

Critical Zones a n e

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man after
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Expressive
phenomena
as indicators
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Mediating the
Critical Zone.
Land art in
the perspective
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How to represent
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An art and visual
culture discussion
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Lena Quelvennec

EVENING LECTURE
Visualising the
Critical Zone,
an interdisciplinary
approach
Bruno Latour
Alexandra Arènes
Jérôme Gaillardet

21/22
feb
2019

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„Critical Zone“ 21/22 Feb 2019

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Steven Banwart & Anna Krzywoszyńska: Watching the critical zone through one another's eyes: an interdisciplinary dialogue

Earth's critical zone is a space of interdisciplinary meeting. The critical zone is invoked by natural scientists fascinated by the basic research challenges of understanding Earth's surface system. Social scientists in turn are drawn to understanding how the human dwellers communicate with the critical zone in their habitats, and how knowledge of the critical zone is produced and made meaningful in particular places. For both these groups, watching the critical zone requires new conceptual lenses and instruments. This paper is structured as a meeting of these two perspectives on watching the critical zone. We explore what watching the critical zone means for geosciences, which seek to identify and quantify the flows and transformations of material, energy and genetic information into and within the critical zone, as well as their response to human drivers of change in the Anthropocene. This perspective is put in a dialogue with the experiences of watching the critical zone from a particular place – an arable field, or a sheep pasture, and by particular persons – a curious social scientist in conversation with English farmers. In this structured exchange, we engage one another's perspectives around the questions related to quantifying, tracking, and measuring the critical zone and the place of the human within it. We specifically discuss molecular scale imaging, chemical spectroscopy, and soil metagenomics, and travel through the cellular, rock grain, soil profile, catchment, river basin, continental and planetary scales. We aim to challenge the interpretation of these images and imaginaries through swapping disciplinary lenses, and explore new understandings that arise from a conversation about watching the critical zone that is driven by our curiosity of the others' disciplines and not our own.

Steve Banwart holds the leadership chair in integrated soil/agriculture/water research at University of Leeds, UK and is Director of the Global Food and Environment institute. He holds degrees from the University of Iowa and the Swiss Federal Institute of Technology with academic expertise in soil and water resources of Earth's critical zone; his core science is chemistry. He studies the role of soil organic matter – in the critical zone life support system and in supporting human access to food and clean water.

Anna Krzywoszyńska is a Leverhulme Early Career Research Fellow at the Department of Geography at the University of Sheffield. Her research concerns agriculture and food as the key spheres for the co-becoming and co-production of human and more-than-human worlds. Her work explores the roles of knowledge, embodiment, and affect in the shaping of human relations with the more-than-human world in agricultural and food-related spaces. Consequently, her research also investigates the potential for 'opening up' the spaces of knowledge production to non-certified expertise, as well as challenging the persistent division of labour between social and natural sciences in speaking about materiality, life, and ecology. For the last three years Anna has been exploring the reconceptualization of soils as lively ecosystems in conventional agricultural practice and its related knowledge fields, a fascination which had sparked conversations with Steve, as well as the conception of the interdisciplinary Soil Care Network (soilcarenetwork.com).

Sudipto Basu: Must we meet monsters at the end of the world?

This paper addresses the recurring appearance of certain mythic monsters as archetypes in contemporary imaginations of the End of the World. I have in mind the titular invocations in films like *Leviathan* (dir. Lucien Castaing-Taylor and Verene Paravel, 2012) and *Behemoth* (dir. Zhao Liang, 2015) as well as in Donna Haraway's characterization of the contemporary's "dynamic, symchthonic," "relentlessly diffracted time-space" as the Chthulucene (Haraway, of course, both invokes and distances herself from Lovecraft's misogynist, xenophobic monster). In *Leviathan* and *Behemoth* – experimental documentaries (or 'sensory ethno-graphies'), respectively, on deep-sea fishing off the coast of New Bedford and large-scale strip-mining in Inner Mongolia – the mythical monsters loom on the horizon like a virtual presence, trying to orient our vision within a regime of images where the human body cannot serve as an anchor anymore (explicitly so in *Leviathan* – which revels in a decentered post-anthropocentric gaze by creating images from 'impossible', groundless perspectives which nonetheless cohere). These critical zones, life-worlds of ecological precarity require, as it were, a new sort of precarious image which goes far beyond the usual discussions of the digital image's lack of scale or indexicality (in the context of, say, environmental infovis). An image always at the precipice of a dissolution into blackness (in *Leviathan*) or a fractalization into shards (in *Behemoth*). My interest is, then, in understanding how the films reconfigure visuality in the critical zone, suggesting both an extreme intimacy as well as estrangement characteristic of life (a life beyond the human) in this liminal condition.

Yet, I am also intrigued by a second line of enquiry: that *Leviathan* and *Behemoth* happen to be the titles of Thomas Hobbes' famous treatises on governance – on the foundation of a kingly sovereignty that can overcome the chaotic 'State of Nature' of the English civil war. As Carl Schmitt's commentary on Hobbes indicates, the essence of the biblical Leviathan-as-sovereign is that it plays the role of the katechon ("Restrainer") by founding a new order of politicized time superseding the normal: the state of exception. The state of exception, as the time preceding the coming of the Anti-Christ, is an apocalyptic time-before-the-end in which History is at its most intense. In repeatedly invoking visions of an 'apocalyptic primordality,' the films *Leviathan* and *Behemoth* point to the ambiguous temporality of the critical zone: where both life passes into death (in the 'End of History') and new forms of life are born from the old. The question for these films, contra Schmitt, is if this inauguration of a new time necessarily has to pass through the forms of sovereignty tied to a vertical, human, landed existence. Through Georges Bataille's theorization of sovereignty and its antinomic relation to horizontality, I shall argue that this is the political import of *Behemoth* and *Leviathan's* willful defiance of a vertical mode of seeing (whose most ideal form is Renaissance perspective). It is their founding of a new aesthetic form, a new image that resists the recapture of a sensory precarity into apparatuses of security (as Schmitt would prefer to have it).

Sudipto Basu is an M.Phil scholar in Cinema Studies at the School of Arts and Aesthetics, Jawaharlal Nehru University, New Delhi. His ongoing dissertation work titled 'Images at the End of the World: Experimental Cinema and its Earth Imaginaries' tries to engage with how various experimental cinema practices from Europe, America and East Asia react to the sensory precarity felt in various media-history moments marked by an apocalyptic imagination – from the Cold War to the Anthropocenic contemporary. His earlier M.A. dissertation investigated the fractious relationship between the Bombay film industry and the Indian state over three decades, centering on the question of infrastructural reform and the persistent threat of collapse. He has published film criticism in *Projectorhead*, *Umbra*, and *VCinema*; and a film he co-directed on forlorn urban utopias, *Tracts of Dust*, showed at the Bangkok Biennale 2018, at Ming Contemporary, Shanghai, and is on two more upcoming film programmes in India and abroad.

Magdalena Eckes: What's so critical?

As an art educator I am especially interested in how we represent things in a visual way and how we talk (or act upon) these representations. Now most of our visual representations are representations of things in the critical zone. How are these representations linked to something that can be called "critical"? To answer this question, I will start with a short look at why this zone is called "critical" in the first place: „The Earth's critical zone isn't called critical for nothing. Known as our planet's outer skin, it is essential for human survival.”¹ And the zone turns into something critical due to the pressure that we humans put on it. There are a lot of headlines, buzzwords and hashtags that come to mind. But what about corresponding pictures (or other visual representations)? Even so the critical zone is described in a very pictorial way, there do not seem to be a lot of specific pictures around, because – in the end – there are only a few visual representations of something else than this zone. But there is very seldom a critical element to the pictures.

And if so, they repeat a kind of stereotype (dried up land, haggard polar bears ...) that is in one sense extremely critical (without being much more than this) and in another not adequate (because the stereotypes are over simplistic and can also be produced by events that are not to be called "critical" at least not in the sense the zone is called so). Now art might make a difference here. There are artworks (for example earthworks) that are not over simplistic and have at the same time a critical potential. So, the critical part is not somehow materialized in the "picture" but is something that is there as potential that needs to be realized by people thinking and/or acting upon it (so ... work for art educators I guess). Take for example the "Vertical Earth-Kilometer" from Walter De Maria. This is a piece that fits quite well into the critical zone – stretching out one kilometer from where you stand – with only the small end of it to be seen (or not to be seen, if you stand on it). It is in this sense a representation of things that are critical and not to be seen, also working with the idea of giving back a metal to the earth that has been taking from it (which is really one of the problematic things within the critical zone). But the critical potential has to be realized to make Walter De Maria's "Vertical Earth-Kilometer" a critical thing.

At the same time, that is not a very sweet and compelling visual something. Isn't a girl with a balloon from frozen Olaf something nicer to look at? And – for sure – does this girl not prefer to have a balloon of frozen Olaf in her hand than a quite abstract vertical kilometer under her feet? Of course – and this holds not only for small girls but for all or at least most of us. But at the same time (I'm so sorry) consuming balloons and other nice merchandise objects of a figure that lives in an independent micro-climate is already part of the problem. And in this sense pictures of frozen Olaf might also be quite critical – if we take them as such, if we start to talk and act not only about art but also about these very compelling pictures in a critical way, that also has a chance of impact on our everyday behavior (and so, again, on the critical zone).

Magdalena Eckes: seit 2018 Professorin für Kunstdidaktik und Bildungswissenschaften an der ABK Stuttgart. 2017 Vertretungsprofessorin für Bildende Kunst und ihre Didaktik an der Universität Siegen. 2014–2017 Akademische Rätin für Bildende Kunst und ihre Didaktik, Zeichnung an der Universität Siegen. 2014 Promotion zum Thema „Wahrnehmung und Inferenz. Über die Möglichkeit einer nichtinferentiellen Basis unserer Überzeugungen über die Welt.“ 2012–2014 Lehrerin im Vorbereitungsdienst, Studienseminar Wiesbaden. 2008–2012 Wissenschaftliche Mitarbeiterin für Bildende Kunst und ihre Didaktik an der Universität Siegen. 2006/07 Stipendium für die Cité internationale des Arts, Paris. 2003–2008 Lehramtsstudium mit den Fächern Kunst, Philosophie, Physik (auf Gymnasien, Gesamt-, Haupt-, und Realschulen).

¹ <https://phys.org/news/2016-12-critical-zone.html>, abgerufen am 15.8.2018.

Daniel Fetzner: DE\GLOBALIZE. A search movement for the terrestrial

DE\GLOBALIZE is a search movement for the TERRESTRIAL – using the transdisciplinary concept of the Critical Zone (CZ) – the skin layer around the earth in which complex interactions involving soil, water, air, plants, and living organisms regulate the natural habitat. In this zone highly complex transformational processes form the conditions for all terrestrial life. Through the CZ the earth displays its agency relevant to humans. The media ecological approach DE\GLOBALIZE is an ethnographic stroll about climate change, conceptualized by Daniel Fetzner and Martin Dornberg in the context of a two-year seminar with Bruno Latour at the Center for Arts and Media (ZKM), Karlsruhe.

The artistic research is re-negotiating the grammar of space, borders, scale and raises questions of visibility and display in order to DE/GLOBALIZE the notion of "the global". It is thereby focusing on three key questions:

How to think, medialize, fold and answer the earth in a de-globalized topology?

How to think meshworks, alterities, entanglements and relational references in the parasitocene?

How to narrate critical zonings in transmedial, improvisational, ptolemaic, cuts?

DE\GLOBALIZE started in India in 2018 and will be continued with further agential cuts through critical zones in Egypt 2019 and the Upper Rhine valley in 2020. It can be considered as a search movement for the terrestrial (Latour 2018). The research is thereby focusing on anthropogenic transformations, social insects, animal-human relationships, affective intervals, 360° stereographic projections, complexity, non-linear improvisations, matters of concern/matters of care, soil and parasitology. In our research we assume no big system but thousand plateaus of little neighborhoods.

The results are ongoing documented at deglobalize.com as a transmedia meshwork. The research is a collaboration among Offenburg University, Freiburg University, the Indian Institute of Science, Srishti Institute for Art Design and Technology Bangalore, the German University in Cairo and INSA Strasbourg.

Daniel Fetzner: Media Artist and Media Scientist. Professor for Design and Artistic Research at Hochschule Offenburg. Head of the Media Ecology Lab. 2002–2014 Professor for Media Design at Furtwangen University. 2012 Visiting Professor at Srishti Institute of Art, Design and Technology, Bangalore. 2009–2011 Professor at German University Cairo as Head of the Media Design Department. 2007 Visiting Professor at San Francisco State University and Guest Artist at ZKM Karlsruhe. Since 2015 senior lecturer at Freiburg University. 2002 Research Assistant at CeTIM, Munich/Rotterdam; Reviewer at EU projects. 1998–2001 Creative Director at echtzeit AG, Berlin. 1997/98 Producer at America Online, Hamburg. 1994–96 Assistant at the Institute for Architecture and Design of the University of the Arts, Berlin.

Lars Christian Grabbe: Imago corporalis and homeostasis. Exploration of the Critical Zone in the range of quasi-materiality and embodiment

Mit dem Ansatz der Critical Zone wird durch Bruno Latour eine Synthetisierung der Konzepte Natur und Kultur formuliert, die eine systematische Annäherung und Analyse beider Sphären in Form einer kritischen Zone erlaubt. Diese Zone trägt damit Grundzüge des Natürlichen als auch Grundzüge des Kulturellen, ohne dass eine Natur-Kultur-Dichotomie aufrechterhalten wird. Es geht dabei weniger um eine neue Konzeptionierung des Begriffs Raum (Space), sondern vielmehr um das strategische Aufdecken und Inbeziehungsetzen unterschiedlicher Ebenen der menschlichen Handlungsdynamik, denn „critical zones define a set of interconnected entities in which the human multiform actions are everywhere intertwined“ (Latour 2014: 3).

Die Konsequenzen dieser Argumentation scheinen sich ebenfalls auf die Rolle und den Status von Bildern übertragen zu lassen, wenn man die strukturelle Dynamik der synthetisierten Critical Zone auf das Potenzial der piktorialen Repräsentation überträgt, denn diese leisten ebenso wie Instrumente und Modelle (vgl. Latour 2014: 3) eine konkrete und notwendige Sichtbarmachung der interdependenten Strukturen der Critical Zone. Thematisch will sich der Vortrag demnach auf eine spezifische Form von Bildern beziehen, die sich primär als eine visuelle Homöostase begreifen lassen, in der gleichermaßen Grundzüge des Kulturellen wie auch Grundzüge des Natürlichen die strukturelle Integrität der piktorialen Erfahrung determinieren und hierdurch gleichzeitig ein performativ-reflexiver Rückbezug auf Medialität, Quasi-Materialität und Körperlichkeit entsteht.

Beispielhaft für eine visuelle Homöostase lässt sich das am MIT Media Lab entwickelte immersive Mediensystem *TreeSense* heranziehen: „a sensory VR system that transforms a person into a tree, from a seedling to its full-size form, to its final destiny. The person experiences what it feels like to be a tree by seeing and feeling her arms turning into branches and her body into a trunk. To evoke these sensations, we put electrodes at several key locations on the user’s forearms to stimulate muscles and the skin, so that she can feel branches growing, a worm crawling, or a bird landing on her arm. This intimate, visceral experience dramatically creates an illusion of being a different life form, and thus develops a personal, immediate identification with a need of environmental protection. We put the user in a virtual environment with a first-person perspective. The precise mapping between her physical and virtual body movement creates the sense of embodiment body ownership illusion. By using Electrical Muscle Stimulation (EMS) technology, we create essential physical sensations to elicit strong body ownership illusion“ (https://www.media.mit.edu/posts/treesense_dubai/).

Die performative Bilderfahrung wird zu einer zentralen Bestimmungsgröße, da erst im Handeln eine Synchronisierung von physischem und virtuellem Körper erreicht wird, die letztlich eine homöostatische Körperlichkeit des Bildes – als ein Imago Corporalis – konstituiert. Diese Körperlichkeit wird mit der virtuellen Dynamik des „Baum-Seins“ ebenso wie mit der physischen Dynamik des „Mensch-Seins“ gekoppelt und realisiert eine rezeptive Quasi-Materialität von Empfindungen zwischen Faktizität und Fiktion. Als Bestimmungsgröße für die Beschreibung der Critical Zone könnte also das funktionale Moment des Imago Corporalis nicht nur eine Synthese von Natur und Kultur ermöglichen, sondern einen bildtheoretischen Zugang zum abstrakten Konzept der Natur strukturieren, explizit durch die Selbstwirksamkeitserleben generierende Quasi-Materialität des „Baum-Seins“. Das Konzept des körperhaften Bildes (Imago Corporalis) verändert gleichermaßen den bildtheoretischen Status der piktorialen Repräsentation und den rezeptiven Status der Bildrezeption und ließe sich Arènes, Latour und Gaillardet folgend mit dem Konzept der Anamorphose in Verbindung bringen: „a distorsion of image made through an instrument or a change in perspective. Such anamorphosis allows us to shift from a planetary vision of sites located

in the geographic grid, to a representation of events located in what we call a Gaia-graphic view” (Arènes et al. 2018: 1).

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Lars C. Grabbe: Dr. phil., Professor für Theorie der Wahrnehmung, Kommunikation und Medien an der MSD – Münster School of Design der Fachhochschule Münster. Managing Editor des *Yearbook of Moving Image Studies* (YoMIS) und der Buchreihe *Bewegtbilder* im Böhner-Verlag (Marburg), Gründungsmitglied der Forschungsgruppe *Bewegtbildwissenschaft Kiel | Münster*, Wissenschaftlicher Beirat und zweiter Vertreter des Vorsitzenden der Gesellschaft für interdisziplinäre Bildwissenschaft (GiB, Tübingen). Forschungsschwerpunkte: Phänosemiose, Medientheorie und Medienphilosophie, Wahrnehmungstheorie, Kommunikationstheorie, Ästhetik, Semiotik, Filmwissenschaft. Ausgewählte Publikationen: *Bild und Interface. Zur sinnlichen Wahrnehmung digitaler Visualität* (2015, herausgegeben mit P. Rupert-Kruse und N. M. Schmitz), *Yearbook of Moving Image Studies: Cyborgian Image. The Moving Image between Apparatus and Body* (2015, herausgegeben mit P. Rupert-Kruse und N. M. Schmitz); *Bildkörper. Zum Verhältnis von Bildtechnologien und Embodiment* (2016, herausgegeben mit P. Rupert-Kruse und N. M. Schmitz), *Bildverstehen. Spielarten und Ausprägungen der Verarbeitung multimodaler Bildmedien* (2017, herausgegeben mit P. Rupert-Kruse und N. M. Schmitz), *IMMERSION – DESIGN – ART: REVISITED. Transmediale Formprinzipien neuzeitlicher Kunst und Technologie* (2018, herausgegeben mit P. Rupert-Kruse und N. M. Schmitz).

Toni Hildebrandt: The desert as a Critical Zone

Calling the desert a critical zone might immediately sound convincing. Defining the concept of the desert is, however, a difficult if not impossible task. First, because one would have to consider at least five Latin etymologies – *deserta/desero*; *solitudines/solus*; *arena sterilis* (unfertile aridity/dryness); *vastitas* (waste land; öde) as well as the Greek *eremos* – and this would still exclude the consideration of any other non-western classical language. But secondly, a definition seems unproductive, since these words are used by various disciplines under different perspectives. A geographical account differs from a theological concept of the desert. As a consequence, I will propose that the desert is an “absolute metaphor” (Blumenberg) in its phenomenality as a critical zone. In a second step, I will propose the thesis that the desert is, however, not just an ‘isolated’ absolute metaphor of liminality or marginality, but additionally, in many cases, a counter-metaphor to source or fountain (Quelle), thus to metaphors of a centrality and foundation. Among the artworks and films, I will focus on, Robert Smithson’s first earthwork on the outskirts of Rome (*Asphalt Rundown*, 1971) and the pioneering work of Werner Herzog in documenting both the poetics and politics of deserted landscapes (*Fata Morgana*, 1971; *La Soufrière*, 1977; *Lessons of Darkness* 1992) will play a central role.

Toni Hildebrandt, born 1984, holds a PhD in Art History from the University of Basel. Since 2014 he works as a Scientific Assistant at the Department of Modern and Contemporary Art History at the University of Bern and is currently also a member of the Walter Benjamin Kolleg at University

of Bern. He was a Research Fellow at “eikones” at University of Basel and a member of “What Images Do”, a Research Network established in collaboration with TU Delft, Kunstakademie Düsseldorf and The Royal Danish Academy of Fine Arts, Copenhagen. In 2013/14 he was a Resident Fellow and from 2015 until 2017 a Postdoctoral Fellow at the Istituto Svizzero in Rome, where he was conducting a research project on Pier Paolo Pasolini endowed with a Postdoctoral Fellowship of the Swiss National Science Foundation. Most recently he published on the idea of natural-history, the aesthetics of the natural contract and the desert as an absolute metaphor, preparing his second book under the working title „Catastrophic World-Events and their (Post-)apocalyptic Responses: Representations of Crisis and Disasters in the Visual Arts and Film”.

Daniel Irrgang & Bettina Korintenberg: Critical Zones. A research seminar with Bruno Latour

In the framework of a research seminar at the Karlsruhe University of Arts and Design, Bruno Latour and the participants from science and the arts are currently preparing conceptually as well as practically the exhibition “Critical Zones,” which will open in 2020 at the ZKM | Center for Art and Media Karlsruhe. Both the research seminar and the exhibition deal with the geophysically critical state of the earth’s surface layer where all life resides: the critical zone. The term is extended beyond geosciences by Bruno Latour, suggesting a critical and participatory relationship to our living world. A world whose ecologically threatened state has reached an unprecedented scale and where ecology is necessary intertwined with historical, cultural, and geopolitical shifts – constituting a state of uncertainty which Bruno Latour describes as New Climate Regime. The presentation, held by the curatorial assistant of the project and the coordinator of the seminar, will give some insights into this explorative research process. Focusing on its epistemological vector and methodology, it will discuss approaches such as Brechtian thought experiments, performative interactions between *The Planetary*, *The Territory*, *The Terrestrial* and *The Escapists*, or collaborations with researchers at the Critical Zone Observatory in Aubure, France, visited by the seminar group in January 2019.

Daniel Irrgang is a research associate (media theory/art studies) at the Karlsruhe University of Arts and Design. From 2013 to 2016, he was a research associate at the chair for media theory at Berlin University of the Arts and supervisor at the Vilém Flusser Archive. Daniel is editor, together with Siegfried Zielinski and Marcel René Marburger, of the book series *International Flusser Lectures* and, with Alice Soiné and Florian Hadler, of the journal *Interface Critique*. As part of the exhibition “Without Firm Ground—Vilém Flusser and the Arts” (ZKM Karlsruhe, Berlin Academy of the Arts, Vilém Flusser Archive), he published, together with Siegfried Zielinski and Peter Weibel, the trilingual edition *Flusseriana—An Intellectual Toolbox* (Minneapolis 2015). Daniel is a fellow on the research project “Archaeology/Variology of the Media” and co-edited vols. 4 and 5 of *Variology* (Cologne 2010 and 2011), including the German anthology (Berlin 2013). In collaboration with a rotating editorial team, he published the proceedings of the “Forum on the Genealogy of MediaThinking” (Berlin 2013–2017).

Bettina Korintenberg is a cultural studies scholar and works on the border areas of art, architecture and literature. She currently is a curator at ZKM | Center for Art and Media Karlsruhe and involved in various exhibition projects such as *DIA-LOGOS. Ramon Llull and the ars combinatoria* or *Digital Imaginaries – Africas in Production*. Previously, she received her PhD at the Albert Ludwigs University of Freiburg (2012–2016) on the topic of the museum as heterotopy in a postcolonial perspective, developed as part of the DFG Research Group *Factual and Fictional Narration*. In 2010–2012 she worked at the Vitra Design Museum and co-curated the exhibitions *Pop Art Design* as well as *Erwin Wurm. Home*.

Susanne Kriemann: Mermaid Tears

“The mangrove is itself just such a place where the earth seems unearthly. It is here that human traces cannot survive as a lasting form, for this tropical coastal ecology is a site of continual refiguration: neither sea nor land, neither river nor sea, bearing neither salty nor fresh water, in neither daylight nor darkness.”

Natasha Ginwala, Vivian Ziherl, 'Sensing Grounds: Mangroves, Unauthentic Belonging, Extra-Territoriality', eflux journal #45, May 2013

Als komplexe Ökosysteme von Küstengebieten sind Mangroven „botanische Amphibien“ an der Schwelle zwischen dem Meer, der Erde und dem Menschen. Sie sind der Ausgangspunkt für eine neue künstlerische Arbeit, die auf Recherchereisen nach Singapur und Sri Lanka beruht. Dort begann meine künstlerische Forschung zu Plastik als indexikalischem Abdruck der industrialisierten Welt. Angespülte Objekte der Konsumkultur schlingen sich um das Wurzelwerk der Mangroven. Täglich reichern die Wellen diese „Archive“ der Gezeitenzonen mit neuen Gegenständen an. Plastik ist ein Material, das sich durch UV-Licht und die Bewegung von Wellen immer weiter zersetzt – ein Prozess, den ich als fotografisch betrachte. Trotz der fortwährenden Zersetzung ist Plastik nicht biologisch abbaubar, sondern bleibt vollständig in einer abstrakten, plastischen Form der Existenz auf dem Planeten. Als Mittler zwischen dem Land und dem Meer sind die Mangroven ein Sinnbild für Überlegungen zu einer adäquaten Bildfindung für eine sich permanent veränderliche Form, die mit den Mitteln der kamerabasierten Fotografie nicht dargestellt werden kann.

Die neue Arbeit knüpft an einen radikal erweiterten Begriff von Fotografie an, den ich seit 2013 in meiner künstlerischen Praxis entwickelt habe. Dabei setze ich der kamerabasierten digitalen Fotografie, die auf Elektrizität und endlichen Ressourcen beruht, eine Herangehensweise gegenüber, die verschiedene zeitliche Ebenen miteinander verbindet. Die Erde wird dabei selbst zur bildgebenden Oberfläche. So umfasst meine künstlerische Forschung zu einer neuen Auffassung des bildlichen Dokuments auch eine kritische Reflexion der Bildträger.

Susanne Kriemann (*1972, Erlangen) ist Künstlerin und seit 2017 Professorin für künstlerische Fotografie an der Staatlichen Hochschule für Gestaltung Karlsruhe.

Im Rahmen ihrer recherchebasierten Arbeit untersucht Kriemann Fotografie als Medium innerhalb sozialgeschichtlicher Kontexte und archivarischer Praxis. Dabei erarbeitet sie einen erweiterten Begriff des Dokuments als analoges „Aufnahmesystem“ für von Menschen verursachte Prozesse. Dies hat die Künstlerin zur Beschäftigung mit Radioaktivität und Bergbau sowie mit Archäologie und Denkmälern geführt, verbunden mit einem medienarchäologischen Interesse an Fotografie.

Neben internationalen Ausstellungen in Städten wie Basel, Toronto, Shanghai, Wien, Vancouver, Paris und Rotterdam entstanden seit 1998 sechzehn Künstlerbücher. Die Künstlerin hat an verschiedenen Artist-in-Residence-Programmen teilgenommen, unter anderem in Moskau, Stockholm, Kairo, Wien, Singapur und Sri Lanka.

Von 2013 bis 2017 war sie Advisor bei der Van Eyck Akademie, Maastricht. Gemeinsam mit Aleksander Komarov gründete sie das Residenzprogramm AIR Berlin Alexanderplatz. Die Künstlerin wird durch die Galerien Wilfried Lentz und RaebervonStenglin (2009-2016) vertreten.

Susanne Kriemann lebt und arbeitet in Berlin und Karlsruhe.

Bruno Latour, Alexandra Arènes, Jérôme Gaillardet: Visualising the Critical Zone, an interdisciplinary approach

The Critical Zone is the site of interdisciplinary scientific research. First in the Critical Zone Observatories (CZO), where a collaborative work between hydrologists, soil scientists, geochemists, geomorphologists, geophysicists and ecologists, is undertaken. CZOs are well-instrumented field sites, ranging from a few hectares to large watersheds (landscape scale). More broadly, the Critical Zone is beginning to bring together academics and artists around this notion, allowing them to better situate the new actors of the Anthropocene. Indeed, the Critical Zone is a “view from inside” compared to the overall “global” perspective from the “outside”. The study of the CZ involves taking care of the planet’s various layers from the top of the canopy to the undisturbed rocks beneath that are porous, filled with water and gas and where life has developed. The word “critical” underlines firstly the physical property of being far from equilibrium, and secondly, the term stresses the fragility of this zone. To represent the CZ, we have started a first collaboration between a philosopher (Bruno Latour), a landscape architect specialised in mapping (Alexandra Arènes) and a geochemist, head of the French CZO network (Jérôme Gaillardet). The talk will present the first results of this work which has been summarized in a paper published in *The Anthropocene Review* last year (“Giving depth to the surface: an exercise in the Gaia-graphy of Critical Zones”). We will discuss this visualisation as well as our collaboration and the outputs expected for each discipline. Finally, we will propose to deepen this interdisciplinary research through other media such as the arts in order to share with an audience a specific sensitivity to the critical zone with its complex processes, dynamics, and phenomena.

Bruno Latour is now emeritus professor associated with the médialab and the program in political arts (SPEAP) of Sciences Po Paris. Since January 2018 he is for two years fellow at the Zentrum für Media Kunst (ZKM) and professor at the HfG both in Karlsruhe. Member of several academies and recipient of six honorary doctorate, he is the recipient in 2013 of the Holberg Prize. He has written and edited more than twenty books and published more than one hundred and fifty articles.

Alexandra Arènes is an architect graduated from the National Architectural School in France and co-founder of SOC (Société d’objets cartographiques/s-o-c.fr), a research and production platform of cartographic tools developing projects between the arts and sciences. A co-authored book *Terra Forma*, manual for cartographic tools (to be published in 2019) explores Anthropocene landscapes and their potential for resilience through the development of strategic models. Since 2016, she has been collaborating with Bruno Latour and the IGP (Institut de Physique du Globe) on the Critical Zone project, which led her to join the architectural research team at the University of Manchester, where she is preparing a PhD entitled “Architectural Design at the Time of Anthropocene: A Gaia-graphic Approach to the Critical Zones”. Many events revolve around the Critical Zone: an INSIDE conference-show (staged by Frédérique Ait-Touati), for which she created the visual scenography; an exhibition at the ZKM, Karlsruhe Art & Media Centre planned for 2020, for which she is a member of the scientific committee.

Jérôme Gaillardet is professor of Earth Sciences at the Institut de Physique du Globe de Paris where he is leading one of the research teams. He is working on biogeochemical cycle in the Critical Zone of the Earth, in particular on river geochemistry using isotopes. He has published more than 130 articles in peer-reviewed journals and contributed to number of books. He has been involved in the development of critical zone observatories at the national, European and international scale. He is coordinating the French network of Critical Zone Observatories (OZCAR) and is part of the European eLTER project. He has been awarded silver medal of the French National Center for

Research (CNRS) in 2018. He is fellow of the European Association of Geochemistry and American Geochemical Society.

Damien Pelletier-Brun (Rio Vàn Eir) & Lena Quelvennec: How to represent porosity to fill strategical emptiness? An art and visual culture discussion

Henri Lefebvre (1991) described the peripheral spaces as empty, or at least this is how they have tended to be strategically perceived so that their resources can be exploited. Sometimes those peripheries are labelled as “nature”. In western culture, nature has often been considered as preceding the social contract, before society rose and started organizing it. Standing as the opposition to culture, it has been used as a mirror to confront, judge, legitimate, or condemn people’s actions, their laws, or their moral behavior. Bruno Latour’s critical zones are about visualizing what is made invisible in these peripheral spaces revealing the relationalities between human beings, non-human forms and their environments. Today, by observing, measuring and analyzing, humans start to understand how these relationalities are intertwined.

However, are these measurements and documents, the only way to produce representation of these critical zones and to conceive different relationalities between the living beings and their environments? Some visual artists don’t want to pursue a certain form of art history and its hundred-years-old canons, but to produce new ways to look at what has been constructed under the label of “nature”. Being careful to small details that the spectators as cultural group are not trained to read or even to see, could be a way to redefine this idea of nature.

For this presentation, we decide to offer a double perspective: one emerging from the art and cinema, the other from visual studies. We think this as a dialogue and will allow ourselves to debate our different views.

Using Rio Vàn Eir’s work in progress *Junction(s)* (2016–2018), we first intend to discuss his position as an artist and what kind of images he tries to craft. The project of this experimental film is to be closely attentive to how things in nature are porous. Modern sciences, following the lead of Carl Theodor Lynne, have always struggled to deal with the porous as a theoretical idea. Their categorical mindset tends to miss or to disregard what is changing, porous, undefined (Laplantine 2003). Mushrooms are a good example; no one knows in which box to put them. Mental representations of the world correspond to what tools are capable of measuring and visualizing. *Junction(s)* aims to focus on visible micro interactions and transmissions in order to provide mental pictures of how nature escapes from any wish to classify it. To do so, Rio Vàn Eir tries to use various imaging technologies (from ultrahigh-speed cameras to microscopes or even miniaturized embedded cameras) that allow and provoke a large range of visions. We will explore what kind of visualities it produces.

This presentation will also investigate what this kind of artistic positions can reveal about the “vibrancy of matter” to use Jane Bennett’s words (2010). Indeed, in the last few years, some researchers have tended to give more agencies to the non-human like other living beings, matter and even data (Lupton 2018). A need exists today to redefine these three categories that are human, nature and technology. Maybe porosity and peripheral spaces will become conceptual helps to reach a new understanding of these relationalities and their visualities?

In 2013, **Damien Pelletier (Rio Vàn Eir)** graduated from Geneva’s Art School (HEAD) with a master’s degree in Visual Arts. Since he pursues his visual research in video installation and cinema with the

tools of social sciences investigating topics like surveillance, google, porosity and nature. He aims to craft visual experiences that question the power ability of staging the world.

Lena Quelvennec: In 2018, graduated from Lund University with a master's degree in Visual Culture. Her research focuses on visualities between human beings and extreme environments, peripheral space, political occupations and the relationship between art and activism in the context of environmental struggles. She previously obtained a master's in Visual Arts in 2013 at the HEAD, Geneva, researching digital documents and art.

Léa Perraudin: Becoming Slime. Zoning the Medusocene

Jellyfish will outlive us. Anthropocenic factors of climate change and overfishing should ensure the survival of the jellyfish far beyond our own existence. Rising temperatures and oxygen-sparing water quality in the global oceans provide ideal living conditions for Cnidaria (the phylum to which jellyfish belong) whereas both their predators and prey are equally vulnerable to such changes. Its diaphanous appearance, its innocent drift, its amorphous shape let the jellyfish appear as an empathy multiplier. At the same time, it is toxic, it endangers the balance of marine ecosystems and congests the oceans with mucous residues of its gelatinous biomass. Oceanographers have addressed an alarming "rise of slime" as related to the exceptional resilience of jellyfish.

But what about the texture of slime in this observational context? How is the resilience of jellyfish embedded in the various interface situations that are performed in the Anthropocene? What are the mediating potentials of viscous matter? And how can we put our survival conditions to test through what I call a zoning (as a decidedly processual term) with the non/human and in/animate? Slime affects. Its texture is oddly double-coded. As smooth, amorphous matter it promises a specific satisfaction when touched, the flexible quality of soft material makes it a "paste of possibility" (Bachelard). Yet it causes disgust due to its sticky characteristics, as it is clinging to us it possesses us (Sartre).

Slime is everywhere. Youtube has turned it into a prominent, "most satisfying" texture, Instagram counts over 10 million entries on #slime, even technological artifacts and infrastructures are based on slimy components. LCD (liquid crystal technology) is widely distributed through screens as predominant visual display for digital media, industrial sludge is used to cool server farms, motivating recent approaches in media theory to sketch a rheology (study of flow) of media (Gramelsberger). Crucial to the macro structural media-technological processes are the viscous, sticky properties of another substance eponymous to petro-capitalism: petroleum. As material basis for plastic and fossil fuels the black fluid has become ubiquitous in the Anthropocene.

But how does the fascination for slime negotiated through media and its obvious technological and industrial relevance conversely relate to viscous matter when itself is considered as medium? In this context, Latour's analysis of the entanglement in the Critical Zone and its transgression of binary logic proves to be a promising line of thought.

In this regard, the jellyfish comes into view as protagonist of a speculative endeavour as portrayed in *win > < win* (2017), an interactive installation by theater collective Rimini Protokoll. By confronting different interface situations, visitors find themselves in a world after human existence. Enclosed in the set-up of the exhibition space, the floating of the jellyfish becomes our floating, our encounter with it emerges as post-anthropocentric experience of immersion. In the midst of all this, for *win > < win*, water becomes the medium of in/visibilities, resulting in a collision of temporal and spatial scaling, as expressed in multiple mirror-, surface- and window situations and their technological

matrix of porous inclusions and exclusions. Therein the slimy life form of the jellyfish embodies potential for another zoning.

Although the oceans are not part of the Critical Zone in its prevalent reading, the process of thinking-with jellyfish, becoming-animal (Deleuze/Guattari) and eventually becoming-slime brings forth relations that cut across the binary distinction as it is always already enfolding as non/human and in/animate. Becoming-slime enables alternative encounters and lets us partake in the radical entanglements of the Critical Zone.

The jellyfish? It does not care about such attributions, though sooner or later it will resiliently proclaim the Medusocene – the age of jellyfish.

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Léa Perraudin is a Research Assistant at the Center for Media Studies and Research on Modernity at the University of Cologne and is conducting research as PhD Candidate at the a.r.t.e.s. Graduate School for the Humanities Cologne. Working on a theoretical framework for media and mediation in the technosphere she currently brings her PhD-thesis titled "Playful, Entangled, Messy: Medial Encounters in the Technosphere" to completion. Her research focuses on techno-ecologies, theories and aesthetics of the anthropocene, theories of play and experimental cultures in art and design.

Michael Rottmann: Mediating the Critical Zone. Land art in the perspective of image studies

Land Art in the 1960s/70s pursued many goals like to counter the traditional exhibition space or to withdraw the economic use of art. Although Land or Earth Art can be characterised by its transformation of land or earth, its connection to the ecology movement is considered ambivalent: Working in the historical context of a circulating ecological and geopolitical thinking, some artists refused the connection with determination. In any event the Critical Zone was 'treated' by Land Art, at least in the stricter sense: it was rearranged (Robert Smithson), drilled (Walter de Maria) or even blown up (Michael Heizer) – this happened often by using machines and technology.

Taking such case studies as a starting point I want to focus in my contribution on Land Art in a perspective of image studies. It is well known that site-specific artworks were also made accessible non-site with drawings, photographs, films or diagrams. Thus, I want to reconstruct different strategies of transforming sites into visual media. Moreover, I want to show that there was an extensive debate on the aspects of experiencing, representing and imaging sites. This was embedded, I suppose, in a broader discourse of visibility and visual media, which shall be sketched and traced back to other art forms like Minimal Art. A final goal shall be to bring out – and that is my claim – that the procedures of Land Art can be understood as an examination of the epistemic crux of mediating the Critical Zone.

Michael Rottmann is an art historian and media theorist. He works as a senior researcher at the Institute of Experimental Design- and Media Cultures (IXDM) at the Academy of Art and Design FHNW Basle, leading a SNSF-Project on machine arts. After a professional training as an IT-merchant, he studied art education/-history, mathematics and philosophy in Stuttgart, Vienna and Berlin. He graduated with a thesis about "analogue and digital images" at the State Academy of Fine Arts Stuttgart. He obtained a Ph. D. in art history at Free University Berlin with a dissertation on the relation of fine arts and mathematics around 1960, supported by Landesgraduiertenstiftung State Baden-Württemberg, DFG-research training group Notational Iconicity (Schriftbildlichkeit) and DAAD. Michaels work focuses on history and theory of art in the 20th and 21th century and (digital) media (image, systems of notation, number, diagram). Publications: »Is your ›imager‹ ready?« Intention, Kritik und Rezeption der visuellen Kultur der amerikanischen New Math, in: Claudia Mareis (Ed.), *Designing Thinking. Angewandte Imagination und Kreativität um 1960*, eikones-book series, Paderborn 2016, p. 119–148; Heinz Gappmayr: *Aporetic Zones. How Writing, Number and Image relate to Language in Heinz Gappmayr's Œuvre*, ed. by Klocker Stiftung, Ostfildern 2015. Donald Judd's *Arithmetics* and Sol LeWitt's *Combinatorics*. On the Relationship Between Visual and Mathematical in New York Art Around 1960, in: Michele Emmer (Ed.), *Imagine Math 3: Between Culture and Mathematics*, Heidelberg et al. 2015, p. 85–98.

Martina Sauer: Interaction of nature and man after Ernst Cassirer: Expressive phenomena as indicators

According to the neo-Kantian and cultural anthropologist Ernst Cassirer, human beings always interact with nature. This assumption forms the premise of his philosophical approach in *Philosophy of Symbolic Forms* of 1929. It bases on the thesis that we do not conceive nature as objects ("Ding-Wahrnehmung"), but instantaneously feel and suffer nature through the so-called perception of expression ("Ausdrucks-Wahrnehmung").

Against this background it can be declared that when last summer in Germany the sun was shining bright and hot from the sky into the front yards and the surrounding meadows of the villages have

been earthy brown-yellow and short, these phenomena cannot give any sustainable information about nature. In contrast, it is obvious, that only the feelings of heat and dryness enable us to convey a “knowledge” about the state of nature and our room for maneuver. Cassirer speaks in this context of the image-making and act-drive ability of man (“Bildkraft und Tatkraft des Menschen”). Furthermore, it is remarkable, as Cassirer declares in his late book *Essay on Man* in 1944, that we analogously have the ability to translate and design these experiences with nature by the arts.

Consequently, Cassirer says that human life bases on the interaction with nature and thus already is a life in significance (“Leben im Sinn”). Thus, the phenomena that express themselves through our feelings with nature can be seen as indicators of nature itself. Ignoring these indications is against our own nature and against the nature experienced outside of us. Following the ideas of Cassirer there is no dichotomy between nature and man.

Martina Sauer: After studying Art History, Philosophy and Classical Archeology in Heidelberg, Munich (Magister), Paris and Basel (PhD with Gottfried Boehm), I nowadays see myself as a semiotic-oriented scholar and thus act not only as a scientific advisor in the Image-Section of the German Society for Semiotics but as well in the Society for Interdisciplinary Image Science and the House of Signs. The philosophy of Cassirer is a central starting point of my research. In particular, it is the potential for action in connection with the visual-aesthetic experience, as suggested by Cassirer, which encouraged my approach in extending my image, art and culture concept towards responsibility. This is a subject that will play as well a central role in my contribution to the conference.

Olga Timurgalieva: Encounters of humans and non-humans in bio art

The aim of the paper is to address existing approaches to encounters of humans and non-humans within bio art in order to analyze how it reflects on and reinterprets anti-anthropocentric discourse. The encounter of human with non-human organisms in bio art became an established field which recently has attracted a lot of attention. The series *Nonhuman Subjectivities* by Art Laboratory Berlin in 2016-2017² with the conference *Nonhuman Agents in Art, Culture, and Theory*³, exhibition *Seeing the Forest through the Trees*⁴ by Monika Bakke, artworks presented at the Festival *Ars Electronica*, *Click Festival*⁵ are only some of the examples of increasing interest in this topic.

Cartesian gaze, as well as further development of western thought, has led to the emergence of liberal subject, subject-object relationships, binary oppositions (nature/culture, man/woman etc.) and multiple assumptions which directly and indirectly cause harmful effects, such as the climate change, exploitation of resources, discrimination, etc. Posthumanist thought in its variety questions those assumptions and strives to propose alternative points of view. Moreover, the concept of endosymbiosis developed by Lynn Margulis, autopoiesis introduced by Humberto Maturana and Francisco Varela, the model of Gaia conducted by James Lovelock and widely discussed and contextualized by Bruno Latour and Donna Haraway, the field of object-oriented ontology formulated by Graham Harman and comprising a subfield of speculative realism, Karen Barad introducing non-binary relationships from quantum physics into humanities and feminist studies and

² <http://www.artlaboratory-berlin.org/html/eng-programme-2016.htm>

³ <http://www.artlaboratory-berlin.org/html/eng-event-40.htm>

⁴ <https://www.andfestival.org.uk/events/seeing-the-forest-through-the-trees-group-show/>

⁵ <https://www.clickfestival.dk/previous-2016>

research in the field of animal studies and other ideas create the base for the reconceptualization of interconnections of humans and nonhumans and significantly influence artistic practices.

Within my research, I would like to focus on the encounters of humans and non-humans (animal, microbial, plant) aimed at symbiosis or interaction in the recent artworks in the field of bio art. Although the multiple examples of bio art are more characterized with the 'cold' scientific gaze of the artist towards the non-human, other examples show the attempts of the artist to take up various positions towards other species criticizing subject-object relationships.

Therefore, the objective of the paper is to identify existing approaches to humans and nonhumans encounters within bio art pieces to see what strategies to these encounters (alternatives to the cold scientific gaze) artists in bio art choose for the creation of their art pieces, what place these art works have in the field of bio art, how their works reflect on (anti)-anthropocentric theories and if the search for agencies of nonhumans has anything to do with animism.

Thus, the preliminary research question is: How art pieces the integral part of which includes the encounter of humans with non-humans (animal, microbial, plant, hybrids) aimed at interspecies symbiosis or interaction/communication reflect on and reinterpret the posthumanist theories and deal with the problem of the subject-object relationship? The answer to this question will include different strategies of artists explored, clarified and contextualized.

Olga Timurgalieva: Researcher in media art, she has graduated from the joint master program Media Arts Cultures (Danube University Krems, Aalborg University, Lodz University), with a master thesis *When species meet in bioart: Multispecies encounters in bioart from Baradian posthumanist perspective*, Erasmus Mundus scholarship holder (2016–2018). Additionally, she holds MA in Cultural Studies at the Higher School of Economics (Moscow). Timurgalieva worked at multiple art institutions including the Centre for Art and Media in Karlsruhe (ZKM), Moscow Museum of Modern Art, V-A-C Foundation. Her research interests are bioart, posthumanism, new materialism. Timurgalieva successfully presented her research on bioart at Women Against Domination and Oppression Conference (Lodz, 2017), the 10th Beyond Humanism Conference (Wroclaw, 2018), Interdisciplinary Conference Taboo-Transgression-Transcendence in Art&Science (Mexico, 2018). She is a participant of the Critical Zone Seminar (2017–2019) by Bruno Latour at Karlsruhe University of Arts and Design.

Vera Tollmann: „The picture has moved“. Extreme Bilder, World Zooms, Immersive VR

Der Glaube an die Wahrnehmung gerät mehr und mehr in eine Krise, stellt der Medienkritiker Paul Virilio in *Die Sehmaschine* (1989) fest. Auf der Suche nach einigen Ursachen für diese Krise durchstreift er die Bildgeschichte von der Luftaufklärung der Artillerie bis zur automatischen Überwachungskamera. Aus heutiger Sicht stellt sich die Frage, was sich in den Lücken abspielte. Bei einem Stratosphärensprung trägt Joe Kittinger 1960 eine Kamera am Sauerstoffanzug. Die Kamera liefert Bilder, die uns heute vermutlich durch GoPro- und Telefonvideos vertrauter sind als sie es den Menschen damals gewesen sein müssen. Zudem wurde zu Beginn der 1960er Jahre eine andere Bildpolitik vorbereitet: die statischen, Nadir-orientierten Satellitenbilder von der Erde, die Donna Haraway später für die „Perspektive von nirgendwo“ kritisiert. Den Vorschlag des Bildtheoretikers Tom Holert weiterdenkend soll es darum gehen, einen Bildraum zu entziffern, der „über alle Repräsentation hinauschießt“ (2008: 334). Der Vortrag zoomt daher in verschiedene Bildräume und diskutiert Beispiele für situierte, immersive Bilder, die sich der geometrischen Optik der Fernerkundung entziehen.

Als Bildbeispiele dienen etwa Fotos, die 1863 bei einer Ballonfahrt entstanden. Der Fotograf berichtete hinterher „the Pictures ‘moved’“. Demnach waren aus einem sich drehenden Ballonkorb heraus anamorphe Fotos entstanden, die sich nicht für das Raster der Kartographen eignen, wohl aber die psychisch-physische Erfahrung der Ballonfahrer wiedergeben. Wie stehen also Körper, Bild und Umgebung zueinander? Wie unterscheidet sich ein VR-Bildraum vom digitalen Zoom und von den extremen Bildern, die Joe Kittinger im freien Fall aufnahm?

Vera Tollmann (1976) is a cultural scientist and freelance writer based in Berlin. Her work focuses on the practice and theory of the Internet, urban and digital publics, the discourse of climate change, and China's reception in the West. She was a fellow at the Alfred Toepfer Foundation and has worked with New Patrons, a program using a new approach to organize and fund public art. Vera collaborated with the Institute for Network Cultures on the Video Vortex conference series held in Amsterdam, Ankara and Split. In 2009, Tollman undertook a research trip to China. Her program Case Study China was exhibited at House of World Cultures, Berlin, in 2009 and later at 4D in 2011. Her most recent publication, *China: Der deutschen Presse Märchenland* is a text montage of Ai Weiwei press coverage. Vera lives in a greenhouse mounted on top of an apartment building in Berlin.