material is extracted from our common cultural history, rather than from personal experience. And he manages to create a synthesis between the material and its content. It is this synthesis that gives the artwork an energy that is different from the linear one of Coates' movie. I would describe it as a circular energy; a three-point energy.

Three-point practices

During my fellowship, I have investigated the three-point process in depth, and measured my ideas up against those of a long line of modern and contemporary artists and thinkers in other fields. I have searched for the notion of the three-point method in the work of artists, philosophers and writers, looking for practices that aim for coherence in combining elements from different fields of knowledge and different points of reference. I have found that my idea of the three-point process is similar to concepts and methods in a variety of disciplines.

In urban theory, the concept of Thirdspace became established in the late 1990s. The French philosopher and sociologist Henri Lefebvre (1901–91) wrote the book *The Production of Space* in 1974,¹ a work that the urban theorist Edward Soja (1940–2015) later elaborated on in his book *Thirdspace* from 1996.² The postmodern theories on space that the two philosophers developed, and which I have studied with interest, can be summarised in the term Thirdspace, or the act of ‘thirding-as-othering’.

For Lefebvre the logic of binarism that is a consequence of categories was problematic. He attempted to introduce ‘the other’ as the third term in order to formulate an answer to this problematic logic. Categories such as subject-object, mental-material, natural-social etc had to be completed by a third term. Soja describes this thirding-as-othering as ‘the first and most important step in transforming the categorical and closed logic of either/or to the dialectically open logic of both/and also...’ The third-as-other is not just a new term that stands between the two opposites but it creates a disordering, a deconstruction and a reconstruction of the opposites. Thirding-as-othering is the basis of the concept of Thirdspace.³

I have found a similar term in social science. Here, the method of creating a field of plural references is called ‘triangulation’. It is a method which depends on more than two sources of information for research, and which can mix qualitative and quantitative methods. The social scientist Wendy Olsen describes the advantages of triangulation in research as follows:

[Triangulation] was used to achieve innovation of conceptual frameworks. It often led to multi-perspective meta-interpretations. The political, social and economic aspects of each phenomenon were given attention, making the research multi-disciplinary. [...] Triangulation assisted in making sure that research was inter-disciplinary and holistic.⁴

In these quotes from urban theory and social science, the method of defining three points of information/reference is characterised as providing a more complex investigation of the material than the traditional binary approach. It is a method which is characterised as being ‘open’, ‘reconstructive’ and even ‘holistic’ in its use of plural sites of reference.

I believe similar thinking can be found in art theory, and I will now look at related examples from both modern art and contemporary art. In the first example, I will focus on Asger Jorn and his ideas of ‘trialectical thinking’ in relation to his practice as a writer, painter and ceramic artist, based on a study trip I made to his home in Italy. Then I will look at the artistic practice of Hungarian artist and environmentalist Agnes Denes and refer to some of her writing on the topic of triangulation. Finally, I will attempt to summarise how the three-point process can be framed within a critical discourse in contemporary art.

Asger Jorn and *Trialectical thinking*

Asger Jorn (1914–1973) was a Danish artist and researcher, best known for his gestural and expressive paintings from the 50s and 60s. Jorn published a large body of essays and books on art, society and philosophy, and he was a defender of an art that is spontaneous and free of conditioning. What Jorn is less famous for, somewhat surprisingly, is his ceramic art. In 1954, he moved with his wife and their four children to the small town of Albissola Marina in Italy, which was known for its many ceramic workshops.

After Jorn’s death in 1973, the house he had lived and worked in since 1957 was given to the Albissola municipality, and later made into the Casa Museo Jorn. The small town of Albissola oozes history from the moment you enter it; there are ceramic murals and sculptures on almost every street. Jorn’s house is located in a residential area on the hillside, with a beautiful view of the Mediterranean. The first thing that catches my attention is the large amounts of mosaics on the outer walls, the stairs and the façade of the main building. Pieces of broken tiles in asymmetric designs create a playful and lively redecoration of the traditional building. Nothing looks like it has been planned in the process; there are no central lines in the design, nor repeating patterns.

On my walk around the buildings and the garden, the impression of an ‘assembled reality’ starts to grow. The garden paths and the houses are full of fragments of ceramics: old tiles, pieces of broken kitchenware and industrial ceramic plumbing are heaped together. In some places they function as part of the architecture, in others they appear as sculptures, and sometimes like site-



Stalagmites and mosaics in the garden of Casa Museo Jorn



Detail, Casa Museo Jorn



Detail, Casa Museo Jorn

specific artworks, for example in the kitchen, where Jorn placed a small version of the gigantic ceramic mural he was commissioned to make for Århus Statsgymnasium in 1959.

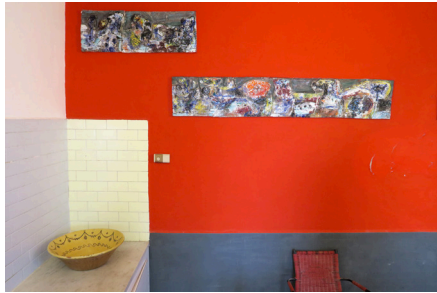
The notion of the house as a place of discovery is emphasised by the extremely open-minded choice of materials for the mosaics and the architectural features. Not only has Jorn used every conceivable type of ceramic, he has also included a variety of geological objects and natural materials. There are pieces of broken glass, fragments of stalagmites and red bricks with rounded corners which must have been collected on the beach. I notice a separate wall of sea shells, a staircase with slabs of Carrera marble and a mosaic made with black and white pebbles. Ceramic figurines, some his own, some by other artists, pop out from the two-dimensional murals. Casa Jorn is a fluid expression of meetings between nature and culture, high and low art, the functional and the decorative. The elements blend together in a manner that leaves me questioning where the artist's hand starts and where it ends. Which parts has he created consciously and which have grown out of the situation, like a force of nature?

In the text "On the Triolectical Method in its Applications in General Sitology",⁵ Jorn explains that he believes his idea about the 'triolectical' is significant since it derives from an artistic investigation of the colour system, but has simultaneity to the ideas of thinkers in other fields, a claim he backs up with examples from philosophy and astronomy. Starting from what he describes as an investigation of the 'problem of colours', he gives a brief explanation of the term triolectical, and a list of examples of triple concepts.⁶

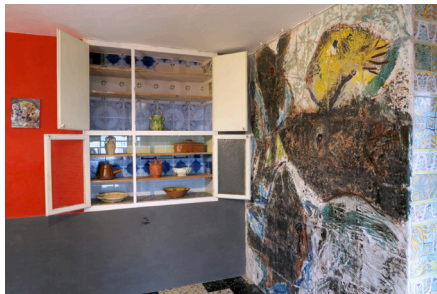
Asger Jorn's texts are dense due to his references to complex scientific and philosophical ideas. Jorn applies the triolectical as a 'conceptual instrument', where visual observation should be the third form of interpretation of a phenomenon for it to be defined truthfully, for example in Bohr's principle of complementarity in the wave-particle duality theory. Art historian Peter Shield writes about Jorn's take on Bohr's work: 'He is thus re-elevating the idea of sensory perception to a position where it is complementary to any scientific view.'⁷ In other words, Jorn is claiming that his experience with light and colour through painting and sculpture offers a third view of light, and 'a theory of the plastic form of light'.⁸

Jorn's ceramics bear resemblance to his paintings through the spontaneity of the gestures and his generous use of materials. The feeling the works give is that he is constantly discovering how colours affect each other, in a perpetual test of one colour against the other, never repeating himself, always in search of the next interesting combination of hues.

Concerning Jorn's use of ceramic materials, author Guy Atkins writes:



Maquette of ceramic relief for Århus Statsgymnasium in the kitchen of Casa Jorn



Full size fragment of ceramic relief for Århus Statsgymnasium in the kitchen of Casa Jorn

Most painters working with ceramics handle clay and glazes as though they were canvas and oil paint. Jorn knew his materials and used them with an originality and freedom not seen before. Picasso's works come closest, but even he did not achieve the same fusion of image and material. Picasso's colours were derived from traditional glazes, whereas Jorn often made his own colours, mixing glazes, engobes and clay in an unprecedented manner.⁹

The work in Albissola culminated in the large scale ceramic relief for Århus Statsgymnasium, a 3 x 27 metre mural produced in the San Giorgio factory in the summer of 1959.¹⁰ In this work, Jorn used clay and glazes in an experimental way, and there is a famous photograph of him driving a scooter across the wet clay to indent the surface with wheel marks. To create the colours, he splashed and sprayed engobes on the wet surfaces and even stuck pieces of coloured glass into the clay. He used brooms and brushes in a gestural way, leaving marks from the process and creating a dynamic between the glazed and unglazed areas.¹¹

In both the site-specific works for his house and the large relief for Århus Statsgymnasium, Jorn expresses a freedom from the constraints of traditional ceramic techniques and a desire to connect his work to a larger context. He investigates how ceramic materials connect to the narrative of culture, nature and art. He draws lines of connection between glaze and glass, between the organic and the mechanical, and between painting and colour chemistry.

In 1961, in the Casa Jorn in Albissola, he wrote the book *The Natural Order*. In this he gives an account of his thoughts on science, philosophy and art in relation to the dialectic materialism of Hegel, and describes his alternative: triolectics.

Triolectics, or the doctrine of *the necessity and the sufficiency of three complementary pieces of information to describe what we call a situation*.¹²

The words he uses are different from mine – he talks about 'complementary pieces of information', whereas I talk of 'anchor points'. He speaks of a 'situation', whereas I prefer the term 'circumstantial'. But there are some similarities between my own and Jorn's thinking on method which I find relevant. And looking back at the photographs from his house in Albissola, I recognise that his choice of materials constitutes his way of positioning the work in a larger context. His use of natural objects like crystals and stalagmites in combination with man-made tiles or naturally pigmented clay is a manifestation of Jorn's ideas about how our perception of reality can be altered both through science and through art, but ideally by activating both at the same time, with the mind of the 'triolectic'.



Casa Museo Jorn



Casa Museo Jorn

All photos from Casa Museo Jorn: Marte Johnslie

Instinct, intellect and intuition – Agnes Denes and the notion of the triangular

Agnes Denes, born 1931 in Budapest, is an artist who lives and works in New York. She is known for her environmental art projects in the 1960s and 1970s, which made her a pioneer of Land Art and ecological thinking in the arts, and for her writings on perception, philosophy, science and ecology. Her works were included in documenta (14) in 2017, which took place in two cities, Athens and Kassel. In Kassel, where the main part of documenta (14) took place, Agnes Denes presented an outdoor installation entitled *The Living Pyramid*, a pyramid sculpture with grass and other plants growing on it.¹³ In Athens, the part of the exhibition that I visited, she presented a series of historical and newly produced graphic works in a variety of techniques.

The first image I looked at in the exhibition was a graphic drawing of the Earth as a grid structure in the shape of a snail shell. The next works were equally simple, yet mesmerising, a mountain shaped by tiny human figures, a drop of water shaped by the same miniature humans. Another piece, a lithograph from 1984, was entitled *Dialectic Triangulation: A Visual Philosophy*. This was my first meeting with Agnes Denes' ideas on 'triangulation', and her term 'Visual Philosophy'. My further investigations of Denes' work, and of her texts in particular, have made her an inspiration to my work and a reference for my thinking on the three-point process. In her texts, she reflects extensively on her working method and how it connects to the content of her work. Ambitiously, she attempts to position her practice in a way that it is simultaneously connected to and disconnected from science, philosophy, art, social politics.

In her text about the work *Rice/Tree/Burial* (1968–79), she writes:

Rice/Tree/Burial was first realized in 1968 in Sullivan County, New York in a private ritual. It was a symbolic 'event' and announced my commitment to environmental issues and human concerns.

I planted rice to represent life (initiation and growth), chained trees to indicate interference with life and natural processes (evolutionary mutation, variation, decay, death), and buried my haiku poetry to symbolize the idea or the concept (the abstract, the absolute, human intellectual powers, and creation itself). These three acts constituted the first transitional triangulation (thesis, antithesis, synthesis) and formed the Event. According to evolutionary theories, Event is the only reality, while the reality we perceive is forever changing and transforming in an expanding evolutionary universe in which time, space, mass, and energy are all interconnected and interdependent.¹⁴

Here, Denes puts in words her thinking on how three complementary elements can activate a process of triangulation, not unlike Asger Jorn's concept of the trilectic, and describes the effect of it: the triangle of elements forms an 'event'. If we compare this to Jorn's writing on the trilectic, it is similar to his description of how three complementary elements transcend into a 'situation'. And in my words, I call this the circumstantial.

Denes writes that she is concerned with 'pattern-finding'¹⁵ – an act I find similar to my attempt at creating an energy field of connections between the points of reference in my projects. In her text "Notes on Eco-Logic" she writes:

My concern is with the creation of a language of perception that allows the flow of information among alien systems and disciplines, eliminating the boundaries of art in order to make new associations and valid analogies possible.¹⁶

And yet another parallel to my artistic practice appears in this statement:

I incorporate science and philosophy into my work and allow the concept to dictate the mode of realization. The materials I work with are as diverse as the concepts that dictate them.¹⁷

The visual philosophy of Agnes Denes and Asger Jorn's thinking on trilectics are systems for the artists to work within. Here, they can stay true to their philosophy, at the same time as they work in a variety of media, and cover an array of topics using a wide range of materials and forms of constructions. They contextualise their work through their writing. And they insist on art's relevance in society and of the importance of the artist's perspective on the connections between the scientific, natural and political realities we are constantly surrounded by. They take an artistic position in between other knowledge producing practices, and they challenge the categories by establishing themselves in the zone of the undefined.

Contemporary voices

One contemporary artist I have looked at with interest is the American performance and sculpture artist Liz Glynn (1981–). There are many parallels between our practices, and our ideas on the relationship between references and the material. In an interview Glynn describes her practice as follows:

I almost think of myself as a materialist philosopher, in some way. I work with ideas through material. [...] My process tends to involve sitting and reading for months, through thousands of pages, and then having time to forget most of it except a few details that bubble up. And then spending too much time thinking about how to make a sculpture. And then throwing myself physically at making it, sometimes with assistance, for very long days, when I ignore the computer and do nothing else and get incredibly dirty. It's a very polar practice: this deep research element has to coexist with this other thing that's just completely, utterly physical.¹⁸

She describes herself a 'materialist philosopher', who accepts the fluctuation between two polarities – the physical and the intellectual, the realm of her sculptures and the realm of her research – both of which 'coexist' in her work, and I believe this resonates with my ideas on the three-point process. It is a process which aims to establish lines of connection between elements which are far from each other: the sculptural work and the external phenomenon.

Another artist who, in my view, articulates a similar attitude, is the Iranian sculpture artist Nairy Baghramian (1971–). I find her definition of the *site-specific* both inspiring and relevant in the discussion on the artist's use of references:

Site-specificity is therefore to be considered an artistic method that does not presume the artwork's autonomy, but rather one that reflects on contextual conditions and referential possibilities relating to various economic, political, social and cultural registers.¹⁹

Baghramian's broad definition of site-specificity not only applies to art which is created for a specific location, but goes to the core of the idea of how an artwork can establish itself within a larger system. In my reading of her text, what she calls the site-specific approach can be considered a working method which reflects the artist's strategy to anchor their work in situations beyond the artwork itself, and which consciously reflects on the act of doing so. In reality, almost all artists draw references to a larger context; they can all be said to do research and to reflect on the position of their works in the public realm. The difference lies in the degree to which they do it and, more precisely, what role the reference material is given in the artistic process and the final results. The artists to whom I feel the closest connection are those who strive to create artworks that merge and synthesise their references and the broader context.

Strings of connection

The three-point process sometimes finds an anchor point in science, although it should not be considered a scientific technique. It can activate spiritual references or use elements from philosophy, but it does not belong to either of these fields. It is political at heart, but does not aim for conclusive statements. In the three-point process, the material that the sculptures are made of, and the techniques used to handle the material, can form one of the anchor points of the work. Hence, the work can be said to be self-reflective – the artwork reflects on its own materials and its making.

The three-point process is a way of interweaving and curving elements from the artist's physical work and the referential material in order to create conditions in which those aspects can interact and the connections between them become clear to see. The connections are not necessarily logical or evidence of anything; they are associative and fluid. They can be called speculative, or even spiritual. They are meant to evoke a feeling of being presented with a new perspective on the object of investigation and its circumstances.

The three-point process is an artistic method that aims to make viewers self-aware and to make them question both their perception and ultimately the cultural systems that have formed our common view of the world. In the fluid reality of the three-point process, connections are given precedence over differences, the relational comes before the singular, and openness trumps judgement.

In my practice, I call the work that establishes itself in this manner *Circumstantial Sculpture*. I believe that the artistic attitude behind the three-point process can challenge a dualistic worldview and promote a perspective that focuses on connections and relationships rather than opposites. And, ultimately, the practice of *Circumstantial Sculpture* may expose how we as humans construct our reality, through exposing the nature of our vision and the systems of knowledge that we have acquired.

'Nothing is connected to everything; everything is connected to something,'²⁰ writes Donna Haraway (1944–). As an ecofeminist and philosopher she has contributed greatly to rethinking the relationship between humans and animals, and between nature and technology, in recent decades. Her texts are multi-faceted, associative and focused on the relational. Her definition of string figures – or the extended field of 'SF' – strikes a deep chord in me.

SF is a sign for science fiction, speculative feminism, science fantasy, speculative fabulation, science fact, and also, string figures. Playing games of string figures is about giving and receiving patterns, dropping threads and failing but sometimes finding something that works,

something consequential and maybe even beautiful, that wasn't there before, of relaying connections that matter, of telling stories in hand upon hand, digit upon digit, attachment site upon attachment site, to craft conditions for finite flourishing on terra, on earth.²¹

When reading this, strings between her writing and 'the emotional truth of my work'²² appear before me. I feel companionship; not only for me personally, but for my sculptures, my photographs and my books. Haraway's words describe a notion I try to communicate in my writing and the feeling I get when a work of art is made. Ultimately, the substance of the world is in the connections between us; between the hand and the rock, between history and now, between the eye and the words. And when an artwork manages to tap into the points of connection and make them into a recognisable pattern, it is then, I believe, that art can make a difference. Not by adding something new, but by shifting people's perspectives.

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- 20 Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Duke University Press, 2016), 31.
- 21 Ibid., 10.
- 22 'I believe art is born in the world of the Between, that is bound up with the rhythms and music of early life, as well as in a form of transference that moves from inner life out onto the page, from me to an imaginary other. My story tells emotional, not literal, truths. I know the truth when I feel it.' Siri Hustvedt, *A Woman Looking at Men Looking at Women: Essays on Art, Sex, and the Mind* (Hodder & Stoughton, 2016), 133.

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