



CLIMATE SCIENCES MEET VISUAL ARTS

To be up in the air — on being a visiting artist researcher in theoretical meteorology

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Abstract

“I hope to offer a unique artistic perspective on a topic which is hidden from our everyday view”. States my application.

Will I be able to fulfil this task?

Here is a short summary of my experiences as a visiting artist researcher.

PROJECT No. 1 “Remote Sensing”

Meteorology is the science that deals with the atmosphere and its phenomena. The origin of the term is the Greek adjective *meteoros*, which means “high in the sky” or “up in the air”. In a metaphorical sense “high in the sky” describes a state of indecisiveness, of not knowing exactly what to do, much less how to do it.

This characterises my mind-set in the first months of my research. That was despite the fact that I had some kind of a vision of the project when I applied for the programme in December 2013: “I consider the visiting artist researcher programme a great possibility to gain longterm access to an area of life and work that is out of my and most people’s reach. For me as a filmmaker it is essential to experience new influences. In the project called ‘Remote Sensing’ I want to deal with scientific ideation, and compare it to artistic creativity. In doing so I hope to offer a unique artistic perspective on a topic which is hidden from our everyday view”.

But when I actually met the members of the Department of Theoretical Meteorology at the University of Hamburg in February 2014, I realised how little I knew. Starting to explore what is inside their “heads” seemed pointless without doing research on their field of study and also their surroundings. Fortunately, I had a very caring supervisor, Valerio Lucarini. He and his international team were open-minded and happy to answer my questions, regardless of how unusual or naive they were. Mainly, I gained insight into theoretical meteorology which is way more diverse as a field than I ever thought, uniting physicists, mathematicians and visual modellers. I took classes in fluid systems, witnessed a PhD thesis meeting, met a lot of international experts, observed the development of a scientific proposal and was introduced to visual modelling. Additionally, I read papers from the specialist literature as well as more general and popular books by authors such as Nobel Prize-winning physicist Richard Feynman (2001; 2012). Furthermore, the

scientists introduced me to the administrative, political and economic circumstances of their work.

The research between February 2014 and May 2014 changed my ideas a lot. I got a glimpse of the scientists' "world" and felt rather insecure and indecisive about pursuing my original approach. But for the time being I tried to stick with my aim of getting to know something about scientific ideation.

At first, I conducted interviews with the research group members. After each interview, I wrote a transcript and tried to fine-tune the questions. The following is a short excerpt of the questions:

- How do you start working? Do you do preliminary studies?
- Where and when do you work? Does your environment need to fulfil any criteria?
- Are there any observations, places, things which inspire you? Or which mirror your ideas?
- Would you describe your approaches as abstract or concrete?
- What have you seen, felt, smelt and heard when you had your idea? What sense of time did you have? Did something happen? Did the scenery develop?
- How do you decide which approach pursue? Are there even wrong approaches?
- Do you think that these approaches are objective or subjective?

It was already difficult to define a term to describe what I was asking for. I tried to call it idea, fantasy, approach but none of these concepts really fitted or described what I meant. To my surprise, I got answers. The scientists knew where I was heading and gave me truly personal insights into their way of thinking. For example one of the scientists saw people sitting in different patterns on the lawn and connected this image geometrically to the idea he was working on. Another member of the group always pursues thoughts when he has a special feeling that is based on his childhood.

From my collection of answers, I got the impression that there are three ways of developing an idea in science. Firstly, an intuitive way, i.e. you follow an instinct, a feeling you remember, a dream you had. Secondly, an abstract way which is mostly based on geometry, objects and shapes. Thirdly, there seems to be a numeric way, based on calculations.

My conclusion was that the project was fertile with regard to insights gained. But it bothered me that I could not develop a suitable artistic expression out of this insight. To just display people talking about ideas and approaches was not enough for me. And to choose a random metaphorical picture also did not satisfy me.

At this point, I felt the urge to take a step back, to put some distance between me and 'my' field of research. In just four months, I had lost the ability to be an outside observer and to have an artistic view on things because I was too involved.

PROJECT No. 2
“All in All”

So I started all over again. I read a book about geoethics called “Der Stein als Bruder” by Károly Henrich (2009) which influenced me a lot. The author put some things in perspective for me. He dealt with the so called ‘inanimate’ nature mostly using the example of stone and rocks, scrutinising our approach on seeing things, and our morals. Pointing out that everything is part of everything. When organisms die they decompose and become part of something else, stone for example. That is why everything is connected but on a different temporal and spatial scale.

Scientific exploration and human history now became connected for me. I was able to put science in a broader context. As a means to give us a special insight and to comprehend something out of our “human reach” because our life is relatively short compared to the lifetime of a mountain, or because of our inability to see certain microorganisms or a landscape as a whole. In theoretical science, they call this phenomenon “multiscaling”. It is used in models, when trying to explain physics, in medicine or in history. It occurred to me that it is everywhere around us, without us even noticing.

Based on the “multiscaling” approach I created a new project called “All in all” (Figure 1). Here is a synopsis:

“The film ‘All in All’ deals with the animate world within different spatial and temporal levels of scaling. It does not treat this topic in a strictly narrative but slightly associative way. The main aspect of the film is the analogy between man and earth. On the one hand the earth, for instance the stone it mainly consists of, is an inanimate hard element. On the other hand is the distinct form of the human body built of flesh. In one perspective, both entities are solid in their respective ways. From another perspective, both are living organisms. One can determine that by reference to the movements on the cellular level, or on a much larger scale, on the level of seismic activities. These organisms arise, develop, grow, degenerate and die. The differences lay in the temporal and spatial dimensions of the processes.

In the beginning there is the stone desert. Mankind appears. They come out of water and stone. But each individual’s time soon comes to an end. From our most obvious, personal point of view dying is a tragic process; the disappearance of consciousness, identity and soul. Seen from the perspective of physics, dying is a consequential process, the defeat of body cells against stronger aggressors, or the temporal limitation of their existence.

A woman arrives at the hospital. In rooms made of stone, medical machines are attached to her body. The body is opened, microscopic observations are made. The cancer cells mushroom within her body, push it towards dying. Her body cells leak and dissolve. At the same time, scientists approach a volcanic area. They dot the surface, the skin. Take samples. Listen to the pulse. Map the heat. Then they disappear. Maybe they will return.

Body and rock decompose. Remains are spread on the ground. Even if one takes a closer look one is unable to distinguish between the remains of the human body and the sediments. But components of both continue to exist. They spread and become part of new molecular compounds. Pieces of the human body become stone, tree, air, animal...

This illustrates the tragic, but also the undeniable logic and finally the duality of the process: vanishing on the one hand and on the other hand, eternal existence. This can be terrifying or comforting depending on the viewer's perspective".



Figure 1. All in All, Filmstill.

For this project, I firstly wanted to collaborate with a company that does geothermal exploration in Iceland. But this turned out to be difficult because of the political brisance of the topic these days, as a result of land subsidence and seismic activities connected to geothermal exploration methods. I agonised over my analogy. What is a good example for the heat and movement under the "skin" of the earth so that you can imagine it being vivid? What is big enough so that you can only picture it by scientific methods? And what is old enough and will persist long enough?

The answer was a volcano. Surprisingly the Istituto Nazionale di Geofisica e Vulcanologia — Sezione di Catania offered me the opportunity to visit Mount Etna in Sicily, one of the biggest and most interesting volcanos in the world. I went there in September 2014. Officially, the visiting artist researcher project had ended in July. But all of us seven artist researchers felt that we needed more time to create something and we postponed the exhibition of our art work to October. When I arrived in Catania, Sicily, everything seemed to be set. But the first three days nobody at the institute answered my calls. So my film crew and I explored Etna on our own. Eventually, the scientists called me back and explained that they had been at a conference. The following week we were able to go with them to Etna. We shot some explorations and also were able to film in the monitoring centre of the Institute.

For the "human part", I chose to focus on skin cancer. After months of begging, two hospitals were kind enough to let us shoot there. The methods used to explore cancer and the volcano had a lot of visual similarities and so hopefully "All in All" will work out as a documentary intellectual game.

As of now, the work is still in progress, but I was able to show a preview at the occasion of our exhibition in October 2014. During the exhibition, I was really nervous to display my work to the scientists. I was unsure whether they would see the references to their work. But my worries were unjustified. The scientists not

only saw the relationship between the film and their research but also pointed out that they liked discovering their work through my eyes and saw junctures to other disciplines they had never thought of before.

When asked whether my time as a researcher has influenced my work as a filmmaker I would definitely say: Yes! I started my studies in fine arts to develop my own artistic signature. The visiting artist researcher programme not only provided me with an interesting new topic but also with the space to experiment with documentary styles and to follow my instincts and discover a fitting way to express myself. Ultimately, I gained friends at the Meteorological Institute and even after completing the programme, I am always a welcome guest.

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