

**Tuula Närhinen:**  
**Phenomenotechnique in Visual Art Practise**  
**A hands-on approach towards embodied epistemologies**

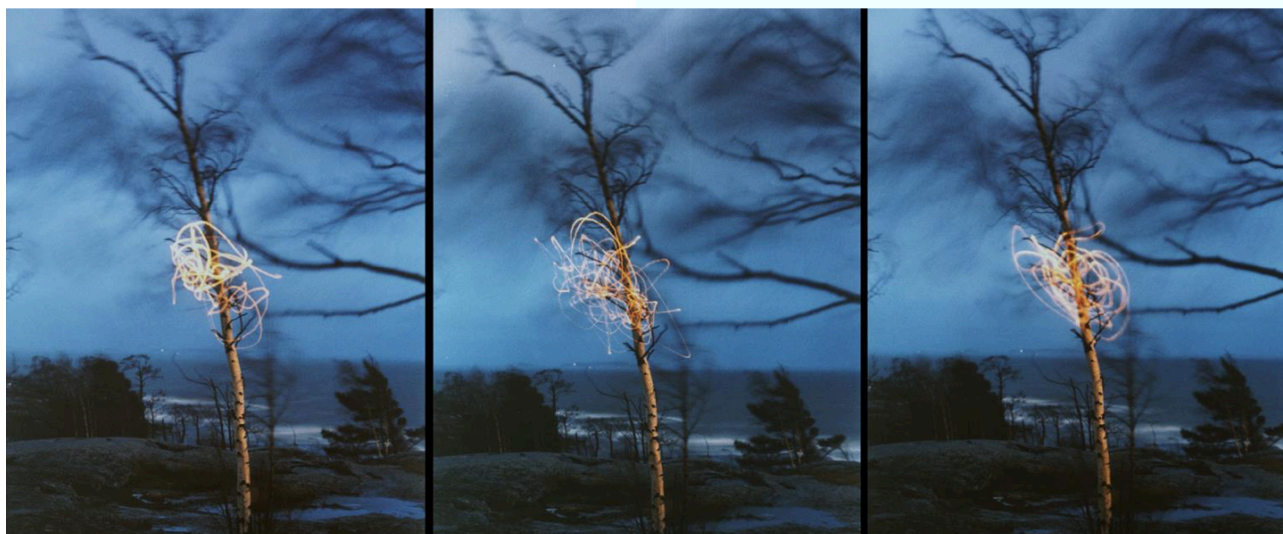
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This talk looks for the epistemic in the making of pictorial representations. Re-adapting instruments derived from natural science I reach out to nature in order to grasp the unfurling of a world invisible to the naked eye. My project considers the role of various inscribing apparatuses in a process that allows natural phenomena to manifest themselves.

Bio: Tuula Närhinen is a visual artist based in Helsinki, Finland. Närhinen is a graduate of the Finnish Academy of Fine Arts in Helsinki (MFA), and the University of Technology (M.Sc. in Architecture). She has recently accomplished a practice-led doctoral degree (DFA) at the University of the Arts.

My take on the epistemic and the anthropocene is of rather pragmatic nature. I am a visual artist and my thinking arises from the art practice. The insights I'm going to present today draw from my personal experiences of building imaging devices – various self-made contraptions and photographic apparatuses – and from working with the curious pictures they might produce.

**PHENOMENOTECHNIQUE**

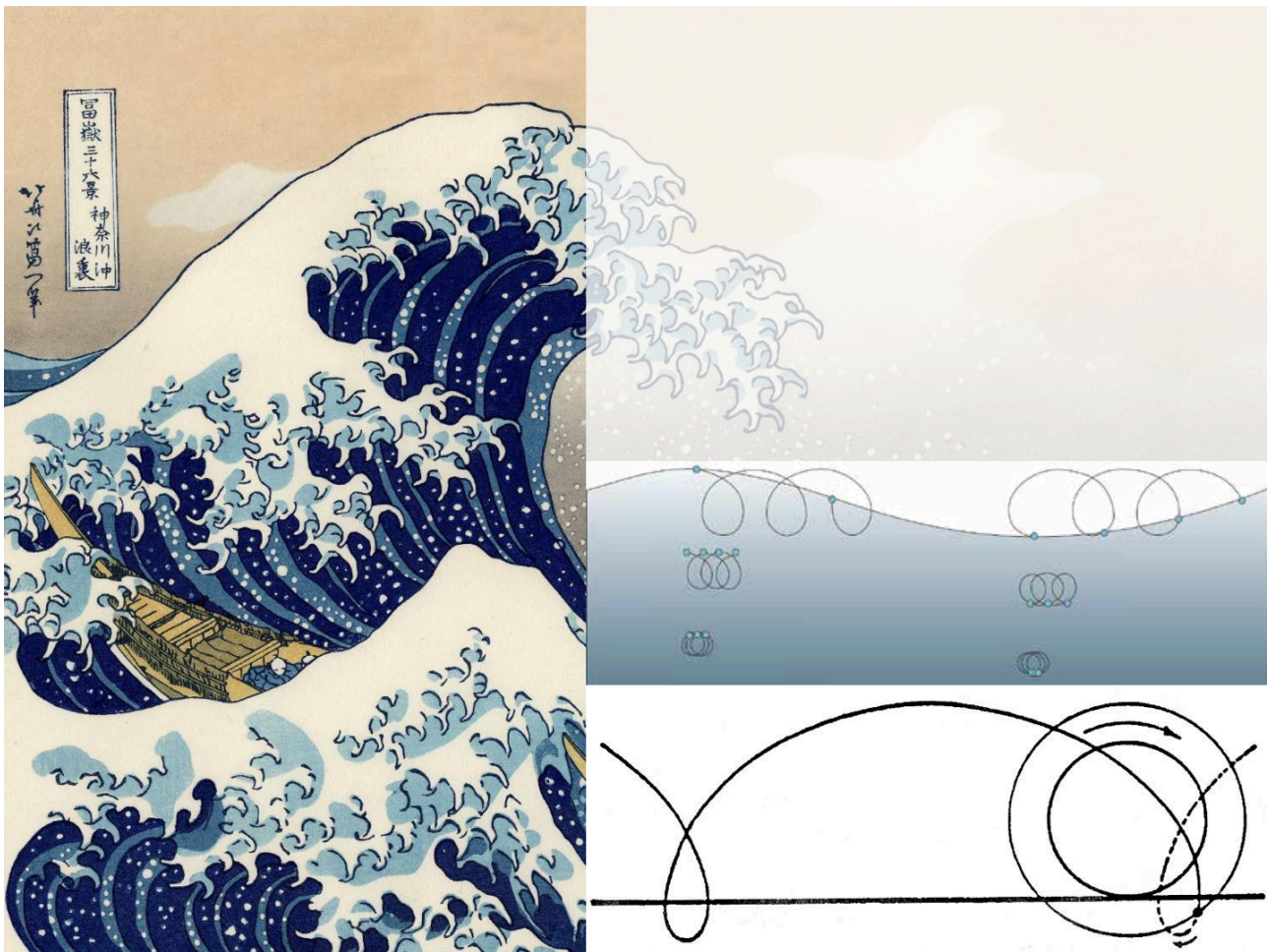


In this presentation I will embrace the notion of “phenomenotechnique” in order to demonstrate how visual knowledge is tied to the practises of image making – and I’m going to argue that ontologically aesthetic information is inseparable of the process of its medial translation and material conception.

Originally, the term “phenomenotechnique” was coined and introduced to the philosophy of science by the French philosopher Gaston Bachelard (1884–1962). “Phenomenotechnique” refers to the laboratory equipment and methods that enable the study of certain physical realities which became manifest only with the help of scientific instrumentation.

According to Bachelard, the research laboratory works as a precondition for the conceptual visibility of the phenomena. Images realized by the scientific apparatus are the primary, and often the only, trace we have access to.

Bachelard also claimed that laboratory instruments are materialized theories. In this sense, theory ( $\theta\epsilon\omega\rho\epsilon\acute{\iota}\nu$  *theorein*, Gr. to look, to contemplate) equals a mental instrument of observation that provides a material medium for discovering realities that lay beyond unmediated sensory perception and our lifeworld. Therefore, in the language of natural science, knowledge is constructed within the dynamic processes of visual (re)presentation.



In contemporary science studies the notion of “phenomenotechnique” has been adopted by the sociologist of science Bruno Latour in his constructionist actor-network theory of science. Bachelard and Latour both regard the phenomenological and scientific reality as a combined effect of material and immaterial, human and non-human factors or agents. Natural phenomena are

explicated by measuring and imaging into scientific objects that merge nature, mathematics and visual-instrumental fiction.

Today I'm going to elaborate on "phénoménotechnique" and apply it to visual art practise. I will concentrate on the following three aspects:

- Firstly, I will show how "phenomenotechnique" – in the Bachelardian sense of revealing, unfurling and tracing down phenomena invisible to the naked eye – can be used as an artistic strategy to exhibit the pictorial agency of the natural world.
- secondly, referring to the physicality of the "phenomenotechnical" processes, I will argue that the epistemic in art and aesthetics, or if you will the so called production of visual knowledge, cannot be abstracted from the material means of its creation. The aesthetic knowledge is manifested and embedded in the physical makeup of an artwork and it cannot exist outside its particular aesthetic context of appearance.
- and thirdly, concluding from previous arguments: Pictorial presentations are therefore not merely reflections or representations; Instead, they take part in the generation of natural phenomena and the real in a way that ontologically constructs both the life world of experiences and the rational and cognitive world view or if you will, the "World Picture" in the Heideggerian sense.

As promised in the title of my talk, I will approach these epistemological questions "hands-on" using some works of my own as case studies and evidence for the theoretical arguments.



# ANIMALCAMERAS

2003

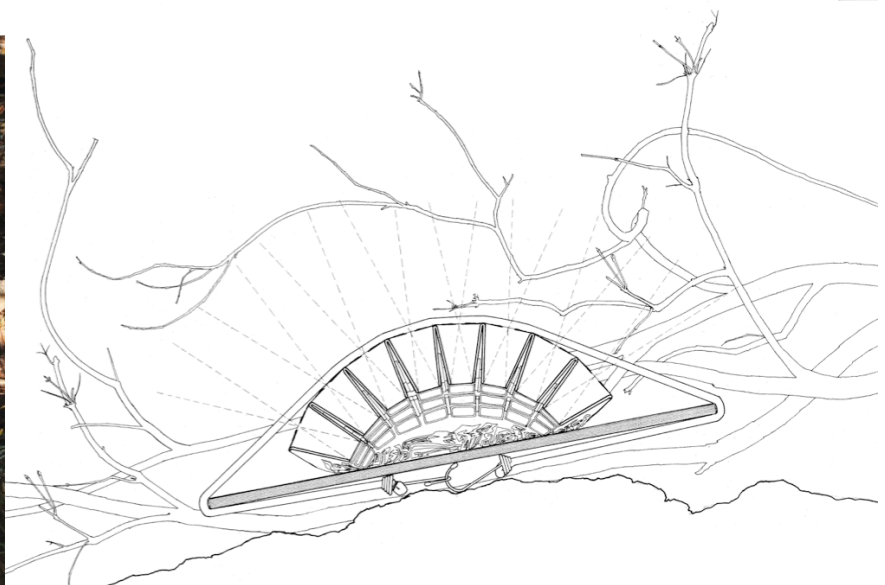
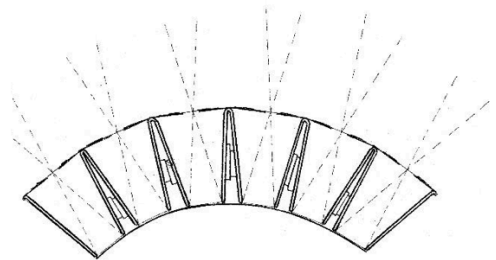
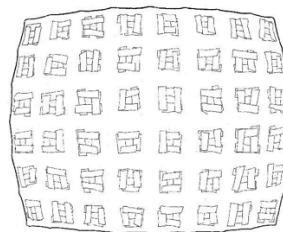
Animal Cameras project is an analysis of the way we understand the world through the photographic discourse. It is also a phenomenotechnical study of the human gaze inherent in photography. The Animal Cameras reveal the built-in model of the human body in the photographic camera and show how our visual system is optically reflected and embedded in the images the camera produces.

The work began with simple questions: what if, instead of the human eye, the structure of the camera were to be based on the eye of some other creature? How does the camera affect the photographs produced with it?

Animal Cameras explores the laws of photography and its unused potential. I tried to demonstrate the special conditions of photography under which the world inscribes itself into images. I read about the structure of animal eyes and studied the properties of different lenses and pupils. Because I did not have the necessary equipment for grinding lenses, I decided to carry out my experiments with pinhole cameras. I applied the things I had learned about animal eyes to the structure of the pinhole camera: I varied the size and shape of the pinhole, and also the camera body so that I achieved different angles and multiple exposures from several different vantage points.

To give you one example: the *Flycam* is based on the compound eye of insects. A compound eye consists of a large number of facets, each one of which forms its own optical image. *Flycam* is a rough model of the insect eye. I took 48 tiny cell-like pinhole cameras and joined them together.

Each pinhole forms an image that shows part of the landscape. I set the focal length of the cameras so as to allow the combination of the 48 part images into one mosaic landscape panorama.







In addition to the optical structure of the cameras, I also took into account the height of the animals' eyes, and placed the cameras in the terrain so that they would echo the animals' movements in their natural habitat. For example in *Harecam* I attempted to show how wide the hare's field of peripheral vision is. I constructed a camera made of two parallel tubes with a total of four pinholes.

Being a prey animal, it is important for a hare to be aware of any predators in its surroundings. The field of view of the hare's two eyes covers almost 360 degrees. Because its eyes are on opposite sides of the head, a narrow blind area of about 10 degrees remains right in front of the animal's nose. From the foot of a bush, the four pinholes in my camera construct a broad panorama in the centre of which – in front of "nose" of the *Harecam* – is a black area.

One of the aims of the *Animal Cameras* installation was to illustrate the scale of the photographic apparatus. The size of my pinhole camera bodies relates to the animal in question:

- for example, the volecam fits into the vole's hole
- the ladybird camera is tiny and light weight enough to be attached to the stem of a plant,
- with the help of a rotating film mechanism the bird camera captures the canopy of the trees.

Or quite simply, in case of the bear camera, the sheer volume of the cardboard box with a negative size of 60x100 cm associates to the large animal.



Of course, it would be impossible to represent what animals see – or would it? In this work, the “Animal” is present only in imagination, as a kind of projection of otherness or nature, one which reveals how photographs construct the idea of reality. So it’s not question of a naïve attempt to identify with the animal perspective.

Nevertheless, playing with the idea of the animal and the animal body as an alternative model for the photographic camera, my work proposes to consider the human body as an interface between us and the world. Our perceptual visual system is an organic instrument that ontologically produces the reality and the world as we know it.

### ANTHROPO'SCENIC'

Initially the camera was designed as a mechanical human eye. The basic camera angle (using the so-called normal lens) corresponds roughly to the area seen by an unmoving human eye. A big part of photographs is taken from the position of a standing human being. That is why I would like to call the inherent constitution of the photographic medium anthropo'scenic'. Human vision is embedded in the scenography of an optical framework that provides us with images staged as representations of the human gaze.

Photography is generally thought of as an “objective” – and thereby neutral – way of depicting nature and representing reality. The photographic visual world we are grown familiar with, is challenged by the pinhole based Animal Cameras with different camera bodies and optical make ups. The unconventional pictorial perspectives that the Animalcams propose, remind us of the fact

that the world mediated by our senses may not be as unproblematically and self-evidently present to us as the everyday experience would perhaps suggest.

It is astonishing how little we still know of the human visual system human. How do we articulate, process and act on the impressions (or sense data, if you will) provided by the eyes?

We are born as eyeballing creatures. Visual perceptions situate us in place and time. We look around in order to make visual articulations: we try to make sense of the impressions.

Seeing is active and intentional: we tend to spot things that are meaningful and familiar to us while the rest of the world escapes our attention.

Moreover, we are not aware of the corporeal and sensory processes that govern our visual system. Vision is not transparent: we are not in control of what we see neither can we choose the perceptions. In this sense we are blind to our cognitive settings and therefore remain prisoners of the human lifeworld.

Vision is so complex that even with the help of sophisticated contemporary technology it is difficult to explain how perception works not to mention the problems that arise when we try program a computer to see like a human being.

To borrow from Jacob von Uexküll's (1864–1944) idea of *Umwelt* – which denotes the subjective world of an organism (The term *Umwelt* was introduced by in his book *Umwelt und Innenwelt der Tiere* (1909) I believe that art projects such as the *Animal Cameras* might work as a phenomenotechnical tools for the study of aesthetic judgements. Works of visual art might contribute to a better understanding of the human *Umwelt* and reveal some aspects of the cognitive predispositions underlying the epistemic “world picture”. My work is only one example of the empiric and performative approaches that visual art could offer for the research of human rationality based on AESTHETIC THINKING.

## APPARATUS

*Animal Cameras* is an installation that showcases different pinhole cameras. The cameras are the conceptual as well as physical core of the work – all other parts of the installation all stand relative to it.

The pinhole cameras cannot be ignored, they are so emphatically physical objects, and here lies the core idea of the work:

I wanted to show in a concrete way that taking a photograph involves an entire apparatus of technologies. That apparatus is present in every act of taking a photograph, regardless of how unnoticeable or virtual the technological interface is.

In the exhibition, the cameras were present as objects, as drawings and also as a series of documentary photos that showed them in the actual shooting locations on the terrain. Next to the pictures taken with the cameras were structural designs of the cameras in 1:1 scale. I tried to show as clearly as possible the dynamic between the device that took the picture and the picture itself.

The complex processes associated with the apparatus and its conceptual underpinnings generally remain unnoticed when one has blind faith in the objectivity of the gaze (or reason), which is an illusion created by the device. You might say that the apparatus institutionalises the human gaze.

The act of looking is transferred outside the body, it is objectified into an external target of observation – machinery that appears to be objective, and, moreover, claims to embody the entire discourse of observation and knowing.





The *camera obscura* is the epitome of the rational gaze. The American pragmatist philosopher Don Ihde describes the apparatus as an ‘epistemology engine’.

Instead of focusing on the optical projections inside the camera Ihde urges us to take the whole setting and its technoscientific mediation into account.

He proposes to consider the camera paradigm as a process where knowledge is produced spatially and bodily. Ihde and his colleagues discuss it as ‘embodied situated knowledge’; a concept also embraced by Donna Haraway and other feminist theorists.

Ihde identifies the c.o. model as part of a historical movement in epistemology. Within this movement he has spotted a shift from metaphysics back to physics and scientific materialism.

Ihde claims that the so called ‘external’ reality displayed by the camera tends to progress inwards in order to end up in the brain, where it nowadays forms the object of study of contemporary neuroscience.

Bruno Latour as well describes our tendency to ignore the instrumentality built into the method of natural science and representational practices. Latour uses the term to black box to refer to the bracketing of instruments.

In my opinion, both the physical and metaphysical aspects of a Latourian black box are explicitly present and embodied in the photographic camera. In consent with Latour’s theory, we tend to ignore the mediating agency of the instrument:

the very existence of the camera is easy to forget when all attention is focused on the end result, which in this case – is the photograph. Latour reminds us that instruments are material and their mediating capacities rely on sensory and aesthetic grounds.

In this sense, knowledge has its own aesthetic foundation. Our notions concerning reality and the natural world are constructed in the process of mapping, measuring and representing – in other words, through aesthetic articulations implicit in different phenomenotechnic practises and visual methods shared by arts and science.

## VISUAL SCIENCE

The term *visual science* in the title of my thesis project “Visual Science and Natural Art” refers to the instruments and methods of imaging and our understanding of their operation. The expression also serves as a reminder of the links between my work and the philosophy of science.



Informed by the history of natural philosophy, science studies and the theory of contemporary art, my research compares and draws parallels between the instrumental practices of natural science and visual art, with an emphasis on optical technologies. The thesis searched for pragmatic analogies between the scientific and artistic ways of knowing in order to explicate and contextualise methods of aesthetic meaning making.

Using as examples some works of my own as well as the visual experiments and devices of Étienne-Jules Marey, Antoni van Leeuwenhoek's microscopes, various surrealist methods, and works by other contemporary artist, my thesis endeavoured to demonstrate how the objects of science and art as well as the subjective observer are all (ontologically) constituted through (re)presentational and phenomenotechnic practises.

The artistic projects included in my thesis focused on tracings and (photo)graphic recordings created by waves, rain and seawater. Images that emerged from interactions with water were inscribed in visual plots or translated into material objects. The project included four exhibitions on the theme of water: *Clapotis* (2009), *Seawatercolours* (2012), *Touch of Rain* (2013) and *Baltic Sea Plastique* (2014).

Water was both the topic and the medium of the works. Facilitated by the experimental setup, the waves, rain or seawater were engaged to express themselves artistically. The inscribing apparatuses devised by the artist functioned as experiential interfaces that permitted the forces of nature to manifest in the form of various autographic renderings.

To give you an example: The *Wavetracer* worked on an analogue and indexical principle. Attached to a rubber membrane, a pen was moved by the impetus of waves, tracing a line on paper. Communicated by two membranes connected with a hose, changes in underwater pressure were translated into a graph: the waves inscribed their own signatures.

My source of inspiration for the tracers comes from the French physiologist Étienne-Jules Marey. Marey developed a graphical method (*La methode graphique*), a technique that employed tracers to transform various movements and natural phenomena (bird flight, galloping horses or heart beat) into graphs. Tracers and chronophotographic instruments devised by Marey were able to register movements in space and time and as a result an entire sequence of movements was yielded into a static image, a graph that encapsulated the chain of events.

Marey's methods succeeded in eliminating the subjective interpretations of an observer. In the spirit of positivist natural science, his tracers did replace the fallible human observer, but at the same time they produced pictorial representations that also recorded something more. Instruments of observation produce a new kind of sur-real imagery that transcends everyday perception. They do not mechanically reproduce the seen, but contrive plots that uncover an extended (or if you will almost supernatural) reality.

The images originated in mechanical procedures that seem to register events without the intervention of an observer. BUT: Despite the automatic character and the mechanical origin of the depictions, nature is not transformed into images by itself; images carry marks of both their maker and the generative method of their conception. And more: The graphic recording of natural phenomena always requires articulation and selection: the preceding "dressing up" of the objects of study and the subsequent manipulation of the depictions.

Bruno Latour analyses the process where visual representations gradually acquire the status of knowledge in a chain of references. A description of a phenomenon is induced from the evidence provided by scientific instruments and methods and subsequently transformed into scientific facts. Without the devices and concepts (or the whole apparatus) of science, nature would not exist for us as facts.

However, facts that are empirically gathered "directly from nature" are ultimately artefacts, created by humans for human purposes. Nevertheless, this does not imply that the objects of study would

be fictional or that they would not be part of the real world. On the contrary: the culturally conditioned situation allows nature to leave a pictorial trace of itself and become inscribed onto an image.

The technology at stake requires both human and non-human agents: the medial translation is collectively produced by the instrument, the sensitive materials and the human operator in a process that enables the visibility of the phenomenon.

My tracers register natural phenomena with a similar technique as Marey's, but in a completely different context. Although nature leaves its mark on paper in much the same way as in Marey's devices, my works are not regarded as particularly objective, actually quite the opposite. They have been associated with animism or anthropomorphism, both of which entail the idea of projecting human traits or emotions onto nature.

There is an odd paradox here: the techniques are completely mechanical, yet in the art context they seem to personify the natural elements and elevate them into the status of intentional actors: trees draw and the sea writes. How is it possible that by employing scientific techniques developed to attain objectivity, one seems to end up in some sort of romantic mysticism? Or have I at some point missed the transformation of the natural into the supernatural?

## BLIND OBSERVER

In both the *Windtracer* project and its variation, *Surf*, a tiny point of light moved in the wind, tracing a line in the image. In the photographic *Surf* series, a tiny flashlight inserted into a transparent soda bottle travelled on the waves, inscribing a wavy line in the image.

The long exposure turned the waves into a mist: Instead of waves, the picture showed a line of light. I was working at dusk to enable the weak point of light to distinguish itself from the waves. *Surf* was shot on film, and in the actual situation I did not see what I was recording.

Similarly to the *Animal Cameras*, I was working blind: I did see the bottle bobbing on the waves – just as I had seen the landscape around the animal camera – but I was unable to view the live situation from that particular vantage point offered by the instrument I had built. It was only after the film was developed that the path traversed by light became visible as a graph, or revealed the reality recorded by the animal camera.

This is phenomenotechnique in action. Without the apparatus, I could never have captured the trace of the movement. The lines of light in *Surf* are an exclusively photographic way of recording an event. The idea of light writing itself requires a photographic technique. The man-made apparatus is a prerequisite for making the natural phenomenon visible, a branch swaying in the wind or a wave traversing the sea. An event only becomes a phenomenon when it is manifested pictorially; the idea of a trace requires a recording apparatus and only becomes visible through the process. Or – to put it in a nutshell; Tracers produce new kind of information about the world. The graphs contain visual information that could never be attained just by observing. Such aesthetic knowledge is made possible only by the phenomenotechnic instrumentation.

The aesthetic knowledge produced is an element of both nature and culture. Nature "speaks" to us through visual traces and objects that become part of human language as well. However, this "language" of pictures and objects does not consist of metaphorical or propositional verbal expressions. It is nature's "direct speech" produced through the intermediary of an instrument: a mode of visual communication that in turn generates verbal responses. The role played by phenomenotechnical visualizations is therefore not exclusively instrumental. It is discursive as well. The practices of imaging become rooted in language and reflect our evolving notions of humanity and nature.

## OPEN REALISM

During my thesis work, while I was struggling through Bachelard's epistemology in order to get a grip on "phenomenotechnique", I stumbled on another notion coined by Bachelard. It is the concept of open realism (*réalisme ouvert*) – also adopted by André Breton and the surrealist movement. Open realism refers to the visual potential that the experimental methods might entail. Despite the pre-established hypotheses and the rationale underlying the experiment, the phenomenotechnic laboratory setup is in capacity of producing random or unexpected results as well. Similarly, a work of art can be thought of as an open platform of investigation that leaves room for surprises and potential visual discoveries.

Early 20th century avantgarde art, surrealism in particular, had recourse to new kind of experimental techniques that were supposed to lead the way towards a new world of undiscovered realities. Artists developed and adopted various methods based on chance and random accidents that transformed the idea of mimesis from the "copying" of external reality into a form of action that leaves traces, a kind of chain of events followed by the artist. The surrealist experimental techniques, such as automatic writing, directed attention away from the point of origin prepared by the artist towards the unknown results and random events produced and determined by the chosen method. The techniques were also designed to allow the artist to step outside human intentionality and conscious rationality. Abandoning oneself to a method bears resemblance to the fundamental principle of science, with the important distinction that the results produced by the surrealist method were seen as pictures created not by external nature, but by the unknown within the individual, the unconscious or if you will *natura naturans* within us.

However, it is my understanding that the surrealists, despite their relentless quest for the unintentional never really questioned the role of the human subject as the prime author and the focus of the experimental activities. This has been demonstrated by the failure of the *écriture automatique* to work as a tool for a literary renewal in the radical sense that Breton and Soupault initially wished for. Appropriated by sloppy practitioners, the idea of automatic writing became quickly corrupt and degraded into an empty cliché.

Along with the surrealists' art practise I believe that pataphysics offers a relevant alternative approach to the epistemic questions concerning relations between visual representations and the real world.

In comparison with surrealism, pataphysics reaches far beyond the surrealists' attempts in challenging the scientific world view and its inherent anthropocentric logic.

Now I must admit that since I was only recently introduced to Alfred Jarry and to pataphysics, I'm not familiar enough with the topic in order to argue with certainty. But sometimes you just need to follow the nose – so, intuitively; drawing from the little I know for the moment, the pataphysical line of thought seems to resonate in an interesting way with the actual discussion on the Anthropocene, technoscience and the relations between man and machine.

Initially, pataphysics was devised by Alfred Jarry, a French writer and intellectual. In its first conception pataphysics aimed at a systematic mapping of the realm of the poetic imagination – which is in fact a project very similar to Bachelard's much later studies on the poetic and the dreams. And not surprisingly, pataphysics dates from the same period as Etienne-Jules Marey's experiments which is the golden era of the positivist natural science. In the first pages of the novel *Faustroll* written in 1897 (***Gestes et opinions du docteur Faustroll pataphysicien: Roman néo-scientifique suivi de Spéculations***) Jarry formulates a definition of pataphysics and introduces its central concept, the epiphenomenon:

And I quote from the English translation of the *Gestes et opinions du docteur Faustroll pataphysicien: Roman néo-scientifique suivi de Spéculations*

**“An epiphenomenon is that which is superinduced upon a phenomenon.**

**Pataphysics will be, above all, the science of the particular, despite the common opinion that the only science is that of the general. Pataphysics will examine the laws governing exceptions, and will explain the universe supplementary to this one;**

**DEFINITION. *Pataphysics is the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments.*”**

Now, what exactly Jarry meant with the word ‘lineaments’ remains a bit unclear but it is likely he referred to the scientific concepts and abstractions. So probably he wanted emphasize the fact that the scientific notions are culturally conditioned and that they originate in an anthropomorphic world view.

If this was the case, Jarry’s idea of an epiphenomenon might indicate the way we employ and embrace the fictional structures as aspects of reality. For example, following the maxims of open realism and phenomenotechnique, light can be approached and studied as particles or waves depending on the line thought adopted. In this case, the particles or waves could be examples of the descriptive properties that Jarry called ‘lineaments’ and they could stand for the imaginary solutions pataphysics operates with.

Jarry’s pataphysics urges us to take the world in as it is described. It reverses the logic of the phenomenotechnical process and gives primacy to the trace itself. The descriptions stand for the world and constitute a starting point for the investigation. In my mind, Jarry’s pataphysics comes close to way art reflects upon phenomenotechnical traces as first hand evidence left by natural phenomena or events.

In this respect I find Jarry’s the concept of an epiphenomenon particularly insightful. It sheds light on the different *modus operandi* of art and science.

My thesis ends with a discussion of the role of traces within the knowledge production process. A phenomenon is, by the very definition, the (visual) appearance of something hitherto unknown observed by a human being. Science and art are equally concerned by the analogue function of traces. The mediality, materiality and craftlike aspect of traces are prominent in both, but the approaches of science and art differ in the manner they operate with the marks and acknowledge them as evidence of the real.

To give you an example: In the series entitled *The Touch of Rain*, rain creates portraits of itself in the form pictures, sculptures, music and literature. When a material is wetted by rain, it results in pictorial traces. The series is based on experimental techniques used in the natural sciences in order understand how rain is created and how water circulates in the atmosphere. The samples of rain create a pictorial surface that makes the rain perceptible in a different way than when it is observed with the naked eye. Falling on the pigment-sensitized paper, raindrops leave patterns which remain visible even after the water has evaporated.

The rain samples reveal that, while seemingly uniform, rain is in fact variable, sometimes consisting of big, widely spaced drops, sometimes dense and finely granulated. These pictures, then, produced new information about rain. In the realm of natural sciences, the rain samples were carefully measured and used for the creation of a mathematical model of rain. Its ultimate aim was to discover universal laws of nature that govern the behaviour of rain.

In parallel with a scientific experiment, a work of art is an empirical experimental setting. The indeterminacy or uncontrollability of traces is a precondition for scientific and artistic research. As knowledge-related objects and experiential situations, both seek to embrace the traces in order to fathom the unknown. But: How do we know for sure what is accidental and what is not? And how can we tell cause from the effect?

In the experimental practises of natural sciences, traces work recursively as means of exploration at the intermediate stages of knowledge formation, whereas in art traces are often the sum and the ultimate end of the exercise: they are tantamount to the core of the work of art. Instead of a trying to establish the general laws of nature that govern a transcendent phenomenon, pataphysics and art take the singular and particular as the starting point. Causal relations have to be challenged in order to attain the freedom to think of potential, imaginary and hitherto unknown solutions. The idea of an epiphenomenon turns around the established relations between the physical world and abstractions of the mind.

Pataphysics proposes that an imaginary world could be traced back from a fragmentary mark left by a particular phenomenon. And epiphenomena are the consequences superinduced upon the particular traces.

Therefore: following the traces could be considered as an investigation in the pataphysical epiphenomena.

To demonstrate my point: In the work *Animated Rain*, raindrops left traces on a roll of fax paper. When the roll was rotated, the drop marks began to move, creating a rain movie not unlike the snow of television static. The white globules seemed to be moving either up or down, depending on the viewer. The rain-sensitized surface is telefax paper which darkens when it is heated. The device had heat-sensitive fax paper running from one roll to another over the lid of a metal box. The paper was first exposed to rain and then dried with a hot air blower. The raindrops evaporating from the paper protected the underlying surface from the heat, thus preventing the area from darkening. The drops were reproduced as white smudges against a dark background. Together, the heat-developed stills constituted a reel of film which I animated with a computer programme.

The animated rain transforms the projective traces of rain into an active bijection: the stop motion images are transformed into an illusion of seething rain in the viewer's eyes. This way, the spectator is encouraged to participate in the (re)presentation of the phenomenon. The rain is present, but only in the imagination. All we see is a synthetic motion. The artificial rain does not patter or make anybody wet.

*Animated Rain* is a visual *factus simile* of the rain. And I argue that since it is a synthesis of the analytically produced traces it could be considered an epiphenomenon as well. The rain is constructed in front of the viewer's eyes, while also being decomposed into its constituent parts. Up to a point, the work produces itself: Nature is set up to play itself.

In my practise, the gallery installations exhibit the making of the pictorial representations. I posit the spectator of the works as an eyewitness to the spatial, material and sensory translation of an event. The staging of the spectacle creates cycles of representation within the installation.

The work is an experimental situation that allows the phenomenon in question to be observed both from within and in its context. In other words, the work puts the viewer "in the picture" as one of its makers.

The poetics of this sort of practise arise from the corporeal enactment and the exposition of the chain of mediation.

My research interest resides in the shifts – (re)produced by the devices, images and methods – from the phenomenon itself to the exhibition and back to perception.

## CONCLUSION

At last - to wrap it all up: Drawing from Bachelard's notion of "phénoménoteknik" I have demonstrated how art can grasp a world beyond the visible and the known and make it manifest in the form of a visual experience, a state of affairs that can be taken in and understood only by the

act of looking. I have argued that an artwork operates not unlike an experimental setup: it provides a stage for visual representation and the visibility of phenomena.

My works emphasise the epistemic and ontological aspects of the process of imaging, in particular techniques where information is produced through the intermediary of graphic methods. Phenomena emerge within the physical and material processes of observation, measurement and recording, only to fall again outside the scope of human cognition. Nor is nature an unchangeable entity. The graphic presentation that takes place in the inscription of natural phenomena is a factor that links my works with experimental natural science.

A work of art is an embodied practice. It is always situated in place and time; it involves looking from here to there: the work posits a viewpoint defined by the artist. Visual knowledge cannot be abstracted from the material means of its creation nor exist outside the context the artwork. Both art and science are motivated by the quest for the unknown. The existing means of visual depiction must be challenged in order to move beyond appearances and to discover new essences. The validity of a work of art often resides in the method of making, in which case the enquiry in the mode of depiction becomes the de facto topic of the piece.

The study of nature and the search for potential realities entail investigation in modes of (re)presentation. The work of the artist, just like that of the naturalist, requires calling into question the pictorial conventions. Instead of replicating that which is already known, the objects of observation must be created anew by looking, imaging or writing.