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**Moving Beyond Myths:
Institutional Experiences
of Expanded Photography**



Whiteout

Rosa Menkman 11 February | temp: -5c to -11c | Snow: at least 10-30 cm, often more (fig. 1).

Point no Point Light

It is grey and windy. Snow in the form of fine dust is coming down. The trees bow slightly under its weight and occasionally shed a cache, which then falls down onto the forest floor, landing with a dampened “phlouf”. This is not the ideal weather to hike up a mountain, but we are doing just that.



Soon, most of the trees give way. The path is now completely covered in a thick, fresh pack of snow. Footsteps and the occasional boulder mark its surface. We use GPS for navigation. But we also carry a small, hand-held device called Limenia (fig. 2), which picks up electromagnetic radiation from the surroundings and translates these frequencies into the domains of humanly audible sound.¹ It serves as an interface, distilling the intangible and ordinarily imperceptible infrastructures that are beamed around us – and even straight through us – all the time.²

Figure 2
Limenia opens up our spectral resolutions.
Limenia was conceived and built by Mario de
Vega and Victor Mazón Gardoqui.
<<http://r-aw.cc/-/devices/limenia/>>.
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We are on a mission to document the top of this mountain, The Brocken,³ which, like any other mountain these days, is marked by humans. All over the world humans have elongated nature's highest terrains with antennas, without respect towards the natural stratifications they are built upon, or consideration of the panoramas interrupted. These antennas usually function as repeaters; they receive, retransmit and propagate invisible electromagnetic waves of information through the ether, as well as the natural environment. The antenna on top of this particular mountain is a remnant of the Cold War, anchored therefore not just in our current telecommunication networks, but in its previous – and quite possibly still ongoing – function as an ear, listening in on confidential networks of telecommunication.

As we move along the trail, the atmosphere becomes denser and the wind picks up, removing spatial perception and making it impossible to see beyond 50 metres ahead (fig. 3). A visual gradient fills my viewing plane with oscillations of grey whites and white greys. The Brocken

Figure 1
Whiteout, The Brocken, January 2018.
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1. Limenia is a small antenna which translates certain frequencies of the electromagnetic spectrum to the realms of audible sound. The little handheld device was conceived and built by Mario de Vega and Victor Mazón Gardoqui. <<http://r-aw.cc/-/devices/limenia/>> [11.12.19].
2. Paul Schmidt, 'Perceiving the Invisible: Speculation as Interface at Sonic Acts Academy 2018': <<https://remystifyblog.wordpress.com/>> [11.12.19].
3. Located in a region of Saxony Anhalt, the Brocken, or Blocksberg, is the highest peak of Northern Germany, though its elevation is below alpine dimensions (1,141 metres).



Figure 3
The removal of spatial perception, The Brocken,
January 2018. COPY < IT > RIGHT.

is a place of extreme weather conditions; its peak lies above the natural tree line and tends to be covered in snow from September to May. Ghostly fog and mist shroud the top of the mountain for up to 300 days each year, often reaching down through the forests, valleys and peaks surrounding its summit. And sometimes, when the conditions are just right, the Brocken spectre appears: an optical phenomenon in which a person's magnified shadow is cast upon clouds, surrounded by a haloed rainbow.⁴ Like Limenia, this apparition relies on convergence of the intangible; but, instead of computed manmade information, the Brocken spectre is an embodiment of natural imaging phenomena.

The wind in my face brings me back to our climb: it is hard to speak and maintaining conversation with each other is difficult. A hut offers shelter to two walkers who seem to be taking a rest. We pass them, but in these circumstances, contact beyond a nod and a wave is not possible. The split track leads us to the right, where we enter a barrier of fog. Meanwhile, the snow cracks under our feet, constantly slowing us down; the wind is now roaring in our ears. Limenia has become the only proof of life outside this grey space. It is comforting to hear its sounds in my ears as it pings invisible infrastructures, concretising and assigning dimensions to a space my eyes cannot see.

4. Atmospheric Optics, 'Brocken Spectre':
<<https://www.atoptics.co.uk/droplets/globrock.htm>> [11.12.19].

Impossible images

Last month I had the opportunity to speak to several particle physicists and ask them about their favourite ‘impossible image’. One scientist expressed a wish to have antennas mounted in his eye sockets, so he could see through walls and straight into the electromagnetic spectrum. This 20/20 electromagnetic vision would reveal everything from electricity to cosmic rays; it would transform this grey space into an incredible flurry of colours, including those from far beyond our visible colour wheel. And it would clearly distinguish the antenna – the beacon on the top of this mountain – that is relentlessly emitting signals into the invisible-to-me realms of the radio frequency spectrum, which I can at least partially navigate with my Limenia.

But as I scale the mountain, I wonder: could there be creatures out there, in the fog, that can perceive the noise of the antenna, blasting through the ether? How much of the landscape, hidden to me through these layers of snow and fog, exists to organisms or networks that have passive electronic properties, besides my Limenia? Are my human qualities simply inadequate to understand the violence of these intangible signals?

To really read this place, I would need a way to capture and transcode a vertically thickened geography: a strategy of counter-mapping that adds layers, stacks, and other vertical elements to my imaging of this space. Eyal Weizman, Founder and Director of Forensic Architecture, once described this as a “politics of verticality”, which entails a re-visioning of existing cartographic techniques and an “Escher-like representation of space, a territorial hologram in which political acts of manipulation and multiplication of the territory transform a two-dimensional surface into a three-dimensional volume.”⁵ Weizman also advocates the superimposition of discontinuous forms of mapping, offering a “sceneography” rather than a map, in order to form a landscape that involves a mesh of different significations that can be read altogether, and not just ‘viewed’.

I wish I could create a territorial hologram of this trail, by mounting different types of antennas to my eye sockets. I wish I would conjure a thick mesh of the sceneographies I am traversing. I wish I could visually compute the world around me. For a while, thoughts and references like these float and sink on the rhythm of the beating wind.

After some hours, we pass a signpost that signals another five kilometres to our walk. We cross

5. Eyal Weizman, ‘Maps of Israeli Settlements.’ *The Politics of Verticality*, available at <https://www.opendemocracy.net/en/article_631jsp/> [11.12.19].

a barrier of snow and suddenly the fog is gone. Instead, we have entered a space of enveloping white noise. This journey is dreamy and painful, yet still not a nightmare. Like a spacecraft going into warp drive, the wind shoots the snow-noise in our faces and eyes. I think about the different forms and shapes these tiny crystals must have; and how they owe their forms to their previous environments, before ending up as a drop on my cheek. Another impossible image, that makes me feel small.

The path is now twisting, crossing, intersecting, connecting, bending and elongating, like light can do. But I have lost the sense of light. As my eyes stare into the greyish white, it seems like all might be dark. White without light, or white in the dark. I had never previously thought about white in the dark.

Moving through lines

Some years ago, through a fluke of destiny, I found myself inhabiting a little cabin in the Mojave Desert. I had rented an SUV though had been disappointed; the vehicle was shaped like an SUV but did not come with the high-suspension or horsepower I imagined. Even so, excited about the vast endlessness of the desert, I drove for days, with gallons of water and spare batteries for my mobile device but without a route, just following the heat aberrations and dust devils into the unforeseen.

On one such drive taking a route marked with a thick line on Google Maps, I found myself on a dusty stretch of road getting narrower and narrower, until I suddenly had no space to turn around. Trapped into moving forward, the path slowly changed from dust to stones and then to rocks. Big rocks, sometimes larger than I knew my suspension could bear. I spent hours on that path, scared to puncture a tyre, or worse, in a space more desolate than the last ruins passed hours ago.

Singing to myself, while driving slower than I would probably walk, I finally reached the end of that rocky road. I still remember the extreme relief of entering a clean stretch of asphalt, looking over a barren valley marked by the sediments of a dried lake. The valley was carved in two by the straight line of interstate 15 stretching into the horizon. But peering over the vastness ahead, in the distance, I saw something surprising: a pillar of light peeking over the rim of a mountain, a strange daylight lantern, shining with an intensity that puzzled me.



Figure 4
Flashback to a daylight lantern, Ivanpah Solar
Power Facility, Mojave Desert, California.
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Forty-five minutes later, I had crossed the distance separating me from the daylight lantern. As I pulled up on the private road of a centralised solar farm (fig. 4), I swung my door open and hurried towards the edge of the field to experience its energy, expecting to be told to move on by some patrolling security guard at any time. But it remained quiet, endlessly quiet. There, in front of the whitest light I had ever seen, I was alone, there was nothing else. No wind, no cars, not even a hum to signal the concentration of energy right in front of me. It was just me and the whitest light in the middle of the High Mojave Desert. I had never seen such white. I closed my eyes and suddenly lost the light. It might as well have been vantablack.

Making space and place

I pull myself back onto the mountain. Here it is cold, and definitely not that type of white. The weather has escalated from a gentle snowfall into a storm. Vague reflections of trees and objects lost in swirling grey tones pixelate my sense of horizon, a line that could have been a guiding beacon. Wassily Kandinsky once wrote: “A particular capacity of [the] line [is] its capacity to

create surface.”⁶ But this trail presents a space devoid of any lines; what remains is a place of distortion – without surface, resolution, progress, depth or end. In the *Dictionary of the English Language* (1755), Samuel Johnson described seventeen definitions of the ‘line’. He differentiated between its function as longitudinal extension, a string, a contour, a letter or a family line. These lines are not here either, but perhaps he would have found others.

The line is not a singular thing. I could seek lines, I could try and find a line to lead me back: a border, a boundary, a frontier, an outline, a separator, a perspective, a line of flight, a guideline, a progress bar, a ruler, a red thread, a storyline, a chronology, a timeline, a vector, a ray of light, a beam, a sequence, an axis, a connector ... I have none of these. Lines can offer a myriad of shapes and directions: horizontal, vertical, diagonal, rastrum, grid or wave; a maze, a mesh, a labyrinth. But this snow is infinite, not only one or all of these possibilities. It could be anything, though everything remains unresolved.

Like any map, every map of the Brocken is made out of lines. A thick black line describes the Brocken Railway, which swirls around the mountain’s summit like the cochlea of the inner ear; while the hikers’ trail approaches its top like the Eustachian tube.⁷ More advanced maps of the Brocken feature contour lines indexing the heights of its surface, while historical maps document the lines drawn during the Cold War, when the Brocken was encapsulated by a vertical border wall and its summit was an exclusion zone (Sperrzone), dedicated to espionage by the East. During this time, to civilians the Brocken was no more than an imagined space. But, now, its accumulated and digitally communicated, shifting lines construct a visual record; one of experience and history inscribed by layers of linear (re)imaging that signify mapping rather than simply a map.

Maps exist to make it easier to navigate the world. They inform with insights and overview, yet, generally, they bear no witness to their creator(s). The map rather appears as a pre-composed artefact, an object that comes from a space rather than offering a reading that is imposed on that space, transforming it into a place; much like photographic inscriptions of experience that transform space to place. But, like photographs, maps are highly political objects. They define space and impose particular readings. Weizman stated: “Two-dimensional maps, fundamental to the understanding of political borders, have been drawn again and again. But these maps are

6. Wassily Kandinsky, *Point and line to plane*, Dover 1982, 576.

7. The Eustachian tube is part of the middle ear. Also known as the auditory tube, it connects the nasopharynx to the middle ear.

two-dimensional. Attempting to represent reality on two-dimensional surfaces, they not only mirror but also shape the thing they represent. As much as describing the world, they create it.”

Both politics and law often understand the concept of space only in terms of the map (or sometimes, the plan) and territorial claims marked on two dimensional maps assume that claims are applicable simultaneously above them as well as below – underneath – the space that is mapped. This type of one-dimensional scaling is violent and undermines the meshes that transform space into a specific place. Space represented on maps are those without inhabitants. No one is present, nothing moves or makes a sound. In the map of the Brocken, we hikers are just a blue dot, scaling a two-dimensional Eustachian tube, presented with minimal reference of the complexities folded into the landscape; or the histories and folklore we cross.

At CERN (Conseil Européen pour la Recherche Nucléaire (European Organisation for Nuclear Research)), I spoke to a scientist who told me that humans can only remember one direction of time; the direction that accounts for the past. He speculated about the possibility of four-dimensional matter, which could help us to remember a future. With access to this matter, we could carve slices of time – including the future – which would then help us navigate the present.

To describe the Brocken more inclusively, and not to impose a singular reading, might mean to describe the Brocken as a multi-dimensional volume, layered with folkloric, historical and political strata. The Brocken is a mesh that is larger than the conventional outlines seen on the ‘normal’ map of the Brocken. To understand it, we need to collect all these lines of history and thought. But what lines can we use to describe the Brocken? What is a line?

On the mountain, there is an endlessness of snowflakes, in which I can see stories and adventures from my future and my past ... But it feels like I can carve nothing. The twirls around me are not uniformly defined. The thoughts in my head are spinning as if they are dancing to the movements of the flakes. The white noise is no longer coming down from the sky but instead from all directions – up, down, left and right – without a focus, a line or a path. They have become the length and depth of my hike. All I see is grey.



Figure 5
We have become the distance, The Brocken,
January 2018. COPY < IT > RIGHT.

Figure 6
I am pulled back into space, before the space
collapsed onto me, The Brocken,
January 2018. COPY < IT > RIGHT.

In this intense flattening of perspective, we have become the distance (fig. 5). We are forms, lines, energies one upon another, the very matter in an intangible – though far from immaterial – situation. Walking here together, the trail has taken us deeper inside ourselves.⁸ The mountain has entered us. Like Walter Benjamin once wrote, “I have become my snow globe.”⁹ I wonder, is the Sun still there, is it fighting to reach me, above my head?

A terrible feeling of dread and loneliness comes over me. I remember this grey feeling. It is being together with people, yet still being alone. Completely and utterly alone, lost in ubiquity, like there is an invisible wall that won't let me join the state of 'togetherness'. Sometimes a space does not allow you to make place, to plot and situate yourself in connection to the space. Sometimes a space is made of invisible rules and viscosities that keep you from inhabiting it. But maybe these material properties of space are just qualities I am not trained at. I have to learn to understand space through properties beyond my senses, my literacy and my habits.

Blurred is this blizzard; a blizzard of snow and a blizzard of thoughts that still do not offer clear lines for definition. Timothy Ingold wrote that “drawn threads invariably leave trailing ends that will, in their turn, be drawn into other knots with other threads.”¹⁰ Ingold would probably laugh at me, but I cannot see the knots or threads to be made. Things seem to be unravelling. I feel less and less human. I am just a cold body stuck inside a sack of clothes that is trying to carry itself up a mountain.

We have walked for a long time. I am exhausted. The twirls of white noise make space for a flurry of references and images that take up the space beyond my retina. Shadows and shapes appear in the corner of my eyes, apparitions that disappear when I try to see them. The ghosts are dancing in a fog of flakes as my hair is dancing with them, reaching out like tentacles in front of my eyes. I take Limenia out again. The little instrument gives me static and a hint of something else. For a moment it sounds like music. Maybe I mishear a deep EVP (Electronic Voice Phenomenon), or the ghosts of the weather have now started to speak through the device.

Suddenly there is a little clearing in the sky: I can see a shimmer of light. It is like the Sun *wants* to tell me it is still there. I do not know how long or how far we still have to go, but the Sun has given me back a sense of perspective: a vertical perspective (fig. 6). I have been pulled out of my

8. Esther Leslie, *Walter Benjamin*, Reaktion Books, 2007, 78.

9. Walter Benjamin, *Gesammelte Schriften*, vol. VII, pt.1, Suhrkamp, Frankfurt/Main 1991.

10. Timothy Ingold, *Lines: A Brief History*, London: Routledge 2007.

grey state of being, on a mission to make it to the top of this track. On the side of the road I see spectacular installations: collaborations between the trees, the wind, snow and ice. The final stretch of the track is suddenly there, it is not too long before we reach the end of the trail and arrive at the summit of the mountain.

Cold, stiff and tired, there are only a few trees to keep us protected from the wind. The weather makes it impossible to see much, and our video and photographic equipment fails to document what remains of 'the spectacle': our lithium batteries are depleted. The full length of the Brocken's antenna is not visible, I just recognise its base; its mast shrouded in grey. There, in the snow, it is sending and repeating inaudible messages, encrypted on different frequencies, waiting for technology to pick them up for repetition or translation to another medium or node. We clearly hear its overpowering strength through the Limenia, and the different rhythms at which data is sent through the ether, as well as through us, offering me just a small insight into the immensity of spectral resolutions unresolved (that I am blind to/do not perceive) by my humanly body.

It is not enough to regard the surface as a taken-for-granted backdrop for the lines that are inscribed upon it. The history of writing belongs within the history of notation, and the history of notation within the history of the line, so there can be no history of the line that is not also about the changing relations between lines and surfaces.¹¹

Plotting lines

Here I sit, at my desk, safe and warm, writing the story of a perfect whiteout for you; the story of climbing a mountain during a snowstorm, which led me into space without dimension, white in the dark and references without lines. The story of that time when I manoeuvred slices of consciousness, traversed a virtual axis to nowhere and, finally, was pulled back into space, just before the space collapsed onto me.

The Brocken Spectre never appeared to us. But for a moment, the Brocken morphed into a landscape with multiple horizons, in which orientation discerning top from bottom did not exist except within the mind of the wanderer. And even though events seemed to happen in the same space, this state created different places within that space, layered upon one another.

11. Timothy Ingold, 'Transformations of the line: Traces, threads and surfaces', *Textile* 8.1 (2010), 12.

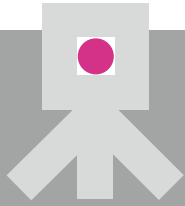
As I scaled that mountain in the snowstorm, the mountain sublimated itself into a space without lines. For a moment there were no threads, traces or cracks to fall into, lines to follow, grasp or get a hold of. The mountain showed me I need lines to understand space. In a perfect whiteout, I missed visual markers and, as a result, all lines of reference. Rather, I became my own surface. And all I had to inscribe with meaning was my own internalisation of space; a quantum axis I got lost in. I learned then, that lines are ubiquitous and therefore often ignored. But lines actually provide an important rationale for grounding, they organise images, vision and context.

The line is a beautiful and radical object, it can represent both operation and representation. Some lines even defy classification. When dealing with materials that are non-static, opaque or invisible, we can shape their so-perceived immateriality or conjure them into materiality through an axis of approach. Lines can be the basis of all materiality because they invoke a surface. They form our matter. If a visitor temporarily commits to a line, they re-territorialise the environment. It is this kind of thinking about space and place that allows for seeing through time; through different spectra and frequencies to open different or new perspectives of visual, experiential and spatial narratives.

Maybe, to a mountain, all that matters is verticality, quantified as height above sea-level. That is why mountains are generally defined by their summits, and not by the greatness of mass of rock, or the degree of muscular exertion the hiker has to endure when scaling it.¹² But to me the Brocken is also a place of many imaginary lines or descriptions, that can be highlighted and then collapsed onto the mountain. And every time this occurs, the mountain is freed again and again because the act of repositioning these membranes of perspectives create a forever unfolding, non-vertical abysmal of lines. Our immaterial objects are shaped by the vectors we choose, the lines we draw around them, the norms and expectations, traditions and rules; and, finally, the lines of meaning we inscribe them with. It matters what surface a line is drawn on, but it also matters what lines we draw upon a surface.

This is an enhanced version of a text first written for AX15, a project about invisible infrastructures initiated by Mario de Vega <<http://axis.mariodevega.info/>> (11.12.19).

12. Timothy Ingold, *The Life of Lines*, London: Routledge 2015. 32.



Preview:

PhotoResearcher No 34

In Focus: Photography in Romania

Publication date: October 2020

Editors

Ulla Fischer-Westhauser, Uwe Schögl

Guest editor

Adrian-Silvan Ionescu, Director of the Institute of Art History "G. Oprescu" of the Romanian Academy, Bucharest

www.eshph.org

Imprint

PhotoResearcher No 33, April 2020

The magazine of the European Society for the History of Photography (ESHPh)

A-1020 Vienna, Komödiengasse 1/1/17

E-mail: office@eshph.org

www.eshph.org

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Cover image

Alfred D. Palmer, *Operating a hand drill at Vultee-Nashville, woman is working on a "Vengeance" divebomber, Tennessee, February 1943.* Library of Congress.

Concept artwork

Thomas Freiler

Graphic design

Bernhard Schorner

Image editing

Robert Vanis

Printed in Austria

by Holzhausen Druck & Medien GmbH., Vienna



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ISSN: 0958 2606

Price: € 18,00

Printed with support from:
Federal Ministry Republic of Austria
Arts, Culture, Civil Service and Sport

 **Bundesministerium**
Kunst, Kultur,
öffentlicher Dienst und Sport