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Ecologies of Practices and Thinking

Thesis for the degree of Doctor of Philosophy in Fine Arts at the Valand Academy, Faculty of Fine, Applied and Performing Arts, University of Gothenburg. Part of this submission are the films

No, I am not a Toad, I am a Turtle!, 16 mm film, color and sound, 44 minutes 01 seconds, South Korea and China, 2012

prendas — ngangas — enquisos — machines {each part welcomes the other without saying}, 16 mm film, color and sound, 25 minutes 58 seconds, Cuba, 2014

Shape Shifting, 16 mm film, color and sound, 18 minutes 26 seconds, Japan, 2015, in collaboration with Mikhail Lylov

Nobody knows, when it was made and why. 16 mm film, black and white, silent, 10 minutes 22 seconds, England, 2012-15

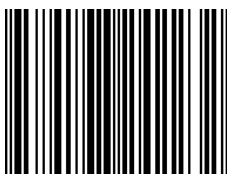
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ABSTRACT

How does a new materialist film practice look? To approach this question the practice-led material driven research explores dynamic ecological relations and processes of thinking and practicing. It employs an *animist methodology* which allows it to relate to the nonhuman as an active participant, rather than a passive object of inquiry. The approach intensifies affinities and bonds with the other-than-human, and activates a path into materiality and knowledge production different from human-focused epistemologies. Forming particular connections with matter and situating oneself within specific and relations, the project mobilizes and is mobilized by affects, percepts and sensations of the more-than-humans. The first chapter inquires into inherited scientific, technological, social-political and philosophical epistemologies often based on colonial and anthropocentric presumptions and mappings of the world. However, the research does not strive to rewrite or reclaim a certain history, identity or a place, it instead outlines concepts like *becoming* or *lines of flight* that pass through these legacies, building more complex and fruitful temporalities, interrelations and geographies. The writing often collaborates with Gilles Deleuze and Félix Guattari, as their philosophy explicitly acknowledges inhuman forces and ambiguous ontologies. In the second chapter the focus moves towards processes, when individuals become multiplicities, when animals, plants and things are endowed with inhuman force or personhood, when matter is enthusiastic and territories are not just static backgrounds. From here the research literally travels. It travels with specific singularities and their material based practices — an entire ecology of practice often building innumerable interconnections and even landscapes. Situating itself within the ecological relational field, the research project explores methodologies of collaboration and becoming with the more-than-human practiced by sorcerers and fabulists from Cuba and South Korea, and by farmers from China, Burkina Faso and Japan.

KEYWORDS

new materialism, film, image, matter, nonhuman, more-than-human, other-than-human, not-so-human, ecology, agriculture, otherness, storytelling, enunciation, post-context, post-history, animism, colonialism, becoming with, seeing together, lines of flight, modes, animals, plants, things, territories, multiplicities, chaos, expressive continuum, relational aesthetics, radical empiricism, Baruch Spinoza, Gilles Deleuze, Félix Guattari, Isabelle Stengers, Donna Haraway, Anna Lowenhaupt Tsing, Brian Massumi, Danièle Hüllet, Jean Marie Straub

Ecologies of Practices and Thinking

CONTENT

Prelude: Nobody knows, when it was made and why	
Introduction	11
Situated in Relations	18
Strange Centers of Attraction	32
Mapping Practices of Ecology in the Ruins	59
Conclusion	103
Acknowledgements	
Filmography and Bibliography	

*Prelude: Nobody knows, when it was made and why*¹

The Mnemosyne Atlas by the art historian Aby Warburg vividly exemplifies that all research and exploration, be it art or science based, is a historical and anthropological procedure that is closely related to colonialism. Thus, almost every European and North American archive, museum, and scientific inquiry radiates thievery and colonial violence. The Atlas, too, outlines and forms knowledge from and about various cultures and practices. However, unlike many historical sciences, it doesn't split the world in two, separating ancient and current, northern and southern empires, and 'their' objects and cultures, instead it searches for continuations of one within the other. In this sense the Atlas can be read as a critical and an affective cartography of heterogeneous encounters and practices, drawn from a manifold of origins.

The tableaux, to which Warburg attached photographic images, were made from wooden frames covered with black linen. They were a suggestion by Fritz Saxl and used for lectures in the reading room of the Hamburg library. The original Mnemosyne Atlas plates no longer exist. They are only preserved as photographs. The film Nobody knows, when it was made and why revisit Warburg's approach to creating a relational and a mutually inclusive methodology. It was shot on black & white 16 mm film in the Aby Warburg Archive in London and shows the first version of photographic reproductions in the format of 18 x 24 cm, dating from 1928. For the Atlas Warburg did not confine himself to traditional research objects, he improvised in response to the given form and included everyday items, such as advertisement posters, newspaper clippings and press photos. Unusual for both anthropological and art historical procedures, the image panels contain hardly any captions. As a consequence of Warburg's refusal to assign descriptions, neither offering a reading direction from left-to-right, nor allowing a numbering system into the individual ensemble, it appears as if the Atlas does not have a specific research subject. The film Nobody knows, when it was made and why works with a collection of images stemming from distant and uncertain geographies, suggesting one perceives Mnemosyne Atlas as independent of European cultural history and the imagination of itself. In these images the human is not taking a centralized position, but an entangled one. The film features images that disclose the intimacy of human and animal bodies — often corresponding to the rays and gravitational forces of the sun, the moon, and other planets.²

¹ *Nobody knows, when it was made and why*, directed by Elke Marhöfer 2012-15, Berlin: Courtesy of Museum für Gegenwartskunst, Siegen and the artist, 2012. 16 mm film (available as 2k file).

² Today these images simultaneously trace their migration into colonial and scientific systematics, into archives such as the Biblioteca Vaticana Rom, British Museum London, Bibliothèque Nationale Paris, Staatliche Museen zu Berlin and others.

It is difficult to draw any definite conclusions or to derive an unequivocal way of thinking for the Atlas. The montage of images, the linkages created between panels, the various depicted practices, stemming from expansive geographies, the events of the macro and the micro cosmos and different temporalities create a fluid territory. It is precisely this openness, the rhizomatic spreading of thematic fields across the panels, the creolization of so called modern and traditional topics that makes a continuous actualization of the Atlas possible. Warburg's analytical mode of application does not override, but builds on understandings of resemblances, interrelations, impulses and forces shared between things. By this the Atlas provokes similarities and differences, be they of cosmological, astrological, biological, zoological or anthropological nature, revealing and enhancing the intertwining of the earthly and the planetary, the micro and the macro, the local and the nonlocal. Not only are the spatial and temporal coordinates of the images diverse and manifold, they are also filled to the brim, or even better, enlivened by things, minerals, animals, people, amulets and dices, solar and lunar eclipses, intestines, magic stones and starry heavens, suggesting to think of the Atlas as blocks of affects.

It is easy to see a connection between Aby Warburg and Henri Bergson who worked around the same time. Both questioned conservative taxonomies and periodizations commonly used in disciplines such as art history, philosophy or evolutionary sociobiology. They understood the capacity of images and things to reach far beyond the human and her category of representation. For Bergson images are not yet but very close to objects and best understood as durable forces stemming from experience and matter. Martha Blassnigg's insight is very helpful to understand the connection between Warburg's intentions and Bergson's philosophy on images and its full impact. Blassnigg underlines, that Warburg's method to create the Atlas led him to understand sensation as a back and forth movement between object and perceiver, between interior and exterior. She demonstrates how this corresponds with Bergson's understanding of perception "that takes place in the object to be perceived"³ by what he calls a "reciprocal interpenetration,"⁴ a relation that goes far beyond the perception of phenomena. Images are not just passive (objects) to be perceived or studied by an observer — they act, they do things with us. This affective approach rather asks what is it that images can do, than what do images represent or signify? For Bergson matter and images are not separated, but interconnected, mutually interwoven, producing an "endlessly continued creation,"⁵ a proper creative evolution.

³ Martha Blassnigg, "Ekphrasis and a Dynamic Mysticism in Art: Reflections on Henri Bergson's Philosophy and Aby Warburg's Mnemosyne Atlas," in *Transtechnology Research Reader* (Plymouth: Plymouth University, 2011), 3.

⁴ Henri Bergson, *Creative Evolution* (New York: Henry Holt and Company, 1911). 178.

⁵ *Ibid.*, 107.

Images, uncoupled from their narrowed role of representation, “organise, uphold, cross, transgress, affirm, or undermine boundaries,”⁶ as Anselm Franke addresses their capacities. Images themselves become producers of differences and relations. The images of the Atlas, by relating to innumerable points in time and space, produce endless differentiations, so that their temporal and territorial points add up and become virtual lines on which they collectively animate themselves. Images and shapes, be they human or nonhuman, of organic or inorganic origin, are aggregated mnemonic storages or strata. Affected by traces of their histories, images generate highly virtual movements, producing their own creative evolution. It might be in this sense that Warburg saw himself as a “seismograph [...], to be placed along the dividing lines between different cultural atmospheres and systems,”⁷ resonating the rhythms of life, in its versatile and most extended meanings.

Warburg not only collected durable images but also persisting practices and unfamiliar techniques of transformation. In 1896 he travelled to New Mexico, Arizona and Colorado, where he visited the territory of American Pueblo Indians in order to attend a performance of the Hopi snake dance, which was already well known at the time. In the end Warburg did not succeed to see the dance. Yet, about thirty years later, while being under psychiatric surveillance himself, he imaginatively constructed it from anthropological observations.⁸ In Memories of a Journey through Pueblo Region Warburg connects the practices and encounters he had experienced with Nietzsche’s concept of becoming and transformation. Possibly due to his schizophrenic capacities, he understood that the human and nonhuman are shaped by complex relations that might also change the human significantly, and honored the practices for upholding “fluid borders between human, animal, plant, and mineral, such that man can influence becoming by means of a voluntary connection with the organically foreign being.”⁹ Acknowledging the Pueblo Indian’s transformative ontologies and their skillfulness in traversing binaries, Warburg nevertheless ignored their objection to be photographed. Later he explained that the journey had made him realize the intermediate position of images.

Warburg did notice that many cliff dwellings were abandoned and that the railway tracks penetrating Pueblo Indian lands brought tourist flows with them, however, he failed to acknowledge the very concrete political

⁶ Anselm Franke, “Much Trouble in the Transportation of Souls, or: The Sudden Disorganization of Boundaries,” in *Animism* (Berlin: Sternberg Press, 2010), 26.

⁷ Aby Warburg cited in Blassnigg, “Ekphrasis and a Dynamic Mysticism in Art: Reflections on Henri Bergson’s Philosophy and Aby Warburg’s Mnemosyne Atlas,” 3.

⁸ He had seen the antelope dance in San Ildefonso and the humiskachina or corn dance in Oraibi, but was relying on Paul Ehrenreichs observation of the snake dance and drawings he asked Hopi children to draw during his visit.

⁹ Philippe-Alain Michaud, *Aby Warburg and the Image in Motion* (New York: Zone Books, 2004), 325.

struggle the people were involved in. Warburg's guide was the missionary Heinrich C. Voth, an infamous intruder and photographer of ceremonies. While Warburg recognized Voth's methods of exploitation of knowledge and thievery of Pueblo Indian objects, he didn't oppose Voth's authority. Warburg exploited various objects himself, but after his return to Germany immediately gave them away to the Museum für Völkerkunde in Hamburg. It remains unclear if this was a gesture of turning the objects over to the museum for 'research purposes' and public access (quite common at the time), or whether the displacement of the objects loaded them with a fundamental tension, causing Warburg's wish to distance himself from them. As an excuse for Warburg's complicity, Fritz Saxl later wrote that his travel to America initiated the idea to look at European history with the eyes of an anthropologist, thus to start an ethnography of Europe.¹⁰

¹⁰ Fritz Saxl, *Warburg's Besuch in Neu-Mexico* (London : Warburg Institute, University of London, 1957), 317.

Introduction

How does a new materialist film practice look? To approach this question the practice-driven research investigates relations which intensify affinities and bonds with the other-than-human. It connects the matters of film with theoretical and philosophical propositions that challenge a human-focused rationale and explicitly acknowledge the doings of nonhumans. These propositions, often a patchwork of speculative onto-epistemological research methodologies, provide a different path into materiality and knowledge production. Aiming for dynamic social, political and ecological relations, their discussion reflects that procedures of othering do not only refer to class, ethnicity, gender or sexual preference, but also to material and thought.¹¹

To gain an ecological conception of knowledge production, the research engages in human and other-than-human perceptions, sensations and interconnections without linking those capabilities to the direct benefit of humans. It disengages from procedures of representation and signification by focusing on processes, which enhance heterogeneity and suspend clear-cut divisions. Conceptual binary oppositions or barriers, such as human and nonhuman, as well as organic/inorganic, mind/matter, thought/practice, reflective/intuitive, knowledge/belief, living/dead, foreign/familiar, order/chaos and so forth, often nourish zonings and limitations. Classical philosophy, according to Jacques Derrida, defines meaning in terms of dualism, “a violent hierarchy”¹² where “[o]ne of the two terms governs the other.”¹³ The epistemic legacies of binary oppositions were enforced by the rationale of colonialism and capitalism, defining what is human and what is not, what is productive and what is not, trapping any critique in those dichotomizing oppositions. As guardian of privileges, the dual-set hierarchy gave birth to many forms of exploitation and exclusion. Despite this, and of much greater importance, these powerful conceptual oppositions might not be mutually exclusive and much easier to traverse as they seem at first.

When explaining how to leave dualisms behind, Gilles Deleuze and Félix Guattari refer to the writing of Virginia Woolf and her method of passing

¹¹ Some key contributions were made by Donna Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (1991), *Modest_witness* (1997), *When Species Meet* (2007), Rosi Braidotti, *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory* (1994), *Metamorphoses: Towards a Materialist Theory of Becoming* (2001), Anna Tsing Lowenhaupt, *Friction. An Ethnography of Global Connections* (2005) Elizabeth Grosz, *Chaos, Territory, Art* (2008), *becoming undone* (2011), Manuel DeLanda, *A Thousand Years of Nonlinear History* (1997), Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (2006), Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007), Bruno Latour, *We Have Never Been Modern* (1993), Isabelle Stengers, *Order out of Chaos* (1985), Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (2010), Brian Massumi, *Parables for the Virtual*, (2002), *What Animals Teach Us about Politics* (2014), Erin Manning & Brian Massumi, *Thought in the Act* (2014), Jussi Parikka, *Insect Media* (2010) *The Anthroscene* (2014), Lynn Margulis, *Acquiring Genomes* (2002) *Symbiotic Planet* (1998).

¹² Jacques Derrida, *Positions*, (London: The Athlone Press, 1990), 41.

¹³ *Ibid.*

between, stating that “[t]he only way to get outside the dualisms is to be-between, to pass between, the intermezzo — that is what Virginia Woolf lived with all her energies, in all of her work, never ceasing to become.”¹⁴ Bearing this in mind, the research neither discusses Self/Other mechanisms developed by anthropological, geographical, biological or historiographical sciences, nor their negative outcomes, since postcolonial studies, gender theory and critical ecology have analyzed many questionable theories of these disciplines. While appreciating critical investigations, the project does not focus on critique, but instead outlines processes and events that pass through oppositions, forming overlapping and uncertain individuations. Accordingly, the terms of ‘nonhuman,’ ‘other-than-human’ and ‘more-than-human’¹⁵ in this text are not to be understood as part of an oppositional dichotomy, but shall signal a detachment from anthropocentric conceptions or interpellations — these terms may in fact coincide completely with ‘human.’

Further, the research is informed and formed by three films — companions, planted closely together in order to benefit from each other:

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prendas — ngangas — enquisos — machines {each part welcomes the other without saying}, 16 mm film, color and sound, 25 minutes 58 seconds, Cuba, 2014.

Shape Shifting, 16 mm film, color and sound, 18 minutes 26 seconds, Japan, 2015. In collaboration with Mikhail Lylov.

All films subsist and enrich the initial inquiry of how does a new materialist film practice look? One of the most significant responses is that the practice acknowledges the involved materialities, apparatuses and their agencies documenting and transforming the world in the same time. Film, as new materialist practice creates an awareness of the vitality of the so-called inanimate and its processes as an ecological, connective force. It relates to the nonhuman as an active participant, rather than a passive object of inquiry. This requires more than just mastering or observing the material processes, it requires active involvement in the mutations and becomings of matter from the practitioner. I have learned from the affective forces and expressive qualities of matter itself, how to take seriously the process of matter. Organic, inorganic, natural, artificial, and everything between, matter nurtures itself from the connections with its surroundings and searches for new encounters. Or said differently, matter exchanges matter by way

¹⁴ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (Minneapolis–London: University of Minnesota Press, 1980), 277.

¹⁵ D. Abram, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World* (New York: Vintage, 1997).

of becoming other. Thus filming, turns into a process homologous to the construction of a crystal or a snowflake, capable of producing geometric configurations, or to a plant that is able to produce flowers by contracting matter in response and as an excitation for its surroundings. Like matter, the films emerge from their environments, from specific events, communities, encounters and practices. Practices that are equipped with unique aesthetic, linguistic, biological or material properties and modalities, where the detachment between human and nonhuman are less structured and the dichotomies of animate and inanimate are less strictly installed, where affective forces and abstract conceptualizations coincide. In case they are human practices, they share particular modes of acting on matter, plants and animals and in turn allow them to do the same, assigning nonhumans properties and powers, worth interconnecting with.

The research appears to prioritize the other-or-more-than-human and their practices. This impression probably stems from the fact that established procedures of knowledge production and other stories often have a propensity to highlight mainly human activities — they tend to make humans the main reference point for everything. In other words, they construct a (human) ‘subject.’ Anna Tsing analyses this in her forthcoming book as “not just ordinary human bias; [but] it is cultural agenda tied to dreams of progress through modernization,”¹⁶ whereas an ecology of practices and thinking aspires to contribute to an inclusive and involved way of sensing and knowing. Created by very different “knowledge worlds”¹⁷ as Anna Tsing Lowenhaupt puts it, a new materialist film practice, or research emerges from and intensifies collaborative interrelations and by this expands its possibilities of acting. In short, cooperating with other-than-human increases ones scope, or power of action.

To contribute to an ecological epistemology of entanglements, the research employs an *animist methodology*. This methodology makes a significant difference to conventional academic and disciplinary procedures, since the processes of matter are not observed but entangled and enfolded into the study. Moreover, as a performative and mobilizing inquiry it seems the most adequate procedure to grasp the rhythmic and animated movements of film itself.¹⁸ An animist methodology explores styles of thinking and acting that recognize form-taking processes disconnected from the centrality of the human species and representation with its dualism and replaces them by a sense of bonding and belonging to a multiplicity of existences. It seems that only

¹⁶ Anna Tsing Lowenhaupt, *The Mushroom at the End of the World* (Princeton: Princeton University Press, 2015).

¹⁷ Anna Tsing Lowenhaupt, “Arts of Living on a Damaged Planet,” (paper presented at the *Anthropocene Conference*, Santa Cruz, USA, May 8-10, 2014).

¹⁸ The way I use the term relational here and throughout the text does not refer to Nicolas Bourriaud’s ‘ism’ of *Relational Aesthetics*.

through an animist methodology one can sufficiently understand how more-than-humans, with their relational and affective engagements, cooperate in the becomings of art and knowledge production. The approach hopefully leads to a less twisted way of sensing and knowing, where animism, as a colonial European invention, is modified into a decolonizing methodology.¹⁹

Thus, the films and the writing strive to get familiarized with the heterogeneous visual and material transformations, they often unaware actively participate in — processes that pass through, embrace, construct and sustain human and not-so-human bodies, as well as organic and inorganic matter and everything in-between. Processes of transformation which can be best understood in terms of *modes*. I am referring to Gilles Deleuze's reformulation of Baruch Spinoza's work on modes as affections or expressions of attributes contained in substances. His understanding rejects the idea of a denominating recognizable 'substance,' which can be politically addressed, for example in racist or misogynous ways. In contrast, the 'real' in Deleuze's work remains unknown, thus attributes and their modes are infinite and cannot be identified either.²⁰ Modes, like affects are shared by humans and nonhumans. Modes act and modify things in accordance with their specific capacities and forces. They might lack the coherent characteristics, distinct forms and purpose of scientific methods, but for this project modes are more suitable, since they are more common and prosaic while they allow the unexpected and surprising to happen. Methods demand respect, whereas modes are involving as well as expressing. Modes are descriptions and at the same time "unfoldings of what expresses itself."²¹ Modes are not only ontological, they can also be epistemological. According to Deleuze, ideas and knowledge, for example are "modes of Thoughts."²² Scientific objectivity and rational thinking have long been critiqued for their reductionism and inability to relate and to deal with environmental concerns — with modes one can neither create binary oppositions, nor an objective reality — they are neither rational nor irrational and persistently refer to the multiplicities of the world with their dynamic becomings.

To stimulate and to entertain dynamic interconnections with the environment is a decisive concern of the research and comes with the gravity of what Haraway calls "becoming worldly"²³ or "becoming

¹⁹ The practice of animism has long been locked up as a consequence of its colonial connotations but recently has been revisited, for example by Nurit Bird-David (1999, 2011), Philippe Descola (1992, 2013), Viveiros de Castro (1999, 2012), Anselm Franke (2010, 2012), Tim Ingold (2000), Maurizio Lazzarato and Angela Melitopoulos (2010), Isabelle Stengers (2010, 2013), Graham Harvey (2005, 2013) and others.

²⁰ Gilles Deleuze, *Spinoza: Practical Philosophy* (San Francisco: City Light Books, 1988) and *Expressionism in Philosophy: Spinoza* (New York: Zone Books, 1990).

²¹ Deleuze, *Expressionism in Philosophy: Spinoza*, 16.

²² *Ibid.*, 14.

²³ Donna Haraway, *When Species Meet* (London: University of Minnesota Press, 2008), 41- 42.

with.”²⁴ Thus, the applied procedure for the study to comply with the complexities of the inquired processes, and at the same time change together with them can be best understood as modes of “becoming with.” “Becoming with” allows for various and heterogeneous ways of expression and knowledge production. As a mode of creative friction, torsion and deterritorialization, it draws from interspecies learning experiences, material forces and their form-taking and knowledge producing processes. It venerates unforeseen, intensive encounters and shaping relations with other bodies and their habits. Taking the collective inclusions of the other-or-more-than-human world seriously turns “becoming with” into a gay and pleasurable procedure. Knotted, or banded together in this manner it helps the study to circulate better, building passages and new kinds of geographies by way of interbreeding, by submerging and emerging somewhere else.

In order to adequately respond to the environments of the films and their situated histories, the writing employs long unwritten, orally transmitted farming practices, storytelling and applications of sorcery in Cuba, South Korea, China, Burkina Faso, Japan and elsewhere. It follows various epistemic communities and their diverse practices and thinking — all actual, that is lived modes of production. What links them is their concern with the increase of biologic, material, linguistic, and aesthetic heterogeneity. They connect the multiplicities that sustain world through which we are. Isabelle Stengers refers to applications that aim to enhance the production of interconnections to ones environment as “ecology of practices.”²⁵ While still using the biological terminology, she states that there is a “belonging to a species,”²⁶ which is not defined by biological classification, but by a sense of attachment to ones environment and since the practitioner doesn’t fully know the impacts of her actions on the environment it must be a tentative learning practice. She must act like an “interacting living species”²⁷ in order to create new connections within her surrounding and towards the outside. When exploring ecology of practices the underlying assumption is that it also has to be a practice of ecology, too — it has to create a bond of equality between thinking and being, between things and persons and their collective assemblages.²⁸ But Stengers warns, “[y]ou can’t mimic attachments, you can’t replace them with collaborationist good will.”²⁹ Attachments cannot be simulated, yet Stengers’ “ecology of practices”

²⁴ Ibid., 23-26.

²⁵ Isabelle Stengers, “Including nonhumans into political theory: Opening the Pandora Box?,” in *Political Matter : Technoscience, Democracy, and Public Life* (Minneapolis–London: University of Minnesota Press, 2010), 25.

²⁶ Ibid., 26.

²⁷ Ibid.

²⁸ Assemblages, in Deleuze and Guattari’s reading, are multiplicities that exceed the power of each part, but nonetheless retain their distinctive difference.

²⁹ Isabelle Stengers, “History through the Middle: Between Macro and Mesopolitics,” *Inflexions: A Journal for Research-Creation* 3 (2009), http://www.senselab.ca/inflexions/volume_3/node_i3/stengers_en_inflexions_vol03.html

in itself demonstrates that one can learn attentiveness and create bondings together with the “agreement”³⁰ of the other-than-human entities. An “ecology of practices” includes all kinds of participation — natural as well as unnatural ones. Reopening Pandora’s box of witchcraft and animist ‘belief,’ Stengers questions scientific and technical ‘knowledge,’ exposing it as a glossy answer to any kind of phenomena. To be able to smell the smoke of the burned witches, is a matter of reactivation and “[t]o think practices is an attempt to situate ourselves, starting from the way in which practices were destroyed, poisoned, enslaved in our own history,”³¹ she states. Her “ecology of practices” withdraws animism from being an anthropological category, without placing it on ‘the other side’ of science. In animism, Stengers clarifies, the question whether or not certain things really do exist is shifted to the investigation of their powers and capacities. Animism challenges other knowledges by actually arranging and achieving a “strange bonding”³² with the other-or-more-than-human world.

Further important reference points for the research are specific concepts by Deleuze and Guattari described in the two volumes of *Capitalism and Schizophrenia: Anti-Oedipus* and *A Thousand Plateaus*. *A Thousand Plateaus* is one of the most convincing cartographies of advanced capitalism with its capacity to capture relations, movements and positive differences. Inspired by a wide range of nonacademic practices, *A Thousand Plateaus* injects fresh thinking into natural history, art, ethnography and psychoanalysis. There are similarly transversal approaches in their last book *What is philosophy?*, which at first sight, seems more constructive, endowing disciplines, such as art, philosophy or science with independence and autonomy. Furthermore the writing refers to theoretical propositions by Isabelle Stengers, Donna Haraway, Anna Tsing Lowenhaupt, Erin Manning and Brian Massumi, crossing similar lines of thoughts. Their diverse accounts and wide knowledge that positions the human equally amongst other beings and matter has affected, animated and sometimes even dramatized this research profoundly.

Equally important for this dissertation are the films of Danièle Huillet and Jean Marie Straub, specially the ones made between 1978 and 2001 in Italy, for example: *Dalla nube alla resistenza* (From the Cloud to Resistance, after Cesare Pavese, 1978), *Fortini/Cani* (after Franco Fortini, 1976), *Trop tôt, trop tard* (Too early, too late, after Friedrich Engels and Mahmoud Hussein, 1980) and *Operai, contadini* (Workers, Peasants, after Elio Vittorini, 2001). Huillet and Straub’s unique and

³⁰ Isabelle Stengers, “Actor-Networks and Cosmopolitics,” (paper presented at the Sawyer Seminar, University of California, Davis, May 20, 2013).

³¹ Isabelle Stengers, “The Care of the Possible: Isabelle Stengers interviewed by Erik Bordeleau,” *Scapegoat* 1, 12. <http://www.scapegoatjournal.org>

³² Stengers, “Actor-Networks and Cosmopolitics.”

complex approach to the matter of film, supplemented with strong historical vibrations empowered the research to concretely engage with the materiality film, as well as the encountered practices and their communities. Filming in actual locations, Huillet and Straub pronounce all components contributing to a film as equally important, be it the wind, air, light, text, people, birds, notebooks, snow, stars, petrol — ricotta making, and treat them as if they were inseparable. These films facilitate complex lyrical, archeological, geological, ethnographical and ecological encounters, which Jacques Rancière describes as a type of “peasant, or ecological communism.”³³ Their materialist film practice is based upon agreement and affirmation. It taught me how to break loose from codified ideas of nature and human, of representation and film language, and how to replace them with blocks of intensity, with an immediate awareness and direct approach to the materialities sustaining human processes.

³³ “Politics and Aesthetics in the Straubs’ Films,” <https://mubi.com/notebook/posts/politics-and-aesthetics-in-the-straubs-films>

Situated in Relations

This first chapter looks into the challenges and concerns emerging from the research, situated and forming particular relations towards the environment. To adequately stretch out to the research question this chapter will inquire into scientific, technological, social-political and philosophical methodologies often based on colonial and anthropocentric presumptions and mappings of the world. However, the research does not strive to rewrite or reclaim for example a certain history or place, it instead outlines concepts that pass through these legacies, in order to build more complex and fruitful interrelations. To do so the writing will make use of some of Gilles Deleuze and Félix Guattari's philosophical conceptions, such as: other-as-structure, lines of flight, becoming, microperception, radical empiricism, and microbrains, notions which explicitly acknowledge inhuman forces and ambiguous ontologies and epistemologies.

Dominant Strata and Lines of Flight

Which patterns of perception display foreign as 'foreign' or other as 'other'? What if 'foreign' was a trope itself? How can anything or anyone be foreign when it is difficult to maintain, I/we/you/she/it/they/us/them as dividing categories? What are the mechanisms and procedures that reject difference, the unfamiliar and foreignness? Structural, racist and xenophobic violence is frequently occurring in rich countries all over Europe, as is the case in Germany. While racism is not limited to Europe, Nazism and the pseudo-scientific definitions of race, of what is human (nature) and what not, are phenomena initiated in Europe, deeply connected to its colonial rule and expansions. Present-day Europe is kept together and enforced by neoliberal economics and politics, establishing a new kind of racism without directly linking it to race or color.³⁴

The dominant economical and political agenda of the European Union brings about a pauperization within and outside of Europe (often justified by a utilitarian discourse), which separates people from affection and sustainable relations. While officially condemning racism, the European Union and its national governments are in fact letting distinctions such as ethnicity, identity and culture seem natural. These stratifications entrap migrants and their descendants within an assumed 'foreign

³⁴ For an in-depth discussion please see Étienne Balibar and Immanuel Wallerstein, *Race, nation, class: ambiguous identities* (London: Verso, 1991), Étienne Balibar, *Politics and the Other Scene* (London: Verso, 2002/2011), versobooks, "A racism without races," An interview with Étienne Balibar by Clement Petitjean April 15, 2014, <http://www.versobooks.com/blogs/1559-a-racism-without-races-an-interview-with-etienne-balibar>

identity' for generations. These versions of identity function as labels that replicate parts of the racist discourse. On top of this, the European Governments and their institutions call for integration, producing a contradictory situation of eliminating difference by simultaneously reproducing foreignness. The demand for integration into a culture or a language (be it standard German, English, Sanskrit or Han Chinese) can be understood as an interpellation (in the Althusserian sense) into an imagined social homogeneity, imprinting and imprisoning people in identity, strapped to a dazed dream of progress.

* * *

Disregarding the borders of identity, Gilles Deleuze doubts if anything should be understood as 'other.' Rosi Braidotti provides an energetic statement on his position: "[i]n Deleuze's thought, the 'other' is not the emblematic and invariably vampirized mark of alterity, as in classical philosophy. Nor is it a fetishized and necessarily othered 'other,' as in deconstruction. It is a moving horizon of exchanges and becoming, towards which the non-unitary subjects of postmodernity move, or by which they are moved in return."³⁵ The perspective becomes specifically clear in an essay Deleuze wrote on Michel Tournier's *Friday*, a rewriting of the novel *Robinson Crusoe* by Daniel Defoe. For once, Deleuze directly addresses and spins around the culturally constructed concept, aiming for its merging with an ecology of things and their inhuman, or more-than-human forces. Abandoning the classical, dialectical idea of social conflict,³⁶ which is closely connected with the concept of the 'other,' he develops a line of argumentation that at first provides an affirmative conception of the 'other-as-structure.' The 'other,' he continues, is best understood as a structure of infinite possible worlds, as opposed to the monotony of identities. Deleuze explains that the 'other' regulates and makes possible the transformation of form and background as well as the modification of depth of the perceptual field. The 'other-as-structure,' as an expression of a possible world, facilitates perception in the first place. The 'other-as-structure' conditions that the philosophical questions on the perceptual field can be considered less in terms of margin-centre, depth-length, form-ground, but as Deleuze explains in terms of immanence and dualism:

True dualism lies elsewhere: between the effects of the 'structure Other' of the perceptual field and the effects of its absence (what perception would be were there no others). We must understand that the Other is not one structure among Others in the field of perception (in the sense, for example, that one would recognize in it a difference of nature from objects). It is the structure which conditions the entire field and its functioning, by rendering possible the

³⁵ Rosi Braidotti, "Interview with Rosi Braidotti," in *New Materialism: Interviews & Cartographies*, ed. Rick Dolphijn and Iris van der Tuin (Ann Arbor: University of Michigan Library, Open Humanities Press, 2012), 23.

³⁶ Currently reproduced in the European refugee 'crisis.'

constitution and application of the preceding categories. It is not the ego, but the other as structure which renders perception possible.³⁷

Desire always passes through the 'other,' it constitutes the social space, liquid and difficult to resist; desire is the social unconsciousness, its infrastructure. In Tournier's novel *Friday* Robinson has to experience the cruelty of a situation without any 'other.' The 'other' constructs the depth, if she is gone, it can cause neurosis or psychosis.

Or, on the contrary, the lack of the 'other' opens to a possible salvation, since the disappearance of the 'other' also entails the effacement of the 'other-as-structure.' Robinson has to establish a field of microperceptions. When Friday, the supposedly 'other' appears, the structure, or macroperception has already vanished and Robinson can no longer restore its function. At that point his consciousness coincided with the things themselves "in an eternal present,"³⁸ Robinson has joined the minority of the ecological nonhuman public, and fell in love with their details, some of which are as large as the sun. From there on, when otherness as macrostructure collapses, desire is not bounded and things themselves are no longer confined to limits, they are no longer objectified. Robinson is saved, his "great health"³⁹ is restored — he has become solar and dehumanized. He turns to the field of ecology, an ecology of relational bodies.

Félix Guattari, in his travel journal *Molecular Revolution in Brazil*, develops a theory that radicalizes the concept of the 'other.' He pulls it out of its oedipal and cultured ancestry, and reads against the background of a capitalist environment, to fill it with multiple, molecular and fluid forms of otherness. For Guattari, culture is not a creative expression, nor a human achievement connected to production, creation and actual consumption, but a separate area that only exists in relation to power and economic markets. Guattari brings to mind that it is culture that fixes life into individual domains, "separating semiotic activities (orientation in the social and cosmic world) into spheres, to which people are referred,"⁴⁰ amputating people from their creative and productive realities. In short: culture steals souls.

When attempting to make "the special power of the modern territory"⁴¹ perceptible, Isabelle Stengers refers to Deleuze and Guattari's

³⁷ Gilles Deleuze, "Michel Tournier and the World without Others," in *The Logic of Sense* (London: The Athlone Press, 1990) 309, emphasis in original.

³⁸ Deleuze, "Michel Tournier and the World without Others," 311.

³⁹ Great health is a concept Deleuze takes from Nietzsche, "[b]eing new, nameless, hard to understand, we premature births of an as yet unproven future need for a new goal also a new means — namely, a new health, stronger, more seasoned, tougher, more audacious, and gayer than any previous health." Friedrich Wilhelm Nietzsche, *Gay Science*, (New York: Vintage, 1974), 346.

⁴⁰ Félix Guattari, *Molecular Revolution in Brazil* (Los Angeles: Semiotext(e) Foreign Agent Series, 2008), 21.

⁴¹ Isabelle Stengers, "Experimenting with refrains: Subjectivity and the challenge of escaping modern dualism," in *Subjectivity* 22 (2008), 38.

collaborative proposal of a line of flight. A line of flight, does not directly confront the cultural and territorial dogma with its coating of difference and enforcement of stratification. A line of flight “rather betrays,”⁴² subtly notes Stengers. It discloses and decenters a dominant territory, not by subtraction but by actually crisscrossing its procedures with affirmation and creative production. Lines of flight are self-imposed obligations to foreignness. They connect the territory with what it formally protects itself against, without relying on the order of resistance, which easily becomes subsumed. Deleuze and Guattari emphasize that practical struggle never advances by way of the negative but by difference and affirmation. One has to positively and creatively traverse stratification and build new ones in which relations run without preexisting channels, where “all individuals are interchangeable, defined only by their state at a given moment”⁴³ modulated by a multiplicity of modes of creativity. “To account for the destratification or becoming of layers that are not subsumed is not resistance but lines of flight — a turning towards the collective construction of worlds,”⁴⁴ Luciana Parisi phrases it. To conjointly draw lines of flight is to register the possibility of a frightening world, without letting oneself be subjected by the semiotic system that constitutes otherness and sameness, inside and outside, thereby creating oppressive segregation. Lines of flight, as Erin Manning and Brian Massumi spell them out, are “immanent critiques of capitalism”⁴⁵ and “emergent forms of life always on the make.”⁴⁶ Drawing lines of flight is to sense the reality of relations, to become close to fearless without being detached from the world.

The writing here is drawing of a line of flight. It does not build arguments but proposes ways of engaging. It is not critically purified, but performed as a practice of becoming different in conjunction with the world. It is a line of flight that persistently asks, what is it, a text can do? Run along with others in order to make a difference? For writing, as an ecology of practice, it seems that one cannot just carry on to accumulate knowledge within ones own discipline. One has to link the fields of art, ecology, feminism, philosophy, biology, history, economy, and animism, for example, that is to withdraw from the inherent epistemological violence that distinct academic disciplines reproduce, and build various relations to the world with diverse modes of thinking. In the text lines of flight are replacing lines of reasoning. They surface and disappear, just to reappear in places where it might seem odd at first glance, simply because they derive from a multiplicity of interacting fields, communities

⁴² Stengers, “Experimenting with refrains: Subjectivity and the challenge of escaping modern dualism,” 39.

⁴³ Deleuze and Guattari, *A Thousand Plateaus*, 17.

⁴⁴ Fuller, Matthew, “Interview with Luciana Parisi,” <http://www.spc.org/fuller/interviews/luciana-parisi-interview>

⁴⁵ Erin Manning and Brian Massumi, *Thought in the Act* (Minneapolis: University of Minnesota Press, 2014), 123.

⁴⁶ *Ibid.*

and their assemblages. Rational thinking with its clinical reasoning has been repeatedly criticized for being unable to adequately deal with problems, such as the current destruction of the environment. Writing that links and traverses, pollinates and infects seems more capable of addressing and evoking a dynamic and ecological ontology. In a lecture, Stengers outlines that writing is an experience of metamorphic transformation. It makes one feel that something not-so-human, often called an 'idea,' and demands from the writer some kind of cerebral effort, that is an extreme body contortion, making us larval, where any intention is defeated.⁴⁷ To write with ideas, concepts, crystals, stones, plants and animals, in other words to collectively become; to give words to encounters and their affects, to make perceived and to be shaped in turn; to belong to an ecology of assemblages preferable to being separated and competing with them.

Both writing (as a contraction of concepts and diffused linguistic materials into expressive properties) and filming (plunged in and changing with matter, colors, shapes and sounds) are an extension of affects into images, both are events that form new appearances through dynamic movement. Both practices take advantage of powerful abstractions, just to sink deeper and deeper into contagious temptations and attachments of the more-than-human world and its on-going emanations released by the sensibilities of whatever organisms, technological devices, sound, cabbage, whatever cat, violet becoming green. These modes of writing and filming are neither analytical, nor phenomenological in a restricted sense. Incapable of pursuing a distant rationale, they not only desire to study, but also strive to newly appropriate the unknown. They touch on material and conceptual force while being embraced by them. Which is why, they cannot fully substitute palpable affections with a single method. As an ecology of practices, or a mode of mutual inclusion, or a manner of becoming environmental, they insist on the necessity of experiences within an empirical field — conjointly with the multiplicity of others. Their creative process, or mode of aesthetics, requires their instruments to become active participants, oscillating between modes of responding and acting. They have no intention to fix, cut out and separate, instead they strive to affirm and to become different together with the surrounding environment. They learn and grow through movements and unforeseen events. These modes of writing and filming neither do justice to a broader context, nor the history of a place. They prefer to produce lines of flight and deterritorialization within a certain terrain. They concentrate on events, create sometimes encrusted, sometimes fugitive arrangements. Arrangements, which are often imbued with duration, but always stay incomplete and embryonic, in an emerging state.

⁴⁷ Stengers, "Actor-Networks and Cosmopolitics."

Historiography most often presents us with a discharged and consistent metanarrative, moving towards a harmonious totality, a generally advanced 'future.' Its methodologies and rhetorics have been critically reassessed and led to a diversified understanding of accounting for the past.⁴⁸ To analyze who-writes-what became of similar importance as how-it-then-really-was. At present, it goes without saying that making claims regarding the past is not the only form of strategic positioning in the presence. A fruitful example for the rewriting of history is Sadie Plant's *Zeros and Ones: Digital Women and the New Technoculture* in which she explores computing from a gender perspective, challenging conventional reclamation of history.⁴⁹ Her position is inclusive as it draws connections between animate and inanimate things. It considers vegetables, viruses, as much as humans (who are rather bundles of intelligent matter), monsters and associative machines alike. In Plant's view, the side effect of technological and biological processes, the things that go-between machines like infective agents and viruses are more important than the things themselves, envisioning a coalesced, permeable, and a matter of fact virtually 'ahistorical' situation where the past, present and future become dynamic terrains.

There exist social formations, which in a similar manner neither fit into any theory of cause-and-effect nor of origin. These positions claim to virtually have no history at all. The Lisu, living all over the highlands of Yunnan in China, northern Myanmar, Laos and Thailand, as well as small parts of India, flatly refuse to let any written or oral history to be imposed on their bodies, and instead consider forgetting as their preferred point of departure. The anthropologist Hjørleifur Jonsson states, "Lisu forgetting is as active as Lua' and Mien remembrance,"⁵⁰ and James C. Scott comments:

The Lisu, by refusing to pin themselves down to any account of their past — except for their tradition of autonomy — have no position to modify. Their room for manoeuvre is virtually limitless. But Lisu historylessness is profoundly radical in a second sense. It all but denies 'Lisuness' as a category of identity — except perhaps for outsiders. By denying their history — not carrying the shared history and genealogy that define group identity — the Lisu negate virtually any unit of cultural identity beyond the individual household.⁵¹

To accelerate the act of forgetting is akin to drawing lines of flight. Lines

⁴⁸ Such as Friedrich Nietzsche (1974, 1980, 1996), Aimé Césaire (2010), Frantz Fanon (1980, 1981), Audre Lorde (1973, 1976), Michel Foucault (1974, 1981, 1983, 1986), Edward Said (2009), Dipesh Chakrabarty (2008, 2015), Édouard Glissant (2005), Gayatri Chakravorty Spivak (1985), Homi Bhabha (1990, 1994), Adrienne Rich (1983, 1993), Judith Butler (1991), Sandra Harding (1994), and others.

⁴⁹ Sadie Plant, *Zeros and Ones: Digital Women and the New Technoculture* (London: Fourth Estate, 2000).

⁵⁰ Hjørleifur Jonsson cited in James C. Scott, *The Art of Not Being Governed* (New Haven–London, 2009), 234.

⁵¹ James C. Scott, *The Art of Not Being Governed* (New Haven–London, 2009), 235.

of flight that allow for discontinuity as a different perception of time and creation. Nietzsche straightforwardly calls for an active forgetting of the past. He understands forgetting as “a power of obstruction, active and, in the strictest sense of the word, positive.”⁵² For Nietzsche, without active forgetfulness, no real present can happen. Forgetting prevents the past from being conquered by any literate authority or power. Thus, the Lisu establish a kind of non-colonizable anarchic-anarchism through their denial of history and favoring of forgetting. They create a gap in any historical account. To let go of historical privileges and practices opens up a colossal space for improvisation and strategic movements. History becomes a ghost that is left to others. Deleuze has a critical relation to the concept of history as well and suggests instead the concept of *becoming* as a creative temporality. Like a line of flight, one rather leaves behind in order to become different, to produce something new. Becoming connects the human to the environment, to animals, plants and to matter, and critically reflects the understanding of *common sense* that history necessarily requires. Becoming and active forgetting are not the same as amnesia regarding practices, relationships or alliances. On the contrary, they allow for even more entangled connections and active relations with the delicate storages and knowledge strata of the more-than-human, so that every encounter turns into an event, a process of becoming different.

Heterogeneous Planes for Immanent Relations

Exchanging knowledge and affections, every encounter, every practice transforms, enables, complicates and complexifies, even on a microlevel. Becoming requires from the practitioner to immerse in, to become together with the material processes. Becoming (or rather forming a bloc), in other words taking aspects of one another in a subversive manner, while refusing to find proper expressions is a contagious process. Becoming neither has a clear beginning, nor an end. In a transversal path of fabrication, human and nonhuman binaries become closely entwined and separations are difficult to hold up. Becoming can be conceived as an endless process of tiny marking and unmarking, coding and uncoding. Becoming, or mutating does not imply that one literally reshapes and possesses what one becomes. There is no need to own what one becomes.

The concept of transformative becoming implies a constant movement — because which one is (yet) to become has already changed itself, “I cannot become dog without the dog itself becoming something else,”⁵³ Deleuze states. Any attempt to become different is valuable, even

⁵² Friedrich Nietzsche, *The Genealogy of Morals* (New York: Boni and Liveright, 1912), 40.

⁵³ Deleuze and Guattari, *A Thousand Plateaus*, 258.

though one might lack experience. For Deleuze and Guattari most becomings start with the “microfemininity”⁵⁴ of becoming women and end with becoming imperceptible. Becoming women mutually applies to male and female bodies, sharing the desire to escape the binary distinction of sexuality with its all-ready-made bodies. In this respect the becoming women of women is not to identify with an essential we-ness, but still pursues the politics of gaining a we-assemblage. The becoming women of men is to discover and to take fragments (a homeopathic dose of sex) that are close to a nonstratified feminine. Becoming, that is to connect with whatever organisms practicing endless, uncontrollable and molecular sex that simultaneously face, inch through and escape the strata. It means to find neighboring zones, to emit and subtract particles and to create intensive relations of movement and rest, to act in an “inhuman connivance with the animal.”⁵⁵ Becoming is taking over the place of language. It is an aesthetic event that draws new territories. Becoming is molecular contamination. It negates identities, categories, serial or structural institutions and their organs and releases n-sexes. It navigates in-between.

In this way, the animal is really becoming human, even without actual humans.⁵⁶ Becoming denotes to gain second, third, fourth birth, to obtain a heterogeneousness, a permeable body, homologous to those of nonhuman animals, plants or molecules. To break up with fleshly delivery and to forge unnatural alliances. “A sort of antigenealogical process [...] that suspends the teleology of evolution and the anthropocentrism of life,”⁵⁷ states Luciana Parisi. Becoming tropical, becoming chicken, becoming the sounds of maize, becoming sunbeams — all start with an inhuman and unnatural response. The orchid and the wasp, the artist and the camera, the eye and the sunbeam, becoming and sensation belong to the world of affects subtracting particles. What they have in common is that they tend to form a bloc of sensation, generating trans-or preindividual expressions and perceptions to enable numerous, intense differentiations, infinite de- and re-territorializations. All these infinite becomings cannot be separated from becoming imperceptible, or rather — the imperceptible is where all becomings are driving to, the “imperceptible is the immanent end of becoming, its cosmic formula,”⁵⁸ it is a program for becoming insignificant and most likely inorganic.

When attempting to come up with a set of preparations in order to

⁵⁴ Ibid., 275.

⁵⁵ Ibid., 274.

⁵⁶ There are various examples of animals becoming human, most often suffering ones, such as animal intoxication, depressions and suicidal with beaching whales, grieving dogs or depressed cats and horses.

⁵⁷ Fuller, “Interview with Luciana Parisi.”

⁵⁸ Deleuze and Guattari, *A Thousand Plateaus*, 279.

become imperceptible, one certainly needs to avoid biographical traces of an identity and to cut across personalized experience. Some phrases that artists and anthropologist often smuggle in to justify their actions, are: 'I was interested in...', 'I looked at...', 'It seemed to me that...', 'I made the link here between...', 'My practice is looking at the question of...', '*I swear I saw this.*'⁵⁹ In order to dissolve the self and to become imperceptible, the writing here avoids these constructions. Yet, sometimes a specific problem or an autobiographic account might slip in, but simply because it marks a crucial discovery and nevertheless connects to a multiplicity. More often, however, the writing follows a different procedure and experiments with pre-individual constructions, which is why the 'I' here often becomes 'it.' Since all that it strives for is not contained in a body, nor in the art produced, but in the messy, undisciplined, overlapping and multiple relations attached. Without a particular identity, but with a transduction of inorganic and organic materials in a different domain, it has to think and mutate like everything-else around: impersonal and inorganic, while perfectly individual. Becoming imperceptible is becoming a secret, becoming the movement of a zigzagging line — disappearing to reappear elsewhere.

The research aims at immersing itself with something unknown and afar. A strangeness capable of fanning the flames of curious sensations. It situates itself in very distant parts of the world, diverse practices and unfamiliar conceptions of knowledge, while it, nonetheless, attaches itself to particular modes of relations. The places featured in the films are spatially, culturally, historically, socially, and environmentally far apart from each other. Their given names — Japan, South Korea and Cuba — are like stars on a chart or diagram, providing geographical (dis)orientation. Deeply entangled with colonialism, geography often functions as a marker, similar to species, class, race or gender. The research draws a different map. The places, in their distinct differences, share connections, accommodate practices, entities and events, which can be considered specific and earth spanning at the same time. These practices and events cannot be subsumed under one term, or one structure, they are traversing particulars and universals as they share specific modes of relating towards the environment, each without losing its unique singularity. Anna Tsing's recent essay on *matsutake* mushrooms and human domestication discloses how it is possible 'to explain the entire world' by focusing on minor cohabitants and minor stories.⁶⁰ Global modes of relations with various others don't rule out local particularities. As other dualisms, the particular and the universal, the local and the global are not necessarily undoing or nullifying one another, but rather co-determining and enhancing each other's differences.

⁵⁹ Michael Taussig, *I swear I saw this* (Chicago: University of Chicago, 2011), emphasis in original.

⁶⁰ Anna Tsing Lowenhaupt, "Unruly Edges: Mushrooms as Companion Species," <http://tsingmushrooms.blogspot.de/>

Saturated with contradictions inherited by the “Western eye,”⁶¹ as Donna Haraway calls the steady and often lens based epistemological mappings, the research project sides with her proposal “to see together without claiming to be another.”⁶² To situate oneself within variations of relations, rather than within an identity, ethnicity, a geography, a gender or an epistemology, to speak not ‘of’ but ‘from’ the world — and not to disappear from view. “To let particularities move towards new universals,” like Anna Tsing puts it, “to turn to universals is to identify knowledge that moves — mobile and mobilizing — across localities and cultures.”⁶³ Self-identity and interiority should not be situated within any singularity. Escaping familiar languages, theories and social relations, a defined identity, is to put oneself in a place where acquired knowledge does not apply. To paraphrase Haraway once more, we do need (real) earth wide connections, from where we can equally develop the ability to share intimacy with things and humans among very different, and power-differentiated communities.⁶⁴ For this, the combination of travel and theory provides a fertile ground and a curing force. Their amalgamation can help to resist homogenization and reduction of complex characteristics into fixed singularities (something that often happens at ‘home’). In his writing *Notes on Travel and Theory* James Clifford draws on the Greek term *theoria* connecting it to the practice of traveling: “Theory is a practice of travel and observation, [...] a product of displacement. To theorize, one leaves home.”⁶⁵ Traveling and theorizing are both helpful to expand and to situate the self in a wider space where interior and exterior fuse, to become an affective cartography, in order to learn communication, through relationships, rather than words. Traveling and theorizing require keeping attention and awareness of differences. They are both fields of experimentation that allow for foreignness with the subject and the place, to unlearn certainties and encourage attachment to sometimes ambiguous and heterogeneous subjectivities.

Relations, be they messy or straightforward, are formed gradually, one by one. In order to grasp practices of ecology it seems useful to get to know singular parts within an environment as well as the wider rhythms of a landscape assemblage for example. The chosen mode of filming sets out to create moments of involvement with a specific surrounding by noticing particular differences and entanglements. Like a phenomenological approach, this mode of filming takes the world and the experience of its details as reference points, nevertheless it has a

⁶¹ Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” in *Feminist Studies* 14 (1988), 586.

⁶² Ibid.

⁶³ Anna Tsing Lowenhaupt, *Friction — An Ethnography of Global Connections* (Princeton: Princeton University Press, 2005), 7.

⁶⁴ Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” 580.

⁶⁵ James Clifford, “Notes on Travel and Theory,” in *Inscriptions 5 – Traveling Theories: Traveling Theorists* (Santa Cruz: University of California at Santa Cruz, 1989), 177.

very different point of departure. Rosi Braidotti argues that phenomenology stresses to sustain the division between “Man and His others.”⁶⁶ Martin Heidegger’s phenomenology might be inspired by ethology, however by claiming that only humans are capable of actively forming a world it just perpetuates the myth of hierarchies that divide matter, animals and humans. For Heidegger animals are condemned to exist in a poorer world (which for him equals the environment), while stones do not have a relation to the world whatsoever. Supplying humans with their own world, Heidegger presents a philosophy of disconnections and detachments, separating and excluding humans from the surrounding, from overlappings and emanations of beings and matter. “For Heidegger, the essential difference between Man, animal and plant rests on the human being’s ecstatic capacity to stand outside himself,”⁶⁷ continues Rosi Braidotti. However, it is well known that the ecstatic capacity, or intense experiences are primarily a matter of creative imagination and as such belong fully to the nonhuman. Cats, chickens, crocodiles and beetles, for example are well known to have ecstatic capacities, they are able to go into a trance state. Dividing the world in ‘perceivers’ and ‘objects’ that are to be perceived, for Heidegger, animals, plants and matter are forever imprisoned, entangled in immanence, unable to attain the necessary distance to reflect and communicate. Only humans escape from this confinement through their ability to transcend. However, according to Deleuze, transcending is actually not that complicated, all that is necessary is to create a stoppage, a mental freezing of an otherwise infinite and continuing movement of things and modes of perception.

Emphasizing that worldliness is far from being an exclusive human possession, the ethologists Dominique Lestel, Jeffrey Bussolini and Matthew Chrulew in their text *The Phenomenology of Animal Life* argue that Heidegger’s phenomenology together with an ethology influenced by the Cartesian model of philosophy,⁶⁸ has reduced all animal life to mechanistic processes, causalities and behaviors and the environment to an exceptionally poor naturalistic ecology.⁶⁹ This understanding did not only harm animals but radically impoverished the human world. It reduced human’s capacity for appreciation and comprehension, for affection and belonging, for commitment to the lusty abundances of animals. Moving towards an animalized phenomenology Lestel, Bussolini and Chrulew’s ecological (rather than ethological) research

⁶⁶ Rosi Braidotti, *Metamorphoses: towards a materialist theory of becoming* (Cambridge: Polity Press, 2002), 121.

⁶⁷ Ibid.

⁶⁸ Descartes has often been credited and critiqued for his reductive Christian understanding of animals as automaton, without language, consciousness, awareness and pain. This view served as an explanation for the fact that human sciences and practices recklessly objectify, exploit, imprison and kill other animals. In 1993 Peter Singer and Paola Cavalieri revised this tradition of thinking while staying in the realm of law, demanding basic rights not only for nature in general, but for each individual animals (specifically great apes).

⁶⁹ Dominique Lestel, Jeffrey Bussolini and Matthew Chrulew, “The Phenomenology of Animal Life,” *Environmental Humanities* 5 (2014).

rejects an uninvolved outside view, but instead takes their own presence into account and includes domestic human-animal interrelations. It passes through binary conceptions such as transcendence and immanence, interior and exterior, observer and observed.

In her book *Modest_Witness* Donna Haraway refers to, or better wittily queers, the problem of an outside perspective in science promising knowledge and objectivity through the method of observation. She demonstrates the modest witness (in Deleuze's the "partial observer"⁷⁰) as a figuration of an early modern knowledge seeker or scientist, who keeps up the remarkable capacities of "self-invisibility."⁷¹ The modern scientist and the attitude of disembodied reflection and neutrality positions the object of inquiry outside its contextual relationships and thereby guarantees unambiguous clarity and facts, providing an "objectivity that promises transcendence."⁷² The same applies, as Deleuze points out, for Edmund Husserl's phenomenology and its transcendental subject hiding the "European man whose privilege it is constantly to 'Europeanize,'"⁷³ disseminating cultured perceptions that are supposed to sensitize the reader to the world, but which are in fact nothing more than already preconceived and rehearsed assumptions. "[P]henomenology could not prevent the subject from forming no more than opinions that already extracted clichés from new perceptions and promised affections,"⁷⁴ using the realm of art to encounter something seemingly original and unconventional.

While both, Haraway and Deleuze, start with a critique of the negative, consistently come up with new proposals and impulses to override inflicted damages. In her often cited essay, *Situated Knowledges*, Haraway suggests that in order for science to move on, a "feminist objectivity"⁷⁵ is needed. This feminist objectivity not only takes the researcher's social, economic, gender and ethnic background into account, it also assumes that scientific objectivity can only be reached within a limited location.⁷⁶ Haraway claims that, "only partial perspective promises objective vision."⁷⁷ Deleuze, when referring to the problem of analytical philosophy or science, proposes the concept of a

⁷⁰ Gilles Deleuze and Félix Guattari, *What is Philosophy?* (New York: Columbia University Press, 1994), 129.

⁷¹ Donna Haraway, *Modest_Witness@Second_Millennium. FemaleMan©_Meets_OncoMouse™* (New York: Routledge, 1997) 23.

⁷² Haraway, "Situated Knowledges," 579.

⁷³ Deleuze and Guattari, *What is Philosophy?*, 149.

⁷⁴ *Ibid.*, 150.

⁷⁵ Haraway, "Situated Knowledges," 581.

⁷⁶ Karen Barad extended this thought in her book *Meeting the Universe Halfway* (2007) by including the scientific apparatus in the scientific experiment.

⁷⁷ Haraway, "Situated Knowledges," 583.

“transcendental field”⁷⁸ or “radical empiricism,”⁷⁹ following William James. For Deleuze the transcendental field (also the field of knowledge production) is always relational and in connection to the surrounding field. When rejecting the philosophical and scientific methods of transcending by bringing movement to a halt, Deleuze claims that in the practice of radical empiricism movement cannot be paused. Being a pure stream or a duration movement cannot be fixed to generate data. However, radical empiricism has nothing in common with a positivist empiricism of the senses — sensation might serve as a passage, but the transcendental field cannot be explained by personal experience or observation. This is not to say that experiences aren’t concrete, singular and priceless, the field is just too broad, too full and too abstract, to be explained by experiences. Neither can it be disclosed or revealed by consciousness. However, Deleuze is addressing consciousness. Caused by the problem that, “the abstract doesn’t explain, but must itself be explained,”⁸⁰ consciousness, like practices of thinking relational, traverses the transcendental field, being “coextensive”⁸¹ with it. But as it doesn’t reveal anything to anybody, it is “a consciousness without a self.”⁸² Like in a new, speeded up edition of a classical board game, consciousness travels and criss-crosses the empirical field with unlimited speediness, and only turns into a phenomenon or a scientific data, when the ‘subject’ reappears on the board with her ‘object.’ However, in this case, the transcendental field has already become an active participant, placing “both [the subject and her object] outside the field,”⁸³ making them “appear as ‘transcendents.’”⁸⁴

In their recent book *Women Who Make a Fuss*,⁸⁵ Isabelle Stengers and Vinciane Despret revise the place of women in thinking (inside and outside the universities) and their own experience as philosophers, returning to Virginia Woolf and her persistent call: *Think We Must*. This refers to an ecology of practices, which rethinks thought and endeavors to transform prevailing conceptions, that consider thinking purely a human feature. To Baruch Spinoza, thought (and extension) is an attribute of matter (body). Bergson has a similar view and polemically states: “It would be absurd to refuse consciousness to an animal because it has no brain as to declare it incapable of nourishing itself

⁷⁸ Gilles Deleuze, *Pure Immanence, Essays on A Life* (New York: Urzone, 2001), 25.

⁷⁹ Deleuze and Guattari, *What is Philosophy?*, 47.

⁸⁰ Gilles Deleuze, *Dialogues* (New York: Columbia University Press, 1987), 7.

⁸¹ Deleuze, *Pure Immanence, Essays on A Life*, 26.

⁸² *Ibid.*, 25.

⁸³ *Ibid.*, 26.

⁸⁴ *Ibid.*, 26.

⁸⁵ Isabelle Stengers and Vinciane Despret, *Women Who Make a Fuss, The Unfaithful Daughters of Virginia Woolf* (Minneapolis–London: University of Minnesota Press, 2014).

because it has no stomach.”⁸⁶ Neither limited, nor narrowed down to the human species or analytical methods of cutting, fixing and separating — relational thinking happens everywhere, where something new is produced. Thinking is the ability to create linkages with the surrounding, where the virtual becomes actual and the actual becomes virtual. Whether matter, vegetable, animal, or human acting thought means to create new multiplicities, entanglements and differences to appear. Relational thinking implies the sensing and production of new conditions, new practices and new concepts. When the ontological distinction between persons and things get foggy, matter and knowledge can inhabit and think from the very same space. According to an ecology of practices consciousness or thinking actually takes place in humans as much as in nonhumans. One helpful concept developed by Deleuze and Guattari that emphasizes thinking in nonhumans is that of microbrains, “[n]ot every organism has a brain, and not all life is organic, but everywhere there are forces that constitute microbrains, or an inorganic life of things,”⁸⁷ they proclaim. As sensational and perceptive matter, microbrains are connected by impersonal and inhuman (or more-than-human) processes and forces that constitute them as a relational, collective multiplicity. Microbrains crystallize, run through and connect microbes, minerals, molecules, landscapes, stones, grains, jellies, vapors and climates, continuously acquiring, storing and releasing knowledge.

⁸⁶ Bergson, *Creative Evolution*, 110.

⁸⁷ Deleuze and Guattari, *What is Philosophy?*, 213.

Strange Centers of Attraction

The following chapter focuses on strange attractions, on affective forces that have influenced the research on different levels. Both, the writing and the filming dive into their powerful abstractions and constructions. The films explore these attractors by their affects, percepts and sensations as immediate modes, and the writing works as a mobilization. Language provides us with a very precise and extensive vocabulary to describe humans, but when talking about plants and animals we often discuss them generically as animal, plant, or matter. Which animal, vegetable or matter and capacity is meant exactly often remains unclear, whereas humans tend to possess proper names, accounting for their singularity. Species, types or kinds, are narrowing down even further, creating soulless and impersonal categories. And yet, while generic terms are unspecific, proper names are too, since they imply isolated individuals. One never writes alone, as Deleuze and Guattari say, it is always coming from a crowd.⁸⁸ How can we grapple with these contradictions that appear like tumbler toys when we use both generic and specific expressions, fixing all of us in a myth of hierarchies? One has to properly undo ranking taxonomies of types and individuals, filling them with new connections and relations. Proper names and nominal terms, like particulars and universals, in this text help to tell the story, but they only serve as substitutes. In order to deal with these inherited contradictions the chapter focuses on processes, when individual humans become multiplicities, when animals, plants and things are endowed with personhood, when matter is enthusiastic and territories are not static backgrounds, but energetic and affective to become a nonclassified 'whatever-ness.' A whatever-ness that acknowledges persons and things as equal and nonetheless different, rather than segregated, that turns each being and thing into a varyingly enduring singularity — each particularly endowed with a specific creative practice and thought, entering into a multiplicity of assemblages, unaffected by labels and terms (or voice-overs) given to them.

Vegetables

When thinking relational practices of ecology, like animal and vegetal technologies of thinking and doing, it seems necessary not only to review and re-examine previous methodologies and epistemologies, but to swing into an altogether different mode. Friedrich Nietzsche, in his critique of the instrumentalization of reason as a tool of domination rather than emancipation, says, for (his) writing to be readable one has

⁸⁸ Deleuze and Guattari, *A Thousand Plateaus*, 3.

to read as a cow.⁸⁹ Another way to escape formalizations and to discover and acquire fresh experiences and sensations could be to write as a vegetable. Perhaps, one might point out, that to transfer a plant into the realm of human language — to request “a grammatical structure [...] of old vegetables”⁹⁰ might be the first attempt to capture and to codify their affects, so that they simply become another ‘mind’ following the stream of consciousness. Yet, one might also sense that the organic structure of plants does not fully supply the means to follow a grammatical order, but still desires expansions like light does, and abstractions like language does. Being accused of anthropomorphism, and becoming fearless against the very same accusation, is part of the adventure. To write as a plant does not entail a rejection of human language as a unique system of abstractions and detailed expressions, and yet to write as a plant cannot be reduced to just a metaphorical expression or vision. To write as a plant blurs the distinction between thinking and being. Writing as a plant, touches on verbal and nonverbal, animal and vegetal communication processes, it is to sense knowledge of the hidden and invisible, to appropriate language and to alter its powers and to reorganize it as an old vegetable. To write as a plant is to take the risk of being accused of appropriation of other’s viewpoints.

One might completely lose touch with the reader, while drilling out an opening, reaching for an exterior — not in order to gain scientific truth, transcendence or essential communication, but to destabilize the anthropocentric grounds of knowledge production through different linguistic constructions. It is a way of reading of nonhierarchical, indivisible, intensive difference without disappearing into homogeneity. It is written material that never fully corresponds with thought. It is made for experimenters with limited experiences.

Not all signs are bound to the symbolic context, as in the case of language. To write as a plant, provides the possibility to feel, think and to sense signs outside the symbolic setting. Signs of empathy, for example, can be felt without words. Like empathy, while less dramatic, affection, perception and sensation are processes of surpassing, blurring the line between the ‘self’ and the ‘other.’ Touch sensitive and fast folding mimosas with their excitable tissue clarify that plants are neither static nor fixed (not to forget the constant movement of circulating materials within a plant). To write as a plant is to fabricate zigzagging escape lines, to develop a chemical electrical awareness and photochromic molecules. To write as a plant is to touch the circumambient, but neither in chaos, nor in order, more like a flying seedling anticipating the landing.

⁸⁹ “[U]nd darum hat es noch Zeit bis zur ‘Lesbarkeit’ meiner Schriften — zu dem man beinahe Kuh und jedenfalls nicht ‘moderner Mensch’ sein muss” “[I]t will require still more time before my writings are ‘readable’ — something for which one almost needs to be a cow, at any rate not a ‘modern man’” Friedrich Wilhelm Nietzsche, *Jenseits von Gut und Böse. Zur Genealogie der Moral — Eine Streitschrift* (München: Deutscher Taschenbuch Verlag) 1887.

⁹⁰ Chaos Communication Congress, “The Manifesto Antropófago,” http://events.ccc.de/congress/2009/Fahrplan/attachments/1386_cannibalmanifesto1928.pdf

It suggests to inhale carbon and to taste decay, to twine encircling and unloosing in all directions without losing focus. To write as a plant is to fill the air and earth with new and old desires: desire for light, desire for water, desire for movement and stagnancy, desire to reach beyond one's own species, desire for intoxication and delirious thinking. Not, in order to transcend, but to kill and eat the dead — to think death outside of culture.

Taking aside about 650 carnivorous plants populating the planet, of which some eat only certain insects, while sparing others, plants are “primary producers”⁹¹ Manuel De Landa calls to attention. Most plants produce their own food, and on top of that, feed the entire animal kingdom with their cuisine of sunbeams and earthly materials. Each vegetable is a singular, unique and active organism. Possessing fifteen to twenty unmistakable senses or modes of awareness, including five homologous to those of humans. In a systematic language, plant perception and communication involves “nucleic acids, oligonucleotides, proteins and peptides, minerals, oxidative signals, gases, hydraulic and other mechanical signals, electrical signals, lipids, wall fragments (oligosaccharides), growth regulators, some amino acids, secondary products of many kinds, minerals and simple sugars,”⁹² as the environmental physiologist Anthony Trewavas enumerates.

One expressive capability of plants is to anticipate what lies ahead. The subsurface truffle produces a scent that attracts pigs to search for them to eat. When excreted after digesting the seeds get spread over large distances with fecal matter as fertilizer. Medication and healing practices are other capabilities of plants. Wheat seedlings and apple trees, when swarmed by too many insects, respond in a mode of medication. Plants can recognize what kind of animal or insect is chewing them by the type of saliva. Developing a second metabolism they emit compounds, which are not directly involved in the growth or reproduction of the plant. Under the influence of bacteria or fungus, some plants emit fragrances, essential oils or detergent substances. In the case of pathogens sneaking into their cells, they can react with a “deliberate cell suicide,”⁹³ as the molecular biologists Freeman and Beattie phrase it, developing enzymes, proteins, toxic chemicals to heal or rid of their affected parts. Plants also act collectively. African Umbrella Thorn or acacia trees are not only well protected by their thorns, they are able to warn each other with a messenger substance as soon as an animal is approaching that might want to eat their leaves. First they fill their leaves with distasteful toxic tannin, that renders the foliage inedible, thereby repelling the

⁹¹ Manuel De Landa, *A thousand years of nonlinear history* (New York: Zone Books, 1997), 105.

⁹² Anthony Trewavas, “Aspects of Plant Intelligence in Annals of Botany,” in *Oxford Journal* 92 (2003), 15.

⁹³ Freeman, B.C. and G.A. Beattie, “An Overview of Plant Defenses against Pathogens and Herbivores,” *The Plant Health Instructor* (2008), doi: 10.1094/PHI-I-2008-0226-01.

animal. Then they release ethylene gas from their leaves, which other acacias within fifty meters are able to perceive and to begin with the same process. Some plants emit sharp crystals when gnawed at by animals, others smell attractive to make friends. Beside chemical substances plants also employ a mechanical and an electrical vocabulary for communication and expression. The roots of maize make regular clicking sounds to interact with other plants, as much as they react to their own sounds.⁹⁴ The *Desmodium gyrans*, or Semaphore Telegraph Plant is sound sensitive and grows when exposed to sound. Not only 'hearing,' but also 'seeing' and the production of 'images' is a property of plants, the orchid forms an image, a tracing of a wasp, or a bee, or a frog, or a fly, or a spider, or a lizard or a monkey. There are different displays for different spectators, rather than just one specific user. The befriending relationship with the wasp is not only an example for trans-species becomings and production beyond filiation (there will never be an orchid-wasp offspring), it also makes clear that plants are equally creative in perceiving, memorizing and producing, not only colors, smells and ornaments, but also complex abstractions like images and knowledge. Knowledge of one's own preservation and how to avoid pain for example. The genome of rice is found to hold double the amount of genetic information than human DNA, and if to compare, it has travelled much further than us on its journey of preserving its own continuum on the planet. Traversing life and death by self-reproduction some *Kings tasmanica* or *Lomatia tasmanica* plants, have lived at least forty-three thousand years, and can exist up to one hundred and thirty-five thousand years. In some cases fossilized wood from the same tree can be found up to eight kilometers away from the current tree position.⁹⁵ Today the plant is critically endangered because of the intense deforestation with less than five hundred remaining wild plants that grow in a tiny pocket of Tasmania's fragmented forests.

Following closely the work of Charles Darwin, a group of neurobiologists affiliated with *The Society of Plant Signaling and Behavior*,⁹⁶ claim that plant practices cannot be solely understood by genetical, chemical or mechanical explanations. According to them the root system of plants bears structural and molecular similarities to the nervous system of animals. Homologous to animals, root cells exchange chemical and electrical neurotransmitter-like messengers for signaling and process synapse connections that produce circles, which make memories and perception in animals possible (and sometimes caught in loops). Even

⁹⁴ Monica Gagliano et al., "Toward understanding plant bioacoustics," *Trends Plant Science* 17 (2012), doi: <http://dx.doi.org/10.1016/j.tplants.2012.03.002>

⁹⁵ J. J. Lynch, R. W. Barnes, J. Cambecèdes and R. E. Vaillancourt, "Genetic Evidence that *Lomatia tasmanica* (Proteaceae) Is an Ancient Clone," in *Australian Journal of Botany* 46 (1998).

⁹⁶ Among them are Eric D. Brenner, a plant molecular biologist, Stefano Mancuso, a plant physiologist, František Baluška, a cell biologist and Elizabeth Van Volkenburgh a plant biologist.

though the scientists confront the order of conservative biology, their approach holds on to a centralizing model of organization and becomes limited when being confronted with the bearings of plants that have no roots. Some nearly anchorless, while non-parasitic plants perform their affects and percepts, sense their environment without making use of roots.

Plant sciences and sociobiology strongly shape our perception of plant, human and animal relations. Most often their depictions use reductionist and hierarchical terminologies, following deterministic models that objectify animal and plant capacities and practices as purely behavioral functions of reproduction and defense. A critique of conservative evolutionary biology would be relevant, but cannot be provided here in a satisfying manner. To write as a plant is to ask what a plant can do. It is an attempt to remove plants from the grip of classifications, the struggle for reproduction and attack and defense techniques. It is an attempt at understanding perception and sensation across species so that not only plants but also humans can evolve from the isolation of their 'species.' In order to comprehend practices of ecology differently one needs to move away from biology's comparative and competitive terminology and to imagine alternatives. Gilles Deleuze and Félix Guattari call for a contagious "involution,"⁹⁷ beyond filiation, an "anti-genealogy,"⁹⁸ in which infectious viruses cause humans, animals and plants to interact. Becoming intimately involved with vegetables, the camera in *Shape Shifting* does not mean to merely mimic an insect or an animal. Being touched by the alluring perfume of plume flowers or the magnificent violet emitted by a chard plant means to be captured by the affinity, or by molecular particles that connect all of us anyhow. Adapting or merging with an environment and its forces is not merely an adjustment to a dominating space, but rather an expressive capacity that can become a color, a song, a dance, a film or a sound installation marked by transversal interactions.

In his writing *Creative Evolution*, Henri Bergson undermines the separation of plants and animals, stating that; "there is no single characteristic of plant life that cannot be found again in a certain degree in some animals, no characteristic feature of animalness, which could not be observed in certain kinds, or at certain moments, in the plant kingdom,"⁹⁹ thus gently declaring the division of animals and plants as being artificial. To write as a plant is to speak in green tongues, to make thinking more permeable, to sense the relationship between thinking and ecology, between language and natural systems — in a manner of speaking by emitting fragrance. To write as a plant is to call for a

⁹⁷ Deleuze and Guattari, *A Thousand Plateaus*, 273.

⁹⁸ *Ibid.*, 11.

⁹⁹ Bergson, *Creative Evolution*, 107.

contagious and creative reproduction beyond filiation. To write as a plant is to understand decomposition as a component of production. To film as a plant is to grow visual organs, to sense a brilliant range of colors, to follow all degrees of light and shadow and to memorize them. To become a plant is to generate color images with your skin.

Animals

While it is important to challenge simplifications made by science, it is also crucial not to get involved in a fixed critical position, (as critique often remains stiff in the same place as its point of criticism) but to start to invent and draw up yet unknown relations. There exists an altogether different and noteworthy web of impulses within newly emerging disciplines, such as multispecies ethnography and biosemiotics. These disciplines do not understand animal and plant genealogy as processes of functions, instincts and causalities brought about by environmental conditions, but rather attempt to connect these processes with entanglements, communication and language, in which the use of abstract signs or forms of expression is acknowledged as an overall capacity of nature to cross species (or culture) boundaries.¹⁰⁰ The findings and reinterpretations are overwhelming and are likely to increase further. Birdsongs have been studied extensively and other species have followed. The Panamanian golden frog converses by waving hands.¹⁰¹ Squids and cuttlefish dance and sing silently by changing colors and pattern.¹⁰² Whales compose songs, whistle in dialects, use consistent and defined vocal patterns.¹⁰³ Dolphins transmit information in their songs that specifically identify other dolphins, discussing gender, age and locations,¹⁰⁴ whereas guenons (a tree-dwelling African monkey) converse by word sequences with a syntax.¹⁰⁵ Animals express themselves with complex sequences of sound, language and syntax. Always aiming to reserve a special place for the human, here sociobiology normally raises the objection that humans are the sole producer of meta-levels of signs such as representation and abstraction. Taking up this thought Gilles Deleuze responds with the question, “[w]hat is more abstract than a rhythm?”¹⁰⁶ Rhythm, besides its quality

¹⁰⁰ Great work in this direction has been done by Carla Hustak and Natasha Myers, “Involuntary Momentum: Affective Ecologies and the Sciences of Plant/Insect Encounters,” *d i f f e r e n c e s: A Journal of Feminist Cultural Studies* 23, doi: 10.1215/10407391-1892907

¹⁰¹ Rana Dorada, “Atelopus zeteki – The Golden Frog,” *Leaf Litter Magazine* 3.1. <http://www.treewalkers.org/leaf-litter-magazine/>

¹⁰² Robert Nordsieck, “Cephalopods,” <http://www.molluscs.at/cephalopoda/index.html?/cephalopoda/main.html>

¹⁰³ Scott Norris, “Creatures of Culture? Making the Case for Cultural Systems in Whales and Dolphins,” *BioScience* 52 (2002).

¹⁰⁴ Nicola J. Quick and Vincent M. Janik, “Bottlenose dolphins exchange signature whistles when meeting at sea,” *Proceedings* 279 (2012).

¹⁰⁵ “Primate Studies 3, Behaviors,” Larry J. Zimmerman, <http://www.iupui.edu/~mstd/a103/primate%20lecture%203.html>

¹⁰⁶ Deleuze Lectures, “On Kant, Synthesis and Time,” <http://deleuzelectures.blogspot.se/2007/02/on-kant.html>

as a musical element, is a relation between different speeds, a throbbing inside a cell, or a block of swinging molecules. There are both extremely long vibrations (cosmos) and extremely short shivers (fruit fly) of rhythms. While rhythm is not necessarily musical, all rhythm is music. It is passive ordering and active forgetting that makes it possible. It is a creative production, that includes repetition, and yet, the rhythm is not generated by repetition, "it is the difference that is rhythmic,"¹⁰⁷ emphasizes Deleuze. Rhythm, is an abstract meta-communication, as it makes the passage between two differences, two heterogeneous milieus possible. In his recent book *What Animals Teach Us about Politics* Brian Massumi argues (following Gregory Bateson) that humans usually think of meta-communication and abstraction as a complication which must, in an evolutionary order, follow after descriptive communication. Massumi suggests thinking it the other way around, describing animal play as a form of abstraction and meta-communication. He proposes that the animal "performs an abstraction on its action"¹⁰⁸ when probing the reactions of its playmate. Massumi takes the example of wolves,¹⁰⁹ the wolf he states, reflects the intercommunication on a meta-level when signaling that its action is not 'real,' that its bite is not a 'real' bite but only suggests a 'real' bite. Thus, carrying or persuading playmates into the realm of imagination, while performing an action, animals generate and encode signs and meta-signs attributed with abstraction.

For Bergson the difference between plants, human animals and not-so-human animals are gradual or by degrees, rather than concerning kind. It is interesting to look at his reassessment of the biological attributions of 'instinct' and 'intellect,' designed to separate animals from humans. Bergson doesn't accept teleological approaches within evolutionary biology that suggest a development towards a final destination where intellect prevails over instinct. Rejecting the understanding of instinct as a mere stimulus-response mechanism versus intellect as an imaginative and conscious learning experience, Bergson declares that both instinct and intellect have their own modes of operation. Equivalent, while altogether different in structure and kind, instinct and intellect are always already amalgamated and constantly present in both human animals and nonhuman animals, "[t]here is no intelligence in which some traces of instinct are not to be discovered, more especially no instinct that is not surrounded with a fringe of intelligence."¹¹⁰ Intellect and instinct are complementing each other precisely because they are different. They are both innate creative capabilities, producing qualitative additions or even abundances, apart from the required. Or as Jussi Parikka notes, "instinct

¹⁰⁷ Deleuze and Guattari, *A Thousand Plateaus*, 314.

¹⁰⁸ Brian Massumi, *What Animals Teach Us about Politics* (Durham and London: Duke University Press, 2014), 5.

¹⁰⁹ Yet, spiders, lice, ants and frogs would need a different description.

¹¹⁰ Bergson, *Creative Evolution*, 136.

provides a good grounding for an understanding of technics of nature where technology is not just tied to the genesis of the human being.”¹¹¹

Anthropology and material culture studies brought about an understanding of technology (the knowledge of things and processes) as an exclusively human property and ability (serving as frontiers against the nonhuman and sometimes against the human other). Currently some anthropologists and ethologists challenge this enclosure by stating that the use of technology is common to the entire animal kingdom. An impressive number of findings demonstrate that animals rely on and play with inorganic objects, or things just as human animals: Chimpanzees use stones and sticks for hunting, gathering, fishing and processing nuts, fruits, vegetables, and seeds.¹¹² Gorillas use sticks to test water depth and as walking canes.¹¹³ Orangutans use leaves as napkins, seat cushions and to make squeaky kiss noises.¹¹⁴ Bonobos mainly use things to clean themselves, to hide from rain or sun and for social purposes.¹¹⁵ Crabs use things to dress up and disguise themselves. Dolphins use sponges to protect their beak when searching the sea bottom.¹¹⁶ Some fishes and sea otters use stones to open clams.¹¹⁷ Octopuses open containers and use coconut shells for shelter.¹¹⁸ Whales produce bubble nets for fishing.¹¹⁹ Nearly all birds make and bolster nests by knocking, weaving, sewing, stitching, stringing, felting or matting materials. To incubate their eggs brush turkeys build compost heaps as a source of heat, engendered by fermentation.¹²⁰ New Caledonian crows use tools to make other tools.¹²¹ Animals in captivity, such as farm and zoo animals, as well as pets, use things to free themselves from imprisonment or as weapons against caretakers and

¹¹¹ Jussi Parikka, “Insect Technics: Intensities of Animal Bodies,” in *An [Un]likely Alliance: Thinking Environment[s] with Deleuze/Guattari*, ed. by Bernd Herzogenrath (Newcastle: Cambridge Scholars Publishing, 2008), 342.

¹¹² Christophe Boesch and Hedwige Boesch, “Tool Use and Tool Making in Wild Chimpanzees,” *Folia Primatologica, International Journal of Primatology* 54 (1990).

¹¹³ Thomas Breuer, Mireille Ndooundou-Hockemba and Vicki Fishlock, “First Observation of Tool Use in Wild Gorillas,” in *PLoS Biology* 3 (2005).

¹¹⁴ C. Schaik, E. Fox, and A. Sitompul, “Manufacture and use of tools in wild Sumatran orangutans,” in *Naturwissenschaften* 83 (1996).

¹¹⁵ Takechi Furuichi, et al., “Why do wild bonobos not use tools like chimpanzees do?,” *Behaviour* 152, (2014), DOI: 10.1163/1568539X-00003226

¹¹⁶ Animals were often used in warfare, pigs and pigeons, bats and cats. The US military still invests interest in animal communication, until today particularly dolphins are studied and trained to detect and mark mines, to guide and to carry cameras as underwater surveillance-drones. For further information please see Wikipedia, “Military animal,” http://en.wikipedia.org/wiki/Military_animal

¹¹⁷ K. R. L. Hall and B. Schaller, “Tool-using behaviour of the California sea otter,” *Journal of Mammalogy* 45 (1964), 287.

¹¹⁸ Roland C. Anderson, Jennifer A. Mather and James B. Wood, *Octopus: The Ocean's Intelligent Invertebrate*, (London: Timber Press, 2010), 184.

¹¹⁹ Alaska Fisheries Science Center National Marine, “Mammal Laboratory,” <http://www.afsc.noaa.gov/nmml/education/cetaceans/humpback.php>

¹²⁰ “Australian brush turkey,” Office of Environment and Heritage, last modified September 18, 2015. <http://www.environment.nsw.gov.au/animals/australianbrushturkey.htm>

¹²¹ Alex H. Taylor, Gavin R. Hunt, Jennifer C. Holzhaider and Russell D. Gray, “Spontaneous Metatool Use by New Caledonian Crows,” *Current Biology* 17 (2007).

researchers. Animals use objects, external to their bodies, not just in a mechanistic or deterministic manner, but to improvise, play, communicate, de- and reterritorialize — and for abstraction.

Moreover, individual animals prefer to use and manufacture things in different ways, such as orangutans who use leaves as napkins, while others use them to make sounds. There are different applications and techniques among specific groups and individuals. Sometimes different practices might be determined by ecological or geographical factors, sometimes by the desire to refine food, sometimes by the urge to learn something new (combined with persistence and chance), sometimes by pure thought and imagination. Certainly the relation and interaction with the environment plays a crucial, even existential role in the development of diversity among human and nonhuman animals. Yet, it seems inadequate and poor to describe the complexities of animal practices as mere ‘adaptation,’ as long as adaptation is not considered a creative capacity. Focusing on group related learning practices as cultural diversities in different tropical geographies ranging from Uganda to Guinea, the primatologist Christophe Boesch highlighted in a recent lecture that by describing attitudes and practices, that is the personality, of a chimpanzee, one can determine from which area she is coming from.¹²² He stresses that it is impossible to study animal culture from animals in captivity — one has to study culture in the wild. Even though the animals might use tools, they neither collaborate, learn from each other, share food nor help and care for one another as animals living in the wild do.¹²³ In the 1950s Kinji Imanishi and his colleagues were the first ecologists to describe cultural transmission of primates as a social learning system. Since worshipping various animals and plants for their spiritual power is part of Japanese culture, it might have been less difficult for Japanese scientists to bridge the gap between nature and culture or human and animal. Three years later Imanishi’s assumption was confirmed by Satsue Mito, a local farmer on the island of Kōjima. As usual, Mito brought sweet potatoes to a population of macaques monkeys (called *Nihonzaru* in Japanese) who lived on the beach. She observed how a female macaques introduced the practice of rinsing and seasoning the sweet potatoes. Instead of merely brushing off the sand grains, she dipped the potato in seawater, coating it with an extra layer of salt. Inventing a new diet. This was also noticed by younger playmates, who quickly learned the method though play and taught the other macaques to dip even clean food into salty water.

Animals learn and teach by play, they invent and make conscious decisions regarding technologies, for example using therapeutic or prophylactic treatment for medication and healing. Wood ants and

¹²² Christophe Boesch, “Is Culture a Golden Barrier Between Human and Chimpanzee?” (paper presented at the *Ape Culture* conference, Berlin, April 30, 2015).

¹²³ Boesch, “Is Culture a Golden Barrier Between Human and Chimpanzee?”

honeybees incorporate antimicrobial resin from conifers into their anthills or beehives, respectively, preventing microbial growth, while woolly bear caterpillars eat plants that contain alkaloids to prevent parasites. Zanzibar red colobus monkeys collect charcoal against stomach ache.¹²⁴ Animals not only use well-tired materials, some invent new preventive practices, such as sparrows that apply cigarette butts soaked with nicotine in their nests to minimize mites.¹²⁵ Some animals practice a preventive medicine that profits the next generation, as for example parasite-infected monarch butterflies lay their eggs in plants with anti-parasitic properties such as toxic milkweeds.¹²⁶ It shows that use of technology and tools is an expressive and creative ability, that is not bounded to a specifically human intellect or imagination.

Disciplinary science has long been legitimizing human rule by dividing nature from culture, claiming that only humans have culture. The current attempt by some primatologists to redefine the border by including the great apes into the realm of culture concerns just a few. One wonders what animals, collectively and singularly, say about the invitation of some of them into the long forbidden zone? They may respond with a gentle: we would prefer not to, passively resisting like Meville's *Bartleby*?¹²⁷ Or actively campaigning with a "Not In Our Name!"¹²⁸ What are the conditions for this inclusion? Is it really worth the effort? Does the admission depend on brain size and the ability to memorize, like the brain-centered versions of evolutionary biology continue to make believe? First it was the great apes, but the 'lower' animals might follow suit? This reminds one too of colonial and patriarchal missions of civilization. Different from inclusions already practiced by the animal on the micropolitical level, such a macropolitical inclusion mainly works as assimilation and incorporation. More adequate calls come from a political theory such as Elizabeth Grosz for example, who simply proposes to relocate "man back within the animal, within nature, and within a space and time that man does not regulate, understand, or control."¹²⁹ Another suggestion comes from Christoph Brunner, who states that "the concept of nature needs to be included into every domain of existence, marking a decisive phase common to all existence."¹³⁰ Brian Massumi's describes his approach as, "replacing the

¹²⁴ Thomas T. Struhsaker, David O. Cooney and Kirstin S. Siex, "Charcoal Consumption by Zanzibar Red Colobus Monkeys: Its Function and Its Ecological and Demographic Consequences," *International Journal of Primatology* 18 (1997).

¹²⁵ Jacobus C. de Roode, Thierry Lefèvre and Mark D. Hunter, "Self-Medication in Animals," *Science* 340 (2013), 150.

¹²⁶ *Ibid.*, 151.

¹²⁷ Herman Meville, "Bartleby, the Scrivener: A Story of Wall-Street," in *Putnam's Monthly. A Magazine of Literature, Science, and Art* 2 (1853).

¹²⁸ "Not in our name will you wage endless war," was a protest confronting the imperial war policy of the Bush Administration in 2002.

¹²⁹ Elizabeth Grosz, *becoming undone* (Durham and London: Duke University Press, 2011), 25.

¹³⁰ Christoph Brunner, "Territories of Transvaluation," in *Shape Shifting*, ed. by Elke Marhöfer and Mikhail Lylov (Berlin: Archive Books, 2015), 55.

human on the animal continuum,”¹³¹ a project, he underlines, that still keeps differences. When freed from the prerequisites and dominant definitions of biology, and anthropocentric philosophy it becomes apparent that not only humans, but as well animals and plants possess countless ways of expressing and transforming themselves and the world’s materialities. Humans, animals, plants and matter are all equally entangled in a shared *expressive continuum*. To take nature (whether natural or artificial) as an immanent territory for creative actualization seriously makes room for unforeseen opportunities for maneuver, for both, for animals and for humans.

Things

If to engage with the materiality of the world, the relation between humans and things is a crucial condition, and not a given one. In order to understand practices of ecology (not only from an organic perspective) one has to approach and perceive relations from a thing’s or an object’s point of view, which is to ask what things are able do?¹³² When considering relational practices, tools or blocks of technologies exist in combination with what makes them possible. Connecting the organic and the inorganic in an interspecies liaison, tools cannot be treated separately from symbioses or other combinations “defining a Nature-Society machinic assemblage.”¹³³ Neither a purely man-made cultural or technical device, nor something that we dominate and objectify, or what dominates or enslaves us. Jussi Parikka describes tools as: “an intensive force in environment relations,”¹³⁴ by which one builds connections and transversal alliances. The question is not how advanced or elaborated any tools are, indicating different degrees of development, civilization or distinction between human and nonhuman, but to understand them as a common and powerful ecological force. Amalgamations with the environment, which constantly generate new tools, new techniques, animating and activating the world. With such an approach a film camera becomes a tool-less tool that might be different from animal tools, but which cannot be qualitatively judged or separated. The camera as an extension of already existing forces within an

¹³¹ Massumi, *What Animals Teach Us about Politics*, 3.

¹³² I do not adopt Heidegger’s distinction between things or objects, where one is positive (object) and the other one negative (thing). In order to avoid hierarchization I use them alternately. Bruno Latour (1999) introduced one approach to understanding inorganic materials and things independently from use value and function ascribed to them by humans. Latour focuses on agency and how objects act in and on their environment, exploring how things together with humans form actor-network relations on the micro and macro levels. Manuel De Landa (1997) describes things and matter as an accumulation of different energies pushing forward the reading of history. Consequently history derives from capacities that lie within matter itself rather than originating from a human desire for progress. Ethnology, anthropology and material culture studies provide further inputs. Some anthropologists, such as Amiria Henare, Martin Holbraad and Sari Wastell (2007) are searching for a rationale that helps to break with the dichotomies between things and people established by theoretical languages. The anthropologist’s approach is primarily methodological, reviewing the findings of other anthropologists.

¹³³ Deleuze and Guattari, *A Thousand Plateaus*, 90.

¹³⁴ Parikka, “Insect Technics: Intensities of Animal Bodies,” 344.

environment, turns out to be primarily a capacity and practice of ecology.

Describing machinic relations or alliances with the environment, Deleuze and Guattari come up with the seductive phrase of “machinic phylum.”¹³⁵ Unlike the biological term of animal or plant phylum, the machinic phylum decodes kingdoms, classes, orders, families and crosses them diagonally. The machinic phylum is both natural and artificial, a “destratifying transversality.”¹³⁶ It folds, unfolds, re-folds organic and machinic matter into one another, creating a synthesis of heterogeneities, new inhuman composites, sensual material forces mutually transgressing and influencing one another. The machinic phylum does not follow a certain direction or causal chain, as evolutionary biology suggests in the case of plant or animal phyla, and as material culture describes an evolution of machines from stones to smartphones. Instead the machinic phyla “reverses causalities”¹³⁷ and builds new appearances through random movements, but nevertheless completely synchronized with the environment. Considering this deep technological and ecological entanglement, evolution becomes a mutual breaking of habits.¹³⁸

Within this arrangement of relations, one cannot disregard the body. The body is a tool consisting of other tools, such as eyes, feathers, ears, claws, wings, teeth and feet. Or rather, it is a perfectly nonfunctional tool (the best tool to forget about tools) that enters and co-composes the machinic phylum. As an “objective zone of the indiscernible,”¹³⁹ the body accesses abstract and actual forces, from biological and machinic rhythms provided by the surrounding. Henri Bergson declares, “[m]y body is in the aggregate of the material world, an image which acts like other images, receiving and giving back movement,”¹⁴⁰ bypassing the body by highlighting its material, virtual and affective components and capacities: an intimate but permeable affection in motion, a matter among matter, an image among images, an affect among affects, a movement among movements. Even when doing nothing, it is influenced by molecular shape shiftings that are neither countable nor definable, enfolding and unfolding matter into a body (images into a dream). Fuzzy territories touch upon molecular perception, keeping it continuously unclear where exactly the ‘I’ and the ‘abstract machine’ start. The body (as well as the tool) is a “misnomer”¹⁴¹ Erin Manning

¹³⁵ Deleuze and Guattari, *A Thousand Plateaus*, 335.

¹³⁶ *Ibid.*, 335.

¹³⁷ *Ibid.*, *A Thousand Plateaus*, 335.

¹³⁸ I will return to this thought in the next section on *Chaos*.

¹³⁹ “Lectures by Gilles Deleuze,” <http://deleuzelectures.blogspot.de/2007/02/body-meat-and-spirit-becoming-animal.html>

¹⁴⁰ Henri Bergson, *Matter and Memory* (New York: Zone Books, 1991), 19.

¹⁴¹ Erin Manning, *Always More Than One: Individuation's Dance* (Duke, 2013), 19.

argues, it is rather

an ecology of processes (and practices, as Isabelle Stengers might say) always in co-constellation with the environmentality of which it is part. A body is a complex activated through phases in collision and collusion, phasings in and out of processes of individuation that are transformed — transduced — to create new iterations not of what a body is but of what a body can do. What we tend to call 'body' and what is experienced as the wholeness of a form is simply one remarkable point, one instance of a collusion materializing as this or that.¹⁴²

The hand provides the most explicit idea of what a body can do. It is the body's most inhuman, or more-than-human part (besides the mouth), it is the most machinic and functional tool. The hand (or ex-paw) is deterritorialized by the environment and reterritorialized by the camera, but as much as the hand becomes machinic — the camera becomes organic, it is an extension of the body recording the surrounding on film. Both, the body and the camera are sensing and generating images, following very different movements.

Film, based in the middle of the animate and the inanimate, magnifies on-going processes and forces and puts itself in relation to them. Understanding the world as an immediacy, rather than a still life to contemplate similar to Dziga Vertov's *Kino-glaz* (Cine-Eye), turns filming into an extremely lively endeavour as it accounts for change and alteration. The camera, for example is undoubtedly a moving body with expressive capacities, formed by the entanglement of the different rhythmic worlds, rather than just cultural and technical equipment. It maintains a state of constant change and becoming with the surroundings. It creates human and nonhuman assemblages. Continually shifting in and out of focus, the camera cannot be easily stratified into one aesthetic, one time, one color grading, or one pace. It activates heterogenous sensations of colors, lights, landscapes and so forth, when meeting and imprinting themselves in the film material. The camera is self-designing, it breathes and never keeps one movement or one affect throughout, but each affect and each movement, each bending of my mind is turning into an actual movement recorded by the camera. Producing symbiotic sensibilities in motion, the camera turns into a machinic companion.

The sound, with its rhythmic worlds enhances affects produced by the images and helps us to slide from one bloc of affect to the next. Even though the images and the sounds are always recorded together *in situ*, they nevertheless resist homogeneity. Sometimes they connect sometimes they do not. Following their very own speeds, they run in and out of synchronization, yet always actualizing. Chanting chickens,

¹⁴² Ibid.

bumblebees, rain drops, bamboo leaves and electro trains, each is part of a polyvocality, providing the inhuman abstract rhythm for continues movement.

Virtual Instincts

The three films (individually and as a whole) raise the question, whether correspondences and entanglements with landscape, animal and vegetable forms can be augmented by an affective audio visuality? Is it possible to connect with the world by gathering and extending existing affects and movements and change together with them? Film, touching one directly with no detours, might not only excite our senses, but reach us on a molecular level, bringing about enlivening images and new relations to grasp, similar to a plant-insect relationship in which affect and sensation are collectively charged. For an ecology of thinking and practice it is interesting to consider affects, not as a framework but rather a springboard to join forces among humans, plants, animals, things and matter, animated and inanimate. In the sphere of continental philosophy the ability to be affected, to connect and assemble with another body or thing is grounded in Spinoza's idea of immanence, where each thing is already embedded in another thing. There is something of fire contained in a tree that makes it possible for the tree to transform through fire. There are crystallizations of dogs in humans and chainsaws in birds. These crystallizations rely on the multiplicity of attributes (and their modes or thoughts) rather than on identity or substance,¹⁴³ instead of being locked in a single body they are contained in everything that exists. Deleuze (in line with Spinoza) insists on this univocality (or single matter) of all things and beings, for the reason that it does not classify and distinguish anything as either human or nonhuman.¹⁴⁴ Within this approach transcendental structures, such as taxonomies or categories, cease to apply. There is no being, mind or matter above or against any other. Deleuze declares, "[t]he rat and the man are in no way the same thing, but Being expresses them both in a single meaning, in a language that is no longer that of words, in within matter that is no longer that of forms, in an affectability that is no longer that of subjects,"¹⁴⁵ so that ontology is no longer concerned with bodies, their identities and representations but becomes fluidic. This mode of thought influences constructions of living and dead, involving signs and meaning in such way that they become inextricably

¹⁴³ To Spinoza this would be God, as the one, but infinite substance: "God, or substance, consisting of infinite attributes, of which each expresses eternal and infinite essentiality, necessarily exists." Benedict de Spinoza, *The Ethics*, <http://www.gutenberg.org/files/3800/3800-h/3800-h.htm>

¹⁴⁴ "Univocal being is precisely what Spinoza defines as being the substance having all attributes equal, having all things as modes. The modes of substance are beings [l'étant]. The absolutely infinite substance is Being as Being," "Lectures by Gilles Deleuze," <http://deleuzelectures.blogspot.de/2007/02/body-meat-and-spirit-becoming-animal.html>

¹⁴⁵ Deleuze and Guattari, *A Thousand Plateaus*, 258.

connected. Matter, plant, animal, and human they all bear the same name and express themselves in the same manner. Real qualitative difference can only be ascribed when focusing on affects as the broadest possible sensibilities, but yet this difference does not imply a ranking. Deleuze imagines a composite of affects where classifications fall into oblivion and, as he states, “beings will be defined by their *capacity for being affected*, by the affections of which they are capable, the excitations to which they react, those by which they are unaffected, and those which exceed their capacity and make them ill or cause them to die.”¹⁴⁶ An organization by force, power, capacity or faculty cannot be methodical or systematic, but singular and various, since all objects differ from each other and do not entertain one specific identity. All are individual and unique singularities and every encounter multiplies their difference, yet, they share a capacity to affect one another beyond species boundaries. The affect that a cat has on chili, a film or a person might differ from the affect a film has on a cat, chili or a person, every encounter multiplies their differences so that cats, people, films and chili become different in themselves.

It is important to distill affects from emotions. Emotions or feelings allow for conscious interpretations and alterations. They belong to an individual body. Affects, on the contrary, relate to a multiplicity of bodies. They can be understood as pervasive, yet untellable and unspeakable forces. Similarly abstract as the unconsciousness, affects remain unformed and unstructured. Sinking like quicksand they inhabit an integral part of the body tissue, not only the nervous (or nervous-like) system, but even the genetic code and other structures, passing through unreachable and uncontrollable in their effects.¹⁴⁷ Affects can grow into something quite awkward and messy, and yet what makes them so attractive (and less fearsome) is that they are shared by all beings and things, since matter also operates through affects, be it of chemical, physical, cellular or molecular nature. All things and beings affect, interact, perceive and experience one another, even though it might be unknown why they do. “*Affects are precisely these nonhuman becomings of man*,”¹⁴⁸ Deleuze accentuates, forming lived passages to empower mutations and perfections from one degree to another, from one quality to the next; empowering the blossoming of nonhuman properties, expanding into the plasticity, earthy, spicy, tinny, ticky, crystalline, vegetably, catty, stony or woody. Brian Massumi outlines the building of passages of affects as “transitions”¹⁴⁹ — not from one point to another, but as an inhabiting transformation where the body coincides

¹⁴⁶ Deleuze, *Spinoza: Practical Philosophy*, 45-46, emphasis in original.

¹⁴⁷ “Affects are no longer feelings or affections; they go beyond the strength of those who undergo them.” Deleuze and Guattari, *What is Philosophy?*, 164.

¹⁴⁸ Deleuze and Guattari, *What is Philosophy?*, 169, emphasis in original.

¹⁴⁹ Brian Massumi, *Parables for the Virtual* (Durham & London: Duke University Press, 2002), 15.

with the passage.

Deleuze and Guattari further develop Spinoza's theory of affects and connect it with the concepts of perception and sensation. Just as affects are bound to modes of lived experiences (which have to be gathered out in the world), percepts are closely bound to materiality, they cannot realize themselves without the intervention of material — paint, grain, celluloid, plants, stones, vocals, plastic cups and landscapes. Perception is nothing without affection, only when it enters into a compound with affects (when it encounters the world) it slows down and elevates itself from mere perception and becomes a self-expressive property or percept.¹⁵⁰ For Deleuze art is to enforce this process of shaping percepts into sensitive properties. In this view it becomes tangible how art mobilizes, appropriates and employs affects and shapes percepts. It foregrounds paint, grain, plants, digital bits, vocals, plastic cups, and landscapes, so that they are not passive objects any longer to be shaped and perceived by the artist and the spectator, but that "[t]he landscape" is literally "*seeing*"¹⁵¹ and the plastic cup drinking. Objects are no longer objectified, like in the novel *Friday*. Understanding things, matter and their rhythms as self-expressive properties independent from artist and spectator does not equal an exclusion of the human being, but rather stands for her deep ecologization. "'To immerse oneself into the perception,' is to make duration and becoming accessible while it happens,"¹⁵² Maurizio Lazzarato spells out in his *Videophilosophie*.

xxx

The research is based on the welcoming and spreading affects and sensations, and the production of percepts, so that objects are no longer defined by their limits, but that limits turn into capacities. In this mode, affects and percepts do not have to be contrary to concepts. Each of the films work towards concepts of a particular type that are not rooted in words. Affects pass into concepts, and vice versa. What might be a concept for some could be an affect for others. Being an ecosystem themselves, every concept is a multiplicity that is linked to other existing concepts — knotty interconnections within a certain environment. Every concept mutates, evolves and entails a becoming. The concept of the *Body without Organs* developed by Deleuze and Guattari is something totally different in the *Anti-Oedipus* than in *A Thousand Plateaus*. Like affects, concepts travel from one field or discipline to the next. Some gather first to swarm out. Becoming concepts change their forms like a flock of birds or lightwaves. Some

¹⁵⁰ Deleuze and Guattari, *What is Philosophy?*, 164.

¹⁵¹ "Percepts are no longer perceptions; they are independent of a state of those who experience them." Deleuze and Guattari, *What is Philosophy?*, 169 emphasis in original.

¹⁵² "'Sich in Wahrnehmung zu versenken' macht Zeit, während sie sich ereignet, jenseits des Verstandes zugänglich;" Maurizio Lazzarato, *Videophilosophie, Zeitwahrnehmung im Postfordismus* (Berlin: b_books, 2002), 8.

concepts spread, while others do not. Concepts hold and create affects that can induce action. Concepts, as ideas, proper names, metaphors and abstractions become themselves materials imbued with virtual forces, with transforming powers, actively forming and directing relations and experiences. The use of concepts through which we understand and learn to read for example a landscape, actually changes the relation we entertain with it. John Protevi and Daniel Smith describe concepts as having “the same force as literary characters, with their own autonomy and style,”¹⁵³ creating new modes of sensations a new awareness. Concepts are lively creatures similar to art works, stones, tablets or pandas. They emerge through the encounter of blocks of problems, which make it possible for them to relate with each other, to become connective to other concepts, like art works, stones, tablets or pandas, creating a continuum.

* * *

It is difficult to deal with beginnings and endings of concepts, or with the troublesome forces entailed in affects, as much as it is difficult to determine sensation. As a compound of affects and percepts, sensation too crosses over very different scales and kinds. No matter how fine traces of dust or film grain, oscillating digital glitches can certainly become sensation — if filled with curiosity, sensation allows one to get as close as possible to matter and its affects. As Deleuze draws upon Bergson, sensation has to coincide, to become one with its object, he writes, “[s]ensation is not realized in the material without the material passing completely into the sensation, into percept or affect. All material becomes expressive.”¹⁵⁴ Just as percepts and affects, sensations “are *beings*”¹⁵⁵ whose validity exceeds life, inextricably connected to the self-fashioning components contained in the inorganic life of matter. To emphasize the materialness of sensation, Deleuze links it with contraction. The notion of contraction also helps not mistake sensation for reflection or contemplation, both internal observations. Sensation, as a mode of thinking that is not constrained to a cognitive human or animal, is in fact shared with matter and all beings — including vegetables: “a plant contemplates by contracting the elements from which it originates — light, carbon, and the salts — and it fills itself with colors and odors that in each case qualify its variety, its composition: it is sensation in itself.”¹⁵⁶ The sensation of a plant contracting the surrounding is perfectly comparable to the sensation of a film, coming into effect by contracting various materials: light, darkness, colors, sounds, shadows, silver halide crystals, silicon, digital ones and zeroes

¹⁵³ Stanford Encyclopedia of Philosophy. “Gilles Deleuze.” Protevi, John and Daniel Smith. <http://plato.stanford.edu/entries/deleuze/>

¹⁵⁴ Deleuze and Guattari, *What is Philosophy?*, 167.

¹⁵⁵ *Ibid.*, 164, emphasis in original.

¹⁵⁶ *Ibid.*, 212.

from different points in time and various environs. Filming, as a mode of sensation or sensibility, contracts and releases the differences it is composed of. In this way it links, entwines and draws connections between affects and concepts, interior and exterior, creating a continuity between the organic and inorganic, between the haptic and virtual. As a haptic vision, or a haptic or material gesture, a sound touching ear, sensation is forming endless virtual connections.

Deleuze's perspective on sensation and sensibility as the source of knowledge makes it particularly interesting for a research project in which art grows and develops from material practices and thoughts of ecology. Disseminated among thinking and perceiving, sensation is an instant realization of knowledge where "pure difference in intensity is grasped immediately"¹⁵⁷ as John Protevi and Daniel Smith make clear. Driven by creative forces of matter and the environment, it is close to species' knowledge, like that of the orchid-wasp-assemblage. Contracting affections transmitted by a vibrating wasp, the orchid materializes sensation and sensibility as an image, immediate and fragmented, but imbued a durational becoming. This knowledge is not stored, but folded and unfolded over eons or just for a day. It is a knowledge where affects of formed and unformed matter sink into a nervous-like system to be folded and unfolded again into the participating outside.

* * *

Sensation or relational knowledge transforms and affects the practitioner (the filmmaker). Deeply involved in the visual and material basis of animals, plants and matter and their nonhuman qualities, this mode of filming captures and fabulates without reference to a wider European art tradition and its forms of representation. It also doesn't follow a structuralist model of signification and interpretation, but instead replaces these models by affects and being affected in return. Turning to affects is intense, bewildering and slightly dangerous rather than a formal experiment. So why should one accept being exposed to them? What is the reason for conveying everything through images and sounds, or rather nuances of sounds, particles of color and light and minor gestures, instead of articulating accurate questions? Dismissing a plot, a causal or natural timeline, rejecting the enticements of a voice-over mastering or fracturing the subject, does this mode of filming actually support the current neoliberal regime that regularly exploits and sells affections? It might be risky to refuse to represent a critical approach and rather turn to affects and their modes that are difficult to control. One way to explain this is to give weight and have faith in Spinoza's dictum that *We do not know what a body can do*.¹⁵⁸ Deleuze

¹⁵⁷ John Protevi and Daniel Smith, "Gilles Deleuze," <http://plato.stanford.edu/entries/deleuze/>

¹⁵⁸ Gilles Deleuze, *Expressionism in Philosophy: Spinoza* (New York: Zone Books, 1990), 226.

strengthens and encourages this turn to “virtual instinct,”¹⁵⁹ when he spells out, “[w]e do not even know of what affections we are capable, nor the extent of our power,”¹⁶⁰ insisting on our capacities for change and transformation. To participate in the mutations and changes of matter, and in return allow matter to do the same with us, to alter our bodies (to become doggy, machinic, stony, earthy, rainy, crystalline, vegetably, or woody) facilitates an immediate recognition of differences and deepens our entanglements with the world — not dramatically as empathy does, but fearless as an ecology of belonging to a multiplicity. The mode of filming in this context entirely depends on and consists of mutations and transitions towards the doggy, rainy, vegetably and so forth. Deleuze and Guattari called the event of transition “haecceity,” after Duns Scotus. They speak of “[t]aking a walk is a haecceity,”¹⁶¹ meaning life and its continuing molecular movements. Taking a walk is to become a landscape. It excites the molecules of the body, initiates a connection between breath, pulse and the sounds, gestures and pulse of a city, a street, a forest or a desert. It helps to be attentive to the rhythm of a territory. Taking a walk is finding the conditions of production, as is to record movements. Relational movements, in which one perfect pre-personal individuation (independent from quality or function) interconnects with another, the camera with the hand, color with wasp, bits of sound with ears and shadows with eye, turning each individuation into a collectivity. Filming enacts itself as an immediate relation within a territory. Filming, is to become a haecceity, is both to dissolve the self into an event and to find form immanent to the situated action.

Colors and Light

“A quality functions only as a line of deterritorialization of an assemblage, or in going from one assemblage to another.”¹⁶² Colors, smells, sounds do not belong to bodies and things, but must be understood from their ability to move and to interconnect. They don’t belong to the body they inhabit but to one another, one leaning over to the next. Colors, like haecceities, are always in the middle, lacking clear beginnings or endings. Colors define transitional territories, each of which shares a border with a neighboring one. On the borders diffusion multiplies tones and shades. Once a new color appears, a new territory grows through the border. Often, changes can be described in colors. Circles of pale violet passed the lens, enhancing machinic eyes. In the speed of light violet turns crimson, then white, yellow and finally green, just to change

¹⁵⁹ Henri Bergson, *Les deux sources de la morale et de la religion* (Paris: Les Presses universitaires de France, 1948), 209.

¹⁶⁰ Gilles Deleuze, *Expressionism in Philosophy: Spinoza* (New York: Zone Books, 1990), 226.

¹⁶¹ Deleuze and Guattari, *A Thousand Plateaus*, 263.

¹⁶² *Ibid.*, 305/306.

all over again. Sprayed in mist, spider nets drop light puddles. The coarse yellow hairs on stems become glass-like fiber. A curled up flaxen inchworm mutates into a soft white pillow. Mosquitos buzz against the city's white noise. Perforated maize leaves wobbling back and forth generating colored shadows. Squeaking wipers hesitate on windshields. Roots growing down into the earth as deep as a house is high, touching and diffusing solidified grey lava. A horse breathes. Change of mode. Suddenly a bumblebee.

As the sun leads to the growth of plants, the feeding of animals, the evolution of eyes and the unfolding of flowers, in analog film light plays a crucial role for the crystallization of images. In the beginning, film stock was made of cellulose nitrate, organic matter composed of animal bones and silver salts. A thin gelatin layer of crushed and melted animal bones with a light sensitive emulsion containing silver salts on the top. Cellulose nitrate decomposes and sets fire easily. Since the 1950s it is made of polyester and the most active elements are the silver halide crystals. During the exposure to light, photons are absorbed by the silver halide crystals and form an imperceptible image. The image becomes visible during processing. It consists of a bundle of at least four metallic silver atoms in a crystal structure. The presence of these silver atoms makes the whole crystal capable of being developed. Without them, the crystal will not develop. Chemical processing converts them to one hundred percent silver. Different sizes of silver halide crystals are used in order to distinguish between shadows and lights. The smallest crystals record the brightest lights. The largest crystals can record the deepest shadows. While light does not produce images, it magnifies every nuance, every saturation, every texture of a particle, every glimmer, every matter — or, on contrarily, enhances its opaqueness and darkness — it shapes and materializes affections and perceptions of the visual field. Similarly to aerosols, dust, pollen, dots and pixels, film grain forms a continuous and dynamic flow, a circulation of granulized bits. Film, like animals, plants and bacteria, employs light as source of production. Compounds of lumen sensitive grains 'biting into' light rays, an opening and closing camera lens can be understood as a *visual-machinic photosynthesis*. From the perspective of an ecology of practice, filming becomes an unnatural symbiotic exchange between unequal species and matter. There exist endosymbiotic relational bondings based exclusively on light. Some flatworms feed from photosynthetic products made by single-cell plants living inside their translucent tissues. The plants, in turn clean up the worms inside by turning its acid into nutrients for themselves.¹⁶³ The flatworm ingested the single-cell plant and now they are stuck with one another.

Focussing on the most powerful life forms on earth which are so small

¹⁶³ Studying the symbiosis of these algae-worms in the beginning of the 20th century Frederick Keeble called them "plant-animals." Frederick Keeble, *Plant-animals, a study in symbiosis* (Cambridge: the University Press, 1910), 44.

they cannot be seen, the microbiologist, Lynn Margulis provides an understanding of development and evolution that is neither obsessed with the human species, nor fueled by competing individuals or natural selecting, but which reveals symbiotic sharing of mutual relations between very different species, kinds and families. For Margulis the interaction and transfer of nuclear information provided by bacterias and viruses is pushing evolution and development, since all genetic information and its variations are the result of bacterial transportations. Microbes are small but great in numbers. Our bodies host more microorganisms then it possesses cells. More than 100 trillion microorganisms live on and inside it, which equals 14.000 times the number of people on earth. Sixty percent of the planet's biomass is made up of microorganisms. Human and nonhuman animals, but also plants and mushrooms, become minoritarian, only the vast amount of stars can hold up against such figures. And yet they are great collaborators and often work together with plants, animals and humans. One obvious but usually overlooked symbiotic bacterial relation is the one of Döderlein bacillus nesting in vaginas, where they create a healthy environment, warding off harmful bacterias. We share Döderleins with Yogurt and Kimchi. Besides inner organs also eyelashes are crowed with bacterial and animal symbionts. Margulis suggests considering ourselves on the basis of symbiotic populations of bacteria, since only the interactions among highly responsive microbes have made human life possible.¹⁶⁴

To view artistic practices and procedures of filming as an ecologic, symbiotic, relational interaction helps to understand the interdependence and the qualities of contracted light, an eye, a camera, a digital projector, you, a stone — all these darkened suns turning into pure contracted light. Taking advantage from the intensities of saturated light, filming does not release oxygen or sugar, but attractors, affects, percepts and sensations. Maybe it just mimics colors, symbiotic events, like orchids luring wasps or bees, flies, frogs, ants, spiders, lizards, and monkeys into fake sex without any output for the animal. Might film just arouse the materials involved without benefitting them? Or could it be the other way round, the wasp cultivating the orchid? Pollinators probably know about the satisfaction of a nonreciprocal arousal, of being excited without ejaculation, and if so, they might know about the benefits arising from symbiotic interactions, too. The practice of filming helps to understand the multiple modes of sensuous affections and beneficial interactions and relationships between different entities, while it also clarifies ones own dependence, how much we need others to develop, and that self-organization is constructed from and hinging on a collective.

¹⁶⁴ Lynn Margulis, *Symbiotic Planet* (Massachusetts: Basic Books, 1998), 4.

Territories

Sadie Plant calls the merging with affects within an environment an amplification “of the energies of the worlds in which [one] moves.”¹⁶⁵ Adapting or merging with an environment and its forces is not merely a passive adjustment to a dominating space, but a relational practice that can become a song, a shell, a bundle of matter, a dance, a film or an installation marked by transversal interactions. A territory triggers and enables qualitative modes of sensation. Deleuze argues that evolutionary theory and ethology misunderstood the territory as a mere function or condition of evolution, “the territory implies the emergence of pure sensory qualities, of sensibilia that cease to be merely functional and become expressive features, making possible a transformation of functions.”¹⁶⁶ Deleuze and Guattari illustrate this territorial emergence of expressive features, of colors, postures, and sounds with the Australian tooth billed bowerbird, every morning preparing and constructing a stage for his courtship songs and seductive performances. The stage consists of a U-shaped bower or an upside down arcade sculptured from grass and twigs. The bower is not a nest, but rather a showcase made only for the spectator to sit and watch the performance. In front of the bower the birds arrange a display of multiple objects often sorted by color or contrast.¹⁶⁷ They collect leaves, feathers, insect wings, berries, mushrooms, small shells, colored plastic caps and cans, some of which they use later during the performance. Some tooth billed bowerbirds have a passion for the color blue, matching with their bright blue eyes, most often found in artificial products. First, the female bird visits the display when the male bird is not present. In case she likes the installation she returns for the performance. The birds not only collect leftovers from the forest, they also steal precious treasures from other stages to improve their own installation, some even demolish other birds’ bowers. Young male birds practice the construction of bowers together, and sometimes the adult birds perform their dance for the squabs to learn. The bird’s performance and construction is an acquired creative relational practice, or rather a “bloc of sensation in the territory — colors, postures, and sounds that sketch out a total work of art,”¹⁶⁸ as Deleuze and Guattari note.

Another astonishing builder is the New Guinean vogelkop bowerbird, who builds bowers completely roofed over, growing out of small tree trunks or attached to low hanging branches. The dwelling-like

¹⁶⁵ Sadie Plant, “Negotiations,” <http://www.sadieplant.com/home/publications/negotiations>

¹⁶⁶ Deleuze and Guattari, *What is Philosophy?*, 183.

¹⁶⁷ The birds “cut leaves, makes them fall to the ground, and turns them over so that the paler, internal side contrasts with the earth.” Deleuze and Guattari, *What is Philosophy?*, 184.

¹⁶⁸ *Ibid.*

construction, which can be presented on an area of two square meters, consists of a larger column in the middle and several smaller ones on the sides to support the gently bowed thatch roof. It follows more a form than a function. The entire installation site can reach up to ten square meters. The inside and the front of the arbor is neatly cleaned and pillowed with green moss. There the bird displays smaller, more precious objects. All objects are ordered by their qualities of texture, structure or color: shiny insect wings of the same kind are arranged in one patch, cans are ordered according to their label design and separated in another pile. Fading flowers are replaced with freshly picked ones. Each collection is unique, but all are carefully arranged. Some even exhibit live insects, which constantly have to be recollected when they escape off stage.

The lyrebird, an Australian cousin of the bowerbird, interacts with other species when performing outer-species-songs. The bird meows and laughs, and sings the songs of chainsaws chopping down forests, car alarms and camera shutters. Animals (as plants or matter) do not erase human and machinic presence from their perception, interaction and interpretation of the environment but construct new and shared sociabilities. Fostering boundaries by refrains birds offer a shared interspecies territory. Whereas humans, when confronted with their connection with the animal, vegetable and mineral, experiences a breakdown of their capacity to think. The filmmaker and BBC broadcaster David Attenborough has done a lot to create awareness and appreciation for the capacities and practices of animals. Attenborough's approach is in contrast to common views in conservative sociobiology and evolutionary psychology, that describe birds' and other animals' expressions, by using largely determining terminologies, such as adaptation, behavior and function, that suggests a hierarchical order privileging an economic theory of reproduction and competition. Such a constrained view deprives animals not only of their creative capacities and sensations, but also from the appreciation of sex as a positive and pleasurable experience beyond reproduction. There are countless examples of diverse sexual activities and enjoyments shared by animals of both, the same and the opposite sex, that do not follow an economic logic rewarding reproduction. Animals overrule sociobiology's normative assumptions when practicing masturbation, using objects and images to reach ecstatic states, as well as prostitution and rape to savor fervor and intensity.

Elizabeth Grosz's recent publication *becoming undone*, has a similar emphasis on the creative capacities of nature, focusing on animal sexuality and Darwin's categories of 'sexual selection' and 'natural selection.' Questioning perceptions of stimulus-response behavior, Grosz discusses sexual selection as a creative force that accelerates species difference. In her reading of Darwin sexual selection actually

obstructs and sabotages natural selection, “sexual selection may be understood as the queering of natural selection, that is, the rendering of any biological norms, ideals of fitness, strange, incalculable, excessive.”¹⁶⁹ Reading Darwin in connection with Luce Irigaray and her book *An Ethics of Sexual Difference*,¹⁷⁰ Grosz views sexual selection and the dual-set of sexual difference as the engines that enable art and “the richness and complexity of life.”¹⁷¹

This view of art and sexual difference makes it difficult to access the creative production of matter and asexual and intersexual organisms, such as parthenogenetic animals. Some of the oldest beings, with the greatest evolutionary stability on earth, such as bamboo sharks, komodo dragons, lizards, snakes, certain scorpions, crabs and head lice reproduce without any male influence. The female starts the cell division process in the ovum without any external male fertilization, simply by a change of hormonal activity. Self-pollinating plants (known as apomixis), such as ferns and rice do not find a place in the narrative of sexual selection and sexual difference, even though they are involved in various practices of selection with diverse preferences. It is difficult to understand why sexual bifurcation should be regarded as an evolutionary upgrade or maximization. Self-cloning does not lead to poorness, the information contained in the genetic code of rice, fern or some algae has helped them to preserve on the planet much longer than other organisms depending on sex for reproduction. While on the other hand the peacock is known for his impressive feathers and performances displaying an overwhelming attractiveness, which is not fully beneficial for survival. Even a queered version of sexual selection cannot account for the inventiveness of nonorganic materials, selecting what they need for becoming different. In fact, selection goes much further in its dynamic and experimental production processes than simply reinforcing binary reproduction schemes; while art, and its various arrangements and practices, are not prerogative of humans and animals only, but belong to the mineral and vegetable world as well.

Searching for alternative terminologies and processes that make the creative capacities of nature transparent, Deleuze and Guattari propose the concepts of “unnatural participation”¹⁷² and “correlative deterritorializations,”¹⁷³ and illustrate them with the orchid and the wasp. Deterritorialization can be understood as decoding or breaking a routine or habit, whereas reterritorialization concerns the coding or forming of a custom or tradition. Deleuze and Guattari explain: “The orchid

¹⁶⁹ Grosz, *becoming undone*, 132.

¹⁷⁰ Luce Irigaray, *An Ethics of Sexual Difference* (London: Continuum, 2004).

¹⁷¹ Grosz, *becoming undone*, 143.

¹⁷² Deleuze and Guattari, *A Thousand Plateaus*, 260.

¹⁷³ *Ibid.*, 61.

deterritorializes by forming an image, a tracing of a wasp; but the wasp reterritorializes on that image¹⁷⁴ by transporting the orchids pollen. Their creative expressions go beyond filiation and emerge from relational deterritorializations. All processes of territorial and corporal entanglements (by humans or nonhumans) entail alternations, or deterritorializations and sensible becomings. The bower bird's practice depends on the immanent capacities of the territory, while at the same time the bird experiences a deterritorialization by the environment. Every art practice, gathering affects and forces emanating from environing capacities, undergoes a relational deterritorialization. Rhythm, color, relations, gestures, materials, concepts, forms — affects and sensations, everything depends on what is present, what is given by the surrounding, (and) whether we notice it or not. Matter, plants, animals, and people, they all select and deterritorialize creatively and dynamically, stimulating and contracting the materiality of their environment — the likes of an *immanent sex*. Even a landscape is deterritorialized by its many components and in the same time it selects what is needed for its alternation, just on a different scale. To deviate from stagnancy, to search for new relations, encounters and expressions, to become differential is an artistic impulse, a driving force of art. Yet, to become differential does not necessarily imply a separation from the environment or nature, nor does it require the mastery of a human being. Creating territories of sensation, such as films, dances, installations, flowers, images, as well as wave, cloud and earth movements is a dynamic expression of a relational and affective ecology. The emerging territories are complex sensational interactions among a multiplicity of heterogeneous singularities.

Quasi Chaos

“A film about what?,”¹⁷⁵ Trinh T. Minh-ha asks in her film *Ressamblage*. “A film about Senegal,” she answers. “But what in Senegal?,” she asks again. Coherent themes and topics, continuity, a specific montage structure, or the limitation to a certain space all help to ward off confusions and puzzlements. Traces of composition and form enable us to look and to listen. And yet, the mode of filming here does not offer topics or particular areas of study; it is a constant diffusing and re-diffusing, a dipping into the existing chaos to make up for actual diversity and to find less representational ways of coming to know. One question that arises from the film *Shape Shifting* is, how practices of ecology change interactions when sensing new intrusion, disturbances and infringements? Nature or the environment often make more of interferences than just smoothing and adjusting disproportions and

¹⁷⁴ Ibid., 10.

¹⁷⁵ *Reassemblage*, Directed by Trinh Tin Minh-ha (1982; Berlin: Arsenal, Institute for Film and Video Art. 1982), 16 mm.

imbalances caused by 'negative' influences. Often the effects are multiplied into an abundance of new practices, sometimes even on a global scale. This conception is not based on an understanding of nature, as a pre-established harmony to which it perpetually returns, an 'original state' of stable and static completeness. Instead, nature is perceived as shaped by multiple dynamics far from an equilibrium. In this view practices of ecology resiliently renew themselves by chaotic fluctuations and capricious changes, processes close to what Brian Massumi calls a "quasi causality,"¹⁷⁶ or following Isabelle Stengers, "catalytic effects."¹⁷⁷ A quasi causality introduces measures of objective chaos in order to boost new creative activities. A quasi causality can be seen as an invitation to let the dynamic organization of chaos act upon ones own practices. To let instabilities and fluctuations operate (on ones own body or practice), doesn't necessarily lead to a loss of power. To better grasp what might be the proper dose of chaos Deleuze and Guattari refer to Chinese painters, trained in the harmonic interplay of *yin* and *yang*, yet leaving "enough empty space for horses to prance in."¹⁷⁸ For the proper dose of chaos, it is suffice to permit small portions to take effect, similar to a single sip of water that can have the same impact on the body as a highly potent drug. Chaos, acting as an irreversible cosmological, biological, geological, chemical, physical, thermodynamic process is in fact not completely in opposition to evenly distributed arrangements. Perhaps the Chinese painters who Deleuze and Guattari refer to know chaos as "extrinsic harmonies of an ecological order."¹⁷⁹ Chaos leads, for instance to new forms of "spontaneous self-organization"¹⁸⁰ as Isabelle Stengers and Ilya Prigogine surprisingly mark out. They take the case of the *Benard instability*, a hydrodynamic experiment and a theory of dissipative structures, where instabilities (a drop of temperature between two different kinds of liquids) lead to an open, connective system of organization or shapes. One can experience this phenomenon where "[m]illions of molecules move coherently"¹⁸¹ in the Earth's mantle convection, or in the atmosphere generating hexagonal cloud patterns and in the ocean creating tube-shaped waves. These aren't equilibrium structures, but "dissipative structures"¹⁸² Stengers and Prigogine insist, "situations between structure and order on the one side, and dissipation or waste on the other,"¹⁸³ which implies that chaos is not unconnected

¹⁷⁶ Massumi, *Parables for the Virtual*, 225.

¹⁷⁷ Isabelle Stengers and Igor Prigogine, *Order out of Chaos* (Toronto: Bantam Books, 1984), 153.

¹⁷⁸ Deleuze and Guattari, *What is Philosophy?*, 165.

¹⁷⁹ Deleuze and Guattari, *A Thousand Plateaus*, 48.

¹⁸⁰ Stenger and Prigogine, *Order out of Chaos*, 141.

¹⁸¹ *Ibid.*, 142.

¹⁸² *Ibid.*, 143.

¹⁸³ *Ibid.*

or detached. Félix Guattari puts it this way: “chaos is not pure indifferenciation [sic]; it possesses a specific ontological texture.”¹⁸⁴ This indicates that chaos is as vulnerable as any singularity to devastation and destruction. Similarly to morphogenesis and matter, chaos, if not disturbed, arranges itself as a relational process of becoming together with the surroundings, creatively producing new sensational territories. New appearances emerge through random movements, reversed causalities and spontaneous self-organization, yet completely resonating with the environment.

Chaos with its dynamic transformations shapes and subsists a new materialist film practice. Jean Marie Straub formulates it as follows,

the air and the light and so on, the sounds and such — the film begins to live in all that isn't foreseen, [...] the unforeseen is an integral part of the subject matter. If the film exists, then the unforeseen is never an external factor but arises from within.¹⁸⁵

The mode of filming here corresponds to Straub's approach. Assuming that from disturbances new forms of expression and sensation, new techniques and new practices result, it understands the unforeseen as an event, which boosts new creative activities that do not necessarily result in a distinct form. In other words, chaos is an event, or a technique that might cause us to lose thoughts, but only in order to regain attention as something that resonates with the entire body. Thinking and practicing film in resonance with chaos turns it into a relational self-arranging process, a provisional equilibrium. The companion films experiment with different levels of exposure to chaos, inserting smaller bits of fragmentation and bigger discontinuities. Even when seeking centers of attraction, unexpected quasi-causalities show up, injecting new portions of objective chaos, reversing the pursued course.

¹⁸⁴ Guattari, *Chaosmosis, an ethico-aesthetic paradigm* (Bloomington and Indianapolis: Indiana University Press, 1995), 81.

¹⁸⁵ Jean Marie Straub, “A Thousand Cliffs. Interview with Elke Marhöfer and Mikhail Lylov,” in *Point of View*, ed. by Tobias Hering (Berlin: Archive Books, 2014), 323.

Mapping Practices of Ecology in the Ruins

This chapter travels. It literally travels with individual singularities, such as guano, aerosols, worms, sugarcane, nitrogens, fire, mangos, animal flesh, carbons, radiation, cotton, bacteria, pesticides, transgenic seeds, and their assemblages and expressions. One of these assemblages is today's militarized agricultural complex and its ever increasing metabolism. Cutting off interconnections, this dominant assemblage has led to an immense loss of the polyvocality of farming practices and food ecologies, it has produced great damage to the mental, the social and the environmental sphere. But rather than letting oneself be mesmerized by the 'forces of evil,' the writing maps out different kinds of knowledges of actual ecologies of practices and their collective, interconnected and translocal assemblages. Assemblages of plants, animals and humans — certainly some are not clearly identifiable, yet, they create mutually beneficial and sustaining processes without using generic notions, or classifications. These material based assemblages and their practices, like those of certain sorcerers in Cuba and South Korea, or farmers in Burkina Faso, Mexico and Japan, might be considered expressions of a minority. However, as Deleuze clarifies, minorities aren't necessarily small in numbers and to differentiate between minor and major isn't a matter of dimension:

A minority may be bigger than a majority. What defines the majority is a model you have to conform to: the average European adult male city-dweller, for example... A minority, on the other hand, has no model [...] its power comes from what it's managed to create, which to some extent goes into the model, but doesn't depend on it.¹⁸⁶

An important feature of a minority is that it does not hold an identity, a context nor a history, it rather lacks them. Stengers states that, "[a]ll practices are in the minority."¹⁸⁷ They take the risk of being overlooked or abandoned by the model, for example language and culture.¹⁸⁸ Bringing about an equality between things, people and their shared assemblages that aren't necessarily flat like a map, but enveloped and folded like a rock strata or an infectious genetic factor.

Félix Guattari's Ecosophy

When attempting to better understand ecologies of practice as related to and caring for an environment and others, but undetermined by

¹⁸⁶ Gilles Deleuze, *Negotiations* (New York: Columbia University Press, 1995), 173.

¹⁸⁷ Stengers, "The Care of the Possible: Isabelle Stengers interviewed by Erik Bordeleau," 27.

¹⁸⁸ See, for example, Frantz Fanon, *Black Skin, White Masks* (London: Pluto, 1986) and Homi K. Bhabha, "Of Mimicry and Man: The Ambivalence of Colonial Discourse." in *The Location of Culture*, (London: Routledge, 1994) 85-92.

human valorizations of identity or function, it is important to take not only the organic and the natural into account, but also the inorganic and the artificial. Nature cohabits with, and is sometimes indistinguishable from the urban, sexuality, currency, meat chains, rhythmic chatting, jelly or social class formations. Félix Guattari's multifactorial view on ecology is crucial to realize that the present day ecological disaster is not just affecting the natural world, but also the social and the mental one. In his solo publication *The Three Ecologies* Guattari differentiates between natural, social and mental ecology, which are currently all in a state of disturbance. All modes of expression, be they of human, animal, vegetable or cosmic quality, are in a process of implosion and regression. The technical-scientific resources and the production of material and immaterial goods do not entertain relations to help the unfolding of the socio-cultural developments any longer, but instead produce a colossal void within the subjectivities. Referencing Foucault, Guattari puts forward that today's capitalism does not only administrate, monitor and neutralize the worlds of madness, pain and death, but applies additives to childhood, love and art. Furthermore, he explains that the wars of the humans against the earth, "threaten the continuation of life on the planet's surface"¹⁸⁹ and has brought about all kinds of pollution from which it can hardly recover over several generations. The present-day pollution is persisting, difficult to restore and endangers life on earth.

Guattari's vision to restrain the pollution does not shy away from large-scale projects, similar to those currently proposed by the *Anthropocene*. To name the negative effects of human activities on the earth, Eugene Stoermer, a fresh-water biologist, and Paul Crutzen, a meteorologist, suggested to call the present-day geochronological epoch Anthropocene — after the humans.¹⁹⁰ But rather than defusing 'the' human as a totality, the advocated Anthropocene functions in the Althusserian sense as an interpellation with a moralist taste. It retells human epics and installs him as the most determining factor on earth — a great force of nature gone wild, manipulating biological, atmospheric and geological processes of the entire planet. Built upon system theory and cybernetics, the Anthropocene predominantly corresponds to competitive relations, setting (uncontrollable) population against (uncontrollable) pollution, 'overpopulation' against the scarcity and contamination of 'resources.' Using terminologies such as resource, pollution and population, the Anthropocene doesn't provide an understanding of alteration from what it evaluates.¹⁹¹ Historians of science habitually debate the date of origin, thereby reproducing the separation of human from nature once again: when exactly did things go

¹⁸⁹ Félix Guattari, *The Three Ecologies* (London: Continuum, 2000), 27.

¹⁹⁰ Paul J. Crutzen "The 'Anthropocene,'" *Journal de Physique IV* 12 (2002).

¹⁹¹ "The Anthropocene," <http://www.anthropocene.info/en/>

wild on terra and with the humans starting irreversible processes? Was it when the steam engine was invented? Or does the Anthropocene date back in 'deep time'? One could speculate that the process of cutting relations with the environment began with the Neolithic period, the development of agriculture, the domestication of plants and animals, the enforced settlement of nomadic bands, the lessening of leisure and intensification of labor, the celebration of rationality and engineering, the rise of social and political hierarchies, the ideology of infinite needs and surplus value. We learned to cut straight furrows and to see ourselves apart from other beings. We coupled ecology and economy with the detached motivation of a property manager. And yet, exchanging paleolithic snack recipes might not match the extent of the metabolism that arrived with colonialism. Colonialism with its landscape modifications, its transfer flora, fauna, earth and minerals, its industrialized plantation system, its exploitation tied ecology and economy even close together, extended a patrilineal, managerial attitude upon the entire planet and all its inhabitants, bringing about major environment changes. The Anthropocene creates exotic imaginaries by producing the 'other-of-scale.' It creates a feeling of powerlessness in consideration of the dimension, the vastness of global pollution and extinction of species. It has also been critiqued for mystifying industrialization and for providing some sort of moral and regulative authority sustaining capitalism, which is why Jason W. Moore and others propose to rather call it the "capitalocene," a name according to the existing problems of capturing relations immanent in nature.

Contrary to some deep ecology or ecofeminist philosophies,¹⁹² Guattari overlaps in parts with the Anthropocene, or geoengineering and governmental proposals when he envisions possible steps to regulate the greenhouse effect: "Natural equilibriums will be increasingly reliant upon human intervention, and a time will come when vast programs will need to be set up in order to regulate the relationship between oxygen, ozone and carbon dioxide in the Earth's atmosphere."¹⁹³ A rather peculiar conception, where the earth itself is regarded to be incapable of resiliently recover, even if we would give it enough time, and that only the use of technological and scientific advancements can save it from global warming. However, one established policy for the new atmospheric management suggests spraying aerosols similar to volcanic dust into the atmosphere in order to shadow the earth from the sun — an extraordinary performance of the ancient struggle between the earth's atmosphere and the sun's radiation.¹⁹⁴ The dispersion of the particles is to be conducted by existing military fighter and tanker planes, which is where Guattari starts to doubt: "We might just as well rename

¹⁹² Arne Næss (1973), Françoise d'Eaubonne (1974), Greta Gaard and Lori Gruen (1993), Val Plumwood (1993) and others.

¹⁹³ Félix Guattari, *The Three Ecologies*, 66.

¹⁹⁴ Wikipedia, "Solar radiation management," https://en.wikipedia.org/wiki/Solar_radiation_management

environmental ecology *machinic ecology*, because Cosmic and human praxis has only ever been a question of machines, even, dare I say it, of war machines. From time immemorial 'nature' has been at war with life!"

Visiting Houston in Texas while writing about ecology causes everything to appear full of fatalism, urgency and twists. Houston might be the most exotic, while at the same time most familiar place we have ever visited. Maybe because one of the headquarters of the Black Panther Party used to be in the neighborhood where we stayed. Maybe because there are flowering trees in full bloom everywhere in the city. Maybe because the first word broadcast to the earth from the moon in 1969 was "Houston."¹⁹⁵ Maybe because the familiar and unremitting promise of a *Better Life* that is so closely attached to the Anthropocene, seemed to originate from Texas's car plants and meat factories. Assembly line production of both cars and food is in fact rather similar and strengthens each other. In 1955, automation and the invention of drive-through restaurants "allowed McDonald's to sell burgers for fifteen cents each, instead of the typical thirty-five cents, and people were buying them by the bagful."¹⁹⁶ In a lecture at the *Radical Philosophy Conference* Fahim Amir returned to Sigfried Giedion's analysis and depiction of the modernization of Chicago's meat packing industry in the last third of the nineteenth century, taking up Giedion's argument that the pigs "resisted their integration into the mechanization of death and meat packing due to their subjective capabilities, collective affects and corporal constitution."¹⁹⁷ Amir argues in lines with Italian Postoperaismo that in Giedion "animals were not conceived simply as passive addressees of human violence nor merely as material of human history," but that in fact "the resistance of animals provoked the modernization of industrialism."¹⁹⁸

The consumption of both meat and non-renewable fuels per person in Texas is the highest worldwide. A United Nations report states that the overall cattle industry is the main cause for deforestation worldwide and produces eighteen percent of the carbon dioxide in the atmosphere, the gas responsible for the greenhouse effect. Producing vast quantities of methane, cattle breeding causes a warming of the earth to a greater degree than cars, planes and any other means of transportation put together. The meat-industry 'feeds the world' and causes its destruction. Non-renewable fuel is used to produce fertilizers, antibiotics, mineral water, and hormones. It is used to clear vegetation and to cut grass, to transport and cool the animal flesh and milk over

¹⁹⁵ Wikipedia, "Houston, Tranquility Base here. The Eagle has landed," http://en.wikipedia.org/wiki/Apollo_11

¹⁹⁶ Wikipedia, "1950s American automobile culture," http://en.wikipedia.org/wiki/1950s_American_automobile_culture

¹⁹⁷ Fahim Amir, "Zoooperaism, Provincialising the Human," paper presented at the Radical Philosophy conference, Berlin, January 17, 2015.

¹⁹⁸ Amir, "Zoooperaism, Provincialising the Human."

long distances. Unprofitable animal waste and excrements are “flowing down the Mississippi River killing the Gulf of Mexico.”¹⁹⁹ The Houston NASA base proudly presents cows on their campus. Meat and mobility without limits. How to draw a line of flight from an agriculture governed by an unlimited metabolic economy? Could one perfectly subsist from relations built by minor economies and practices? Bigger assemblages might be needed, spacious assemblages that build passages, and strengthen minor practices and their polyvocal economies, so they can freely move around and interact with other multiplicities and their economies elsewhere.

To contrast dominant territorial assemblages, Guattari proposes an unavoidable formulation of new modes of life (be they individual or collective). He clarifies that, since the whole planet is affected by the environ/mental pollution of the “Integrated World Capitalism”²⁰⁰ (a deterritorialized post-industrial, sign and syntax producing capitalism with unclear power relations), the new revolution has to be a global one. Drawing parallels to the paradigm shift of the socialist revolution, this change needs to reconstitute the aim of material and immaterial production on every level and in all domains. The imagined ecology is neither motivated by surplus and the constant profiteering from nature to satisfy infinite human needs, nor is it connected and kept under surveillance by a major or transcendental supervision. Zooming in and out of different scales, it is an on-going aesthetical-existential process that relates to the intimate, to the micro-relations between singularities and their expressions, reckoning “molecular domains of sensibility, intelligence and desire.”²⁰¹ It includes the necessity to create local centers for collective subjectivities, as well as a re-individualization, without regard to the collective, in order to become heterogeneous: “it is important not to homogenise [sic] various levels of practice [...] but instead to engage them in processes of heterogenesis [sic].”²⁰² New modes of expression have to be developed, especially those that can meet up with violent, negative and destructive mental representation — an ecology that is a “true ecology of the phantasm.”²⁰³ Guattari writes: “it seems to me essential to organise new micro political and micro social practices, new solidarities, a new gentleness, together with new aesthetic and new analytic practices regarding the formation of the unconscious.”²⁰⁴ Social antagonisms won’t be resolved dialectically, but at times everyone has to develop collective objectivities. Everything is

¹⁹⁹ “Is Meat Sustainable?” Worldwatch Institute, <http://www.worldwatch.org/node/549>

²⁰⁰ Guattari, *The Three Ecologies*, 47.

²⁰¹ *Ibid.*, 28.

²⁰² *Ibid.*, 51.

²⁰³ *Ibid.*, 57.

²⁰⁴ *Ibid.*, 48.

helpful within this individual and collective re-subjectification processes, exempt for anything “in the name of history,” following the “outmoded idea of scientificity [sic],”²⁰⁵ nor the obsession of regulating ‘systems.’ Understanding and describing interconnectivity should not mean to control it.

To take social contradictions as the cause-and-cure for transformation is questionable, as I will discuss in collaboration with Frantz Fanon in the next section, yet, Houston illustrates too well elements which had led to the current environmental disaster together with the incapability to change the adapted course, while other cultures do not. Some less-stratified societies practice a deliberate underuse of resources and labor power, a *petite* or *micro economy*, that doesn’t allow to build up stocks. The “Domestic Mode of Production,”²⁰⁶ is a speculative proposition developed by the anthropologist Marshall Sahlins, a mode of production, which inhibits accumulation. Sahlins describes it as “intrinsically an anti-surplus system.”²⁰⁷ Tailored to subsistence agricultural production, it tends to freeze as soon as a certain goal is reached. Thus, the time devoted to economic activities and practice is, on principle, limited. The ideal is to produce just enough to satisfy all needs, so neither work force, nor raw materials are exploited. To follow limited economic goals is in stark contrast to the colonial and capital rationale. One needs to have developed a relational understanding to the environment to understand when one has extracted sufficiently enough. One method is to make work non-intensive, “intermittent and susceptible to all manner of interruption by cultural alternatives and impediments ranging from heavy ritual to light rainfall.”²⁰⁸ While the streamlining of work processes in a capitalist economy presents and causes problems within our social life, here “[e]conomy is rather a function of the society than a structure.”²⁰⁹ To highlight the part of active refusal in the domestic mode of production, Pierre Clastres calls it “a society against economy.”²¹⁰ While there are trade relations, markets as such do not exist. The household economy refers generally to a family system, which ranges from tiny to extended, from matrilineal to patrilineal, to someone you feed and other heterogeneous, diverse social forms. Labor is not divided by knowledge but by sex and age. Tools and their efficiency do not in principle differ from nonhuman animal tools, since all tools, even machines, “are prehuman.”²¹¹ The economy is mainly based on kinship,

²⁰⁵ Ibid., 35.

²⁰⁶ Marshall Sahlins, *Stone Age Economics* (New York: Aldine de Gruyter, 1972), 41.

²⁰⁷ Sahlins, *Stone Age Economics*, 82.

²⁰⁸ Ibid., 86.

²⁰⁹ Ibid., 76.

²¹⁰ Pierre Clastres, *Archeology of Violence* (Los Angeles: Semiotext(e) Foreign Agent Series, 2010), 198.

²¹¹ Sahlins, *Stone Age Economics*, 80.

which in exceptional cases, can be compromised when individual needs contradict obligations towards distant relatives. A household economy might exercise control and subordination, too. Nevertheless, reciprocity, hospitality, interconnections and cooperation, make the economy of the domestic mode of production a “modality of the intimate,”²¹² a relational ecology of practices.

Cotton and Sugar Djinn

In the winter of 2006/07 I went to the countryside in Burkina Faso, a country celebrated for its magic documentary film tradition and extraordinary socialist revolution in the 1980s. Staying in the house of a NGO in Ouagadougou, I spent the nights peeling peanuts with the night guard Ablassé. Each morning Ablassé had to cycle a long way to return home. He had been forcefully moved to a remote neighborhood by the government. Earlier he and his family had lived in the city center until the president together with the World Bank, decided to empty the center of its inhabitants to make way for foreign investment. While the investment never came, this policy created an immense void in the city's center. I wondered how people make a living. Ablassé explained to me that cotton was the main business and driving force in the country's economy and that Burkina Faso was one of the biggest cotton producers in West Africa. Somebody gave me a ride to Fada N'Gourma, a city in the East where people grow cotton more intensely.

There, in a nearby village I met Paul Gbangou. Paul had been practicing a combination of subsistence and cotton farming for twenty-six years. He educated me about the cotton credit system, which he and all other cotton farmers in Burkina Faso were subjected to. The only way to receive a micro credit from a bank is to form an association with other farmers and to cultivate cotton. As a heritage from their colonial past many former French colonies continued to maintain state monopolies on cotton purchases at low fixed prices. In 2003, when the US substantially increased subsidies for wheat, corn, soybeans, rice, and cotton (crops easy to trade on the world market), it became nearly impossible for African farmers to make a living from agriculture. After two years of hardship the World Bank moved in and initiated the privatization of the national cotton company. Since then corporations such as the French Dargis and Swiss Reinhart, but also biotechnology companies, the country's cotton union (UNPCB), as well as the rural elites and the government are making profits. Paul highlighted that only men receive credits, whereby the banks preserve the male domination over monetary resources. Sometimes women run a collective cotton field on the margins of monetary economy for personal use. I understood that these

²¹² Ibid., 77.

orchestrated processes destroyed the minor economic self-sufficiency that had existed earlier, turned life into a precarious endeavor and urged many people to migrate.

Several years ago Paul and some of his friends and relatives were refused to receive any more bank loans. At that point in time they started experimenting independently with the cultivation of cotton, avoiding expensive pesticides and fertilizers. They re-established shifting cultivation to keep the earth fertile, used organic dung and employed the seeds of neem trees to keep away specific insects during the rainy period. With these measures and a great deal of work they managed to produce nine hundred kilos of organic cotton. Since then Paul practices organic farming. In order to exorcise the wicked cotton djinn,²¹³ we decided to make a film together.²¹⁴ The film revolves around the cotton cultivation in Burkina Faso under the conditions of a globalized economy, at a time when the European Union and the US government highly subsidize the production of cotton and the biotechnological enterprise Monsanto severely tries to implement genetically modified cotton in the Southern hemisphere. The film presents conversations with (conventional and organic) cotton farmers in different parts of the country, an interview with the agricultural ecologist Elisée Ouédraogo, and Francois Traoré, at the time president of the National Union of Burkina Cotton Producers (UNPCB). The conversations were held in the local languages: Gourmansché, Dioula, French, and in Mooré, and were translated respectively. The project was financed by the German foundation *Umverteilen*, whose statement of principles is worth quoting at length:

We support projects that are predominantly ‘economically oriented,’ for example income-generating measures, only if groups use them to develop and implement alternative forms of living and working as examples to others. We want our programs to avoid creating long-term dependencies or compensating for shortcomings in urban and rural infrastructure. Instead, we support groups that demand the rights they have been denied, including benefits and services.²¹⁵

In the spring 2008 Paul and I travelled to ten different cotton growing villages all over the country and presented the film for discussion. In 2011 it was screened at *World Social Forum* in Dakar.

In order to keep the ecologies of writing fluent, I started to exchange

²¹³ Djinn are invisible demonic beings made of fire populating the world since pre-Islamic, Arabic times. They are extremely smart and spread throughout the world. They can make themselves visible to humans but only do so in a state of emergency. They like to reside in deserts, forests and bushy landscapes like cotton fields. But mostly they linger in the middle atmosphere. One might succeed and turn them into a companion, it has been told that some marry humans.

²¹⁴ *sans-sucre (sugar-free)*. Directed by Elke Marhöfer and Paul Gbangou. 2005-08. Berlin and Fada N’Gourma: Courtesy of the artists. 2008. Digital File.

²¹⁵ Umverteilen, <http://www.umverteilen.de/>

letters with the traveling anthropologists Alraune Fox and Pongo Monsoon. Fox and Monsoon focus on zones of awkward engagements where the cotton djinn collides with other animate and inanimate things. We met where anthropology, biology and supernatural powers that organize and animate the material universe coalesce with one another. They wrote to me from India, China and Pakistan. They said, they would love to talk about the neighborhood parties, but they had found out that ancient knowledge, generated over millennia, would disappear in our century. What Fox and Monsoon referred to, were the current agricultural mirages. They ascertained that the twin plagues of colonialism and industrialization had transferred farmers' ecology of practices to the institutes and labs of biotechnological businesses. They indicated that it was all about growth rate, genetic probability calculation and patents, containing peculiar names such as: Fiber Max, Flavr Savr, LibertyLink, Biscaya, Calypso and Runner, and divinely inspired VIPs, as Ganesh and Brahma. Genes, data, eco systems. New terms and new living creatures are regularly surfacing, but often endangered immediately after being invented.

Fox and Monsoon spent the afternoons surfing the internet, where they discovered that globally agricultural production nearly tripled over the last 70 years due to the constant cultivation of land through logging and draining of wetlands, and the intense use of chemicals, irrigation, and breeding. They also discovered that this did not lead to increased food production, but to a destruction of crop diversity and variety in order to create chemical monocultures of rice, wheat, sugar and cotton. For cotton, they learned that the most powerful producers of genetically modified cotton are based in the United States, China, India, and Pakistan. Today, nearly one third of the global cotton production uses genetically modified seeds. For this a gene of a bacterium (*Bacillus thuringiensis*) is applied to the cotton DNA and, as a result, the cotton independently produces an insecticide, which combats insects such as the boll weevil bug. As soon as any caterpillar chews on a leaf, it dies from the toxin. Different from a periodical application of pesticides, the toxin is always present in the field. Bt-plants also kill soil organisms, fungus, bees, butterflies and bigger animals.

In China, during the first years of its introduction, transgenic cotton increased the production by thirty-six percent. However, three years later the biotechnological insufficiency to master nature became obvious with failing harvests. The reason was an increased invasion of *miridae* insects, or capsid bugs from neighboring fields, which profited from the missing natural competition of the boll weevil bug. The overpopulation of capsid bugs not only effected the cotton fields but also the neighboring fruit plantations.

Not only do humans, animals and seeds migrate, but so do genes. Modified or not, they travel both vertically and horizontally, within and beyond species' boundaries.²¹⁶ The microbiologist Ignacio H. Chapela and the mycologist David Quist in collaboration with local farmers in the highlands of Oaxaca, Mexico found genes of transgenic maize migrating into landraces.²¹⁷ Mexico holds the highest biodiversity of maize with twenty-two thousand different varieties. It is also considered the place where the mutual domestication of maize and people started some ten thousand years ago.²¹⁸

In Oaxaca an anthropocenic scenario happened on the micro level: modified maize genes transgressed into the genome of their wild relatives. Even though in Mexico the planting of transgenic maize is forbidden in order to protect biodiversity and native varieties, the government authorized Monsanto to run 'experimental research fields' of some hundred thousand hectares for GM soya and maize in the north of the country. Seeds fly, however even greater impact has the North American Free Trade Agreement (NAFTA) which makes it possible for the US to sell subsidized modified crops in Mexico.²¹⁹ Since local maize does not receive any subsidies it is more expensive, and the cheap GM maize from the US is bought all over Mexico without mandatory labeling.²²⁰ Mexico, once self-sufficient, now has to import maize for consumption. Wild, domesticated or engineered, seeds are difficult to control, they happen to fall on the floor. Thus, the flood of transgenic maize turns even the most marginal villages into hubs of spreading Bt-genes into landraces, creating new emergences with qualities extremely difficult to predict.

After Chapela and Quist had published their findings on transgenic maize in the highlands of Mexico in the science magazine *Nature*,²²¹ a well-financed campaign was launched against them. But while their methods were disparaged as 'unscientific,' their findings could hardly be questioned. Chapela and Quist were stigmatized as being politically engaged by a scientific community that presents itself as neutral and free of any political leanings. It is extremely difficult for independent scientists involved in an ecology of practices to hold up against the

²¹⁶ Vertical gene flow is the way in which genes are passed on from parent to offspring through cross-pollination. Horizontal gene flow is the direct uptake and incorporation of foreign DNA into cells.

²¹⁷ Kara Platoni, "Kernels of Truth," *San Francisco: East Bay Express* (2002), <http://www.karapltoni.com/stories/kernelsoftruth.html>

²¹⁸ American Society of Plant Biologists, "Maize (Corn) May Have Been Domesticated In Mexico As Early As 10,000 Years Ago," www.sciencedaily.com/releases/2008/06/080627163156.htm

²¹⁹ The American government financially supports biotech crops by subsidizing water, soil, oil and machinery. For more information: <http://farm.ewg.org/>

²²⁰ Ronnie Cummins, "Frankencorn Fight: Cautionary Tales," *Institute for Agriculture and Trade Policy* 37 (2002) 1, http://www.iatp.org/files/Frankencorn_Fight_Cautionary_Tales.htm

²²¹ David Quist and Ignacio H. Chapela, "Transgenic DNA introgressed into traditional maize landraces in Oaxaca, Mexico," *Nature* 414 (2001).

influence of powerful scientific corporations. However, the Mexican government eventually confirmed the contamination and crossbreeding of local maize seeds with transgenetic ones.²²² When I asked Fox and Monsoon regarding possible consequences, they replied, that there wouldn't be any, because everyone knows that biotechnological companies, just as the military complex are here to stay, even if the economical premises are uncertain, investments are not profitable and ecological impacts are devastating. For Monsanto and other biotechs the seed contamination is not only inevitable, but even desirable, since it eases the selling of GM crops when the modified genes are already present in the fields.

From the agricultural ecologist Elisée Ouédraogo I learned that Monsanto maintains a branch in Burkina Faso since 2003 and uses the country to spread GM seeds in the West African region. The company 'experiments' not only with cotton, but also with genetically engineered sorghum and insecticidal cowpeas. Sorghum is the staple food of nearly three hundred million people in Africa. Buying up seed companies all over the planet, Monsanto holds ninety percent of the world market of genetically modified crops, including human and animal food such as soya, wheat, rape, maize, sugar beet and sugar cane. Companies like Monsanto advertise their dominance on a global scale under the slogan of *food security*. In reaction to this, the concept of *food sovereignty* was born, stressing that both, the farmers who grow the crops and the people consuming it should control the means of food production, rather than profit-oriented corporations. Endowing the earth and nature as an entity with the right to exist, persist, maintain, and regenerate itself, in 2008 Ecuador became the first country to officially embed food sovereignty in its constitution.

In Burkina Faso forced cultivation of cotton was first introduced by the French colonialists in 1924. Two years later chronic famine occurred for the first time. Interested in Marxist political economy I searched for help in Frantz Fanon's dissection of the colonial project and decolonization process. Even though the teleological understanding of social contradictions as the cause-and-cure for transformation is questionable, I admire Fanon's aim to include the subjectivities of farmers and the so-called *lumpenproletariat* in the revolutionary power house as a reconfiguration and editing of Marx, who never considered them an impetus for political change. In this respect Fanon stood Marx on his head, reversing the discourse. In a colonial system the *lumpenproletariat* migrating from the rural areas "constitutes one of the most spontaneous and the most radically revolutionary forces of colonized people,"²²³ whereas the revolutionary potential of the workers drifts towards zero,

²²² Carol Kaesul Yoon, "Genetic Modification Taints Corn in Mexico," *New York Times*, October 2, 2001.

²²³ Frantz Fanon, *The Wretched of the Earth* (New York: Grove Press, 1963), 129.

since their interests are closely tied to the interests of their oppressors. "In the colonial countries the working class has everything to lose,"²²⁴ it makes the colonial machine "run smoothly" and holds the privileged bourgeois-like position of a national political elite, who are "above all town-dwellers." For Fanon, the national elites have "modern ideas," and "will struggle against obscurantist traditions" and "old customs," like "marabouts" and "witch doctors." The farmers on the other hand hold a self-contained position. To him, their militant subjectivities were the least affected by the colonial system, which is why they constituted the biggest strength in the anti-colonial struggle. He writes, "[t]he peasants threw themselves into the rebellion with all the more enthusiasm in that they had never stopped clutching at a way of life which was in practice anti-colonial."²²⁵

Thomas Sankara, who briefly governed Burkina Faso between 1983 and 1987 set in motion a compelling form of Marxism and focused primarily on local agricultural development. Installed by a coup, Sankara supported the farmers to set up self-managing organizations and mobilized state efforts for a struggle against poverty and hunger. Through a land reform the entire land was nationalized and assigned to farmers. From Fox and Monsoon I learned that in the first two years, grain production increased by forty percent and produced a surplus for the first time and that the cotton production doubled. Sankara broke with many traditional, political realities and tried to renew all aspects of society, strongly advocating the equality of women and prohibiting female genital mutilation. There were more women in the government than ever before in any African country. He campaigned against corruption, reduced the salaries of civil servants and abolished the privileges of politicians. Suddenly ministers and teachers earned the same wages. He cut off the long-standing relations with France and, instead, turned towards Ghana, Libya and Cuba. In an unscripted speech at the Organization of African Unity in Addis-Ababa in 1987 he called for a unified refusal to pay back the national debt, arguing that the reasons for the debts were caused by colonialism:

We think that debt has to be seen from the standpoint of its origins. Debt's origins come from colonialism's origins. Those who lend us money are those who had colonized us before. They are those who used to manage our states and economies. Colonizers are those who indebted Africa through their brothers and cousins who were the lenders. We had no connections with this debt. Therefore we cannot pay for it. Debt is neocolonialism. [...] Under its current form, that is imperialism controlled, debt is a cleverly managed reconquest [sic] of Africa, aiming at subjugating its growth and development through foreign rules. Thus, each one of us becomes the financial slave, which is to say a true slave,

²²⁴ All subsequent quotes from Fanon are from page 109 of this volume unless otherwise noted.

²²⁵ Fanon, *The Wretched of the Earth*, 138.

of those who had been treacherous enough to put money in our countries with obligations for us to repay. We are told to repay, but it is not a moral issue. It is not about this so called honor of repaying or not. [...] Debt is also the result of confrontation. When we are told about economic crisis, nobody says that this crisis didn't come about suddenly. The crisis had always been there but it got worse each time that popular masses become more and more conscious of their rights against exploiters. We are in a crisis today because masses refuse wealth to be concentrated into a few individual's hands. We are in crisis because some people are saving huge sums of money on foreign bank accounts that would be enough to develop Africa. We are in a crisis because we are facing this private wealth that we cannot name.²²⁶

He emphasized the necessity of economical self-reliance of postcolonial countries and proudly addressed the successful cotton production of his country, underlining that besides growing cotton, Burkina Faso had started to further process the crop. He finally clarified that if Burkina Faso refused to repay the debts alone, he would not be able to attend the next conference. Three months after his speech, on October 15, 1987 he was assassinated. With this ambitious policy he had provoked the traditional and neocolonial elites, both inside and outside the country.

The Government, responsible for Sankara's death, resumed the old colonial relations with France, closed the cotton weaving and dyeing factories, providing nothing more than the infrastructure to the port in Abidjan. From there the cotton is exported as a raw material to other cities and the so-called world market. Since the workers constitute a relatively wealthy fraction, the labor unions are prevented from any serious activities. Any agitation to improve the living conditions of the affluent working class, would not only be unpopular, it would also provoke the enmity of the farmers. Hence, there is a discrepancy between the unions and the rest of the country. Disconnected and incapable of agitating beyond the city, the unions clearly adopted the political position of the current president, taking a special interest in the Bt-cotton plant. "The farmers should work more,"²²⁷ said Francois Traoré, union leader at the time, after the camera was turned off. The local political elites do not possess any power beyond their immediate surrounding to withstand the immensely subsidized agricultural produce from the US and the European Union, that let the prices fall below the production costs. The World Bank's policies enforce unequal development possibilities and the acceleration of harmful ecological effects, producing ever more impoverishment and discontent. This

²²⁶ "Thomas Sankara at the Organization of African Unity in Addis-Ababa in July 1987," youtube, <https://www.youtube.com/watch?v=DfzoToJEnu8> accessed February 02, 2010.

²²⁷ *sans-sucre (sugar-free)* . Directed by Elke Marhöfer and Paul Gbangou. 2005-08. Berlin and Fada N'Gourma: Courtesy of the artists. 2008. Digital File.

motivates unrestricted competition, tightening and legitimating the exploitation of the human, animal and vegetal world even more so. The capitalist djinn are strongly working their sorcery in the cotton business, confronting the farmers with unsolvable problems and making them migrate back and forth to the cities. The Compaoré Government reigned for twenty-seven years until it was overthrown by an uprising in 2014.

In India the cotton djinn introduced a collective madness. There, Vandana Shiva came up with an unsettling record of acts of passive resistance among farmers:

An epidemic of farmers' suicide has spread across four states of India over the last decade. According to official data, more than 250,000 farmers have committed suicide in India since 1995. [...] The suicides are most frequent where farmers grow cotton and have been a direct result of the creation of seed monopolies, first with hybrids, followed by Bt-cotton.²²⁸

Throughout the ages, farmers have succeeded in eluding their subjectivity, preferring strategies of refusal which tend to be more passive than active and less visible than enlightening. Becoming passive obviously does not mean to submit to power. Passive forms of resistance are just as active as active resistances. In 90 BC in China, during the reign of emperor Wu, it took 23 years to close a small breaching of a dam. The Burkinan farmers defend their unwritten laws, while embarrassing the rest of society by the fact that their social structures remain collaborative. Nevertheless, it is a bitter experience that people in the urban centers do not care much about the economic decline of the cotton production. The farmers know that there is a multiplicity of realities, which are antagonistic and sometimes diverge, however, they do not understand that an entire society is happy to wait for the final outcome of the game.

Sugarcane is as deeply embedded in the plantation system as cotton. Native and domesticated in South Asia, sugarcane was brought to the Americas by humans. At first the plant conquered the island of Hispaniola (today Haiti and the Dominican Republic) and spread from there to Cuba and many other Caribbean Islands as well as parts of the continent. Sugarcane rapidly changed entire landscapes and became a crucial environmental factor. Already in the second half of the 16th century the European colonial powers prohibited by law the refining of sugar bagasse in the New World in order to create monopolies over the distribution and further processing of the raw material. Describing Cubans "cursed heritage"²²⁹ the Cuban writer Joel Figarola points to the

²²⁸ Vandana Shiva, "War against the Earth," in *State of Things*, ed. by Marta Kuzma and Peter Osborne (London: Koenig Books, 2012), 120-121.

²²⁹ Joel James Figarola, *Death in Cuba* (La Habana: Instituto Cubano Del Libro, 2008), 40.

two concurrent economic spheres of early capitalism and the plantation economy: “the contradictory character of the socio-economical structure” he says, was based “on slave force in the field of production but on capitalistic relations in the sphere of circulation.”²³⁰ The plantation system not only influenced and changed the New World but, as Anna Tsing points out, they also: “produced the wealth — and the modus operandi — that allowed Europeans to take over the world.”²³¹ Usually the argument why Europe dominates the South refers to fitter and more skillful technologies and resources; “but it was the plantation system that made navies, science, and eventually industrialization possible.”²³² On top of that, sugarcane kept the reproduction of labor in Europe cheap, a process illustrated by Manuel De Landa, who writes that “[s]ucrose made it possible to increase the caloric intake of the underclass in a relatively inexpensive way, compared with meat, fish, or dairy products. [...] it was the most efficient one in terms of converting solar energy into calories.”²³³ By the 19th century England pumped sugar as a stimulator into every eatable tissue.

After the revolution Cuba, like many other newly independent countries, did not restructure the agricultural sector and continued to rely on sugar as the main export product. For decades it continued to run large-scale industrial plantations established during the colonial rule, focusing on sugar production and cattle-raising while following the growth ideology that aims to generate high yields with the help of a large amount of chemical input. 1965 was a turning point in Cuban history. Like many other countries Cuba introduced the economical model of the Soviet five-year plan and began to enforce the call for increased productivity. Every person of employable age had to work by law. The Prospective Sugar Plan for the first five years aimed to harvest ten million tons of sugar by 1970. Chris Marker and Valérie Mayoux made a film about the effort from material shot by Cuban directors and the ICIAC: *La Bataille des dix Millions* (Cuba: Battle of the 10.000.000, 1971, 58 minutes). It begins with Chris Marker’s critique of the European left for turning its back on Cuba because things got more serious and less experimental, for forgetting the US-Embargo imposed in 1962 by John F. Kennedy,²³⁴ the Bay of Pigs Invasion, the expulsion from the Organization of American States (OAS), the Cuban missiles-crisis and so forth. Despite the huge government mobilization, the battle wasn’t successful and the ten million mark was not reached. One crucial scene in the film is an excerpt of Fidel Castro’s speech from 24th September 1970, when he

²³⁰ Ibid., 49.

²³¹ Anna Tsing Lowenhaupt, “Unruly Edges: Mushrooms as Companion Species.”

²³² Ibid.

²³³ De Landa, *A Thousand Years of Nonlinear History*, 156.

²³⁴ Who just before the enforcement ordered 1200 Cuban cigars as his own private supply.

disclosed a detailed analysis of the economical objectives and their failings, accepting the responsibility for the unachieved goals. The plan concerned not only sugar, but also meat, poultry and fish, cement, steel bars, fertilizers, farm machinery, nickel, electric power, transportation and housing, paper and cardboard, beer and bottles, tires and batteries, leather footwear and rayon, fabrics and garments, toothpaste and soaps, bread and crackers, beans and edible fats, cigars and cigarettes. Each item is discussed in detail. In this extraordinary speech he self-critically questioned the call of the revolutionary Government for the people to accomplish the *Great Leap Forward*. Castro seems torn between the goal of equal distribution of wealth and the economic and ideological competition among nations, a competition that until today fosters the development of enforced productivity, exploiting the earth and its inhabitants. Castro is clear that he has not much to offer, beside this auto-critique, which from today's perspective might seem insufficient. However, one should not forget that Cuba up until today succeeds in abolishing hunger and malnutrition, while providing a high standard of educational and medical care for the entire population with an infant mortality lower than in the United States. For a while the Cuban government discussed openly which approach should encourage the workers' productivity — moral or economical incentives. In 1966 the revolutionary government, supported by most of the intellectuals, decided to choose moral incentives, since the model of economic incentives remained unsuccessful in the Soviet Union.

Everything changed drastically in 1990 when the Soviet Union collapsed. As a fall out, human and animal food was lacking. While the import of fuel decreased by half, the supply for chemical fertilizers and pesticides stopped altogether. Aware of having been dependent, but capable of self-critique "for having had a 'colonized mentality,'"²³⁵ the Cuban Government managed a full turnaround towards a local ecology of practices and technologies in order to revolutionize and diversify agriculture in a new and independent way. Since wheat had to be imported, root vegetables such as taro, yucca, malanga, boniato, cassava and sweet potatoes replaced bread. Various vegetables became the substitute for meat and animal protein. Running out of animal food for factory farming, the government handed out chickens and pigs to people who were able to feed them with household waste. The sugar plantations were not profitable anymore, therefore sugar based bagasse was now used to generate electricity. Eventually the government had to admit that the few remaining subsistence farmers were much more productive than the state-run large-scale industrial farming. Consequently the land was divided and distributed to 73000 *Parceleros* (subsistence farmers) with private right of use. *Unidad Básica de Producción Cooperativa* (small self-organized cooperatives)

²³⁵ Peter Rosset and Medea Benjamin, *The Greening of the Revolution* (Melbourne: Ocean Press, 1994), 30.

Cooperativas de Créditos y Servicios (a credit and education system) and *Mercado libres campesinos* (free peasant markets) where established. Reintroducing fruit rotation, the system of compost, earthworms and humus, as well as symbiotic manure plants like nitrogen-fixing leguminous plants made the soils fertile again which had been degraded over the years. Leguminosea have root nodules into which bacteria absorb nitrogen from the air and transfer it to the plant. As a reciprocity agreement the plant produces sugar and feeds it back to the bacteria. Without symbiosis farming would be impossible, without machinery it is. Since in Cuba fossil fuel was not available any longer, tractors and other heavy equipment, which had led to soil erosion, were replaced by human and animal labour. Actually, Cubans, just like many people elsewhere, want to think of themselves as city people following a modern urban life style. In spite of this, today there are more than hundred thousand peasants, eighty percent of the agricultural production is organic, and the individual farmers produce most of the food. In 2006 subsistence farming generated sixty-five percent of the overall food production even though the farmers used only twenty-six percent of the entire cultivation area. Compared to the period before the crisis, the food production had increased.²³⁶ If at the beginning of the crisis Cuba had sold the land to foreign agricultural companies and stockholders to keep the sugar plantations running, this kind of agriculture-from-below would never have happened.

For decades subsistence farming was dismissed as a work-intensive, underdeveloped, unsophisticated, impoverished way of life. However, exclusive subsistence farming barely exists anymore. Usually there is some additional small trade for a monetary income. Even though the Cuban government never supported subsistence farming before the crisis, it had always invested specifically in the infrastructure and development of rural areas and small towns (which is one reason why Havana itself seems rather rundown if compared to other Cuban cities like Matanzas, Santiago de Cuba or Camagüey). Similar to provincial life, subsistence farming is not identical with an isolated, culturally and intellectually undeveloped life style, in example first of all the improvement of food quality and the necessity to base expenses on the production costs. It has a gender perspective too, since it acknowledges the participation of women, as Silvia Federici points out, “women are the main social force standing in the way of a complete commercialization of nature, supporting a non-capitalist use of land and a subsistence-oriented agriculture. Women are the subsistence farmers of the world.”²³⁷

Besides rural farming practices, the Cuban Government also focuses on

²³⁶ For more information, Miguel Altieri and Fernando Funes-Monzote (2012).

²³⁷ Silvia Federici, “Feminism and the Politics of the Commons,” *The Commoner* 15 (2011) <http://www.commoner.org.uk/>?p=113

the expansion of capacities already present in a city, developing 'urban ecologies' by installing so-called *organoponicos* (organic gardens), which were often accompanied by a *lombricultura* (worm culture).²³⁸ Originally developed out of necessity, organoponicos were springing up like mushrooms all over Havana since the 1990s. Today there are two hundred in Havana and more than seven thousand in the whole of Cuba supplying the people with vegetables, fruit and flowers. Beside the affective component of attending vegetable growth nearby, the policy minimized the disproportional utilization of material in the city in relation to the countryside. In autumn 2006 *Living Planet Report* (a science based analysis that calculates the ecological footprint humans make on the planet, published every two years by the *World Wildlife Fund*) stated that Cuba was the only country in the world that met the criteria for sustainable development. According to the report, only Cuba managed to achieve a basic standard of living, human development (life expectancy, literacy, education) and GDP (purchasing power parity per capita) without exploiting resources to such a degree that they cannot be recovered naturally.²³⁹

Today in Cuba, one place to begin with, are human, animal and plant collaborations. It is a place to learn how plants, animals and humans can create mutually beneficial ecological practices and assemblages. When researching organoponicos in Havana, I met with René Ramos La Rosa. In 1961 the revolutionary Government sent René to the Ukraine to be trained in industrial agriculture. However, the economical crisis that struck Cuba after the collapse of the Soviet Union endorsed a different knowledge production among Cuban scientists and activists, who began to expose imbalances caused by industrial and plantation agriculture and, as a consequence, devised alternative ecological practices. René too started experimenting, and developed an ecology of practices that is based on sensitive relations involving earthworms and organic matter. René collects organic waste from farmer's markets, neighbors and city gardens for a compost laboratory; he prepares mixtures of materials and then adds about eighty different microorganisms to accelerate the decomposition process. During the decomposition the compost temperature is too high for earthworms, which is why they enter in a second step, after a cooling period has finished. Light, temperature, humidity, oxygenation are active participants within a sensitive experimentation. René's skills are based on the knowledge that derives from his collaboration with animals. Usually in the debate on food production humans have a prominent position, while animals, plants and things are either not considered or only in a subordinated role. Everything not human faces prejudices or is recognized as context or a tool. René's laboratory work is applied

²³⁸ One lombricultura in Havana is run by René Ramos La Rosa and here discussed in the section on animals.

²³⁹ World Wildlife Fund, http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/

ecological knowledge that unites the world of humans, animals, plants, matter and microorganisms. In a relational ecological understanding we have to expose ourselves to various influences and include manifold actors and external vibes, so that the earthworm actually becomes an active participant within a collective process. René takes the collaboration with the worms seriously. He cherishes the worms for many reasons, they are able to consume large quantities of matter and compost, components that even pathogens (infectious agents) would not survive — plus the worms produce the ground for plants and animals to grow. There are about 8000 different types of worms. René works with the Californian Red. There are also African and Cuban Reds, but they are smaller. He appreciates them equally and prepares for a merger of worm populations, which biologists claim to be impossible. He underlines that each worm differs in form and capacity. Charles Darwin also attentively took care of earthworms. He kept, fed, observed and touched them, blew different odors on them, ranging from tobacco to *Millefleurs* perfume, on them and claimed that their “sexual passion is strong.”²⁴⁰ Recognizing the worms knowledge, Darwin tried to figure out “how far they acted consciously, and how much mental power they displayed,”²⁴¹ ...he kind of fell in love.

Worms have no brain but a complex nerve system, which is why Darwin granted them mental power and some degree of intelligence. While without eyesight, they are able to distinguish between light and dark. They are deaf but extremely sensitive to vibration. They breathe and sense through their skin. They crawl backwards as well as forwards. They realize when it is time to migrate to other areas. They combine two opposite sexes in one body. They taste and enjoy different foods and don't shy away from cannibalism. They possess intentness that leads to a constant “voyage of discovery”²⁴² to find “new sites to inhabit.”²⁴³ They improvise and adjust themselves, they decide which available material they drag into their burrows and how to do this. This is the worm's operation (referring to Bergson's understanding of instinct) that goes beyond pure function, where hearing happens without ears and seeing without eyes but has to be understood as a cultural, singular and creative activity, merging experimentation, excess, continuity and survival.

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Even though Cuba withdrew from sugar plantation, closing the *Cuban Sugar Ministry* in 2011, elsewhere in the world sugarcane is still submitted to be produced in the highest quantity of all crops. The Food

²⁴⁰ Charles Darwin, *The Formation of Vegetable Mould, through the Action of Worms, with Observations on their Habits* (London: John Murray, 1881), 35. See also Jane Bennett (2010, 94-109) and Brian Massumi (2014, 13-14).

²⁴¹ *Ibid.*, 4.

²⁴² *Ibid.*, 16.

²⁴³ *Ibid.*

and Agriculture Organisation of the United Nations (FAO) states that in 2012 one-hundred-eighty-three billion tons of sugar were produced from sugarcane alone, drugging and stimulating human and animal food tissues, while replacing healthier ingredients. All over the world sugarcane, as a controlled plantation crop changes biodiversity and displaces both human and nonhumans from their habitats. Plantations were the beginning of today's militarized agricultural complex, affecting us with great damages. Anna Tsing clarifies that the colonial introduction of plantations had profound consequences, "plantations have shaped how contemporary agribusiness is organized, we tend to think of such arrangements as the only way to grow crops. But this arrangement had to be naturalized until we learned to take the alienation of people from their crops for granted."²⁴⁴

Satoyama Landscapes

In Cartesian philosophical conceptualizations the earth is often regarded as a natural, mechanistic and static entity without relations. However, there exist a zone of transition and transformation between the cosmos and the earth atmosphere, a passage of exchange between incoming solar radiation and outgoing earth energies. Space weather and earth energies are both pushing and pulling. Energy leaves the earth by the reflection of clouds, aerosols and its surface; or by heat emitted from the atmosphere. (However, not just energy, but forces are leaving earth; forces populated and animated by heavenly bodies.) Under this premise planet earth is not just a separate entity under the sovereignty of the sun, but connected with outer space in various ways. The transition zone is forming assemblages made up from ions, clouds, radiation, air, currents, energies, magnetism and other kinds of visible and invisible forces.

When Deleuze and Guattari ask "Who Does the Earth Think It Is?,"²⁴⁵ they address the planet as a sensational and perceptual being. One suggestion to comprehend the earth in such manner is for example to attend its surfaces, to envision landscapes as the facial expressions of the earth. Certainly, the correspondences between faces and landscapes are extraordinary, both facial lines and landscape lines are marked by nervous twitching and convulsions. They display traces of struggles against codification and colonization. For an actual "defacialization" of the landscape and the face, Deleuze and Guattari propose a thorough deterritorialization with an inhuman, that is to say a more-than-human "polyvocality."²⁴⁶ The film *Shape Shifting* outlines a

²⁴⁴ Anna Tsing Lowenhaupt, "Unruly Edges: Mushrooms as Companion Species."

²⁴⁵ Deleuze and Guattari, *A Thousand Plateaus*, 39.

²⁴⁶ *Ibid.*, 190.

landscape that could be considered such a polyvocality Deleuze and Guattari are referring to.

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Shape Shifting was made and conceptualized in collaboration with the artist and researcher Mikhail Lylov. Mikhail and I began collaborating in 2012 on the film *Primate Colors*,²⁴⁷ and since then we often work together. We did not establish an artist group, however it is important to us to collaborate. Mikhail describes our collaboration as a “mutual conditioning, where each person invents a quest for the other. Invent something new to confront two problems: first, the problem we are together confronted with together; second, the problem of confronting one another. Both problems need a solution, which should be individual, without dominating one of us. A collaboration could be understood as a distribution of passive and active roles, where the passive one is not the diminishing power, where collaboration becomes an art of receptivity.”²⁴⁸ To be receptive to each other’s interests is something I am learning from this collaboration, both, on an artistic and on a domestic day-to-day level. It helps me to understand the dynamics, the interconnectedness and mutual effects of beneficial relationships not only between us, but also between very different multiplicities and assemblages. When exploring symbiosis and collaborations among species, it seems only appropriate to strive for the same within ones own life practice. Our film *Shape Shifting* focuses on mutual collaboration too, however on the level of a landscape. It outlines what Mikhail calls a “cartography of forces”²⁴⁹ and what I call an *affective cartography* of a particular, but common landscape. A landscape without definite or specific identity, substance or resource that can be found in many parts of Asia and elsewhere, and which in Japan is called *satoyama*.²⁵⁰ Similar to the area where earth and outer space touch, a *satoyama* can be outlined as a membrane or a passage area, a zone of transition and encounters between village and mountain, between arable land and forest, between humans and nonhumans. This area is formed, transformed and maintained by polyvocal inhuman rhythms based on interspecies

²⁴⁷ *Primate Colors* directed by Elke Marhöfer and Mikhail Lylov (2014-15, Berlin: Arsenal, Institute for Film and Video Art, 2015), 16 mm (available as 2k file). *Primate Colors* traces humans and nonhumans joined in the flows of capital. It inquires into the life of Chungking Mansions, a place of shuttle traders and commerce objects, which connect Hong Kong and the Pearl River Delta with Nairobi, Djibouti, Rotterdam and Elba. The film pursues and accelerates certain methods of ethnographic and anthropological filmmaking, while neither explaining people’s actions, beliefs nor norms. Instead, it focuses on affective components of events and actions. No claims are made about the life of others. To film and to follow affects does not mean to represent an idea or a subject in a narrative of contradictions, it rather is an invitation to be mesmerized by materiality, by the forces of the running camera and the movement of things. When recording the capitalist reality of hyper-exploitation of human and nonhuman resources, one finds ones own conditions in disgraced facts, neglected aspects and ridiculed signs, rather than in the relations of production. Therefrom reality is understood as fundamentally strange, and filming becomes a form of assembling the bewildering and the obscure. Such a mode of filmmaking follows different grades of speed, light, temperature, rotation, friction, fall-off. The approach brings forth perceptions that emerge in relation to an environment, a territory or a color. In turn, images cannot be understood as exclusively belonging to human life, or culture, but are seen as produced and perceived constantly and everywhere by nonhumans and humans alike.

²⁴⁸ Mikhail Lylov in conversation with Elke Marhöfer, Berlin, June 23, 2015.

²⁴⁹ Ibid.

²⁵⁰ Satoumi describes an analog land-use practice on coastal landscapes.

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The prevailing naturalist view on nature perceives it as an organization and coordination of an equilibrium. In this perspective, nature (by giving negative feedback) smoothes, restores and adjusts disproportions and imbalances in order to perpetually return to its original state of stable completeness. This concept led to conservationist policies and management approaches of natural resources, that regard human interventions solely as contaminating and the cause of harmful damages. Humans are considered incompatible with the pristine domain of nature and were placed outside of it. Contrary to this understanding of ecology that overlooks completely fruitful human interaction with other kinds, recent research on satoyama reveals that the variety of species in the area is exceptionally high because of limited and elaborated anthropogenic impacts, rather than the untouched and undisturbed state of the land. In fact, integrated human activities and disturbances enhance nature's diversity, instead of diminishing it. Currently prized as outstanding, the satoyama landscape's multifariousness develops from a proportional utilization. This manifests how biodiversity can be sustained and enhanced through forestry and agricultural productivity. Yet, to successfully generate this kind of heterogeneity the practices of ecology have to be formed by gentle experimentation and, according to Stengers, "immanent attentiveness"²⁵¹ towards the environment. This relational association with the landscape was first described during the *Edo* period as the practices of observing (*mi*) and trying (*tameshi*) combined in the phrase *mitameshi*. These shaping processes on a landscape scale have been accomplished over a relatively long time span, suggesting that human activities were not dominant, but rather comparable and in association with the diverse activities and practices of other-than-humans. Satoyama exhibits this interactive manifold of relational practices of ecology, where the landscape, plants, animals, people, other species and organisms mutually influence each other in a sharing and collaborative manner.

Ecosystems vary. The potted plant I bought in the supermarket next door adds a small ecosystem to the ecosystem of our apartment. Plants, food, human and animal bodies connect with the nonliving components such as minerals, microbes, air, water, droppings, all within a minimal space like our apartment within a city constituting an ecosystem, just slightly bigger than the potted plant, but only a small fragment compared with the giant ecosystem of the planet. Every single component is needed for the others to survive. The potted plant and me, both filled with microbes and various other components — the difference between us is only a matter of degree.

²⁵¹ Stengers, "Actor-Networks and Cosmopolitics."

Yet, environments differ and their biodiversity varies. Some ecosystems can create enormous amounts of connections and linkages while others cannot. In Kyoto we met with Katsue Fukamachi, a researcher at the agricultural faculty. When relating her inquiry to Spinoza's dictum about the body, one can say that Fukamachi certainly tries to understand what a landscape can do? Her work focuses on the alteration of satoyama over time. She is an environmental historian who follows an ethnographical approach and takes her students, coming from Madagascar, Indonesia, Malaysia, China and other places with corresponding landscapes, to field trips in order to meet with the aging farmers and foresters. She draws attention to the importance of unwritten knowledge deriving from everyday practices, which is difficult to acquire at a university or library. From Fukamachi we learned that rice paddies constitute a central component of the traditional satoyama, while the cultivation of rice started only recently in Japan. We became aware that rice is one of the oldest plants with the highest evolutionary stability on the planet. It is assumed that classic Japanese round and middle grain rice was first domesticated in the Yangtze valley in China, where a round shaped rice grain fell into a clay pot some ten thousand years ago. Agriculture is often valued for its lasting domestication of other species, yet, domestication is often simplified. It does not only work in two directions as described by Anna Tsing, "[d]omestication is ordinarily understood as human control over other species. That such relations might also change humans is generally ignored,"²⁵² since, besides flat domestication there are various ecological practices of raising, planting, sowing, caring, gathering, as well as living in symbiotic relationships. Living with wild, domesticated and semi-domesticated species has a long and layered history in Japan and a satoyama presents a great number of fascinating variations that challenge any simplified perspective on domestication. These variations are also reflected in the many names and practices of using rice in Japan. Hayato Inoue, a farmer from the village, developed a way to carbonize rice husks to fertilize the fields and vegetable gardens. Setting the husks up in a pyramid shape around an iron stove, like a pile of charcoal, he slowly bakes them from the centre with a little air.

Both fish and rice are cultivated together in the paddy fields. They serve simultaneously as habitats for shrimps, crabs, amphibians and various other small organisms. Terraced paddy fields prevent landslides and floods, functioning as natural water filters and air conditioners, cooling down temperature and absorbing nitrogen and sulfur dioxide emissions from cars and industries. When wetlands, the most endangered ecosystems, are drained and converted to building sites or golf courses, paddy fields and water reservoir ponds become a refuge for migrating birds and other animals. The water from the mountains is channeled to

²⁵² Anna Tsing Lowenhaupt, "Unruly Edges: Mushrooms as Companion Species."

the paddy fields through small canals that connect the fields with water reservoirs. The channels are used by fishes and other animals to pass between the pools as well as by humans to cultivate herbs and vegetables, such as parsley and soybeans. A map of the channel system and its water distribution can depict the social organization of an entire village's human social organization and the broader interconnected interspecies histories and associations.

One early morning we were asked to film a farming practice with fire, locally called *kishiaki*. In *kishiaki* the farmers regularly use fire to change the composition of plant varieties in a certain area. We learned that fire augments and revives nature's diversity, whereas its suppression, hinders seed germination and the growth of lower plants, eliminating animals that depend on these plants. Human burning practices, but also natural fires have often been suppressed based on the perception that nature's 'natural state' would be damaged. Therefore, these human and nonhuman fire practices are nearly extinguished in many parts of the Western world. Today this absolute prohibition of fire farming practices has changed slightly and some states like Australia and the United States under the pressure of the aboriginal and native people have adopted a course where fire is not fully extinguished as Don Hankins and Christine Eriksen describe in a shared paper on fire practice with a focus gender.²⁵³ Hankins researches and carries out workshops about Native American burning and fire practices in the Californian landscapes, where fire, utilized at landscape scale, had been suppressed by the colonial rule since the late 1800s. Don Hankins himself holds Plains Miwok ancestry from the Central Valley and Osage ancestry from Missouri, but he had to relearn Miwok language from a language archive.²⁵⁴ Currently people often seek assistance from colonial archaeological and anthropological records to restore and reconnect with lost knowledges and practices. Ironically "the knowledge of indigenous fire practices persists in varying formats"²⁵⁵ Hankin and Eriksen state. While studying art in Chicago, I went to visit the Pueblo villages of New Mexico, Arizona and Colorado little more than hundred years after Aby Warburg. In the Walpi village on the First Mesa I met a man who was working as a firefighter in the Gulf War I. He was on a brief respite waiting to be picked up again a few days later by a US military helicopter, to take him and his colleagues to the Kuwaiti oil fields to extinguish fire that the inextinguishable war had inflicted now on other people and their environment.

²⁵³ Christine Eriksen and Don L. Hankins, "Gendered dimensions of traditional fire knowledge retention and revival," *The Routledge Handbook of Gender and Development*, 1 (2015), 129-137.

²⁵⁴ The California Language Archive (CLA), at the University of California, Berkeley.

²⁵⁵ Christine Eriksen and Don L. Hankins, "Gendered dimensions of traditional fire knowledge retention and revival," 131.

From my own childhood I remember my father discussing with other farmers the best time to burn the fields. They waited for the right humidity and a good wind, careful not to let the fire pass over to other fields. However, suddenly fire was banned. The smoke, emitting natural aerosols, was now considered air pollution and a health hazard, while agricultural machinery, cars, lorries, aircrafts, power plants, domestic heating systems burning fossil fuels were not considered a problem. By the end of the 1980s burning practice used by farmers on a landscape scale had disappeared completely from the West German countryside. Ichiro Yamashita, a farmer from the village is very cautious, using a bamboo stick with a tiny flame, easy to control. We learned that burning practices not only fertilize the soil but help grasslands to reduce and suppress species, which prevent further grass from growing. Plants perceive and control their surrounding. It is known from oak and walnut trees that, when samples from other tree varieties try to settle nearby, the trees release toxic compounds. This also applies to grass grappling with woody plants and trees. Grazing animals, the removal of leaves and wood fuel, as well as periodical fires reduce this challenging effect for grass. Fires, be they of human or other-than-human origin, release minerals such as nitrogen, phosphoric acid and potassium, thereby creating herbaceous layers, a flush of green growth. Fires intensify the variety of species adapted to grasslands, and make room for an open and airy landscape that invites animals to graze and provide a habitat for many organisms.

These grasslands are important elements of satoyama, even though they are relatively small in size. It took us a while to understand why. Being accustomed to large pastures in Europe, we noticed all of a sudden the almost complete absence of farm animals. We realized that we hadn't heard a cockcrow once. Where were the cows, horses, pigs, dogs, geese, ducks, chickens, goats and sheep hidden? Were they all imprisoned? That did not seem to match with the interspecies relationships of the landscape. Didn't any free-range semi-domesticated animals exist? When I asked our friend Ayumi regarding the whereabouts of the farm animals, I understood from the puzzled look on her face that animal husbandry was not part of the satoyama landscape. After a while she remembered the existence of a pig farm somewhere on the outskirts of a neighboring village. As in the Americas, wild horses once existed in Japan but did not survive until they were reintroduced in the 5th century by the Chinese, who were stunned like us about the absence of animals when coming to the island. With a background of subsistence hunting, the concept of raising animals for meat production was never fully established and meat from domesticated animals was not the normal diet. There are different speculations why this is the case, however, none of them is convincing. According to one theory with an

economic focus it is a costly choice to share cereals with animals, while non-pastoral vegetable farming can provide foodstuffs for more people.²⁵⁶ Another cultural explanation attributes the lack of domestic animals to religion, assuming that the introduction of Buddhism in Japan caused a strict ban of meat over periods for centuries, “anyone who ate with someone who consumed meat was ordered to fast for twenty-one days, while anyone who ate with someone who ate with someone else who consumed meat was ordered to fast for seven days,”²⁵⁷ the consumption of beef and horse meat was not an option. However, this doesn't mean it isn't consumed today. Meat is imported and the amount is rising, while vegetable and rice with fish remain the primary sources of food.

We gathered footprints of wild boars in muddy soil near the rice field, and stared at buzzards drawing circles in the sky, searching for insects and frogs. We understood that woodlands are the most important aspect of the satoyama landscape, rather than rice fields or pasture farming. Woodlands are deeply entangled with various interspecies practices, creating an abundance of natural diversity. Lacking animal manure, Japanese farmers developed various practices to fertilize the vegetable fields with organic materials. Practically gathering just about everything from forest floors to generate green manure and fire wood. Clearing and coppicing stimulates growth and produces open and dry forests that attract not only birds, insects and plants but also bigger animals, such as deer and wild boars. These forests provide a rich habitat for many plants and animals. We visited Yoshioka Tokuo with Fukamachi, a charcoal burner in Kamiseya. He explained that satoyama forests are inhabited by oaks, red pines, white birch and evergreen coppices, providing dry leaves for compost, smaller branches for firewood and bigger trunks for charcoal. Cedar and cypress are used for timber production. Forests are dynamic communal systems, in which trees leave chemical trails to befriend or to get rid of other plants and animals. As mentioned above, oaks, like other plants too, perceive and react on their environment. Oak forests release harming compounds that effectively prevent other tree varieties from growing, but shiitake mushrooms like to grow in such forests. Oaks, birch and common beech are perfect habitats for shiitake. To cultivate the mushroom Tokuo cuts the trunks of the trees, without splitting or peeling them. They should be healthy, free of any other fungus and stored standing up for at least four weeks outwitting the tree's immune system. After a heavy rain the mushroom spores can be installed into the stems. Some people knock on the tree trunks from time to time to imitate the vibration of thunder which, they say, stimulates the mushroom's growth, turning a

²⁵⁶ For a detailed review please see Alan Macfarlane, *Domesticated animals in Japan*, 2002.

²⁵⁷ Zenjiro Watanabe, “The Meat-eating culture of Japan at the Beginning of Westernization,” in *Food Culture* 8 (2004) 4.

tree into food. Giant bamboo migrated from China to Japan. It provides edible sprouts and when grown up material for numerous items of daily life, ranging from tools to furniture to chopstick rests to cloth to charcoal. However, only a few of these applications are still in use, but if the giant bamboo is not coppiced regularly it becomes truly giant.

Due to the use of fossil fuels the carbonization of wood or bamboo to make charcoal disappeared in the 1960s from Japan and the managed forests experienced a decline. It is regarded as one of the oldest human practices and the knowledge gained from it still helps to understand current energy problems. Tokuo is one of a few charcoal burners left. The absence of regular human intervention and disturbances in recent decades has changed the ecosystem of satoyama, and Tokuo's practice is on the very edge of extinction, too. Many grassland and forest species have been lost or reduced in size. Forests and rice paddies are overgrown, or covered by monocultures of fast growing pine tree plantations. In such plantations one might still recognize the terraces of the former rice paddies. Monocultures come with a reduction of human and nonhuman practices. When human activities that strengthen and maintain diversification processes disappear, other-than-human practices also retreat. Besides the preservation of pristine environments Katsue Fukamachi highlighted a few times the importance of conserving human influenced environments to protect biodiversity.

Fruit trees such as persimmon, plum and cherry are not grown in forests, but are directly linked to human life and often appear as single trees with hedges. The blossoming of such a tree marks a seasonal highlight in the year. During the filming of *Shape Shifting* the fruit tree blossoming hit the region. In Japan the weather report follows and records the progression of the cherry blossoms that of a hurricane. The term *hanami* means to view the flowers, or rather to become a flower, however, there is a special expression for looking at flowering cherries and plums: *kan'ō* and *umemi*. Since the Edo period this blossoming is being collectively celebrated and meticulously narrated every year. People spend time with selected trees. They are visited, kept under observation, commented on and photographed from the south of Okinawa to the north of Hokkaidō, from urban cities to marginal villages. Cherry and plume trees are loved but not sacred. Sacredness is more an attribute of large old trees, often cedar or ginkgo growing near Buddhist temples or Shinto shrines. Besides the shrines, satoyama landscapes also contain large numbers of sacred groves in forests and in-between rice paddies, creating patchworks of unused and untouched spots, sheltering deities, legendary animals, ancestors and other species to blossom and to protect farmers working in the fields and in the woods. Untouched over centuries, these sacred patches are archives of species. Fukamachi pointed out that their size varies from a single tree to an entire mountain. Even though the pure joy of hanami is highly

commercialized today, the felling of a famous cherry or ginkgo tree or the removal of sacred site is still feared for bringing bad luck.

When the nuclear disaster in Fukushima happened on March 11, 2011 we were in Baracoa, following the details from the Cuban radio about the meltdown of the reactor, the high amount of radio activity released from the plant, contaminating the air, soil, land, sea water, plants, animals and humans, in short: everything. Three hundred thousand people were evacuated, some of which eventually found new homes in other parts of Japan, while many did not. A lot of people died and some still live in shelters. Nuclear disasters are scaled according to their impact, like cherry blossoms. As in the case of Chernobyl, the Fukushima contamination is scaled on the highest level possible, a major accident. But in contrast to the great *Great Tōhoku* earthquake and the tsunami flood that followed, nuclear disasters are large scale disturbances made by humans, foreseeable and preventable. A nuclear power phase-out and turn to renewable and sustainable energies seems relatively easy for Japan, possessing unique technical and natural capacities and capabilities to transform the landscape's power into electricity. In our film we tried to collect some of these transformations and energy shape shifters that are already present in the satoyama landscape. Beside the solar panels and micro wind generators in tea plantations, we discovered a micro hydro power station in Nobutoshi. Built at the beginning of the 20th century, it is still in use. The site of the electricity plant is sacred and called *Komakaesinotakijizou*. Described in a single term a stone statue of a child Buddha, a waterfall and a place for changing horses. We also included a biomass factory in our film that started as a green offset of Sony company and survives today independently. The factory takes industrial clean and homogeneous organic waste (such as unused mayonnaise-potato mixed salad) from local food companies to generate methane gas and both dry and liquid fertilizers for organic farming. Current research on satoyama critically reflects on a possible univocal rather than relational and polyvocal use of the carbon fixing landscape, a controversy initiated by the *Kyoto Protocol*. It became apparent that the complex carbon trading system is not only inadequate to prevent climate change, it on the contrary it creates new inequalities on the global and local level. The Kyoto Protocol enables big corporations like Sony to invest in small sustainable enterprises to buy carbon credits in order to continue their carbon emissions elsewhere. For industrial companies, buying and selling carbon credits is easier than cutting their emissions. Labeling the satoyama landscape as a possible green-offset or a biomass energy commodity to be traded on the carbon market would help major polluters to formally reduce their carbon footprint. To prevent this from happening, scientists and activists emphasize that, "satoyama landscapes

are not fossils”²⁵⁸ that could be traded. Defining materials that were previously generated and used by a multiplicity of interspecies practices in various relations, as ‘biomass’ turns them into mere resources for the production of energy. This introduces a further structural shift downgrading the manifold of ecology of practices into another one-sided exploitative economic relationship. Yet, there are innumerable multiplicities of practices of ecology within a satoyama landscape, which, as the *Bernard instability*, are not built on causalities, but on quasi-causalities and random movements, on affects and interspecies alliances. In such an environment the Western concept of ‘nature’ turns from an exclusive *oneness*, into a polyvocality of ‘natures,’ so that there exist as many natures or ecologies as there are symbiotic practices carried out between humans and nonhumans.

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In 2009 we moved to Shanghai and ended up staying for one and a half years. In Hongkou, an old district where we lived, many people were rather cynical of the dreams of progress, represented by the steadily growing financial districts and forcefully spread by the World Expo 2010 slogan *Better City, Better Life*. As local residents they had little to do with Pudong and its colonial mirror image, the Bund. Often, and in direct contradiction to official policies, they did not intend to leave their homes to make space for modernization and its *Better Life* doctrine. They also refused the present-day understanding of privacy, insisting to hang out the washing in the lanes and alleys. Some neighbors were Mahjong addicts, not even attempting to hide their passion, a clicking sound of tiles flu out open windows. Others were walking down the streets with a waddling gait, wearing pyjamas, like sleepwalkers through long past decades. Here we learned about cricket fighting and how to play with them. Champion crickets can become famous. When they die they receive a special funeral service, while losers are fed to the birds. During the *Cultural Revolution* cricket fighting was banned as a bourgeois leisure activity. Today many famous hotels host cricket fights. In 2010 more than four hundred million yuan were spent on crickets. This reminded me of Donna Haraway’s *When Species Meet* where she describes how dogs became both a precious commodity with a pedigree and an important consumer at the same time. Provided almost with a citizen-like status, dogs and other pets “acquired the right”²⁵⁹ to psychological and physical health, which leads to plenty of new business opportunities: pet toys, designer animal furniture, fashion and accessories, (organic, health and vegan) food, health insurance, education, day-care and vacation packages, age-related needs and therapy (soul treatments) with problems they have with their current or

²⁵⁸ Makoto Yokohari and Jay Bolthouse, “Keep it alive, don’t freeze it: a conceptual perspective on the conservation of continuously evolving satoyama landscapes,” *Landscape Ecology* 7 (2011), 215.

²⁵⁹ Donna Haraway, *When Species Meet* (London: University of Minnesota Press, 2008). 49.

previous owner, or simply because they are left alone too often.

We learned how to feed the crickets, to make them feel comfortable so that we could listen to their chirping sounds. The crickets travelled with us. They attended the art school and went to movies. In the spring and again in autumn, we were hungry to see China's "peasant landscapes"²⁶⁰ as Anna Tsing calls them, to describe how agriculture and forestry form large terrains and in the same time keep their heterogeneity undamaged. We went to Yuanjiang in the Yunnan Mountains to learn about rice paddies and forest farming and to start working on a new film.²⁶¹ The well-researched but less vivid practice of satoyama in Japan, is wide-spread in China, too, while not studied and analyzed as such. However, one doesn't always need references to learn about unbound surfaces. In Yunnan the forest mountains are giants. They often served as *hinterland*, as space for both refuge and resistance, to escape forced labor and stratification, "it makes best sense to see contemporary hill people as the descendants of a long process of *marronnage*, as runaways from the state making projects in the valleys,"²⁶² James C. Scott states. The terraced rice-paddies are at least one thousand three hundred years old. They are built on the steep mountainsides by the Han, Hani, Lisu, Ho and Yi people, different societies drawing lines of flight, slipping away from the stratification of Chinese state civilization and culture. Today China officially recognizes its 'minorities,' trapping them in folklore, while developing a tourist economy around them. Even though the mountains are huge and the paddy fields can reach up to two thousand meters, the temperature never drops below zero due to the sub-tropical climate. The Hani claim to recall all the names of their ancestors, starting with the first one up until the latest newly born baby. A collectively developed irrigation system manages the water running down hill to flood the terraces. Peasants constantly collect wood, branches and leaves from the forest that nevertheless seems more disorderly than any overgrown and undisturbed forest in Japan.

From Xinjiezhèn we went to Xishuangbanna in the southeast of China near the border to Laos and Myanmar to find out what was left from China's rainforest. There we made a short film about a *Fragmented Forest*.²⁶³ A fragmented forest is cut down in a manner that leaves behind small, isolated patches, which then become sites — sites for ecological research on biodiversity or leisure parks. Outside these patches the forest most often is turned into rubber tree plantation. In one of the patches we found a tree that was worshiped by the

²⁶⁰ Tsing Lowenhaupt, *The Mushroom at the End of the World*, forthcoming.

²⁶¹ *permeable super real*, Digital Video, 33 minutes 33 seconds, China, 2010.

²⁶² Scott, *The Art of Not Being Governed*, 127.

²⁶³ *Fragmented Forest*, Directed by Elke Marhöfer (2012; Berlin: Courtesy of the artist, 2012), Digital File.

inhabitants, plantation workers, farmers, lumberjacks, cleaners, tourists, ecologists alike. Within the ancient concept of rebirth a loss of biodiversity is impossible, since everything is reborn perpetually. If too much pressure is caused due to too much fishing, hunting and logging, deceased beings come back to life as scary ghosts or bestial animals.

When we returned to Xinjiezhèn a tree had tilted, which was more than one hundred years old, the villagers came to set it upright.²⁶⁴ While the people maintain a spiritual relationship with their surroundings, the Chinese administration is mainly concerned with tidiness, forcing them to keep their villages clean from plastic waste, so the tourists won't be irritated. The Hani are famous for their great devotion to the spirits of their ancestors and for their polyvocal singing. A death in a near village inspired weeks of singing, music-making and celebrations. We, on the contrary, merely learned to sing along with Chinese pop musician Zhou Hong, popular in the 1980s: 暖..暖..暖ài... ài... ài... 白云飘飘小船摇又摇 bái yún piāo piāo xiǎo chuán yáo yòu yáo... White clouds floating and little ships swing... During the rainy season opaque mist with its color of white dust moved like water creatures through the small town, the villages clinging along the mountainsides, covered with ghost forests, filled by the sound of chanting geese.

Prenda-nganga-enquiso-makings

Understanding matter by looking at its varying and constantly alternating qualities, such as colors, shapes, textures, shadows, odors, and sounds (rather than describing it from an analytical perspective), Bergson unambiguously points out that, “matter is an aggregate of images.”²⁶⁵ Like the body, matter is “a self-existing [moving] image.”²⁶⁶ Pointing to the fact that matter is an ecological material that reacts to its environment rather than being immobile and without any response, cybernetics (when connecting with ecological thinking and practice) applied extensive uncertainties to the animate and the inanimate, the organic and inorganic. Matter (even though it might be fragmented and simple) is equipped with a feature that allows all matter to reproduce itself and to develop components for dynamic modifications, to be producer and product at once.²⁶⁷ Like plants and animals, or forests and landscapes, matter organizes, memorizes and creatively produces territorial assemblages. Not only does it select what is necessary for its reproduction, it also expresses the need for new encounters. Similar to

²⁶⁴ Keith Basso (1997) developed the concept of “storied landscape,” from his research among the Western Apache, where mountains, valleys, stones and trees are considered to be active players, teaching the younger generation in spiritual and educational matters.

²⁶⁵ Bergson, *Matter and Memory*, 9.

²⁶⁶ *Ibid.*, 10.

²⁶⁷ The neurobiologist Humberto Maturana, together with Francisco J. Varela, termed this recursive process “autopoiesis.”

swarm behavior, bacterial communication, computing networks and other forms of organization, both natural and artificially produced matter arranges itself within its environment. Deviating from Marx's materialism, with a strong attachment to Deleuze, the metaphysics of new materialism address inorganic matter as being capable of multiplying in a manner similar to morphogenesis described in biology. The discussion evoked by Manuel De Landa, Rosi Braidotti, Karen Barad and others, acknowledges that these processes have agency, or better are forming enacted alliances.²⁶⁸ A new materialist film practice, how I understand it, is entangled and immersed in the movement of disparate materials in various ways. Matter, neither determined by identity, nor passive essence, but instead inventive, excitable and productive, traverses human activities and achievements. The plane of material challenges ontological definitions and epistemological conclusions and creates new onto-epistemological assemblages. Or said differently, matter exchanges matter by way of becoming other. Moving images generated by alternating matter, turn film into an "active participation in the mutations of matter,"²⁶⁹ as Luciana Parisi requests. Parisi gets to the heart of this metaphysics when she argues that ontology is only problematic when it tries to define a set of living entities, when life is mistaken as an, "organic living energy as opposed to the inorganic energy of death."²⁷⁰ Be it a rock, a dog, a bottle, a planet, a bacterium, or a potted plant. If one stops tying oneself to the idea of being human, one may as well cross boundaries with inactive things, entering processes, developing capacities that unfold within certain existential modalities which might have nothing to do with life.

We met Vladimir Alba Peraza during an afternoon walk. Vladimir Alba Peraza lives on Calle Neptuno, probably the noisiest and most polluted road in Havana, where it leads uphill and the cars accelerate. In a small alley he sparsely displays some familiar and unfamiliar materials (unlike the displays of the fast-growing self-employed shops, which came with Raul Castro's liberalization program): honey, herbs, wooden sticks, chalk, puppets in translucent plastic bags, some coconuts in a little wagon and glass bead necklaces, everything covered by a layer of grey or black. Vladimir overlooks this non-store with a mirror from inside his apartment, where the grey and black coating continues. He is the outcome of the entangled modern history between Cuba and the Soviet Union. Blond, blue-eyed, anarchistically unemployed, a *Palo* priest-practitioner-trainee, and just like other sorcerers he is searching for

²⁶⁸ Rosi Braidotti, *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory* (1994), *Metamorphoses: Towards a Materialist Theory of Becoming* (2001), Manuel DeLanda, *A Thousand Years of Nonlinear History* (1997), Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007).

²⁶⁹ Fuller, "Interview with Luciana Parisi."

²⁷⁰ *Ibid.*

various kinds and diverse ecologies of knowledge. By studying the variety of relations between people, plants, animals and things, Vladimir can actively heal and sometimes harm others. Behind the front door he had installed a *prenda*. The Spanish term “prenda” can be translated as pledge or pawn. It also describes a cauldron that contains a collection of things central for Palo. Palo is a modern Cuban invention. It is a sorcery technique or healing practice influenced by Kongolesse linguistics and aesthetics and by the forced individualization brought about by colonialism and slavery. The term Palo refers to wooden sticks, regarded as central in the use of setting “fire to the fate”²⁷¹ of others as the anthropologist Todd Ramón Ochoa suggests. The sticks also play a crucial role for the construction of a *prenda*. It doesn’t seem farfetched to relate *prendas* to the boilers used in plantation boileries, which convert sugarcane juice into raw sugar. The juice, heated in a large kettle, purified with lime and then channeled into increasingly smaller ones.

To understand *prendas*, *ngangas* and *enquisos* not as separate parts but as linked and engaged with one another, I refer to Ochoa’s work on Palo and his writing *Society of the Dead*. To come into being, a *prenda* requires a collection and careful composition of often formless and seemingly infinite materials. These materials are called *nfumbe* in Bantu. They stem from mountains, forests, fields and riverbeds, from the floor of the house, from human, animal and plant remains, and can be made of crafted objects, too. It seems relevant to underline that neither the structure, nor the substances of the materials are important, it is rather the weaving of a relational texture of places, objects and bodies that is significant. Emerging from powerful compositions, into which all the different parts enter, a *prenda* forms unlimited connections and often unforeseeable affects, which then influences the life of the *nganga*, or healer, and his or her customer. In some way the dead, or *enquisos*, and their properties also play their part. As is well known, the dead have many forms of expression, they can appear through “a bit of sawdust from a powerful tree,” or through a song or story. The dead are activating the milieu. They are, as Ochoa writes, “best imagined as an uncountable spreading.”²⁷² A *prenda* activates and binds people, animals, plants, matter and linguistic materials into an assemblage — a machine with lots of relations to the outside.

Each *prenda* is given an individual name, like *Zarabanda 7 Rayo* for example. Consider for a moment that you are a charged object. Become indifferent to what usually is mutually exclusive, object and subject classifications, for example. A *prenda* is an individualized

²⁷¹ “In pragmatic works of healing, these sticks are used as kindling to set fire to the fate of a healer’s rival, or to burn out ill-intentioned dead permeating the body of a healer’s client.” Todd Ramón Ochoa, “Prendas, Ngangas, Enquisos: Turbulence and the Influence of the Dead in Cuban-Kongo Material Culture,” *Cultural Anthropology* 25 (2010), 389.

²⁷² Todd Ramón Ochoa, *Society of the Dead*, (Berkeley and Los Angeles: University of California Press, 2010), 14.

singularity, charged with countless relations constituted by pre-individual matter that contains life and death with all its material and conceptual forces. Ochoa's acknowledgement of the assemblage is compelling. He writes, "prendas-ngangas-enquisos are certainly not objects as these exist in a dialectical universe of subjects who act and control, and objects that receive action and only submit to control. They are far too active in revaluation for this to be the case,"²⁷³ providing a penetrable and accessible understanding of things and persons.

Linking animism with Williams James's radical empiricism, Stengers draws attention to practices of magic known from the everyday, such as the magic of a landscape or an event. Neither a trope, nor a metaphor this magic is an art of participation, it is "doing its thing" entirely without our contribution, while we are still taking part in it.²⁷⁴ What makes Stengers' ecology of practices so attractive is that it is intimate and encompassing, attentive and affective enough to accommodate many compositions and procedures without devaluing or encoding them. Thinking witchcraft together with holy Marie, and cats with old women, as Stengers does, is itself a magical practice, stressing common distinctions and creating perfectly conflicting ontologies and epistemologies. When acting under the premise of becoming with (where one has to change for the other to become), modes of filming and modes of writing can carry forward many different kinds of influences. Always already based in the middle of interspecies relations, the animate and the inanimate, filming amplifies a sense of on-going processes and forces — and puts itself in relation to them. It picks up and also constructs human and nonhuman affects and forces. Rethinking anthropological accounts of sorcery, for Deleuze and Guattari, both humans and not-so-humans are occupied by all kinds of beings, which have their own substances and processes and vary only regarding intensity and quality of the connections that are attached to all beings and matters, animate or inanimate. There are many examples of rhizomatic connections and linkages that reach across the boundaries of kinds, "[w]e believe in the existence of very special becoming animals traversing human beings and sweeping them away, affecting the animal no less than the human."²⁷⁵

The practice of prenda-making in Palo seems very much related to Deleuze and Guattari's notion of a *Body without Organs*. Tackling the discrimination between animate and inanimate, Deleuze and Guattari

²⁷³ "In pragmatic works of healing, these sticks are used as kindling to set fire to the fate of a healer's rival, or to burn out ill-intentioned dead permeating the body of a healer's client." Todd Ramón Ochoa, "Prendas, Ngangas, Enquisos: Turbulence and the Influence of the Dead in Cuban-Kongo Material Culture," 405.

²⁷⁴ Stengers, "Actor-Networks and Cosmopolitics."

²⁷⁵ Deleuze and Guattari, *A Thousand Plateaus*, 237.

push forward the French poet Antonin Artaud's biopolitical experiment of, "How do you make yourself a body without organs?"²⁷⁶ by applying it to Spinoza's philosophy of immanence. The *Body without Organs* is not a concept, but a practical manual. Or rather, it is not a single practice, but "a set of practices"²⁷⁷ very much related to an ecology of practices. Practices, which are "permeated by unformed, unstable matters,"²⁷⁸ practices which make virtual intensities circulate. That is that if we stop tying ourselves to the idea of being a closed-up entity, we might be able to cross the boundaries of things and living beings. However, caution is required, since these virtual intensities, if not properly installed, can cause real death of actual bodies, which is why these practices are strongly regulated, though not in a governing fashion. A *Body without Organs* cannot be fabricated to reach signification or a higher entity, such as an organism, or a society, instead it is made for individual, non-personal singularities. In Palo too, there is no governing authority, it consists of many versions and each practitioner cultivates a singular aesthetic with different affective qualities. Both, Palo and *Bodies without Organs* relate to the field of immanence as something that has to be fabricated, piece by piece. The crucial part is to figure out which pieces can go together. Understanding Palo as an ecological practice the film *prendas — ngangas — enquisos — machines* seeks to adopt its approach of arranging and interacting with the surrounding material, thereby turning filming into an open-ended epistemological-ontological mode of practice, where materials, processes and forces can interchange and charge one another.²⁷⁹

In Havana we often encountered prendas in apartments or open entrance doors, but *Zarabanda 7 Rayo* in Vladimir's house still impressed me a lot. When I met her the second time, she had moved from behind the entrance into a closet on a bed of earth. She grew steadily, in correspondence with the development of Vladimir's apprenticeship. This time she had gained a bigger iron cauldron with more sticks and knives sticking out, a small terra-cotta jar and a white string of pearls as a protective charm, clarifying that she needs protection, too. She was dirty with dirt brought from the countryside. Inside the dark closet dirt and some decaying of matter displayed a vibrant range of forms and colors: a small urn with little sticks holding up

²⁷⁶ Ibid., 149.

²⁷⁷ Ibid., 150.

²⁷⁸ Ibid., 40.

²⁷⁹ Encountering these events and practices owes a debt to the bequest of the traveling, which itself is a result of anthropology and colonial modernity. Disarticulating, rather than articulating certainties, following the legacy of an anti-colonial cinema new interpretation of ethnographic film artists and collectives like Ben Russell, Ben Rivers and the Harvard University's *Sensory Ethnography Lab* are specifically dealing with the impossibility of semiotic, audiovisual and phenomenological representation, but nevertheless do not shy away from a deep engagement with the moving image, its materiality and history. Spirited, these artists work without directed visual references to colonial anthropology, but seek, as Ben Russell describes it, for practice "whose aim is a knowledge of the Self/self, a movement towards understanding in which the trip is both the means and the end." For a deeper discussion please see Ben Russell website: <http://www.dimeshow.com/>

a flake of blue fabric, accompanied by an empty translucent plastic cup, and a coconut shell with freshly brewed coffee inside. A small candle was burning in the front, indispensable in spite of its scarcity and high price. The smell of coffee, rum and cigar smoke. No blood. No sacrifice. Just techno music from the TV mixed with the sounds of passing cars and a chicken clucking.

Pansori's Endless Enunciations

We departed from China on a ferry to Seoul. The harbor of Qingdao is relatively small, but huge quantities of products are shipped from there to destinations all over the world. The ferry boat, also relatively small, mostly used by Korean and Chinese tourists, features a karaoke booth. From there we started the film *No, I am not a toad, I am a turtle!* on a Korean song form called *pansori*. In Seoul we met with Choe Tong-hyon, a musicologist who recently translated pansori stories into English. His expertise and friendship allowed us to gain deeper insights into the practice. As an oral tradition, long unwritten, elusive in its history, it is believed that pansori descended from shaman epic singing, or *muga* and was performed as a practice of chasing away evil. The term pansori consists of *pan*, for public space and *sori*, for sound. Carried out by only one singer, the *sorikkun* and one drummer, the *gosu*, it is regarded as an immaterial, collective, oral entity without single authorship. Today only five stories remain. The performance alternates between chanting and narrating. The narration of specific events can take up to six hours, and even longer. Making use of interludes, the film replaces a script with a pansori story as an organizing underlayer. Its title refers to a pansori song, telling the story of a turtle that is locked in a catch-22-situation with a hungry tiger. In pansori wordplays, invented stories and improvisations are de- and reconnecting the singer to different interspecies territories or milieus. If one compares, classic (and many modern) orders of narration, in which everything is separate and distinct, with the storytelling of pansori, one realizes that in pansori the narrator constantly switches between different characters: he or she overrules human, animal, gender and age specifiers. Expression and content, matter and life, fuse and establish different degrees of power, new virtualities. Guattari, when rethinking the production of subjectivity, emphasizes “the ontological quality of expression.”²⁸⁰ If expression is in itself no less than an ontological quality, the familiar distinction between content and form becomes far less clear. Guattari continues to speculate about what he calls “enunciative assemblages”²⁸¹ — substances of expression which do not remain “only in semiology and semiotics, but [advance] in domains that are extra-linguistic, nonhuman,

²⁸⁰ Félix Guattari, *Chaosmosis*, 22.

²⁸¹ *Ibid.*, 24.

aesthetical, biological, etc.”²⁸² Installing expressive substances in discursive chains of a song, pansori moves into exceptionally heterogeneous extra-linguistic, nonhuman, aesthetical and biological spheres. In pansori expression and content fuse and establish new, non-discursive virtualities. These virtualities, or degrees of power, are not in opposition to the reality but rather composing it. Deleuze uses the term “virtual” differently than earlier exponents of cyberculture. The philosophical term simply refers to that which exists, it “is not universal, or even general, but singular; it is not actual, but virtual-real; it has, not invariable or obligatory rules, but optional rules that ceaselessly vary with the variation itself, as in a game in which each move changes the rules.”²⁸³ Language for example contains the virtual. In pansori songs the virtual and the real blend. Bordering on object and subject fusions that are known from affective processes (as trance and hypnosis), pansori not only leaves open what exactly is natural and what is cultural, organic and inorganic, it also opens up for microbecomings and transversal mutations.

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In his article on early sound recordings of pansori, Keith Howard explains that capturing the music “began as something foreign.”²⁸⁴ In 1907 Columbia Gramophone Company (US) made the first recording to be followed by Victor Talking Machine (US) and Nipponophone (Japan). The purpose of these recordings was not ethnographical, as one might expect, but to boost sales of the new hardware, the gramophones, for markets mostly outside of Korea. Pansori was suitable for acoustic recordings, because the cutter that carved grooves into the disc in order to produce sound waves required concentrated energy. The easiest way to achieve this was to have a vocalist singing into a horn. Since it was technically impossible to do this in Korea, the musicians had to travel to Japan or the US.

By the end of the 1950s, Korea was vastly deterritorialized and modernized as a result of Japanese and Western colonialism. By then the heyday of pansori was over. Moreover, Western colonialism had introduced Christianity to South Korea. Today more than one third of the South Korean population are Christians. South Korea has the highest percentage of Christians in East Asia. The popularity of the Christian Church can be explained by its role as a principal agent of the economic and political adaptation to a capitalist consumer society and by the democratization movement from the 1950s onwards. Aiming to include local spiritualism, as Andrew Eungi Kim points out, “Christianity [...] adopted shamanic emphasis on the fulfillment of material wishes

²⁸² Ibid.

²⁸³ Deleuze and Guattari, *A Thousand Plateaus*, 100.

²⁸⁴ Keith Howard, “Recording Pansori,” in *Pansori* (Seoul: The National Center for Korean Traditional Performing Arts, 2008), 163.

through prayers to or communication with spirits as a belief of its own.”²⁸⁵ Christians also made several attempts to occupy pansori by writing Christian pansori stories. Even Pak Dongjin, a very popular pansori sorikkun wrote *Yesujeon* (Jesus Story), which was not successful. Pansori and Christianity seem to be mutually exclusive. Other attempts to upgrade pansori into a modern life style similarly fell through. Nevertheless, Kim suggests that capitalist djinn and Korean shamanism entertain a certain connection:

While there is more to the spirit of capitalism than the acquisitive impulse and pursuit of wealth, Shamanism’s singular emphasis on material successes as the supreme goal of its belief does seem to converge with certain aspects of capitalism. This is not to argue, however, that Shamanism played any significant part in the rise of capitalism in South Korea.²⁸⁶

In the 1970s South Korea officially started to express a special interest in pansori and the institutional preservation began. Pansori was broadcasted on TV. The singers, who for the most part originated from shaman families had often suffered from social discrimination in the past, now achieved a new status in society. The government nominated certain singers to be ‘human treasures,’ and invented the concept of ‘Master Singers.’ These Master Singers received a monthly stipend, but had to meet certain expectations, for example, not to modify the narrative part, which was a radical negation of the tradition of oral history. Anton C. Zijderveld claims that clichés replace original meaning with social function. He argues that clichés as human expressions are especially omnipresent in modern societies. Turned into an obsolete tradition, they no longer play a part in society. This substitution of original meaning with social function seems to have occurred in pansori since the late 1960s. The music developed new codes regarding thinking and acting. New hierarchies were established (such as Master Singers), and the music was reterritorialized and equated with the concept of *han*. Han indicates a nationalistic metaphor that suggests the shared experience of oppression or a grievance caused by invasion, war and political control. Lineages of singers were traced back or newly established. Scholars began to compare pansori with (and then distinguishing it from) Western opera, Beijing opera, and Japanese kabuki in order to decorate it with authority and elevate it to the sophistication of opera. These activities and new rhetoric, assembled by various institutions, were supposed to highlight the uniqueness, the ‘Koreanness’ of the music. Thus the institutions (together with the artists) invented a tradition, where pansori primarily follows the function of building a national identity. While, the circumstances of where and how pansori is performed has undergone changes, the basic principles

²⁸⁵ Andrew Eungi Kim, “Christianity, Shamanism, and Modernization in South Korea,” *Cross Currents* 50 (2000), 115.

²⁸⁶ *Ibid.*, 118.

of the music remain.

When filming in the mountains of Jeolla we encountered a man who communicated with tigers and was able to entertain various states of metamorphosis into other kinds of beings. His skill and knowledge was nourished by participation in various unnatural relations, sensibilities and affects, deepening commitment and experience. I possess little or no words regarding these (familiar or non-familiar) modes of relating to, caring for, and inhabiting other beings and things. However, the task at hand is not to explain or translate these encounters into another order of knowledge, but rather to try to encounter them. It is an encounter that trains my ability to become familiar with something I barely understand. Donna Haraway's deeply entangled relationship with Cayenne, the dog, provides an idea of what kind of powers can result from an engagement with our close relatives.²⁸⁷ These encounters, or even confrontations of crucial difference may be helpful to turn away from a self-centered and species-fixated humanity and to create real transversal alliances. A related proposal of how to get humans back within the animal zones, or continuum comes from the anthropologist Viveiros de Castro and his conceptualization of Amerindian perspectivism on humans, animals, plants and supernatural beings. He argues that in the Western understanding "humans see humans as humans and animal as animals"²⁸⁸ while in Amerindian perspective "animals and spirits see themselves as humans: jaguars see blood as manioc beer, vultures see the maggots in rotting meat as grilled fish."²⁸⁹ The crucial difference between Amerindian anthropomorphism and Western anthropocentrism lies in the fact that the latter considers animality as the general condition from which humans descended. Western anthropocentrism presupposes a human centrality that includes a qualitative judgment of superiority over all other beings. For Amerindian anthropomorphism on the other hand, animals used to be humans in the first place. They had eventually become "ex-humans,"²⁹⁰ but still carry a "personhood"²⁹¹ and powers that exceed human. This perspectivism also applies to plants, things and the dead. Pansori entertains a similar relational alliance with animals, plants and things. It often bespeaks practices and abilities of transfiguration and exchange between them, telling stories of human becoming animal, animal becoming human, and toads becoming turtles.

²⁸⁷ Donna Haraway, *When Species Meet*, 216–17.

²⁸⁸ Viveiros de Castro, *Cosmologies: Perspectivism in Amazonia and Elsewhere* (Manchester: HAU Network of Ethnographic Theory, 2012), 47.

²⁸⁹ *Ibid.*, 47.

²⁹⁰ *Ibid.*, 56.

²⁹¹ *Ibid.*, 54.

Nonhuman Postcolonial Spaces

One question the film *prendas — ngangas — enquisos — machines* addresses is how we can connect the more-than-human within the historical, specifically the postcolonial space without deepening violations already inflicted on both humans and nonhumans? Trying to avoid a substantialist account of history, a place and its inhabitants, the film sets out to relink these adamantly separated concepts as dynamic translocal and relational assemblages. It builds transitions between affects and modes of activity of plants and animals. Plants and animals whose ancestors were moved to the New World and, according to Alfred Crosby “had to colonize the new land [with the humans] as a team.”²⁹² The Spanish brought along sheep, cows, and horses. The first horses arrived in 1540 in the Americas,²⁹³ and yet this does not generate an identity for them, nor for the place. In present-day Cuba animals such as cows, horses, goats, pigs, sheep, and chickens provide food and labor, and often move around freely, almost without any confinement. Much like extended family members (comparable to pets in the Western hemisphere) some animals share close relations with humans. Some entered the intermediate state between domesticated and wild, others return to the forest to fully reverse their domestication and to become something else entirely. Connecting the more-than-human with the postcolonial space might make it possible to understand how nature transverses history, and vice versa on every level without turning to grand narratives. Elizabeth Grosz questions the separation of history and nature, stating: “nature is itself historical rather than anti-historical.”²⁹⁴ The film suggests that nature is both, historically situated, evoking testimonies of past events, while recognizing their specificities, and at the same time continuously growing, surpassing and escaping historical and contextual formatting with its unique and machinic mode of constantly evolving, changing and creating something new.

* * *

In 1966 the Cuban anthropologist Miguel Barnet transcribed the biography of Esteban Montejo.²⁹⁵ When they began the project in 1963 Montejo was already a hundred three years old. After three years of interviewing and recording Montejo’s personal history was written down, whereby Barnet transgressed into the genre of ethnographic novel. Montejo was born in 1860 during the last years of slavery. As an adolescent he freed himself from colonial violence and fled to the island’s mountains. In 1886, when he was twenty-six years old, slavery was abolished in Cuba, but illegal slave trade continued for several years. In

²⁹² Alfred Crosby cited in Manuel De Landa, *A Thousand Years of Nonlinear History*, 152.

²⁹³ Etel Adnan summarizes this in her poem “The Indian Never Had a Horse.” Etel Adnan, *The Indian Never Had a Horse and other poems*, (Sausalito: The Post-Apollo Press, 1995).

²⁹⁴ Grosz, *becoming undone*, 149.

²⁹⁵ Miguel Barnet, *Biografía De Un Cimarrón* (Manchester: Manchester University Press, 2010).

Havana we met with the historian Gabino La Rosa Corzo, who wrote a history of *passive* and *active* resistance of Afro-Cubans against enslavement.²⁹⁶

Numbers vary and are difficult to determine. According to some accounts, all over Cuba nearly sixty percent of the African slaves, the Taínos, as well as the Chinese forced laborers, at least temporarily, freed themselves all over Cuba from colonial violence to settle in remote clandestine communities. In Cuba these communities were called *palenque*, and in Brazil *quilombo*. Today they have all disappeared. Corzo, who considers the writing of history as a practical field work, relocates his research from archives to actual sites “where events related to palenque took place,”²⁹⁷ in order to better understand human ventures in relation with the environment. Like Katsue Fukamachi, Corzo combines scientific expertise with vernacular knowledge, including the oral tradition of the current inhabitants. He highlights that each palenque was different, but “all were based on the same principle of safety for the group.”²⁹⁸ Sizes and forms, the elements of composition varied, yet “they were combined with the environment.”²⁹⁹ Since all palenque have disappeared, the findings become virtual but are still real. We went to the mountains of Yateras to learn what had currently emerged on these sites.

Cuba’s revolutionary government commemorates these lines of flight as resistance movements and named a city in an area where many such settlements were built, Palenque. This city, a regional capital, has a hospital and a museum on local marronage. We learned that there was a *Chinese Middle Passage* to Cuba, too. In 1806 the British ended slavery and started to dominate the profitable trade with Chinese forced labour, mainly from Canton. During the abolition period the Spanish in Cuba first tried to import Mayas from Mexico, Catalans and Canary Islanders from Europe, but then eventually adopted the British course. They forced Chinese people into work on plantations and heavy engineering projects without any payment for a minimum of eight years in return for the sea voyage from Macao to Havana, which over eleven percent of the people did not survive.

Colonialism as an economical expansion changed the ecology of the world drastically. It transferred an incommensurable amount of humans, domestic crops and livestock to other continents. Manuel De Landa describes how colonialism not only shipped species, plants, animals and

²⁹⁶ Gabino La Rosa Corzo, *Runaway Slave Settlements in Cuba* (Chapel Hill and London: The University of North Carolina Press, 2003).

²⁹⁷ *Ibid.*, 224.

²⁹⁸ *Ibid.*, 228.

²⁹⁹ *Ibid.*,

humans, but also routines and modes of production across the oceans and invented new practices of intensification.³⁰⁰ The process of colonization depleted the vitality of the New World and reduced it to a material and food supply zone for the European continent and later the US. This large scale ecological disturbance is analyzed by Karl Marx as “metabolic rift.”³⁰¹ This rift was initially caused by the growth and industrialization of European cities and the subsequent shift of the greater part of food consumption from rural areas to urban centers. As a result, nutrient elements were prevented from returning to the soil where they would have become natural fertilizers for the following harvest. Minerals and organic matter escaped via water, “[f]or a century and a half England has indirectly exported the soil of Ireland without even allowing its cultivators the means for replacing the constituents of the exhausted soil.”³⁰² Since the late 18th century enormous amounts of manure were disposed into the rivers of European cities. Marx’s critique was inspired by the theory of metabolism, elaborated in the 19th century by the German chemist Justus von Liebig. Liebig discovered that nitrogen is the source of the plants’ nutrition and was first to draw attention to the ecological condition of the European soils. He as well promoted guano, a mineral fertilizer from the New World, to recover European soil as it contains a high concentration of nitrogen. Guano is considered a soil builder, its nutrients and microbes speed up the process of decomposition, but it is also good to manufacture gunpowder. Guano is generated by nesting seabirds, such as cormorants and pelicans, and develops best in arid and cool regions. At the time, places like the Chincha Islands off the Peruvian coast provided ideal conditions. Guano had been used as a fertilizer by Amerindians for some thousand years, however, the Spanish didn’t recognize its potential, while England started mining it in the early 1840s, and immediately monopolizing all the Peruvian deposits. By the 1850s it imported “six hundred thousand tons guano per year to fertilize exhausted soils at home. Not only Europe, also the US imported seven hundred sixty thousand tons in the 1850s to fertilize maize and cotton plantations.”³⁰³ As a consequence, the Chincha Islands rapidly disappeared and other islands in the Caribbean followed. In 1856 the US government passed the *Guano Islands Act*, a law that enabled US citizens to take advantage of guano and entitles the United States to protect their interests in such deposits with military force, practically everywhere. Under this act more the 100 islands were claimed as US territory. Vaclav Smil compares the rising prizes, the fear of resource

³⁰⁰ Manuel De Landa, *A Thousand Years of Nonlinear History*.

³⁰¹ Karl Marx cited in John Bellamy Foster, “Marx’s Theory of Metabolic Rift: Classical Foundations for Environmental Sociology,” *American Journal of Sociology* 105 (1999), 370.

³⁰² Foster, “Marx’s Theory of Metabolic Rift: Classical Foundations for Environmental Sociology,” 384.

³⁰³ Vaclav Smil, *Enriching the Earth: Fritz Haber, Carl Bosch, and the Transformation of World Food Production* (Massachusetts: The MIT Press, 2004), 42.

exhaustion, the armed interventions during the 'guano rush' with the terror of today's oil market. But rather than getting drawn into this mesmerizing conflict and the attraction of great metabolic powers, the question to ask is: how can we build different affective relations with humans and nonhumans? The ruins left by past and current empires constitutes a point of departure upon which we situate ourselves, but only to create new migrations, cartographies, expressions, knowledges, circulations and connections, *cosmopolitics* as Isabelle Stengers calls them.³⁰⁴

During the rainy period in Yateras, in the late afternoon, all of a sudden a downpour, as mighty as a real waterfall accompanied by thunder and lightning emptied the clouds, so that everything was flooded and steaming in the warmth. When listening to the sound of water splashing on banana leaves and drumming on tin roofs, we wondered whether the vegetation preserves a memory of violent conflicts and dislocation, and how it might speak about it. If one attempts to evoke a perceptiveness that exceeds the human, stepping into the more-than-human world without privileging human sensation, one might have to approach the surrounding in a different way: not as a static, nonspeaking reality, providing the depth for an advancing human history, but as moving and being moved by invisible forces; so that mountains, valleys, stones and trees can be considered actual knowledge producers and active players for spiritual matters.

We wondered what an anthropological practice that takes forward matters of decolonization, without distinguishing between humans and nonhumans might look like. Most often anthropology lacks categories (such as sensations, affects and percepts) that would admit entry of the more-than-humans into their methodology and research practice. A relational-ecological anthropology would have to reshuffle its dealings with things and signs — since they would not solely be human property any longer. To realize that semiotic activities are shared with nonhumans, frees both humans and nonhumans from stratification. For many farmers and villagers in Yateras, when describing the human and nonhuman entanglement with the physical environment, it was clear that spirits often communicate through the ecological assemblage. In the mountains the spirits of fugitive slaves and Amerindians are still alive, inhabiting trees, rocks and rivers. They steal from the farmers' gardens by night. If a human disturbs them the forest retreats and the spirits cry and moan with such grief that intruders will be overcome by sadness for the rest of their lives. When being surrounded by a variety of assemblages, it seems important to pursue a relational approach that includes transspecies and transhistorical alliances.

³⁰⁴ Isabelle Stengers, "The Cosmopolitical Proposal," in *Making Things Public: Atmospheres of Democracy*, (Cambridge, Massachusetts: MIT Press, 2005)

Some historians have left behind their anthropocentrism and started to include biological and geological materials in their accounts. Cities, such as Havana, Bielefeld or Tokyo become ecosystems for organic development with biomass circulation and biological reproduction. For Deleuze and Guattari “the town [is] a nonhuman landscape of nature”³⁰⁵ and social class relations can become geological strata. The *Electric Hershey Train*, once a frontier machine and technology of capitalism, built by the Hershey Chocolate Corporation of Pennsylvania, is today subjected to a very different rationale that considers reality as made of fragmentary moments and discontinuities, rather than an undivided whole. What at first sight appears to be a pristine ecosystem was actually created by human and nonhuman interspecies relations and practices of circulating matter. The ‘wilderness’ of Yateras is in fact informed by a long and layered colonial history. The mango tree that grows in the primeval looking mountain forests originally migrated from India to South America. At the time of fruit ripening, it felt as if mangos were the dominating edible fruits, since everyone gathered, carried and ate them, and dispersed the seeds. We shared our appetite for them with other animals, collecting them as windfall (or gifts from gods) to be eaten on the spot or taken home to make jam. Some people climbed trees to pick them undamaged. Impressed by the great variety, we started an unsystematic collection of different species: Curazon (heart shaped), Negrita (blue-violet), Mācho (yellow with black spots), Itátscha (many fibres), Reina Mexico (big), Goutara (big, green, bended like a shoe, flat core), Mamé (big, yellow with black), Rosita (so small that the fruit can be put in the mouth as a whole), Waltasal, Vicochoello, Toledo, Papelina, Péra, Baltasal, Supiero, Mardura Verde, Copal, Bicochoello, Huevo de Toro and Super Eye. In return, chocolate and sugar travelled from South America to Europe, Asia and elsewhere. Globalized food is traveling through the microcosms of our gums.

Conventional wisdom takes for granted that all Amerindians and Taínos, the original inhabitants of the island, were eradicated by the end of the 16th century. However, some molecular anthropologists question this version of history, tracing back genetic trails of Amerindians by drawing a genealogy of genes, oral histories and practices against the background of their assumed extinction. Genes are problematic indicators, and knowing that we share genes with Cuban Amerindians does not make their extinction less tragic, but at least it offers a possibility to keep a connection with the dead.

³⁰⁵ Deleuze and Guattari, *What is Philosophy?*, 169.

Conclusion

On the mountainsides in Yateras we found symbiotic gardens cultivated in the very manner the Taínos, or Amerindians already practiced in the past. Known as *three sister* or *companion planting*, maize, squash and beans are planted closely together in order to benefit from each other. The maize provides a vertical structure for the beans to climb. In turn, the beans provide nitrogen for the soil to stay fertile, while the squash spreads all over the ground, blocking the sunlight, thereby creating a microclimate that retains moisture in the soil. This is how the three films and the writing relate to each other — companions transforming one another in resonance with the surrounding. The films, together with the writing subsist from actual practices of farmers, story tellers and sorcerers shaping dynamic territories and relations, an entire ecology of relations in accordance with the nonhuman. The research has drawn an affective cartography of those territories and relations, connecting humans, plants, animals and (in)organic matter in intense onto-epistemological assemblages. It has shown how these relational-ecological entanglements open up the possibility for a becoming together with the other-than-human. Entangled in such way, the findings of the research are best to be understood as a relational ecological practice or aesthetics.³⁰⁶ A relational ecological practice, as the research understands it, not only shows how human and nonhuman are in various ways connected, it activates the sphere of their mutual becomings. This modified understanding of relational practice suspends art, not for its limitation, but for its enlargement of capacities: we don't know yet what art can do. Situating art inside an ecology of practices turns it into a deeply affected entanglement with the environment and its creative deterritorializations. Art becomes part of a wide-ranging heterogeneous expressive continuum, stimulating and stimulated by the contraction and mutation of materiality, by the forming and unforming of what expresses itself. This relational aesthetics explores affects and sensations, modes of becoming and thinking of organic and inorganic matter that feed into the continuous stream of differentiations creating something new. Something new that is notably determined by the process of a manifold of conditions of the ecological, the situating fields and their specific communities.

³⁰⁶ My use of relational deviates largely from Nicolas Bourriaud's 'ism' of *Relational Aesthetics* (Bourriaud, Nicholas. *Esthétique relationnelle*. Dijon: Le presses du réel, 2002.) deriving from an art discourse. The way I use the term *relational* follows Donna Haraway's conception of how in various ways human and nonhuman are interconnected and share relations to sustain dynamic ecologies. Relational practices, techniques or modes are non-substantial expressions of a territory or field and its various becomings.

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Filmography and Bibliography

Films

Dalla nube alla resistenza (From the Cloud to Resistance, after Cesare Pavese) . Directed by Danièle Huillet and Jean Marie Straub. 1978.

Fragmented Forest . Directed by Elke Marhöfer. 2012. Berlin: Courtesy of the artist. 2015. Digital File.

Fortini/Cani (after Franco Fortini) . Directed by Danièle Huillet and Jean Marie Straub. 1976.

No, I am not a Toad, I am a Turtle! , Directed by Elke Marhöfer 2010-12. Berlin: Courtesy of the artist. 2012. 16 mm film (available as 2k file).

Nobody knows, when it was made and why . Directed by Elke Marhöfer 2012-15. Siegen: Museum für Gegenwartskunst, and the artist. 2015. 16 mm film (available as 2k file).

Operai, contadini (Workers, Peasants, after Elio Vittorini) . Directed by Danièle Huillet and Jean Marie Straub. 2001.

prendas — ngangas — enquisos — machines {each part welcomes the other without saying} . Directed by Elke Marhöfer. 2012-14. Berlin: Arsenal, Institute for Film and Video Art. 2015. 16 mm film (available as 2k file).

Primate Colors . Directed by Elke Marhöfer and Mikhail Lylov. 2014-15. Berlin: Arsenal, Institute for Film and Video Art. 2015. 2015. 16 mm (available as 2k file).

Reassemblage . Directed by Trinh Tin Minh-ha. 1982. Senegal. Berlin: Arsenal, Institute for Film and Video Art. 1982. 16 mm.

sans-sucre (sugar-free) . Directed by Elke Marhöfer and Paul Gbangou. 2005-08. Berlin and Fada N’Gourma: Courtesy of the artists. 2008. Digital File.

Shape Shifting, Directed by Elke Marhöfer and Mikhail Lylov. 2014. Berlin: Arsenal, Institute for Film and Video Art. 2015. 16 mm film (available as 2k file).

Trop tôt, trop tard (Too early, too late, after Friedrich Engels and Mahmoud Hussein) . Directed by Danièle Huillet and Jean Marie Straub. 1980)

Images

The images from the film *Nobody knows, when it was made and why* show the first version of photographic reproductions of the *Mnemosyne Atlas* by Aby Warburg from 1928. The captions (theme of the image, author, time of origin and current storage location) derive von Martin Warnke, *Der Bilderatlas Mnemosyne*, (Berlin: Akademie Verlag, 2012), which is reproducing the third version of the *Mnemosyne Atlas*. In case texts by Warburg are preserved they will appear in italics. In order of (dis)appearance:

Fig. 1. *Gnostic Sun Amulets (Early Christian Time)*. Illustrations by Johannes Chifletius. Joannes Macarius Canonicus Ariensis Abraxas seu Apistopistus. Antwerp, Balthasar Moretus, 1657, pl. xxviii

Fig. 2. Astrological Divination Panel with Zodiacs and Decans. Redrawing of the so-called Tabula Bianchini, fragmented marble slab, Late Egyptian, 2nd century AD. Paris, Musée du Louvre.

Fig. 3. *The zodiac sign of Scorpio and 30 fantastic heavenly bodies assigned to its 30 degrees as the basis for the prognostications for each day of the month (Spanish manuscript, XIV century)* im. 7v

Fig. 4. Virgo with Decan Images. From a Spanish manuscript. 14th century. Rome,

Biblioteca Vaticana, Cod. Vat. Reg. lat. 1283, im. 9v

Fig. 5. Virgo with Decan Images, im. 10v

Fig. 6. *The moon riding on a hare. The 28 sectors represent the 28 stations of the moon. In each station the astrologically corresponding professions. From a Spanish manuscript of the XIV century, im. 23v*

Fig. 7. The planets of the seven days of the week. From a southern French manuscript of the „Breviari d'Amor“ of the Matfre Ermengaud de Béziers, mid 14th century. Vienna, Nationalbibliothek, Cod 2583, im. 51r

Fig. 8. *Spanish planet dice game of the 8th century. Planet game. From Libro de Acedrex (Eng.: Book of the customs of men and the duties of nobles or the Book of Chess; Ger.: Schachzabelbuch) of the Spanish King Alfonso X. el Sabio, 1283. Escorial, Biblioteca del Monasterio de San Lorenzo el Real, Panel I. 6., im. 97v*

Fig. 9. *Planet Mars and his angel spirits (from a Spanish manuscript of the XIV century) im. 29r*

Fig. 10. *The, with zodiac "Leo," simultaneously rising constellations, in the opinion of 1. the Indians 2. the Persians, Egyptians and Chaldeans, 3. of Ptolemy. From a Spanish manuscript of the XIV century, im. 10v*

Fig. 11. Zodiac signs (based on the Book of Marvels). From a manuscript „Marvels of Creatures and the Strange Things Existing“ of Abu Yahya Zakariya' ibn Muhammad al-Qazwīnī, presumably Tabriz or Baghdad, 1388. Paris, Bibliothèque Nationale, Cod. pers. 332, im. 27r and 28v

Fig. 12. *Zodiac sign of the fool, on him the sun, whose „house“ is Leo. In the lower strip Mars, Jupiter, Saturn as the ruler of 10° of the zodiac sign (from an Arabic manuscript of the 15th century, in Oxford), im. 9r*

Fig. 13. *Zodiac sign of Aries, thereon Mars, whose house is the Aries. In the lower strip Venus, Sun, Mars, as rulers of 10° of each zodiac (from an arabic manuscript of the 15th century in Oxford), im. 2v*

Fig. 14. Diana of Ephesus. Bronze and alabaster statue. Around 120-140 BC. Naples, Museo Archeologico Nazionale. Head and breast plate with zodiac signs, section.

Fig. 15. Complete view of Diana of Ephesus

Fig. 16. *Round zodiac of Dendera – constellations of the 10 degree heavenly bodies (decans) – the twelve zodiacs with planets (according to the teaching of the arising) – fixed star images of the Egyptians. Ceiling relief from the Hathor temple (historically, called the Temple of Tentyra) from Dendera, Egypt, Roman. Paris, Musée du Louvre. Reversed copperplate engraving from: Description de l’Egypte ou recueil des observations et des recherches qui ont été faites en Egypte pendant l’expédition de l’armée française, Paris 1809–1828, Vol. 4, Panel 21*

Fig. 17. From the copy of a Ptolemy manuscript (2nd century). 9th century. Rome, Biblioteca Vaticana, Cod. Vat. gr. 1291. TB 139, 176. Southern hemisphere of the sky, im. 4v

Fig. 18. Clay liver for the teaching of the seers. Babylonian. London, The British Museum. From: Alfred Jeremias, Handbuch des altorientalischen Geistes, Leipzig 1913. Sp. 144, Ill. 103. TB 69, 94

Fig. 19. – 21. Clay liver models for the purpose of prophecy from Boğazkale. With Akkadian inscriptions. Hittite-Babylonian, 1st half 14th century BC. From: Ernst F. Weidner, Keilschriftkulturen aus Boghazköy, Bd. 4, Berlin 1922. No. 71, 72, 73. Berlin, Staatliche Museen, Vorderasiatisches Museum

Fig. 22. Clay liver for the teaching of the seers. With Etruscan inscriptions. Mid-2nd century BC. Piacenza, Museo Civico

Fig. 23. – 24. Babylonian law code stone with constellations. Marduk-zakir-shumi I Kuduru. (851–828 BC). Paris, Musée du Louvre

Fig. 25. *Middle Eastern Deity from the Roman Period (Jupiter Dolichenus) on the garment 7 planets.* Jupiter Heliopolitanus. Bronze statuette, 2./3. Century AC. Paris, Musée du Louvre

Fig. 26. *Classification of the body according to zodiac signs for the purpose of bloodletting*

(German manuscript of the 15th century). Zodiac man. From a manuscript collection, 13th century Munich, Bayerische Staatsbibliothek, Clm. 19414, im. 188v

Fig. 27. *Heracles as universal ruler; his body parts assigned to zodiac signs.* Zodiac man. From a manuscript, 15th century. Paris, Bibliothèque Nationale, Ms. gr. 2419, im. 1r

Fig. 28. Zodiac man. Jean and Paul Limbourg. From the „Très Riches Heures du Duc de Berry,“ after 1417. Chantilly, Musée Condé, Ms. 65, im. 14v. TB 183

Fig. 29. *Bloodletting at good and bad times and its consequences (Calender, Basel 1499).* Zodiac man (Ger.: Aderlaßmännchen). Lienhart Ysenhut. Woodcarving, 1499. Basel, Universitätsbibliothek

Fig. 30. Orpheus calms down the animals. Workshop of Michele da Verona. Painting, End-15th/Early-16th century. Krakow, Wawel Castle, collection Lanckoronski. (Formerly Vienna)

Fig. 31. Panel B. *Varying degrees of transmission of the cosmic system on the human. Harmonic equivalence. Later reduction of harmony to the abstract geometry instead of the cosmic (Lionardo).* cf. TB 46

Fig. 32. Panel 1. *Transmission of the cosmos on a part of the body for the purpose of prophecy. Babylonian state cosmology. Original oriental practice.* cf. TB 140

Fig. 33. Panel 2. *Greek concept of cosmos. Mythological creatures in the sky. Apollo. Muses as companions of Apollo.*

Fig. 34. Panel 3. *“Orientalization” of ancient images. God as a monstrosity. Enrichment of Sphaera. (Zodiac + decans). Transfer of the Globus onto the flat surface. Cosmological dice board. Perseus mythology.*

Fig. 35. Panel 20. *Development of Greek cosmology into Arabic practice. Abū Ma’shar. Planet practices*

Fig. 36. Panel 21. *Oriental antiquity. Ancient gods in oriental Version (beforehand should come: Farnese Atlas, Denderah, unwinding and enrichment)*

Fig. 37. Panel 22. *Spanish-Arabic practice. (Alfonso). Handling. Cosmic system as dice board. Prophecy. Sorcery. Stone magic.*

Fig. 38. Panel 25. Without caption.

Fig. 39. Panel 26. *Overall systematic cosmological calendar (Tycho Brahe) a transition between Rimini and Schifanoja.* TB 510, 552

Fig. 40. Panel 35. Without caption.

Fig. 41. Panel 23a *Regular solids as micro-universe for a through of dice. Turning book pages as Reading of the Universe. (Divination book; Ger.: Losbuch, Lorenzo Spirito) [missing divination books] Lorenzo Spirito = Passage to the North. Conception of the wheel of Fortuna as inescapable fate.*

- D. Abram. *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*. New York: Vintage, 1997.
- Adnan, Etel. *The Indian Never Had a Horse and other poems*. Sausalito: The Post-Apollo Press, 1995.
- Anderson, Roland C., Jennifer A. Mather, and James B. Wood. *Octopus: The Ocean's Intelligent Invertebrate*. London: Timber Press, 2010.
- Barnet, Miguel. *Biografía De Un Cimarrón*. Manchester: Manchester University Press, 2010.
- Bergson, Henri. *Matter and Memory*. New York: Zone Books, 1991.
- Bergson, Henri. *Creative Evolution*, New York: Henry Holt and Company, 1911.
- Bergson, Henri. *Les deux sources de la morale et de la religion*. Paris: Les Presses universitaires de France, 1948.
- Bourriaud, Nicholas. *Esthétique relationnelle*. Dijon: Le presses du réel, 2002.
- Braidotti, Rosi. *Metamorphoses: towards a materialist theory of becoming*. Cambridge: Polity Press, 2002.
- de Castro, Viveiros. *Cosmologies: Perspectivism in Amazonia and Elsewhere*. Manchester: HAU Network of Ethnographic Theory, 2012.
- Clusters, Pierre. *Archeology of Violence*. Los Angeles: Semiotext(e) Foreign Agent Series, 2010.
- La Rosa Corzo, Gabino. *Runaway Slave Settlements in Cuba*. Chapel Hill and London: The University of North Carolina Press, 2003.
- Darwin, Charles. *The Formation of Vegetable Mould, through the Action of Worms, with Observations on their Habits*. London: John Murray, 1881.
- Deleuze, Gilles. *Pure Immanence, Essays on A Life*. New York: Urzone, 2001.
- Deleuze, Gilles. *Dialogues*. New York: Columbia University Press, 1987.
- Deleuze, Gilles. *Spinoza: Practical Philosophy*. San Francisco: City Light Books, 1988.
- Deleuze, Gilles. *Expressionism in Philosophy: Spinoza*. New York: Zone Books, 1990.
- Deleuze, Gilles and Félix Guattari. *Anti-Oedipus*. New York: Viking, 1977.
- Deleuze, Gilles and Félix Guattari. *What is Philosophy?* New York: Columbia University Press, 1994.
- Deleuze, Gilles and Félix Guattari. *A Thousand Plateaus*. Minneapolis–London: University of Minnesota Press, 1980.
- Derrida, Jaques. *Positions*. London: The Athlone Press, 1990.
- Fanon, Frantz. *The Wretched of the Earth*. New York: Grove Press, 1963.
- Figarola, Joel James. *Death in Cuba*. La Habana: Instituto Cubano Del Libro, 2008.
- Grosz, Elizabeth. *Becoming undone*. Durham and London: Duke University Press, 2011.
- Guattari, Félix. *Molecular Revolution in Brazil*. Los Angeles: Semiotext(e) Foreign Agent Series, 2008.
- Guattari, Félix. *The Three Ecologies*. London: Continuum, 2000.
- Guattari, Félix. *Chaosmosis, an ethico-aesthetic paradigm*. Bloomington and Indianapolis: Indiana University Press, 1995.
- Haraway, Donna. *When Species Meet*. London: University of Minnesota Press, 2008.

- Haraway, Donna. *Modest_Whitness@Second_Millennium. FemaleMan©Meets_OncoMouse™*. New York: Routledge, 1997.
- Irigaray, Luce. *An Ethics of Sexual Difference*. London: Continuum, 2004.
- Keeble, Frederick. *Plant-animals, a study in symbiosis*. Cambridge: the University Press, 1910.
- De Landa, Manuel. *A thousand years of nonlinear history*. New York: Zone Books, 1997.
- Lazzarato, Maurizio. *Videophilosophie, Zeitwahrnehmung im Postfordismus*. Berlin: b_books, 2002.
- Manning, Erin. *Always More Than One: Individuation's Dance*. Durham and London: Duke University Press, 2013.
- Manning, Erin and Brian Massumi. *Thought in the Act*. Minneapolis: University of Minnesota Press, 2014.
- Margulis, Lynn. *Symbiotic Planet*. Massachusetts: Basic Books, 1998.
- Massumi, Brian. *What Animals Teach Us about Politics*. Durham and London: Duke University Press, 2014.
- Massumi, Brian. *Parables for the Virtual*. Durham and London: Duke University Press, 2002.
- Michaud, Philippe-Alain. *Aby Warburg and the Image in Motion*. New York: Zone Books, 2004.
- Nietzsche, Friedrich Wilhelm. *The Genealogy of Morals*. New York: Boni and Liveright, 1912.
- Nietzsche, Friedrich Wilhelm. *Jenseits von Gut und Böse. Zur Genealogie der Moral — Eine Streitschrift*. München: Deutscher Taschenbuch Verlag, de Gruyter Verlag, 1887.
- Ochoa, Todd Ramón. *Society of the Dead*. Berkley and Los Angeles: University of California Press, 2010.
- Plant, Sadie. *Zeros and Ones: Digital Women and the New Technoculture*, London: Fourth Estate, 2000.
- Rosset, Peter and Medea Benjamin. *The Greening of the Revolution*. Melbourne: Ocean Press, 1994.
- Sahlins, Marshall. *Stone Age Economics*. New York: Aldine de Gruyter, 1972.
- Saxl, Fritz. *Warburg's Besuch in Neu-Mexico*. London : Warburg Institute, University of London, 1957.
- Scott, James C.. *The Art of Not Being Governed*, New Haven–London, 2009.
- Smil, Vaclav. *Enriching the Earth: Fritz Haber, Carl Bosch, and the Transformation of World Food Production*. Massachusetts: The MIT Press, 2004.
- Stengers, Isabelle and Igor Progogine. *Order out of Chaos*. Toronto: Bantam Books, 1984.
- Stengers, Isabelle and Vinciane Despret. *Women Who Make a Fuss, The Unfaithful Daughters of Virginia Woolf*. Minneapolis–London: University of Minnesota Press, 2014.
- Taussig, Michael. *I swear I saw this*. Chicago: University of Chicago, 2011.
- Tsing Lowenhaupt, Anna. *Friction. An Ethnography of Global Connections*. Princeton: Princeton University Press, 2005.
- Tsing Lowenhaupt, Anna. *The Mushroom at the End of the World*. Princeton:

Princeton University Press, 2015.

Chapter or part of a book

Blassing, Martha. "Ekphrasis and a Dynamic Mysticism in Art: Reflections on Henri Bergson's Philosophy and Aby Warburg's Mnemosyne Atlas." In *Transtechnology Research Reader*. Plymouth: Plymouth University, 2011.

Braidotti, Rosi. "Interview with Rosi Braidotti." In *New Materialism: Interviews & Cartographies*, Rick Dolphijn and Iris van der Tuin, 19–37. Ann Arbor: University of Michigan Library, Open Humanities Press, 2012.

Brunner, Christoph. "Territories of Tranvaluation." In *Shape Shifting*, edited by Elke Marhöfer and Mikhail Lylov. Berlin: Archive Books, 2015.

Clifford, James. "Notes on Travel and Theory," in *Inscriptions 5 – Traveling Theories: Traveling Theorists*. Santa Cruz: University of California at Santa Cruz, 1989.

Deleuze, Gilles. "Michel Tournier and the World without Others." In *The Logic of Sense*. London: The Athlone Press, 1990.

Franke, Anselm. "Much Trouble in the Transportation of Souls, or: The Sudden Disorganization of Boundaries." In *Animism*, edited by Anselm Franke, 11–53. Berlin: Sternberg Press, 2010.

Howard, Keith. "Recording Pansori." In *Pansori*, edited by Yong-shik Lee, 163–182. Seoul: The National Center for Korean Traditional Performing Arts, 2008.

Parikka, Jussi. "Insect Technics: Intensities of Animal Bodies" In *An [Un]likely Alliance: Thinking Environment[s] with Deleuze/Guattari*, edited by Bernd Herzogenrath, 339–362. Newcastle: Cambridge Scholars Publishing, 2008.

Shiva, Vandana. "War against the Earth." In *State of Things*, edited by Marta Kuzma and Peter Osborne, 107–136. London: Koenig Books, 2012.

Stengers, Isabelle. "Including nonhumans into political theory: Opening the Pandora Box?." In *Political Matter : Technoscience, Democracy, and Public Life*, edited by Bruce Brown and Sarah J. Whatmore, 3–34. Minneapolis–London: University of Minnesota Press, 2010.

Stengers, Isabelle. "The Cosmopolitical Proposal." In *Making Things Public: Atmospheres of Democracy*, ed. Bruno Latour and Peter Weibel. Cambridge, Massachusetts: MIT Press, 2005.

Straub, Jean Marie. "A Thousand Cliffs. Interview with Elke Marhöfer and Mikhail Lylov." In *Point of View*, edited by Tobias Hering (Berlin: Archive Books, 2014), 313–335.

Journal article

Boesch, Christophe and Hedwige Boesch. "Tool Use and Tool Making in Wild Chimpanzees." *Folia Primatologica, International Journal of Primatology* 54 (1990): 86–99.

Breuer, Thomas, Mireille Ndongou-Hockemba and Vicki Fishlock. "First Observation of Tool Use in Wild Gorillas." *PLoS Biology* 3 (2005): 41–43.

Eriksen, Christine and Don L. Hankins. "Gendered dimensions of traditional fire knowledge retention and revival." *The Routledge Handbook of Gender and Development* 1 (2015): 129-137.

Foster, John Bellamy. "Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology." *American Journal of Sociology* 105 (1999): 366–405.

- Hall, K. R. L. and B. Schaller. "Tool-using behaviour of the California sea otter." *Journal of Mammalogy* 45 (1964): 287–298.
- Haraway, Donna. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies* 14 (1988): 575–599.
- Kim, Andrew Eungi. "Christianity, Shamanism, and Modernization in South Korea." *Cross Currents* 50 (2000): 112–119.
- Lestel, Dominique, Jeffrey Bussolini and Matthew Chrulew. "The Phenomenology of Animal Life." *Environmental Humanities* 5 (2014): 125–148.
- Lynch, J. J., R. W. Barnes, J. Cambecèdes and R. E. Vaillancourt. "Genetic Evidence that *Lomatia tasmanica* (Proteaceae) Is an Ancient Clone." *Australian Journal of Botany* 46 (1998): 25–33.
- Melville, Herman. "Bartleby, the Scrivener: A Story of Wall-Street." *Putnam's Monthly. A Magazine of Literature, Science, and Art* 2 (1853): 609–615.
- Norris, Scott. "Creatures of Culture? Making the Case for Cultural Systems in Whales and Dolphins." *BioScience* 52 (2002): 9–14.
- Ochoa, Todd Ramón. "Prendas, Ngangas, Enquisos: Turbulence and the Influence of the Dead in Cuban-Kongo Material Culture." *Cultural Anthropology* 25 (2010): 387–420.
- Quick, Nicola J. and Vincent M. Janik. "Bottlenose dolphins exchange signature whistles when meeting at sea." *Proceedings* 279 (2012): 2539–2545.
- Quist, David and Ignacio H. Chapela. "Transgenic DNA introgressed into traditional maize landraces in Oaxaca, Mexico." *Nature* 414 (2001) 541–543.
- Crutzen, Paul J. "The 'Anthropocene.'" *Journal de Physique* IV 12 (2002): 1–5.
- De Roode, Jacobus C., Thierry Lefèvre and Mark D. Hunter. "Self-Medication in Animals." *Science* 340 (2013): 150–151.
- van Schaik, C., E. Fox, and A. Sitompul. "Manufacture and use of tools in wild Sumatran orangutans." *Naturwissenschaften* 83 (1996): 186–188.
- Stengers, Isabelle. "Experimenting with refrains: Subjectivity and the challenge of escaping modern dualism." *Subjectivity* 22 (2008): 38–59.
- Struhsaker, Thomas T., David O. Cooney and Kirstin S. Siex. "Charcoal Consumption by Zanzibar Red Colobus Monkeys: Its Function and Its Ecological and Demographic Consequences." *International Journal of Primatology* 18 (1997): 61–72.
- Taylor, Alex H., Gavin R. Hunt, Jennifer C. Holzhaider and Russell D. Gray. "Spontaneous Metatool Use by New Caledonian Crows." *Current Biology* 17 (2007): 1504–1507.
- Trewavas, Anthony. "Aspects of Plant Intelligence in Annals of Botany." *Oxford Journal* 92 (2003): 1–20.
- Watanabe, Zenjiro. "The Meat-eating culture of Japan at the Beginning of Westerization" *Food Culture* 8 (2004): 2–8.
- Yokohari, Makoto and Jay Bolthouse. "Keep it alive, don't freeze it: a conceptual perspective on the conservation of continuously evolving satoyama landscapes." *Landscape Ecology* 7 (2011): 207–216.

Article in an online journal

- Cummins, Ronnie. "Frankencorn Fight: Cautionary Tales." *Institute for Agriculture and Trade Policy* 37 (2002) 1. http://www.iatp.org/files/Frankencorn_Fight_Cautionary_Tales.htm

Dorada, Rana. "Atelopus zeteki – The Golden Frog." *Leaf Litter Magazine* 3.1, 19–25. <http://www.treewalkers.org/leaf-litter-magazine/>

Federici, Silvia. "Feminism and the Politics of the Commons." *The Commoner* 15 (2011) <http://www.commoner.org.uk/?p=113>

Freeman, B.C. and G.A. Beattie. "An Overview of Plant Defenses against Pathogens and Herbivores." *The Plant Health Instructor* (2008). doi: 10.1094/PHI-I-2008-0226-01.

Furuichi, Takechi, et al. "Why do wild bonobos not use tools like chimpanzees do?." *Behaviour* 152, (2014). DOI: 10.1163/1568539X-00003226

Gagliano, Monica et al. "Toward understanding plant bioacoustics." *Trends Plant Science* 17 (2012) 323–25. doi: <http://dx.doi.org/10.1016/j.tplants.2012.03.002>

Plant, Sadie. "Negotiations." <http://www.sadieplant.com/home/publications/negotiations>

Platoni, Kara. "Kernels of Truth." *San Francisco: East Bay Express* (2002). <http://www.karapltoni.com/stories/kernelsoftruth.html>

Stengers, Isabelle. "The Care of the Possible: Isabelle Stengers interviewed by Erik Bordeleau" *Scapegoat* 1. <http://www.scapegoatjournal.org>

Stengers, Isabelle. "History through the Middle: Between Macro and Mesopolitics." *Inflexions: A Journal for Research-Creation* 3 (2009). http://www.senselab.ca/inflexions/volume_3/node_i3/stengers_en_inflexions_vol03.html

Tsing Lowenhaupt, Anna. "Unruly Edges: Mushrooms as Companion Species." <http://tsingmushrooms.blogspot.de/>

Article in a newspaper

Carol Kaesul Yoon, "Genetic Modification Taints Corn in Mexico," *New York Times*, October 2, 2001, <http://www.nytimes.com/2001/10/02/health/genetic-modification-taints-corn-in-mexico.html>

Websites

Afterhailstorm. "Lectures by Gilles Deleuze." <http://deleuzelectures.blogspot.de/2007/02/body-meat-and-spirit-becoming-animal.html>

Alaska Fisheries Science Center National Marine. "Mammal Laboratory." <http://www.afsc.noaa.gov/nmml/education/cetaceans/humpback.php>

American Society of Plant Biologists. "Maize (Corn) May Have Been Domesticated In Mexico As Early As 10,000 Years Ago." www.sciencedaily.com/releases/2008/06/080627163156.htm

Chaos Communication Congress. "The Manifesto Antropófago." http://events.ccc.de/congress/2009/Fahrplan/attachments/1386_cannibalmanifesto1928.pdf

Deleuze Lectures. "On Kant, Synthesis and Time." <http://deleuzelectures.blogspot.se/2007/02/on-kant.html>

Encyclopedia of Earth. "The Anthropocene." <http://www.anthropocene.info/en/>

Fuller, Matthew. "Interview with Luciana Parisi." <http://www.spc.org/fuller/interviews/luciana-parisi-interview>

Mubi. Jacques Rancière with Philippe Lafosse. "Politics and Aesthetics in the Straubs' Films." <https://mubi.com/notebook/posts/politics-and-aesthetics-in-the-straubs-films>

Nordsieck, Robert. "Cephalopods." <http://www.molluscs.at/cephalopoda/index.html?/>

cephalopoda/main.html

Office of Environment and Heritage. "Australian brush turkey," last modified September 18, 2015. <http://www.environment.nsw.gov.au/animals/australianbrushturkey.htm>

Stanford Encyclopedia of Philosophy. "Gilles Deleuze." Protevi, John and Daniel Smith. <http://plato.stanford.edu/entries/deleuze/>

Worldwatch Institute. "Is Meat Sustainable?." <http://www.worldwatch.org/node/549>

Youtube. "Thomas Sankara at the Organization of African Unity in Addis-Ababa in July 1987." <https://www.youtube.com/watch?v=DfzoToJEnu8>

Wikipedia. "1950s American automobile culture." http://en.wikipedia.org/wiki/1950s_American_automobile_culture

Wikipedia. "Houston, Tranquility Base here. The Eagle has landed." http://en.wikipedia.org/wiki/Apollo_11

Wikipedia. "Military animal." http://en.wikipedia.org/wiki/Military_animal

Wikipedia. "Solar radiation management." https://en.wikipedia.org/wiki/Solar_radiation_management

Zimmerman, Larry J.. "Primate Studies 3, Behaviors." <http://www.iupui.edu/~mstd/a103/primate%20lecture%203.html>

Interviews, Conferences and Lectures

Amir, Fahim. "Zoooperatism, Provincialising the Human." Paper presented at the Radical Philosophy conference, Berlin, January 17, 2015.

Boesch, Christophe. "Is Culture a Golden Barrier Between Human and Chimpanzee?." Paper presented at the *Ape Culture* conference, Berlin, April 30, 2015.

Haraway, Donna. "Anthropocene, Capitalocene, Chthulucene: Staying with the Trouble." Paper presented at the *Anthropocene Conference*, Santa Cruz, USA, May 8-10, 2014.

Tsing Lowenhaupt, Anna. "Arts of Living on a Damaged Planet." Paper presented at the *Anthropocene Conference*, Santa Cruz, USA, May 8-10, 2014.

Stengers, Isabelle. "Actor-Networks and Cosmopolitics." Paper presented at the Sawyer Seminar, University of California, Davis, May 20, 2013.

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