AFFECTS, INTERFACES, EVENTS

Edited by **Bodil Marie Stavning Thomsen**
Jette Kofoed
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IMBRICATE!

Series Editors: Gregory J. Seigworth, Mathew Arthur, Wendy J. Truran & Johnny Gainer

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INDEPENDENT
RESEARCH FUND
DENMARK

Publisher's Foreword

GREGORY J. SEIGWORTH

Once you have disabused yourself of the notion that a body stops (or starts) at the surface of the skin, discovered that an interface is less like a screen but more of a sieve, and dis-assembled an event so that it is no longer contained within the spatio-temporal envelope of its arrival but, instead, bleeds through its peripheries in all directions (futures, pasts, and meanwhiles), then the lessons of this book will have been reached by purposefully and generatively shaking free of the readymade shapes of its three constitutive features.

Over the course of this text's production (in the midst of international zoom meetings, countless emails, mishaps with spam filters, technical breakthroughs and breakdowns, translational and image-resolution challenges, a worldwide pandemic, and more), the frame-up of 'affects-interfaces-events' has been relayed often enough to have become, among us, one single bloc of sensation. Like any oft-repeated phrase or portmanteau-word or slogan/brand/rallying cry, in its repetition as singular designator of a highly particular aggregation of incorporeal and material processes, it is sometimes easy to lose hold of the remarkability that the composition *AFFECTS-INTERFACES-EVENTS* weaves together as it slips off the tongue and into ordinary speech, into everyday conceptualizing and theorizing, as it nestles in and among mundane practices of human and other-/more-than-human comportment with technologies.

Combined these chapters offer what might be one of the most sustained reckonings yet with Deleuze's postscript on societies of control (now thirty years on) as told from the human/nonhuman standpoints of the modulating sieve, the coils of the snake, the moment-by-moment re-balancings of the surfer, the vacuoles of non-communication. One

can read Deleuze (and Foucault's) history of socio-political formations as emphasizing slightly different registers of affect/interface/event: following from sovereign societies as the modulations of affect drew direct lines of consequence from the body of the sovereign to the physical bodies of their subjects ('affectio', as body-to-body contact/impingement) and, then, the transition to disciplinary societies as intertwined power-desire moved through continuous lines of variation to form the encasements and subsequent internalizations of mechanisms of surveillance ('affectus' as passage within/between intensities) to, finally now, the sheer-every-where-at-once-ness of the environmentality of cybernetic feedback and control (affect as immanence). These three registers of affect—encounter (with), transition (between), plane (of)—are the Spinozist lenses through which a great many of the contributions to this book can be grasped. Their insights give us an incredibly potent array of angles onto the challenges and opportunities of our contemporary moment.

In their array, this collection works to defamiliarize much of what we think and feel that we already understand about interfaces/affects/events: as either a whole bloc or in their singular-plural shapes. The chapters reveal how interfaces—ubiquitous, mutable, mobile—have come to move alongside (in real-time) and quite often ahead of the tempos of the living and the non-living. Insinuating themselves with the proprioceptive as well as the insensible, the interface is never merely a kinaesthetic prosthesis or an elasticizing skin but, more so, a texturizing weave of entrainments, opacities, signaletic materialities, rhythms, and speeds. In their contemporary intersection with interfaces, events turn increasingly anticipatory (albeit always open to re-negotiations with the aleatory), often nudged along by algorithms that detect and then forecast—with aims to dictate and/or disrupt the micro-routines of bodies-machines-environments. Through all of this, affects swerve, stick, and smear as oversaturated ambiances, sensations, and intensities come to sludge together, continuously interlacing (loosely or tightly knotted) points/lines/fields of variation: akin to thickening atmospheric swathes or palpable palimpsests, as slabs or layers of encounters swarm, accrete, fold, slough off, crack, peel back.

This, perhaps then, provides a glimpse into to why this book's cover image—a vivid patch of Erin Manning's deep blue indigo quilt-work "Collective Fabulations: Propositions for Social Dreaming" with its unevenly stitched-in garments, its wound-like gash, its haptic crinklings, its embedded-networked sensors for registering bodily shiftings—offers up such a resonant visual analogue to the ways that these chapters fold and unfold their contents. Smooth and striated, pieced and layered, multi-colored and multi-textured, quilts are in and of themselves events, affects, and interfaces: of fabric and labor (often collaborative), of comings-in-to-patterns of coherence through an assemblage of skill and intuition. Frequently given as gifts, quilts can draw together intimacies of cherished fragments from one's lived history and cast them forward into another's future. What can a quilt do? What happens when we pause to consider the ways that an image of feeling-thought can itself be quilted, when there is a generative overlap of compositional features that perpetually settle and unsettle, that raise questions about what counts as fit and what's "unfit"? In the same ways that a quilt can lift up and fall around, initiating an infinite series of enfoldings and unfoldings, providing affordances for multiple postures, readjustments, and nestlings—what happens when quilted feeling-thought, to put all of this into a single word, imbricates?

Is it any wonder then that *Imbricate! Press* could not be more delighted to have this volume as the inaugural release for our open-access (and physical) book imprint? This is the kind of book that rearranges the distribution of the insensible alongside the sensible, and, best of all, it offers its readers the conceptual tools for taking their own paths (and quilting together their own patchwork) toward the discovery, disabuse, and dis-assembling of affects, interfaces, and events.

Affects, Interfaces, Events

BODIL MARIE STAVNING THOMSEN, JETTE KOFOED & JONAS FRITSCH

This book addresses how the proliferation of digital and interfacial technologies produces an intensified distribution of affect in most aspects of our daily lives. Interfacial encounters imply a folding between "being in the body and representing/mapping the body from the outside" (Munster 2006, 142). Our key concern is to analyze the often-complex interfacial entanglements between our online and our offline being-in-the-world, since the distribution of affect modulates our very existential conditions. The individual chapters of the book investigate, in numerous ways, how affective interfacial events—on a micro and macro-level—are reinforced by or challenged by these conditions. The major concerns that we consider are: what happens in specific interfacial encounters, how interfaces modulate, how tonalities are brought forth or can change environments, how attunements happen, and how interfacial spreadings operate on affective, aesthetic, and political levels of exchange. These investigations are carried out from a transdisciplinary starting point, bringing into creative resonance a multiplicity of concepts, methods, and empirical examples throughout the overall framing of the book.

The individual chapters of *Affects, Interfaces, Events* relate to interfacial events produced and received as (real-time) encounters within global electronic and digital media networks, but the chapters also attend to a wider consideration of events including the circuits of analogue and electronic media. The examples offered within the chapters include actual interface designs, artworks reflecting on or an-archiving the operations of interfaces, interfacial city planning as well as media ecologies that stress or intensify interfacial encounters. The enhancing of joyful encounters as well as tiresome ones are explored in detail. In this sense, the term 'interface'

should neither be read as a technical term covering operations and functionalities (e.g., adhering to AI, to big data, or to surveillance capitalism); neither should it include all kinds of exchange taking place between more entities or conditions.

The critical ambition of this book is to dive into the oscillations of the three key terms—affects, interfaces, events—and to decipher the vibrations, modulations, and shifts occurring in the "signaletic material" (Deleuze 1989; Thomsen 2012) of data (algorithmic or not) that forms our contemporary condition. In asking the question, 'What do interfaces do?' it is the intention of this book to unpack the affective implications of how interfacial encounters take part in events.

In other words, the overall contribution of the book extends the well-known question, 'What can a body do?' in Spinoza and Deleuze (Spinoza 1677; Deleuze 1988; Gregg & Seigworth 2010) to the contemporary question of 'what can an interface do?' In this sense the interface is, in this volume, the prism through which affective reactions and affective encounters are registered, studied, and brought into wider cultural, societal, and political contexts. Some interfacial encounters can certainly bring sad passions in the forms of hatred, aversion, mockery, fear, and despair that are all too often re-circulated in media; other encounters bring active joys, inspiring to a power to act and change perceptions and life conditions. Importantly, however, even though such passions are colored by different kinds of technologies, they are not predetermined by them. As an example, Virtual Reality (VR) technologies are simultaneously used for warfare training as well as post-war trauma therapy, this shows how the (same) digital technologies/materials can be used to serve different, even directly opposed, aims. This raises important ethical questions as to how our current techno-ecologies could be reimagined.

Interfaces have for a long time been part of all kinds of communication and 'operations' via video cameras, screenings, data-processing etc. Today the relational exchanges in interfacial real time encounters (for example in social media) have a folding and reflective capacity that influences the communication just as much as the actual messages sent or received. Whereas most theories of communication explain the exchanges taking place between sender and receiver as a relation between two parts, the concept of interfacial folding adds a layer onto communication of recording/sending/data-assemblage in real-time. Algorithmic data feedback procedures appear to have replaced a more representational and cause-ef-

fect based production of 'meaning.' Classical news media have primarily understood this condition as the 'downfall' of critical engagement. This downfall is seen to invite an open platform for 'fake news.' However, things are more complex. The hashtag #MeToo, for example, demonstrates how fast an affective interface event can make an impact and change tonalities. Affective interface events can twist, turn, and draw unforeseen lines of affinity and crowding—and make change possible. Taking into account the folding intensity of interfaces is a complex and troublesome task that is not often covered by theoretical writings on interfaces. The trouble with considering interfacial foldings might be even less convenient to a range of current interfacial practices where ideals such as smoothness, transparency, and seamlessness still persist.

The chapters within this book aim to expand the understanding of interfacial encounters and to heighten awareness of the relational, folding capacity of interfaces. Instead of studying exchanges taking place between two parts—so-called subjects and objects—we propose to shift focus to the highly intensive middling of interfaces. Thus, the folding intensification or triangulation of interfaces consists in, 1) activating keyboard, keypad, camera or button 2) in perceiving the screening and screened material and, 3) in exploring the feedback data. The first two operations might easily take place in analogue writing or drawing for example, while the third operation implies an awareness of and access to how data is coded, shared, and archived. This operation might rather be referred to as signaletic material since its significance is motion and algorithmic modulation. Nevertheless, and even though this third operation of the interface does not necessarily involve or include a human agent, sensing it takes part in all interfacial encounters. Affect is felt as arising within interfacial encounters that entangle the mental, the social, and the environmental (cf. Guattari 1989/2000) just as much as off-line encounters, since affect can be produced and sensed independently—free of meaning and sense (as attributed to narration or sign systems referring to analogue forms of communication).

The global covid-19 pandemic has run parallel to the editorial work with the book. Its impact can in some ways help explain what we refer to as events. The pandemic has certainly put an end to global exchanges that have international travels and overnight hotel stays as key components. Instead, we have seen a rapid increase in remote interfacial encounters that have been crucial to upholding all kinds of relationalities: meetings,

teaching, and counselling. This has also resulted in 'zoom fatigue' and exhaustion. We might conceptualize this as the 'revenge of the screen' in a time of social distancing, both facilitating contact but also making felt the loss of physical touch in our everyday lives at a time when we have been asked to "stand together apart."

In a growing number of countries, mobile apps have become key to registering the spread of the virus—for some this is seen as a furthering of biopolitical governmentality and neoliberal capture of our most intimate data, with ensuing questions about ethics and privacy; for others the apps are seen as a necessary technological intervention to help cope with the pandemic. In the case of the steep rise in remote meetings, a related consequence has also been a positive impact on the environment due to a reduction in CO_2 emissions. And we have seen examples of how the lockdowns can create the necessary time and space to imagine alternatives to neo-liberal capitalistic agendas and hectic lives. However, the pandemic and the economic downturn has also set a new framework for interfacial comparison of inequality on a global scale. Huge variations between different nations' conditions of work and housing, as well as access to healthcare systems, became exposed on a global scale in relation to (the lack of) governmental support. Especially the life conditions of migrants and people with precarious jobs were measurable in the death rates within welfare states. So, even though perceptible changes have been the pandemic's consequences for most people, the inequal conditions of staying healthy is spelled out, and the impact of the lack of basic health conditions in many generations of marginalized or vulnerable sections of the population worldwide is a major wake-up call for those that deny social inequality.

One decisive moment re-ignited the Black Lives Matter movement, namely the death of George Floyd at the hands of the police. His last words "I can't breathe!" were filmed as a Minneapolis policeman pressed Floyd's neck and head to the ground with his knee. When shared on the internet it reverberated with similar incidents (like Eric Garner's death in police chokehold). It became an interfacial event collecting affective threads in relation to the structural racialized conditions of life and death. A break with historical colonial and continued oppression also grew from this event, most likely due to the clear-cut documentation and the interfacial intensifications of affect. The same is true for the growing public discontent with political leaders' lack of actions toward climate change as well as

the global implications of #MeToo that still lingers. In fact, in Denmark, at the time of writing we are witnessing a second wave of #MeToo cases and media coverage due to the setting-up of whistleblower systems in many organizations.

These and other occurrences running parallel to the pandemic can be considered as an event of global dimensions, even though we do not yet know the full repercussions. The concurrency of this global event with Félix Guattari's three ecologies: a nascent subjectivity, a constantly mutating socius, an environment in the process of being reinvented (Guattari 1989/2000) is articulated in this event of potential change. The bringing together of hitherto separated fields of experience, knowledge, and systems of control might suddenly be experienced affectively as an unfolding of the virtual, actualizing itself here and now and in a time to come. Thus, what we experience collectively and relationally—although differently—is that we are braced for "the immediacy of an affective event" that is modulating, questioning, displacing, and intensifying everything else (Massumi 2015, 115).

We cannot understand the cases of George Floyd, #MeToo, or the current covid-19 pandemic without attending to the ways in which affects, interfaces, and events are entangled. Yet, all aspects of the entanglements of interfacial affective events are not spelled out in every chapter of the book.

The research project of *Affects, Interfaces, Events* is embedded in Scandinavia where access to internet, platforms, and technologies is vast, 98% of all Danes have access to internet at home and 96% of all households have mobile phones. Our experiences and perspectives are thus situated in the global North and shaped by our institutional, cultural, and personal backgrounds. We are acutely aware that we have only just begun this endeavor into the affective human and non-human conditions of what interfaces can do – and the joyful and the sad affects resulting from interfacial encounters. In this way, the chapters in the book are diverse prisms to un/fold a selection of contemporary conditions and act as a call for future explorations of interfacial entanglements and their evental affective imbrications.

THE RESEARCH GROUP

The book presents an outcome of a five-year research collaboration within the framework of the Danish research project *Affects, Interfaces, Events* (2015-2021). The project was funded by the Independent Research Fund Denmark and directed by Professor Bodil Marie Stavning Thomsen (AU) with co-researchers Associate Professor Jette Kofoed (AU), Associate Professor Camilla Møhring Reestorff (AU), Associate Professor Kristine Samson (RUC), Associate Professor Jonas Fritsch (ITU), Associate Professor Thomas Markussen (SDU), Postdoc Torsten Andreasen (KU), and Dr. Søren Rasmussen (AU). The research groups' aim was identical with the aim of this publication, namely, to explore affective interface events through readings, writings, bodily experimentation, and design alternatives.

In the research period more people were invited to take part in the exploration of the affective encounters of interfaces. At workshops and in seminars, during the time span of the initial project, we exchanged ideas with Australian based Associate Professor Andrew Murphie (UNSW) and postdoc Lone Bertelsen (UNSW Art & Design). Likewise, Professor Anna Munster (UNSW Art & Design) participated in the group's workshop in 2018. All three have, in fruitful ways, taken part in the research and the design questions raised by members of the project, and all contribute chapters to this book. Professor Erin Manning (Concordia University) and Professor Brian Massumi who contribute via an interview by Jonas Fritsch, Greg Seigworth and Bodil Marie Stavning Thomsen, have inspired the framework of the research project (cf. Massumi 2002, 2011, 2015; Manning 2009). Some contributors have also been participating in the international project "Immediations: Art, Media and Event" (2013-2021), directed by Erin Manning.

Erin Manning, Brian Massumi, and Andrew Murphie were keynote speakers at the conference "Affects, Interfaces, Events" at Aarhus University in August 2018. Professor Gregory Seigworth (Millersville University), who has written the foreword, also contributed to the research group's work. He was a guest professor at the Department of Communication and Culture, AU in June 2019. In October 2019 he co-organized, with Andrew Murphie, Lone Bertelsen, and Jette Kofoed, a Nordic and North-European colloquium on Ethics and Affects in Aarhus. It has been a privilege to exchange ideas with international colleagues across this evolving field and we are proud to include so many international contributions in this book.

SECTIONS AND CHAPTERS

All authors included in this book were asked to reflect on the interface in relation to studies of affects and events pertaining to materials of their own choice. The editorial team invited some of the authors from the 2018 conference to extend their arguments and consider relations of the affective potentialities, qualities, and values of interfacial encounters and events. As a result of this editorial principle, the topics of the articles are very diverse. However, the focus on interfacial reinforcements or deteriorations of affective relations and events is the organizing principle of the book. The individual chapters are subsequently collated into four subsections according to their analytical approaches.

Section One
ENCOUNTERING INTERFACES: INVESTIGATIONS IN HISTORY AND DESIGN

The concept of 'interface' is discussed in the first section. The interface is explored in relation to affective interaction designs, to AI interfacial production of conversational assistants (and their limits), and to Pavlovian experiments with interfacing. All the chapters consider if and how interfacial encounters can place emphasis on, and reward, the complex potentials of relation.

Jonas Fritsch, in his chapter "Problematizing Affective Interaction Design," proposes two lines of mutual resonance between affect studies and interaction design. First, moving from design towards an affirmative ethics of technology in affect studies, and second moving from affect studies towards an ecological alter-politics of affect in design. He uses *The Voice Pump*, co-designed with digital artist Mogens Jacobsen, as a recurring design example to think through affect-political questions when designing for affective engagement and articulates the challenges that arise when doing so. Framing the chapter around problematization, in the end, turns into a call for further technological experimentation towards new re-fieldings of experience motivated by our troubled present.

Anna Munster's chapter "Disfluent Interfaces. Affective Conversations: Differencing Humans and Machines in AI," takes the interface conceived as "a space of engagement" across and between humans and computers as its point of departure. However, as Munster points out,

interfaces have often been designed to avoid relation by either making computers imitate human behavior or by making humans enter computational designs. Her example is Google Duplex assistant which uses natural language processing (NLP) to perform tasks substituting human speech interaction. The complexity of human relationality in conversation is not achieved, but since Google Duplex used conversations among humans as its training field, the disfluency of language (like pauses and hesitations) was integrated. Meanwhile, the nonlinear, metastable and eventful developments in conversations could not be imitated, since conversations do not take place between predefined individual entities. This quality is, according to Munster, explored creatively in Monica Monin's artwork *Conversation Theory* (2019) that explores "sense-in-the making" rather than making sense.

Andrew Murphie's chapter "Technics Lifeless and Technics Alive: Activity Without and With Content" argues that much of contemporary technics (here understood as all modes of organization and underpinnings of technology) fails to embrace the complexities of the world as event. On the contrary, the history of mainstream technics tends towards a "nature lifeless" controlling the relationality of affecting and being affected. Murphie argues that the current media revolution, involving AI and automation like VR and other powerful infoldings of media and world, too often takes up an ur-interface of "Pavlovism"; i.e. the production of near lifelessness. The procedures of isolation and constraint, in order to observe and measure and induce controlled behaviours, are seen as the building blocks for automation and interaction. However, this condition might be replaced by "an activity of concern," an "immanent relationality" and a wider "response-ability towards the world as medium." The ideas for "technics alive" are outlined in his closing manifesto.

Section Two
WHAT DO INTERFACES DO? INESCAPABLE INTENSIFICATIONS

The political and ethical approaches to events that produce and 'feed on' the affects raised in the manifold intensities of interfaces is one way of dealing with the specific entanglements of affects, interfaces, events. The chapters in this section deal with political and ethical refrains and reverberations arising from social media encounters by which actual bodies and social formations are controlled or framed.

Jette Kofoed's chapter "Drawings in the Air: Digital Sexual Assault as an Event" investigates digital sexual assault as a matter of "spreading" where user generated content is circulated online. The chapter makes the non-consensual spreading of sexually-explicit videos the focus of analysis and scrutinizes how the spreading itself becomes an affective event of sexual assault. The so-called 'Umbrella case' makes up the empirical data. The chapter is composed of two entangled analyses, i.e., a diagrammatic reading of the pattern of the interfacial spreading over time and a reading of so-called n-1 dimensions. The author expands on how affect travels and returns in unforeseen ways, beyond the singularity of a seemingly demarcated 'case' and instead in ways that are deeply entangled with matters of ethics and methodology. Kofoed shows how the disparate spreadings are not only knotted together by interfacial technologies, but how the interfaces fashion the relationalities within what happens as part of the event.

Camilla Møhring Reestorff in "The Affective Politics of Interfacial News: Danish News Media's Coverage of #MeToo on Facebook" explores how Danish news media covers the #MeToo-movement on Facebook, and how news consumers respond to this coverage. In the chapter Reestorff discusses how the relationship between news and news consumers are transformed, and how the connections manifest in an affective politics of interfacial news. This affective politics of interfacial news is, she argues, impacted by both ordinary affects and a surveillance capitalist logic of accumulation; accumulations that among other things circulate and intensify angry refrains oriented at #MeToo. Finally, Reestorff argues that the transformation of news cannot merely be explained by the affordances of social media and the impact of surveillance capitalism but must also take into account a specific politics concerning sexual harassment and abuse; a policy that foregrounds the emotionality of news consumers, intensifies angry refrains directed towards #MeToo and has consequences for victims of sexual assault and harassment survivors' access to the public debate.

Kristian Møller and Chase Ledin's "Viral Hauntology: Specters of AIDS in Infrastructures of Gay Sexual Sociability" investigates how the increasingly effective biomedical treatments of the "post-AIDS crisis" have dethroned the condom as the ultimate safer-sex strategy. Despite these advances, the authors find that sociotechnical infrastructures recirculate sexual scripts rooted of previous medicalized realities. Two cases show how viral fears "haunt" the infrastructure of gay sexuality. First, they suggest that the figure of the "PrEP whore" is employed to shame

those who use new chemoprophylactic methods, applying the norm of separated bodily fluids that decades of condom use has established to create a responsible subject. They then survey how popular hookup apps Grindr and Scruff support the negotiation of sexual health between users through infrastructrual disclosure options. Identifying the difference between disclosing *practice* and *viral status,* the authors argue that the latter reproduces fantasies of the HIV negative body that is rooted in the fear of the historical AIDS crisis.

Section Three
WHAT COULD AN INTERFACE DO? THINKING–FEELING ART–RELATIONS

Another approach is to pose questions as to how affect is or might be modulated within aesthetics and culture. Various art productions are brought in to explore new forms of relation. The qualification of events and questions of 'the new' are key to this section which places emphasis on affectability and the relational 'middle' of perception.

In Bodil Marie Stavning Thomsen's chapter "Interfacial Modulations of Affect: On the Creation of Events in Contemporary Artworks," Jesper Just's performance *Cadavre Exquis* (2019) is explored as an interfacial folding event. Thomsen underlines how the modulatory power of affective responses are key to the performance. The virtual folding capacity of perception as such is further explored as prehension in relation to Kirkegaard and Vindelev's performance *EUSTACHIA—for Two Voices* (2016). Here, the inner ear's sounds become the folding modulator of the heard encounters between the two singers. Even though the voices respond to unheard tonalities, the interfacial middling becomes almost palpable in the performance. In Lise Autogena and Joshua Portway's *Foghorn Requium* (2013), the modulating forces of the British coastal landscape were made audible, as the horns of the ships responded to the brass bands onshore. This composition along with the foghorn's last sounding event made the relation of coast and land affectively felt. This study of three art performances explores interfacial affect in terms of prehension and events.

Katrine Annesdatter-Madsen's chapter "Seeing Relation: The Perceptual Event in Olafur Eliasson's Art" explores Eliasson's use of natural sources like light, fog, water, and stone. Setting new scenes for encountering these materials shape the potentials for a non-representational and

non-objectifying perception. Annesdatter-Madsen shows how Eliasson, in *Beauty* (1993) and *Riverbed* (2014), makes the gallery guests perceive the virtual relations lived in and through the artworks and thus makes way for an ecology of encounter.

In his chapter "Nonsense Data and The Anarchive: Memory in Real-Time," Søren Rasmussen examines the process of making sense from the abundant streams of data that inform today's human-computer interactions. Rasmussen argues that real-time data processing has effectuated an anarchival amplification that breaks with traditional understandings of representation and time. Exemplified by the multimedia artworks *The Pirate Cinema* (2012) and *Listening Post* (2002), Rasmussen outlines the potentialities arising from the affective immediacy of the disorderly movements and temporalities of digital networks. In building theoretically upon Gilles Deleuze's concepts "the power of the false" and "peaks of present," Rasmussen argues that an engagement with the signaletic material of real-time procedures might revitalize virtual time and produce more than habitual responses to the increasingly indexed and accelerated interfacial encounters.

In their article "Atmospheric Intensities: Skin Conductance and the Collective Sensing Body" Liz de Freitas and David Rousell discuss the potentials of electro-dermal activity sensors (EDA) to map and explore the affective intensities of young people across the environment. Instead of a stimulus-response procedure covering individual intensities, EDA signals from multiple bodies were fed back into the environment. This enables an exploration of the "atmospheric intensity" and affective feed-back loops across bodies and events "without resorting to reductive models of quantification." Experiments with a group of young people's sensations of time in relation to William Kentridge's exhibition *Thick Time* is described in the chapter. This work's complex multi-sensory ecosystem composed the environment for the 'sense-mappings' of the creative vectors of the bodies in each exhibition room. The post-colonial intensities spelled out in sights, sounds, and movement in Kentridge's work formed transindividual resonances visible in the EDA sensors. Yet fielding into microtemporal modulations of affect, they argue, cannot change the invisible (unequal) conditions of bodies laid bare in the gallery rooms.

FUTURE ENCOUNTERS: DRAFTING CO-CREATIVE DEMOCRACIES

In this last section the question of interfacing is extended to also include the social field of distribution, regulation, confinement, and construction of class, gender, and race. The chapters focus on how well-known forms of in- and exclusion work in the current interface culture and its ideologic undercurrents.

In Kristine Samson's chapter "We Still Do Not Know What a City Can Do: Modulation of Affect in Urbanism and Spatial Politics" the key issue is to explore cities and city planning as interfaces in which bodies are diagrammed as related, distributed, or included/excluded. Samson argues that cities are technologically mediated by the media of their time and thus she focuses on how the current interface culture redistributes "urban encounters on macro-, meso-, and microscales." She discusses actual modulations of control in monitoring engagement and participation in city planning, and she takes a closer look on the 'interfacial modulation of affective relations between buildings, people, aesthetics and culture." The norms of participation under the label of Nordic transparency are exposed in *The Demolition Tour*, an art project by Gellerup resident Aysha Amin. The project makes the tour guests experience the diagram of how the municipality of Aarhus wants to refashion and give another 'face' to Amin's childhood area as a response to the Danish Ghetto Law of 2018. This example of making other events and minor gestures between citizens deviate from planned modulations can also be extended to cover potential non-human encounters outside the city-scape due to the covid-19 pandemic.

In "Interfaces for Ecosophic Democracies: 'Consent not to be a Single Being,'" Lone Bertelsen approaches interfacial events by way of a speculation on what it would take to create real social collectivities. Systemic oppression is maintained through the production of a self-enclosed subjectivity, which distances itself from the very ability to be affected. This is key to the production of racism, profit, and (neo)liberal exploitation. When the ideas of sovereign subjects are reproduced in interface development, real democratic practices cannot exist. Bertelsen explores alternative practices emerging from the artworks *Crystal Palace: The Great*

Exhibition of the Works of Industry of all Nuclear Nations (2013) and *Collective Fabulations: Propositions for Social Dreaming* (2019). Engagement with these participatory works involves co-affective becoming.

In the interview "Infrafacing" Erin Manning and Brian Massumi respond to questions around the concept of interfacing as posed by Bodil Marie Stavning Thomsen, Jonas Fritsch, and Gregory Seigworth. Manning and Massumi focus first on the transversality made available in the new implications for writing and reading in the context of the design of their online journal *Inflexions*. Here, the multiple rhythms of moving eyes and hands are explored as an "infraface" to enhance the transversal modalities of events. The infraface can be thought of as a threshold that allows attunement to the immediacy of relation and, thus, can invite other forms of collaboration. Becoming aware of racialized, disabled, neurodiverse responses in navigating (entering and exiting) might invite a variety of opportunities for participation. By taking into account the systemic operation of the white man's face as the operator of legibility (by territorializing other bodies and the ecologies of the earth), the question becomes how to dismantle the 'face' of the interface for the horizons of the infraface. The demands of affective interaction would thus be to work with co-becoming, qualitative transformation, and reciprocal modulation of relation.

REFERENCES

Deleuze, G. (1988). *Spinoza: Practical Philosophy*. San Francisco: City Lights Books.

Deleuze, G. (1989). *Cinema 2: The Time-Image.* Minneapolis: University of Minnesota Press.

Gregg, M. & Seigworth, G.J. (2010). *The Affect Theory Reader.* Durham: Duke University Press.

Guattari, F. (1989/2014). *The Three Ecologies.* London: Bloomsbury.

Manning, E. (2009). *Relationscapes: Movement, Art Philosophy.* Cambridge & London: MIT Press.

Manning, E., Munster, A. & Thomsen, B. M. S. (2019). *Immediation I & II.* London: Open Humanities Press.

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation.* Durham: Duke University Press.

Massumi, B. (2011). *Semblance and Event: Activist Philosophy and the Occurrent Arts*. Cambridge & London: MIT Press.

Massumi, B. (2015). *Politics of Affect*. Cambridge: Polity Press.

Munster, A. (2006). *Materializing New Media: Embodiment in Information Aesthetics*. Dartmouth: Dartmouth College Press.

Spinoza, B. (1677; 2010): *Ethics*. Hertfordshire: Worthworth Editions Limited.

Thomsen, B. M. S. (2012). Signaletic, Haptic and Real Time Material. *Journal of Aesthetics and Culture* [online], 4 (1). Available at: https://www.tandfonline.com/doi/full/10.3402/jac.v4i0.18148 [Accessed 01 January 2021].

ENCOUNTERING INTERFACES:

INVESTIGATIONS IN HISTORY AND DESIGN

Problematizing Affective Interaction Design

JONAS FRITSCH

> The notion of affect does take many forms, and you're right to begin by emphasizing that. To get anywhere with the concept, you have to retain the manyness of its forms. It's not something that can be reduced to one thing. Mainly because it's not a thing. It's an event, or a dimension of every event. What interests me in the concept is that if you approach it respecting its variety, you are presented with a field of questioning, a problematic field, where the customary divisions that questions about subjectivity, becoming, or the political are usually couched in, do not apply. (Brian Massumi 2009, "Of Microperception and Micropolitics").

This chapter is the result of a decade-long research engagement at the intersection between interaction design and affect studies. Through the prism of the interactive sound installation *Voice Pump* created during the timespan of the *Affects, Interfaces, Events* research project (see introduction), the aim of the chapter is to investigate the crafting of the installation as a form of transdisciplinary problematization of an emergent research agenda on affective interaction design. In *Putting Problematization to the Test of Our Present* (2019), Isabelle Stengers mobilizes the notion of problematization as it appears in the work of the late Michel Foucault—via the work of Gilles Deleuze and Etienne Souriau—to constitute a "keynote philosophical ethos of experimentation on ourselves in the present" (3). Stengers characterizes the present as "Catastrophic Times" (2013), demanding vigilance on an existential level towards crafting new "ontologies of ourselves" (2019, 4). To Stengers, we must allow ourselves to be "touched by" sensible events in the present that can be transformed into a call for action to change the current state of affairs. Changing here entails engaging with "reclaiming" and "ethopoetic" practices "aiming

at the generation of ways of living, feeling and thinking that challenge social norms and manifest the transformative power of truth … in order to experiment with the possibility of living in the capitalist ruins (2019, 13). Stengers emphasizes that a form of critique from the 'outside' is not an option; instead, problematization situates critique as a form of relaying practice "'at the frontiers', as the cultivation of a philosophical ethos, carrying out the work of thought under the experimental form of a historico-practical test imposed by our present, inseparable from the modes of problematization our present makes us capable of" (2019, 11).

Voice Pump is an air-based interface for attuning to the differential qualities of voices created by digital artist Mogens Jacobsen and me, the author. The interactive sound installation lets you 'pump up' voice recordings of around 20 diverse, both native and non-native, Danish speakers reading out loud the same page, an official "Learn Danish" textbook used
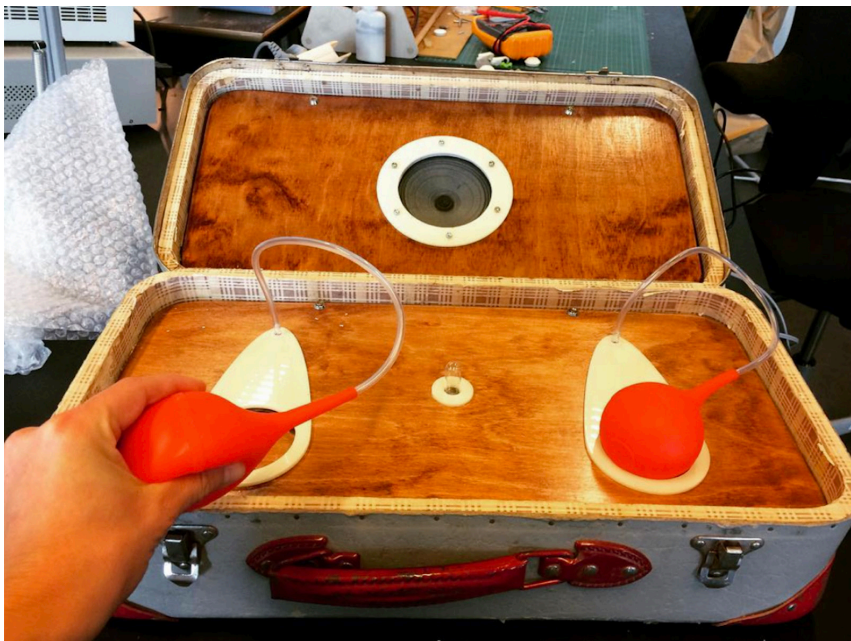
Figure 1. Physical form and pressure interaction with the *Voice Pump*. You need to maintain a steady airflow to make the voice speaker. Photo by Jonas Fritsch.

in Danish classes offered by the municipality. Pressing the rubber pumps moves the recorded voices from low to normal to high pitch based on the airflow. You have to maintain a steady air pressure to hear the entire voice recording at a normal pitch, but you can also explore the low and high pitches to accentuate different affective qualities of the voices.

Voice Pump explores the potential in creating an interactive sound installation that lets people listen to and interact with actual voice recordings using rubber pumps as interaction devices. By using rubber pumps, the connection between controlled airflow and the spoken human voice is explored by using digital technologies. When interacting with the *Voice Pump*, the primary aim is not to engage directly with people's stories on a level of content. Rather, the aim is to engage people affectively through an experimental interface that allows them to attune through affective interactions to the paralinguistic qualities of voices, the qualities associated with these voices and the gestures involved in speaking a non-native language.

Problematizing the process leading to and the actual design of the *Voice Pump* will be retrospective since it attempts to revisit and relay findings from the project into a condensed format for others to engage with. At the same time, the project also points toward future explorations and cross-fertilizations across affect studies and interaction design, and beyond. In the chapter, I will show how at least two thematic trajectories might be distilled from this namely, 1) developing an affirmative ethics of technology exploration in affect studies fueled by digital design experiments and, 2) sketching out an ecological alter-politics of interaction design that directly engages with our present sociocultural, environmental, and mental crises on an ecological scale based on affect theoretical insights (Guattari 1989). The 'problematic fields' (see the Massumi opening quote) that have appeared out of the intertwinement of these trajectories has been fueled by an affect-driven inquiry that has both led to a personally motivated "ethos of experimentation" (Stengers 2019, 3) and the concurrent formulation of an emergent research agenda on affective interaction design as a conceptual and practice-based starting point for living out this ethos. In this respect, the chapter is also an exploration of the intersection between the personal and the collective, between living and (design) research. First, I will begin by sketching out what is meant by affective interaction design in the context of this chapter.

AFFECTIVE INTERACTION DESIGN AT A GLANCE

Affective interaction design synthesizes trajectories from Human-Computer Interaction (HCI) (Picard 1997; Norman 2004; Lottridge et. al. 2011), interaction design (Sengers et al. 2002; Aboulafia & Bannon 2004; Boehner et al. 2005; Höök 2008), and affect studies and philosophy (Spinoza 1678/1957; James 1912/2018; Whitehead 1929/1979; Deleuze 1970/1988; Stern 1985; Bennet 2001; Massumi 2002, 2009, 2015; Clough 2007; Gregg & Seigworth 2010).[1] Affective interaction design takes as a starting point a definition of affect as pre-personal intensity that influences our bodily, vital forces directly. Affect is directly related to a felt capacity to act and be acted upon through the increase or decrease of joy, sorrow or desire (Spinoza 1678; Massumi 2002). According to Spinoza, positive affects are those that make us feel alive and act in the world. Negative affects have the opposite effect, reducing our possible activity in the world and making this reduction felt.[2] Affect is neither purely natural/physiological, nor solely cultural. This also means that affect can neither be contained as the properties of a person, nor the properties of a system. Such a conceptual starting point for affect-driven inquiry thus challenges basic notions of interaction, interfaces, and interactivity in material, processual, relational and experiential terms (Fritsch 2009, 2011, 2018). Affective experience lies 'in-between' and thus brings together the natural and cultural in affective-felt tendencies that modulate the potential for action in a given situation. Starting from this middling field, affective experience entails looking into the very formation of experience; that which *makes us* experience and the forces that modulate this. Affect differs from emotion, which is understood as recognized affect; affect is pre-personal and non-conscious whereas emotion has individuated to a conscious form. Importantly, though, this does not entail that emotion should be disregarded as a concept in affective interaction design; rather, taking affect as a conceptual starting point for designing interfaces colors an entire spectrum of associated terms that must be entirely rethought in light of the modulatory power and processual working of affect. Some of the associated terms include emotion, feeling, mood, atmosphere, sensation, perception, sense, meaning, discourse, representation to name a few. These concepts require renewed consideration, continued conceptual exploration, and remain key to understanding how design works. They become increasingly important when inquiring into the use and adaptation of an interactive

design over time, and how it changes affective attachments and relations in a longitudinal perspective where the affective formations temporarily stabilize into novel experiential fields. The emergent research agenda thus focuses on the resonance between affective interactions with concrete digital and interactive technologies (on a micro-level) that catalyze new affective attachments and relations (on a macro-level), and, perhaps most importantly, what happens in-between (meso-level).

If there is one thing we know from the recent years' studies within affect theory, you can never fully control affect; it is autonomous and unruly (e.g. Massumi 2002). Design, however, is often seen as an intentional act aimed at giving definite form to a controlled environment. However, it should be stressed that affective interaction design extends a line of thinking within HCI and design, arguing that the unfolding of interactions and relations can never be fully predetermined and that they emerge situationally; a 'designing *for* experience,' rather than 'designing experiences' (see e.g. McCarthy & Wright 2004; Fritsch & Iversen 2013).

The next section introduces the design of the air-based interactive sound installation the *Voice Pump* (2015-17). In many ways, this project has had a strong impact on the formulation of affective interaction design discussed here, since many of the basic ideas guiding the research agenda can be said to have materialized concurrently with the crafting of the design, either in direct relation to or in resonance with the project. However, the research agenda has also been shaped by some of the shortcomings and failures of the project to properly engage with the intended design situation it was supposed to contribute to. *Voice Pump*, then, will be used as a, "design to think with and through" (Frayling 1993; Zimmerman 2007), or a form of practice-based design research (Smith & Dean 2009) exemplifying what happens when affect theoretical concerns enter directly into design processes and considering what questions arise from this exploration. Part of problematizing affective interaction design thus means to unravel what happens to affect theoretical concepts, concerns, and ideas when they move into design—the actual crafting of digital and interactive artifacts—and, of course, what happens in thinking and doing design driven by affect theoretical concepts.

DESIGNING THE VOICE PUMP

The initial frame leading to the design of the *Voice Pump,* was my subproject within the project *Affects, Interfaces, Events* focused on the design of affectively engaging interfaces, especially looking into the use of digital and interactive sound. From this rather broad starting point, a range of brainstorming and sketching sessions were initiated to cultivate how a project within that frame might look. At the time of its initiation in 2015, the Danish (and European) so-called 'refugee crisis' was at its peak of intensity. For some time, I had been considering how to move my design research practice towards a more direct engagement with more pressing ecological and societal issues, and the refugee crisis became a "questioning situation" (Souriau 2015) that forced me to think about ways to move this personal ethos of experimentation into an exploratory design research practice. Receiving the *Affects, Interfaces, Events* grant also provided a unique opportunity to engage with this exploration. All these trajectories deeply influenced the collective ideation process, and very soon one of the criteria for the project emerged very strongly; we wanted the work to engage directly with the complicated affective politics surrounding the refugee crisis. This led to a focus on the potentiality of creating a design that would allow actual voices of refugees to be heard in the debate surrounding the crisis. One of our main reasons for focusing on different voices was that refugees were often referred to as a homogeneous group in everyday discussions and in the Danish media, and they were attributed with generic backgrounds and motives for seeking asylum in Denmark. Their motives were often perceived as "hostile" to Danish values or "Danishness," as defined by center-right political formations, such as an intentional and opportunistic exploitation of the Danish welfare system. When looking into the matter, it was clear that this generalization grossly hid the fact that the people coming to the country came from many different places, with their own individual stories—and voices. We therefore wanted to create an interactive installation that would make this differential felt, potentially creating a more nuanced perception of the diversity of the people behind the label 'refugees,' thereby making the differential 'heard.' We wanted to collect recordings of several refugee voices emphasizing their different tonalities and qualities by providing an affectively engaging way of interacting with—and relating to them. It also became an essential ethos of the project that it must be more than a

'one-off' installation. To us, it represented an entry point into a continued engagement besides having a value in its own right. The design was a form of inquiry into this affectively saturated design situation (due to the political circumstances), as much as it was supposed to contribute to changing this situation.

The specific aim described above was already providing some direction, but it immediately opened a new range of questions that we also had to explore. We started out investigating voices, vocal qualities, and existing (interactive and non-interactive) works focusing on voices (e.g. see Figure 1). Simultaneously, we started investigating ways of entry into some of the temporary camps, which had been set up to accommodate the growing number of refugees, in order to find out what was going on and to find people who would participate in the project. We also went to a meeting at the Trampoline House, an NGO initiative facilitating encounters and activities between refugees, immigrants, and other people. We learned about the situation of the refugees in the camp, the challenges of being allowed into the camps, the many activities of the Trampoline House, and the necessity of building long-term relationships and not just entering mindlessly into other people's lives. This ethical commitment is also
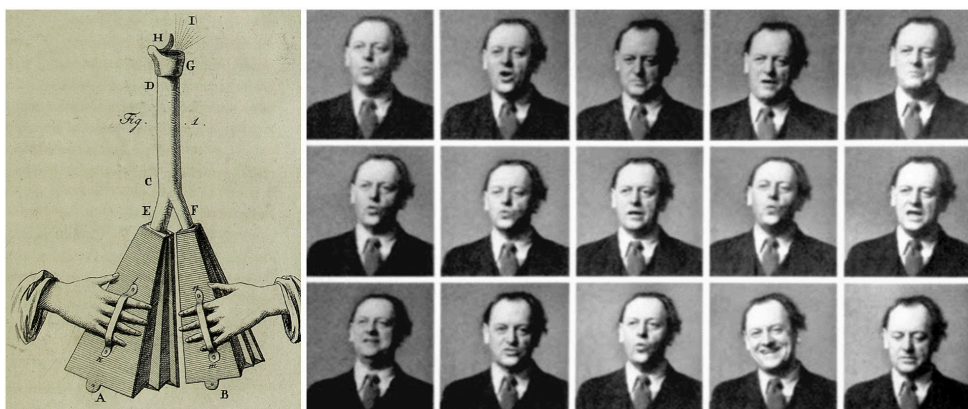

Figure 2. Sources of inspiration. Early speech synthesis using airflow controlled by bellows (left); illustration from Wolfgang Von Kempelen's "Mechanismus der menschlichen Sprache nebst der Beschreibung seiner sprechenden Maschine," 1791, SLUB Dresden, CC–BY–SA 4.0. *Ursonate* by Kurt Switters, 1932 (right).

a central part of a range of other design disciplines, e.g., the participatory design tradition (e.g. Bødker et al. 1987; Munteanu et al. 2015). We kept in mind the importance of finding ways of entering other people's lives without attempting to 'get something out' without giving something back, and we continuously discussed what this entailed in practice.

At the same time, we were beginning to conduct experiments around how to create an affectively engaging form of interaction with the voices we wanted to collect. The tonality and coloring of individual voices are characterized by cuts in air distribution, and we wanted to play with this. Further, we wanted to explore the crafting of a physical interface that was "user-unfriendly" (Dunne 1999) and *intensive* as opposed to extensive (e.g. like waving a Nintendo Wii in the air). Our issue here was to put more demands on people's attention to make them interact more fully in exploring the design. This led us to use the feature of rubber pumps to blow air as an interaction device 'pumping up' voices in pitch. We reasoned that using air as a means of interaction would resonate with the way in which air, as respiration, regulates the physical production of voices. Further, we found that rubber pumps possessed intensive interaction modalities that were interesting to explore in the context of affective interaction design.

We decided to build a prototype that we could eventually share with refugee participants. This was a way to introduce them to our mode of engagement and particularly on our aim, and our ethical concerns, to not appropriate their voices. However, in testing the emerging technical infrastructure, we also wanted to start collecting some voices of non-native Danish people. Fortunately, we gained access to a group of non-Danish speakers in a Danish class. Originally, we had not given much consideration as to what the voices we would be collecting should say, since we thought of our primary design material as the qualities of a speaking voice rather than its utterances. So, for technical reasons we agreed to collect the same text being read by all the participants, which enabled us to better highlight differences in voices based on a comparison in articulation of the same words. Before visiting the class of newcomers learning Danish, we looked into the textbook material being used—a book entitled *Lær Dansk* (*Learn Danish*)—and picked out a dialogue which we thought would be interesting to record (see Figure 3). This dialogue was chosen in part because it did not make much sense; it was in fact quite nonsensical even though it was an essential part of the mandatory reading material for all immigrants and refugees coming to the country. They all, to this day, *have to* learn Danish

and pass a language test to be able obtain citizenship. Therefore, we found this to be an interesting dilemma to enter into the design process. After listening to the recordings from four different people, from four different countries (three male, one female) we found it profoundly touching to listen to them trying to read in another language without being trained for it; the affective gestures of their effort to try to speak a foreign language was palpable and it colored the tonality of the recordings. These gestures were embedded in the sounds collected, and we decided to keep them as our key material along with the text:

<table>
<tr>
<td>

Hvor kommer De fra?
Jeg kommer fra [x]

De taler godt dansk.
Mange tak, det gør De også.

Hvilke andre sprog taler De?
Jeg taler [x]

Hvor længe har de været her i Danmark?
Jeg har været her i otte timer.
Jeg kom klokken to.

</td>
<td>

Where do you come from?
I come from [x]

You speak Danish very well.
Thanks a lot, so do you.

What other languages to you speak?
I speak [x]

How long have you been here in Denmark?
I have been here for eight hours.
I arrived at two o'clock.

</td>
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</table>

Figure 3. The text from the *Learn Danish* textbook that the participants would read out loud (left) and translated to English (right).

To facilitate experimentation of the mapping between interface and audio feedback, we decided to physically separate the interface and the audio playback. Thus, the final design of the *Voice Pump* consisted of two parts: a computer for sound-processing and a novel interface mechanism housed in a modified vintage suitcase (originally a carrying case for a 1962 East German vacuum cleaner). Communication between its parts is based on the standard OSC (Open Sound Control) protocol for networking electronic musical instruments and multimedia equipment.

The real-time audio processing on the computer (a Linux laptop or a Raspberry Pi) is performed using the Minim audio library, which gave us the possibility to experiment with the mapping between the output of the user interface—i.e. air pressure—and audio parameters such as pitch, gain, echo, low pass filtering, and thresholds for starting and stopping

the playback. The tactile interface consists of two rubber pumps each connected to air-pressure sensors (piezoresistive transducers). These two sensors interface to an Arduino microprocessor that embeds the air-pressure values in OSC-messages and communicates with the computer via an Ethernet board. During an interactive session, it is possible to play two separate audio-tracks tied to each of the two rubber pumps. Each of them controls the speed and pitch of a prerecorded audio-track. If both tracks get in sync (within a tolerance of 600 ms), the system replaces the current set of voices with a new set of voices.[3]

Figure 4. The *Voice Pump* (top), photo by Ben Cahill, ITU and its technical infrastructure (bottom), model made by Mogens Jacobsen.
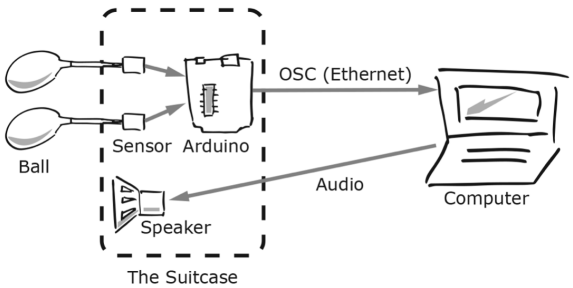
When trying out the interaction with the voices and the way in which they were modulated in pitch, we found that it was almost impossible to distinguish between gender and nationality; the voices would blur and intermingle until you would actually succeed in providing an appropriate amount of air into the pumps which could be achieved by gently squeezing the pumps continuously. Too little air, and the voices would sound like guttural utterances and eventually stop; too much air, and they would be squeaking.

All this resulted in a running prototype developed over the course of two years. It took its shape from hands-on experimentation and crafting, from conceptual explorations and from contextual/situational factors. We had arrived at a point in time, where we would be able to, as we had previously envisioned, bring the prototype into the refugee camps to start recording voices. But this never happened. One of the main reasons was that it had become almost impossible to gain access to the refugee camps that had been shut down for, among other things, political reasons. Another reason was that a range of activist groups were already engaged in fighting for the rights of the refugees, and we were, quite frankly and as will be discussed later in the text, not sure how the project would fit into this situation. All these considerations led to a shift in the project, where we turned our focus towards exploring more broadly the affective qualities of voices from both Danish and non-native Danish speakers. We did our biggest recording at a public event entitled *Kulturnat* (Culture Night) in 2018 at the IT University of Copenhagen, where we collected more than 18 different voices that ended up being the main vocal component in the final version of the installation.

AFFECTIVE ENCOUNTERS AND NON–ENCOUNTERS WITH– AND THROUGH TECHNOLOGY

During and after the design process leading to the creation of the *Voice Pump*, we presented the prototype at different venues and received valuable feedback from colleagues and other users at numerous academic and public events.[4] These encounters were documented through photos, on video, in notetaking and in interviews. Some interactions had a more informal character, others a more performative one. One such important encounter was at an internal workshop in the *Affects, Interfaces, Events* project held at the IT University of Copenhagen in March 2017.
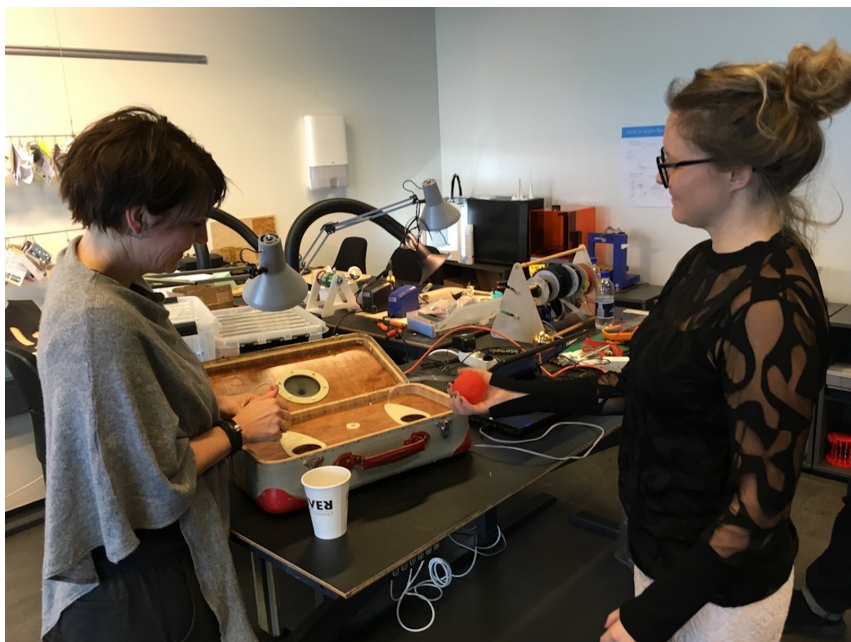
Figure 5. The *Voice Pump* at the internal AIE workshop at ITU. Photo by Jonas Fritsch.

In the workshop, we had been discussing the framing of the *Voice Pump* project based on a presentation of the background and thoughts going into the affect-theoretical-and societal framing. After this, we went to the lab where the prototype was placed, and people had a chance to test it out. This hands-on exploration had a profound impact on the way in which the workshop participants could both relate to the conceptual underpinnings and the overall project. People were frustrated that they did not succeed in making the voices speak, since they wanted to hear what they had to say. At the time, the framing of the project was around the refugee voices and this framing, combined with the impossibility to actually make the voices speak, provoked negative affect among a range of the workshop participants; it was their lack of interactional capabilities that kept the voices silent. Some mentioned that the urge to make the voices heard was intimately connected to the knowledge that these were voices of refugees, voices that were normally repressed. In this context the intensive

interaction and user-unfriendliness resulted in a frustration which was palpable and colored the affective tonality of the experience. This led to renewed discussions around who gets to talk and who is silenced in the public debate, about the use of digital technologies to create unpleasant experiences, and how to engage in affectively saturated design situations dealing with politically controversial issues. Fueled by the actual hands-on experience of trying the installation, the parameters for engaging in the discussion shifted.

There were also less uncomfortable experiences of interacting with the installation. In September 2017, we presented the Voice Pump as part of a discussion focusing on sound in interaction design at a tech- orientated conference called SUMMIT. Here, the voices had been changed from refugees to non-native Danish speaking voices, which most likely also played a large part in people's more comfortable experience. The people interacting with the voices still wanted to make the voices speak, but the interaction was much more playful.

From this insight emerged a growing interest in exploring voice-based and conversational interfaces as affective design material. Voices immediately and deeply connect to feelings of identity, community, and intimacy, and they can be explored as a multifaceted design material for creating affectively engaging interactions. Synthetic Voice Assistants such as Apple's Siri, Amazon's Alexa, the Google Assistant, or Samsung's Bixby are increasingly entangled with our everyday lives, and this fundamentally changes how we conceive of listening, speaking, and 'giving voice' to people and things. This raises a range of aesthetic, ethical, and political questions that ask to be scrutinized further from an affect-oriented perspective. We are currently exploring this line of inquiry in a range of design projects at the Affective Interactions & Relations (AIR) Lab at ITU,[5] one of which is about exploring alternative synthetic voice design towards increased vocal diversity.

Voice Pump has been exhibited at quite diverse venues which results in sometimes conflicting reactions to its setup. At the *Distributing the Insensible* workshop, for example, held in Montréal in 2016 as part of the *Immediations* research project, the installation was explored by a diverse group of international artists, philosophers, and researchers. It was one installation among a number of performances, activities, readings, and much more. Being an international crowd, the attunement to the voices was primarily

Figure 6. Two quite different venues; the *Voice Pump* at *Distributing the Insensible* workshop in Montréal (December 2016), and at the *Diversity, Inequality and Transformations in the Digital Age,* event at the Copenhagen Business School (November 2018). Photos by Jonas Fritsch.

based on vocal qualities rather than to make the content decipherable since the voices were Danish and thus speaking in another language than most of the workshop participants. We received many responses about the form of interaction and people, generally, found it interesting. We discovered, however, that people did not spend much time exploring the installation and, even though there are two pumps, most people would only try out the installation individually and not in pairs. Based on the presentation of the project and feedback from people, we became further aware of the potentially exclusionary nature of only recording and presenting voices from non-native Danish speakers. Indeed, when the voices were distorted, it was suggested that there might be an even more interesting approach in using the processing of the voices to increasingly blur elements of gender and nationality. This would make the interplay between difference and sameness more apparent; all the voices could potentially be the same but would bifurcate into different actualizations based on the interaction.

In November 2018, the *Voice Pump* was exhibited at a one-day event on *Diversity, Inequality and Transformations in the Digital Age* at the Copenhagen Business School. Here, the organizers had specifically contacted us

based on an online description of the installation because they believed the project resonated with the main concepts of the event. In a way, the *Voice Pump* functioned as a 'conversation piece,' framing discussions around diversity, inequality, and digital transformation throughs its interactive setup. We framed this as an event activating "differential attunement with others"; as Brian Massumi (2015) suggests, "we're all in on the event together, but we're in it together differently. We each come with a different set of tendencies, habits, and action potentials" (115). The *Voice Pump*, we argue, can potentially be seen as a technological exploration that makes this differential felt through interaction.

Though encounters with and through the *Voice Pump* have resulted in design changes as well as changes in creative and critical dialogue and more playful interactions, also non-encounters have deeply influenced our continued work with the installation. The most important of these is the lack of direct encounter with the refugees originating the entire project in 2015. An obvious critique of the installation could be that it did not change anything for the refugee group nor really change the attitudes of people towards the refugees. The quick answer to these questions is no and most likely not. As discussed above, there were many reasons for not engaging directly with refugees in Denmark. Bringing Donna Haraway into consideration, there is a very real sense of not properly having "stayed with the trouble" (2015), but rather of having moved sideways. For instance, it is quite plausible that a non-technological focus on fundraising, activist protest, and community engagement through the Trampoline House would have made a much bigger impact. However, there is no doubt that the refugee crisis was a key event for initiating and problematizing the design process. And through the prism of this initial questioning situation, other themes have emerged: the infrastructural setup and the experimental, air-based interaction; the use of voices as a means of affective engagement to draw people into the interaction and as material for design; the ways in which the installation as a hands-on prototype would contribute to the thinking and articulation of affect theoretical concepts and concerns across venues and so forth. But when it comes to fulfilling the initial idea of engaging with refugees in Denmark, the *Voice Pump* falls short—but in a way that opens new problematic fields.

On a number of levels, working with the installation has been a way of problematizing and "crafting other tales" (Stengers 2009, 17), and continuously asking "what if?" and producing new questions to be pursued under the heading of affective interaction design. The focus on building long-term relationships to ground design work with a societal reach is currently being explored in a design collaboration with an urban garden initiative. Byhaven (the City Garden) at Sundholm, uses gardening as a form of social rehabilitation for socially marginalized people, e.g., homeless people and those with different forms of abuse and mental health problems. The garden's physical location is just next to the IT University, and over the past two years we have initiated multiple workshops, mutual visits, and design intervention, building commitment with the stakeholders and users of the place. This has provided a strong foundation for doing projects that actually contribute to the different challenges and needs articulated by Byhaven users. Among other things, we are exploring the use of interactive sound for community storytelling and attunement to the qualities of plants and trees in an urban environment.

The *Voice Pump* was never a user-driven design project, not driven by actual needs of the group it wished to mobilize. Although the Byhaven collaboration could be seen as moving in the user-driven direction, a different research direction that has emerged that concerns the need for affective interaction design, grounded in lasting relationships, and based on the perceived emotional needs of particular user groups. So far, this has led to collaborations with a company involved in designing mobile apps to improve the wellbeing and coping strategies of chronic disease patients with rheumatoid arthritis and psoriasis. Through different means of self-reporting and self-tracking, mobile apps allow people to input and visualize data on how they are feeling so they can use that to foreground the emotional dimension of coping with a chronic disease, both as a tool for self-reflection but also in clinical consultations. Even though this might be seen as a move from the more abstract explorations of *Voice Pump* to something very concrete, in affective interaction design these positions would be within a continuum and not dichotomies. Jumping from abstract to concrete and back has important consequences for broadening the scope of the design space and are mutually beneficial strategies for the continued explorations of the problematic fields arising across affect studies and interaction design.

AN AFFIRMATIVE ETHICS OF TECHNOLOGY AND ECOLOGICAL ALTER–POLITICS OF DESIGN

In the introduction to this chapter, we boldly stated that we would attempt to problematize across affect studies and interaction design to propose, 1) an affirmative ethics of technology exploration in affect studies fueled by design experiments, and 2) sketch out an ecological alter-politics of interaction design based on affect theoretical insights. It is now time to revisit these propositions using the design and analysis of the *Voice Pump* as a prism—not to find definite answers, but to creatively problematize these statements.

The first proposition points towards the role of technologic experimentation and exploration within affect philosophy/studies, adding a creative and affirmative stance to the absolutely necessary critical interrogation of the ways in which digital and interactive technologies profoundly impact our current existential conditions. Building on Deleuze and, more recently, Rosi Braidottis' (2018/2019a) work within transversal post-human studies, this will tentatively be phrased as an 'affirmative ethics' of technology. In *A Theoretical Framework for the Critical Posthumanities,* Braidotti offers numerous examples of how to address the role technological media, actors, and advances play in our contemporary lives. Rather than attempting to critique at a distance, Braidotti's conceptual engagement foregrounds the necessity to explore both critically and creatively the way digital and interfacial foldings impact our present moment. This can be seen in continuation of Haraway's call to investigate technologies as "companion species" (2003/16), keeping in mind that the post- non- and more-than-human must also develop a take on the digital dimensions of such technologies. This is, however, not the same as saying that there is always a technological solution to a clearly demarcated problem; rather, following the work of Gilbert Simondon, it can be seen as technological experimentation towards new and richer ways of re-fielding experience (Simondon 2005; Brunner & Fritsch 2011/2020) towards "technologies of emergent experience" (Massumi 2002, 192) rather than capitalist capture.

For design, it is important to emphasize that an affect-oriented perspective entails more than bringing affect to the front of attention; it literally changes all associated concepts and can contribute to sketching out an ecological alter-politics of design (Fritsch & Fritsch 2016). In the article entitled *The Half-life of Disaster* in *The Guardian* (April 15, 2011) in the

wake of the Fukushima meltdown in 2011, Brian Massumi suggests that in a time characterized by shock and catastrophe as the norm rather than the exception, it is necessary to envision an ecological alter-politics which, he emphasizes, must also be an alter-politics of affect (Massumi 2011). Within critical anthropology, Ghassan Hage (2012/2015) has shown new ways of opening up a space for radical otherness within and among us inspired by the anthropological ethos of "we can be other than we are" (2012, 295). Radical political imaginaries according to Hage, contain elements of what he calls anti-politics and alter-politics. Whereas anti-politics describes a kind of oppositional politics that seeks to challenge, resist, or defeat forces dominating the current state of affairs, alter-politics aims at creating spheres for alternatives to flourish. According to Hage, sociology has been particularly attentive to anti-politics, while the critical anthropological tradition has been more aligned with alter-political dimensions of new political imaginaries, attuning more to alternatives that emerge from a space distinct from opposition. An affective, ecological alter-politics of design would take affect as a troubling starting point for rethinking existing ethical, political and cultural dimensions in design towards new radical imaginaries. Affective interaction design can be seen as an attempt to cultivate a research agenda that directly explores this, but it should be noted that an affect-driven approach could play a vital role in rethinking range of practices and commitments across a much wider spectrum of current HCI and interaction design research.

Whereas the "alter" in design would call for fully exploring the extent and reach of an affective politics in, for, and through design, the "alter" might also be posed as a relevant conceptual framing of the affirmative ethics of technology in affect studies; there is a need to cultivate, simultaneously, the "anti" and the "alter" to make an actual impact on the practical applications and necessary developments in design. Following Stengers, in our present catastrophic times, there is "no standing place outside of the alternative: refusing to opt and opting against it are equivalent when we are confronted with the question of lives worth living in the ruins" (Stengers 2019, 19). This will be the starting point for continuously problematizing affective interaction design towards future ethopoietic adventures of ideas, combining a mutually evolving ethos of experimentation with an emergent research agenda for affective interaction design.

NOTES

1. In my PhD dissertation (2009) and an article (2018), I have explicated in more detail this specific trajectory.

2. Interestingly, this is very much in line with Stenger's call to allow yourself to be touched and take action based on this, as presented above.

3. The technical refinement and physical shaping of the interactional devices is documented in detail in Fritsch & Jacobsen 2017.

4. Workshops/academic events: Affects, Interfaces, Events workshop at ITU (March 2017), Distributing the Insensible (Montréal, December 2016), Affect-o-meeting (Weimar, August 2017), Minor Movements/Recommoning Infrastructures (ITU Copenhagen, September 2019). Presentations + Exhibitions: Summit-oplæg (*Sound in Interaction Design,* September 2017), CBS-oplæg (*Diversity, Inequality and Transformations in the Digital Age,* November 2018), Kulturnat/Culture Night (Medical Museion, different sound content, October 2017), Kulturnat/Culture Night 2018 (October 2018, collection of voices), Kulturnat/Culture Night 2019.

5. https://airlab.itu.dk/

REFERENCES

Aboulafia, A. & Bannon, L. J. (2004). Understanding Affect in Design: An Outline Conceptual Framework. *Theoretical Issues in Ergonomics Science* 5 (2), pp. 4–15.

Bennet, J. (2001). *The Enchantment of Modern Life: Attachments, Crossings, and Ethics.* Princeton: Princeton University Press.

Boehner, K., DePaula, R., Dourish, P. & Sengers, P. (2005). Affect: From Information to Interaction. *Proceedings of the 4th Decennial Conference on Critical Computing*, New York: ACM.

Braidotti, R. (2019). A Theoretical Framework for the Critical Posthumanities. *Theory, Culture & Society* [online] 36 (6), pp. 31–61. Available at: https://doi.org/10.1177/0263276418771486 [Accessed 23 June 2020].

Braidotti, R. (2019a). *Posthuman Knowledge.* London & New York: Polity Press.

Brunner, C. & Fritsch, J. (2011). Interactive Technologies as Fields of Transduction. *Fibreculture* 124, pp. 118–145.

Brunner, C & Fritsch, J. (2020). Shifting Immediations: Fields of Experi-
ence across Media Art and Design. In: ISEA, eds., *Proceedings of the 26th
International Symposium of Electronic Arts, ISEA 2020: Why Sentience?*
Montreal: Printemps Numerique, pp. 91–97.

Bødker, S., Kyng, M., Ehn, P, Kammersgaard, J. & Sundblad, Y. (1987). A
Utopian Experience: On Design of Powerful Computer-based Tools
for Skilled Graphic Workers. In: G. Bjerknes, P. Ehn & M. Kyng, eds.,
Computers and Democracy: A Scandinavian Challenge. Århus: Gower
Publishing, pp. 251–278.

Clough, P. T. ed., (2007). *The Affective Turn: Theorizing the Social.* Durham:
Duke University Press.

Deleuze, G. (1970/1988). *Spinoza: Practical Philosophy.* San Francisco: City
Lights Books.

Dunne, A. (1999). *Hertzian Tales: Electronic Products, Aesthetic Experience
and Critical Design.* London: Royal College of Art Research Publications.

Frayling, C. (1993). Research in Art and Design. *Royal College of Art Research
Papers*, 1 (1), pp. 1–5.

Fritsch, J. (2009). Understanding Affective Engagement as a Resource in
Interaction Design. In: *Proceedings of Engaging Artifacts.* Nordic Design
Research Conference.

Fritsch, J. (2011). Affective Experience as a Theoretical Foundation for
Interaction Design. PhD dissertation, Deptartment of Information
and Media Studies, Aarhus University.

Fritsch, J. & Iversen, O. S. (2014). Designing for Experience: Scaffolding
the Emergence of a Design Ecology. In: B. T., Knudsen, D. R. Chris-
tensen, & P. Blenker, eds., *Enterprising Initiatives in the Experience Econ-
omy: Transforming Social Worlds.* Durham: Duke University Press, pp.
226–244.

Fritsch, J. & Fritsch, E. (2016). Anarchival Proposals in Design Anthropol-
ogy. In: Andrew Murphie, ed., *The Go-To How To Book of Anarchiving*,
Montréal: Senselab.

Fritsch, J. & Jacobsen, M. (2017). The Voice Pump: An Affectively Engaging
Interface for Changing Attachments. DIS'17, Edinburgh.

Fritsch, J. (2018): Affective Interaction Design at the End of the World.
In: Proceedings of the Design Research Society (DRS) Conference,
Limerick, Ireland, pp. 896–908. Available at: https:/https://www.
theguardian.com/commentisfree/2011/apr/15/half-life-of-disaster/
doi.org/10.21606/dma.2017.580 [Accessed 23 June 2020].

Gregg, M. & Seigworth, G. J. (2010). *The Affect Theory Reader*. Durham: Duke University Press.

Guattari, F. (2000/1989). *The Three Ecologies*. London: Continuum.

Hage, G. (2012). Critical Anthropological Thought and the Radical Political Imaginary Today. *Critique of Anthropology* 32 (3), pp. 285–308.

Hage, G. (2015). *Alter-politics: Critical Anthropology and the Radical Imagination.* Melbourne: Melbourne University Press.

Haraway, D. (2003). *The Companion Species Manifesto. Dogs, People and Significant Otherness.* Chicago: University of Chicago Book Press.

Haraway, D. (2016). *Staying with the Trouble: Making Kin in the Chthulucene.* Durham: Duke University Press.

Höök K. (2008). Affective Loop Experiences: What Are They? In: H. Oinas-Kukkonen, P. Hasle, M. Harjumaa, K. Segerståhl & P. Øhrstrøm, eds., *PERSUASIVE 2008: Persuasive Technology, Lecture Notes in Computer Science, Vol. 5033* [online]. Berlin: Springer. Available at: https://d10.10.21606/dma.2017.58021606/dma.2017.580oi.org/10.1007/978-3-540-68504-3_1 [Accessed 23 June 2020].

James, W. (1912/2008). *Essays in Radical Empiricism*, New York: Cosimo Inc.

Lottridge, D., Chignell, M. & Jovicic, A. (2011). Affective Interaction: Understanding, Evaluating, and Designing for Human Emotion. *Reviews of Human Factors and Ergonomics* (7)1, 2011, pp. 197–237.

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation*. Durham: Duke University Press.

Massumi, B. (2009). On Microperception and Micropolitics. *Inflexions: A Journal for Research-creation* 3, pp. 1–20.

Massumi, B. (2011). The Half-life of Disaster. [online] *The Guardian*. Available at: https://www.theguardian.com/commentisfree/20110.https://core.ac.uk/reader/18663933721606/dma.2017.5801/apr/15/half-life-of-disaster Accessed June 23 2020 [Accessed 23 June 2020].

Massumi, B. (2011). Affective Attunement in a Field of Catastrophe: A Conversation between Brian Massumi, Erin Manning, Jonas Fritsch, and Bodil Marie Stavning Thomsen. [online] *Peripeti*. Available at: http://www.peripeti.dk/2012/06/06/affective-attunement-in-a-field-of-catastrophe/ [Accessed 23 June 2020].

Massumi, B. (2015). *The Power at the End of the Economy.* Durham: Duke University Press.

Munteanu, C., Molyneaux, H., Moncur, W., Romero, M., O'Donnel, S. & Vines, J. (2015). Situational Ethics: Re-thinking Approaches to Formal Ethics Requirements for Human-Computer Interaction. In: *Proceedings of CHI'15*. New York: ACM, pp. 105–114.

McCarthy, J. & Wright, P. (2004). *Technology as Experience*. Cambridge: MIT Press.

Norman, Donald A. (2004). *Emotional Design*. New York: Basic Books.

Picard, R.W. (1997). *Affective Computing*. Cambridge: MIT Press.

Sengers, P., Liesendahl, R., Magar, W., Seibert, C., Müller, B., Joachims, T., Geng, W., Mårtensson, P. & Höök, K. (2002). The Enigmatics of Affect. In: *Proceedings of DIS2002*, London, pp. 87–98.

Simondon, Gilbert. (1964/2005). *L'individuation à la lumière des notions de formes et d'information*. Paris: Millon.

Smith, H. & Dean, R. T. (2009). *Practice-led Research, Research-led Practice in the Creative Arts*. Edinburgh: Edinburgh University Press.

Souriau, E. (2015). On the Mode of Existence of the Work To-Be-Done: The Different Modes of Existence. Minneapolis: Univocal Publishing.

Spinoza, B. (1678/1957). *Ethics*. New York: Citadel Press.

Stengers, I. (2019). Putting Problematization to the Test of Our Present. *Theory, Culture & Society* [online] 38 (2), pp. 71–92. Available at: https://doi.org/10.1177/0263276419848061 [Accessed 23 June 2020].

Stengers, I. (2009/2013). *In Catastrophic Times: Resisting the Coming Barbarism*. London: Open Humanities Press.

Stern, D. (1985). *The Interpersonal World of the Infant*. New York: Basic Books.

Whitehead, A. N., (1929/1979). *Process and Reality: An Essay in Cosmology*. Columbus: The Columbus Free Press.

Zimmerman, J., Forlizzi, J. & Evenson, S. (2007). Research Through Design as a Method for Interaction Design Research in HCI. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. New York: ACM, pp. 493–502.

Disfluent Interfaces.
Affective Conversations:
Differencing Humans
and Machines in AI

ANNA MUNSTER

For much of the relatively short history of computational inter-faces, designers have emphasized the importance of naturalism and its place in aiding ease of exchange between humans and computers. In the musings and applications of Donald Norman (1990), Allan Kay (1990), and a generation of human-computer interaction (HCI) thinkers and engineers throughout the 1980s, the desired aim for human-computer interaction was the erasure of a physical and existential space that maintained the distinction between computation and human agents. Many of these early currents in HCI fell into two camps in their approaches to, for example, the centrality of interfaces in computation. On the one hand, an interface such as a GUI was seen—and has increasingly been involved in web design, for example—as the location to imagistically instantiate representations of the 'intuitive' actions and perceptions of humans with metaphors from the backend of computational processes (see for example, Kay 1990). On the other hand, beginning with Kay's critique of the GUI (1990, 210), the visible interface has often been seen as something that should be progres-sively erased. However, what was common to and continues to persist as the key vector to conceiving the relation of computation to human action and perception is that the *space of engagement* across, between, or amid computer and human requires naturalizing.

In the last decade or so, this has been taken up by research and developed into natural user interfaces or NUIs (see Vetere et al. 2014; Buxton 2010). In both the design and commentary around natural user interfaces, which aims to draw upon skills and capacities from all human modalities and movements to interact with computational devices in both onscreen/online and physical spaces, assumptions about 'naturalism' have been subject to investigation. Bill Buxton (2010), for example, has suggested that natural interaction is both context-dependent and the result of prior lived capacity; it accumulates through habitual and performative human sensory modalities and gestures. The 'natural' is further nuanced by looking at interfacing with computational devices from the point of view of social interaction in more recent perspectives.[1] There has also been considerable work done within digital media theory that problematizes the notion that the interface is transparent or recessive (see, for example, Bolter & Gromala 2004) and there has been much artistic exploration of both graphic and natural interfaces as spaces of contestation, engagement, and encounter; the ongoing explorations of interface and embodiment by Nathanial Stern immediately come to mind.[2]

However, there is value in revisiting and following the newer developments of both graphical and natural interfaces within HCI, especially as it is the field with perhaps the most purchase on designing modes of engagement between computers and humans. By traversing HCI's approaches to and developments of the interface, it is possible to see that so much of interaction design arises out of a certain, and often nonexplicit, desire for *nonrelation*. From HCI's beginnings, this nonrelation has been steeped in a dream for the assimilation of one entity to the other via mimesis, located in either imitating the 'naturalistic human' or making the human enter the 'designed' (inter)face of the computational device. The interface is the portal for that mimetic dissolution and in this sense it illustrates attempts to erase the difference of relation across the encountering entities. The more 'naturalistic' computational interfaces become, either by soliciting human gesturality or by disappearing their computationality through the adoption of android-like features, the less an interface becomes the terrain in which events that actively differentiate between humans and computation might register. Aden Evans (2010) remarks that the GUI, in light of Kay's early work, has consistently developed to sit between the different materialities of human embodiment and digital code (110). For him, the GUI's iconicity attempts to resolve the fundamental rift between two

agencies whose modalities are either squarely enactive *or* symbolic but not both. Either in their attempts to disappear or in their manifest mediality, then, computational interfaces might be considered failures to actually think *a becoming relational* of humans and contemporary computation. Instead, they set in place sameness and commonality as the conditions for a smooth exchange between two 'agents,' or their substantive difference as that which must be overcome to facilitate engagement.

This project for homogenizing the event of human-computational relation has escalated in the AI endeavors of companies such as Google, which invent computational assistants designed to mimic the cadences and affectations of humans. The desire for 'natural interaction' here reaches an apotheosis in the design of natural conversational agents who will become so good at speaking that their human conversationalists will forget the difference. This is nowhere better demonstrated than in May 2018, when Google Duplex's release was demonstrated at the peak Google developer's event *Google I/O*.[3] Duplex is the development of Google Assistant, an AI agent that works via voice interface on either Google Android phones and/or a small home hardware networked speaker/receiver (see Leviathan & Matias 2018). Like a number of other similar AIs such as Alexa and Siri, Google Assistant uses various aspects of natural language processing (NLP) to accomplish tasks on behalf of its human users. The significance of Duplex lies in its capacity to take the Assistant's capabilities further by making phone calls to other humans on behalf of 'its' human.

In the demo, Sundar Pichai, Google's CEO, played back a recording of Google Assistant, powered by Duplex, in which the AI called a hairdressing salon to make an appointment. In the recording, we hear the human in the salon consulting the appointment book: "Sure, give me one second." "Mm-hmm," says the female voice of the Duplex-powered AI. The thousands strong crowd at Pichai's demo, like all devoted tech-event crowds, broke out in appreciative laughter. Google's duplexed Assistant had seemingly passed the infamous benchmark for AI; the Turing Test. This is because the timbre of her voice, the intonation of her sentences and the replication of speech disfluencies such as "mm-hmm" had succeeded in creating a "naturalistic conversation" (Leviathan & Matias 2018). Google Duplex allows the AI to be mistaken by the hairdresser as a human caller and for the *Google I/O* crowd to imagine that this conversation is the *sound* of two humans talking to each other. At the same time, we know that it is not quite the same sound, since the crowd laughs instead of being fooled.

But it laughs knowingly, willing to be beguiled by another platform roll-out of hi-tech AI magic. This tension between suspension of disbelief and a kind of knowingness on the part of the tech savvy crowd, reaffirms the superiority of human mentality after all, in which what is ultimately demonstrated is that as AIs edge closer to humans, the *knowing* human subject remains outside the AI-hairdresser loop, retaining meta-cognitive capacities to discriminate and evaluate.

But Google Duplex walks a tenuous tightrope in an arena of artificial intelligence's applications known as conversational AI (see, for example, Mantha 2019). On the one hand, it is task-oriented and supported by deep learning assemblages that are themselves specifically oriented toward narrow, domain-specific goals. On the other hand, it carries out singular activities within the more generalized environment of 'natural language.' This very tension is articulated although not commented upon by Google Duplex's engineers:

> The technology is directed towards completing specific tasks, such as scheduling certain types of appointments. For such tasks, the system makes the conversational experience as natural as possible, allowing people to speak normally, like they would to another person, without having to adapt to a machine (Leviathan & Matias 2018, n.p.).

Here 'naturalisation' entails the co-habitation of an interfacial 'space'—broader than task-oriented time and space—in which humans and AIs feel at ease with each other. Yet this goes to a problem at the core of Google Duplex and indeed in much AI built upon deep learning assemblages. As a number of data scientists have acknowledged, deep learning architectures are successful when they are limited to specific tasks but underperform in areas such as NLP because the 'problem' of language is a problem of generalized intelligence (see, for example, Knight 2016; Goertzel & Pennachin 2007, 122). In the commentaries on some of the limitations of chatbots, it is the task-specific orientation of the AIs that kills the natural flow of conversation: "When you're talking to a person online, you don't just want them to rehash earlier conversations. You want them to respond to what you're saying, drawing on broader conversational skills to produce a response that's unique to you. Deep learning just couldn't make that kind of chat bot" (Brandom 2018, n.p.). Here, the difference invoked between human and AI intelligence rests on the distinction between narrowness and generalization; between the specificity of performing the task at hand versus the power to enter in to abstraction

and its propensities to wander off. The human conversant nonetheless remains the privileged term, possessing the power to generalize, lateralize and invent, and AIs, restricted to their narrow task-orientation, are left clamoring to catch up. An interface, quite different from the hypermediation of GUIs and more like a kind of 'cushioning,' must therefore be inserted to bridge the difference between the mentality of humans and AIs. In the interfacing of Duplex with its human callers, 'natural language'— understood in terms of natural language processing— becomes a buffer-zone inserted between the human and the AI to provide ease of transaction, smoothness and flow in the jarring jump from the necessity of getting the task done, to the generality and 'ambience' of the conversational context:

> One of the key research insights was to constrain Duplex to closed domains, which are narrow enough to explore extensively. Duplex can only carry out natural conversations after being deeply trained in such domains. It cannot carry out general conversations (Leviathan & Matias 2018, n.p.).

We have now come full circle in the design of interfaces for human-computer interaction. If, for Norman, 'natural' HCI meant that interfaces themselves would need to disappear, for Google Duplex, the natural is just that interfacial space that buffers humans and AIs against each other's different propensities, sensibilities, and orientations. There are two questions that arise here: first, if the naturalness of this interfacing of conversation seems to be invisible and nonmedial—that is, without effort and seamless—what materialities, labour, and technics are at work modulating and tweaking its smooth functionality? Second, to what extent does this interfacing of human and AI in naturalized task and domain specific conversation, occlude the possibility of human and AI engaging in *generalized* conversation? Furthermore, we should ask what is at stake in delimiting AI and human interaction to natural exchange but foreclosing on the dimension of the general? We will need to inquire into whether a generalized conversation is really more about steering AIs away from achieving whatever they are tasked with and allowing them to develop a mode of conversing that is peculiar to the stutterings and vagaries of NLP itself. Later in this chapter, I suggest that it is possible to achieve such a mode of conversing via aesthetic means. But rather than being mimetic of human conversation, such NLP conversations place humans outside or perhaps to the side of their asignifying production, generating events in which the differential of AI-human relations is foregrounded instead.

AI AND ITS SOCIO–CULTURAL MATERIALITIES

In recorded interactions between Duplex and a human caller on Google's AI blog, we hear how the AI addresses a number of issues that have plagued chatbot development, by extending functionality to include features of 'natural' conversations such as elaborations, pauses, and interruptions (Leviathan & Matias 2018). Although Duplex is a highly optimized model in this regard, the research supporting this shift in NLP has been underway for a few years and is known as context-centric architecture (Hung 2014). Here, context is understood as cues given by the larger linguistic environment or situation in which a conversation is occurring to resolving syntactical or semantic ambiguities (Hung 2014, 144–5). Using a deep learning approach to account for 'context,' then, means finding a large enough corpus of data for a neural network to train on in order to build a 'context list.' This becomes part of the AI's backend architecture that it matches, or probabilistically deploys, to help situate any actual interaction it may have with a human caller: "context identification processes a raw collection of phrase chunks or the input text itself into a possible context list from existing contexts" (Hung 2014, 148). In other words, as Duplex processes any actual conversation in real time, it must rely upon prior training on a collection of data—as does any neural architecture. Here is the first clue as to what materialities support the capacity of Duplex to conduct natural conversation.

AIs in interaction with humans are less one kind of learning architecture and more conglomerates of techniques, engines, and hardware. Their smoothness, delivered through conversational response, intonation, and inflection relies not so much upon a fully fleshed out mimesis of the human but rather upon the resources available to the software/hardware assemblage; in this case by the platform environment of Google. To train Duplex, many similar yet differently positioned, intoned, and inflected instances of dialogue sequences oriented to particular tasks—scheduling, inquiring, reserving, asking for further information and so on—need to be inputted to its recurrent neural network architecture (RNN). An RNN is a specific kind of neural network that extracts patterns from sequences of values (Goodfellow, Bengio & Courville 2016, 363). In conversations, many sequences occur.

An AI agent that uses an RNN will generate an output sequence based on an input sequence of words using a probability function that can be deduced from data it was originally trained upon. If for example a human user says, "How are you?" the model determines via its training that a statistically frequent response is "I am fine." But sequences also *recur* in different ways. For example, the two sentences: "I want to book a hair appointment for 9am," and "Do you have 9am available for a hair appointment?" both share 9am as a recurring pattern for scheduling and an AI must be able to use some kind of context-driven indicator (such as a pretrained context 'list') to recognise *how* to respond to the similar semantic yet differently intoned syntactic situations. To simply say that an AI as complex as a conversational agent runs via deep learning architectures is to fail to account for the complex technogenesis of contemporary AI.

Even noting that a large body of sequential word and context data is needed begs the question: from where is all this sequential training data to be acquired? In the Google AI post announcing Duplex, we learn only that, "we trained Duplex's RNN on a corpus of anonymized phone conversation data" (Leviathan & Matias 2018, n.p.). Such vague pronouncements about data sources are typical of the platform-ready nature of much current AI research undertaken by corporations such as Google and Facebook. Yet it is also the case that human-voice data addressed to Google Assistant in everyday transactions, such as queries regarding the weather or language translation, were furtively recorded by Google, as revealed in an investigation by *The Sun online* (Murphy 2017). Such recordings, like all Google transactional data, is stored in the massive reserves of Google's data centre warehouse spaces that populate desert and urban fringe zones in Sweden, Arizona, Poland and the like. Could these recordings have provided a training data set for developing Google's AI research? Although a speculation, we need to understand Duplex as more than simply a designed 'agent' imbued with intelligence and enhanced by natural features. Instead, we need to think it as an entangled assemblage that is constantly *individuating* via the materialities of contemporary techno-social relations. Such relations transversally conjoin a vast ensemble of socio-technical relations, processually bringing together and re-organizing platforms, geopolitics, and economies of data capture, storage and exchange.

THE AFFECTIVE MATERIALITY OF DISFLUENCY
FOR CONVERSATIONAL AIs

But there is another materiality at work that needs to be acknowledged in Duplex's 'naturalistic' interfacing: "The system also sounds more natural thanks to the incorporation of speech disfluencies (e.g. 'hmm's and 'uh's)…In user studies, we found that conversations using these disfluencies sound more familiar and natural" (Leviathan & Matias 2018, n.p.). And yet from the clinical perspective on speech production, it is fluency—the capacity to produce smoothly flowing speech in real time situations—that counts (see, for example, Lickley 2015). Disfluency is, by way of contrast, encountered in hesitations, prolongations and repetitions. And disfluency, as an overt and pronounced feature in speech, is also pathologized and used to characterise neurodiverse speech such as stuttering. Yet in testing out the sound of Duplex, it is precisely hesitations and prolongations such as "uh" and "hmm" that human user testing identified as indicators of 'natural,' that is *smooth flowing*, conversation. It seems, then, that it is just that surfacing of the sounds of disfluency within fluency, indeed of neurodiverse affectations within the all too smooth neurotypical speech, that creates an interfacial space-time in which humans can interact comfortably with AI conversational agents. Pause and hesitation are the radical material eruptions in AI speech that mark agency itself, human or artificial, as processual. By sounding material affectations of 'disfluency' in its quest to become more human, Duplex machinically foregrounds that agency is not a delineated space in action or language but only ever temporary crystallizations or phases: "A subject is in-time, coming into itself *just this way* in *this* set of conditions only to change again with the force of a different set of conditions" (Manning 2019, n.p.). Subjectivities such as humanness and AIs that *perform and form* via natural conversational interfaces are only able to emerge because they are already *in relation*. Although not underscored by Google's engineers, Duplex's speech normativities its fluency, must 'naturally' enfold diversities, or disfluencies. Ease is at the mercy of *dis*-ease; the neurotypical AI is ontogenetically indebted to the neurodiverse human.

The AI and human do not so much naturally interface as constitute an ensemble that is a *schiz*, or cutting into, of many kinds of 'speeches'—a kind of creolization of speech as its mode of generation. Yet this already acknowledges what is relational at the core of the becoming of both AI and human—that these are individuations rather than forms. We might then

see in even the most 'naturalistic' smooth or fluent interactions between humans and computers less the disappearance of interface and more the opening up of a topology of engagement based on the differencing that emerges out of thinking the shifting relationality that entangles both.

FROM NATURAL TO GENERAL CONVERSATION

In Google's own acknowledgement of the limitations of Duplex, another level of language exchange is invoked that exceeds the desired 'natural' flow of the exchange between the AI and its human conversationalists: the general conversation. Indeed, the *incapacity* for AIs such as Duplex to engage in general conversation is seen as symptomatic, by some within the AI research community, of the need to shift away from deep learning, domain-specific and task-oriented architectures, and toward a new paradigm for *general artificial intelligence* (for example, see Voss 2018).

The promises and pitfalls of general artificial intelligence are many and unfortunately there is not space to discuss these here.[4] But it is important to note that generality—both the desired goal and the constant stumbling block for computational systems since their inception—is itself difficult for computer science to circumscribe. Alan Turing (1950), in a paper contemplating the possibility of computers as machines that thought, defined the universality rather than generality of digital computers as the capacity for any one discrete-state machine to mimic the functions, programs, and actions of any other (441). John McCarthy (1987), a founding figure in artificial intelligence, pinpointed the issue of computation not being able to draw upon or execute a "logic" of common sense as the key issue subtending its incapacity to generalize (1030). The domain specificity and complex technical assemblage that are AI machine learning-based models have been seen as key to why an artificial intelligence is unable to universalize, which was Turing's hope. And for those in the AI community interested in general intelligence, this is now tied to the failure of computation to perform basic common sense or practical tasks that are part of everyday life such as making a cup of coffee (see, for example, Adams et al. 2012). Additionally, there are many aspects of language that conversational agents trained on deep neural networks simply cannot accomplish, such as explaining why they have performed something with which they have been tasked. So, while there may be transfer of learning from task to task (after much extra training, tweaking, and optimizing), the capacity

to speak about the conditions and relations which make for engagement and conversation is not part of these AIs performance or potentialities. For all its claims for high level performativity, AI as a product of machine learning systems, neither generalizes at the machine nor human levels.

But there is something to be gleaned from what remains in 'the general' for humans and AIs alike that is never properly elucidated in the discussion within computational science work on artificial intelligence. To generalize requires that a margin for openness or indeterminacy be a fundamental dimension of the system's ontogenesis; that is, to repeat, imitate or practice an activity or task in the face of *variability* of conditions. While AI machine learning research typically characterizes the problem here as one of 'learning' and tries to remedy it by providing new or better opportunities for models to learn—more data or better optimization of the neural networks, for example—the crucial issue lies somewhere else. This is a problem of understanding not that AIs need better training or even that they need different *cognitive* architectures. Rather, we need to understand that the problem of generality – the problem of how something gets taken up and moved into a new context so as to both hold on to something of itself yet to also be a variant—is of a different register. This is the register of *relations of repetition and difference*.[5] If Duplex were to launch into the full throws of general conversation it would need to not only recognise the recurrence of values such as 'appointments', '9ams' and so on, but the recurrence of the conversation's syntactic and semantic elements *variablity*. It would need to take in to account not simply that they change but how they change: linguistically, tonally, affectively, gesturally, contextually and so on. Duplex would enter terrain in which stochasticism and ambiguity were no longer the minor naturalizing affectations of an 'mm-hmm' but rather the defining vectors of the conversational environment and its capacity to interface with the human. General conversation, then, relies upon just that asignifying plasticity that is an amplification and multiplication of those very aspects that make conversation sound more 'natural': pause, hesitation, repetition, and divergence. We can now see that conversation, which flows naturally cannot be so easily quarantined from 'general conversation' and be made to only address specific tasks. Natural conversation is already peppered with the asignificatory tendencies and materialities of general conversation and is only its contracted form. Natural conversation is an individuation of the repeatable variability

of general conversation with all the dynamic interrelations that fluency, normative and neurotypical speech, is indebted to in the disfluencies, pathological, and neurodiverse production of speech.

Launching into general conversation, the risk for AI is that it faces the possibility of a phase shift that would unhinge it from its specific activities of navigating task, i.e. the scheduling and managing of appointments. It would *de-phase*, folding back into a de-differentiated generalized state of the multi-vectoral potentiality that enables communication. In general conversations, agency as constituted end 'speaker' in the conversation—either the 'naturalized' Duplex AI or, for that matter, a human telephone conversationalist—plays much less of a steering role but is rather continuously being modulated by the ongoing enactment of conversing. To use Simondon's terms, we could say that the AI and the human would be continuously "phasing" (2017) as conversational agents; each individuation is a result of ongoing incompatibilities comprising the general dephased system (language, technicity) through which they would both become conversationalists. These are not relations which they bring to the conversation but rather modulatory patternings that arise out of the possibility of there being conversation whatsoever. The relation between fluency and disfluency is just one kind of a set of conversational 'incompatibilities' that we could name as part of the becoming of language as a living, generative process. Disfluencies are not so much meaningless opposites to fluent conversation but the 'asignifying' matter with which fluency must hold in relation as its anterior condition of possibility (Deleuze 1997, 29).[6] And what is important, here, is not the matter of conversation as such, but rather the modulation of fluency through disfluency as a condition for what fluent conversation *will have (to) become*. In the consistent risk of the AI and human interaction collapsing back into the instabilities of general conversation, we find the processuality of modulation re-emerging as just that plane of communicability immanent to any conversation whatsoever actualizing, at the same time as this modulatory relation is always in excess of any communicating agencies themselves.

We may recall here, as well, that there is a precedent from the intellectual history of cybernetics for conceiving conversation as something more than the linguistic exchange between two communication agencies.

Gordon Pask's idea about conversation was that it was less concerned with some topic or other and more concerned with calling upon and elaborating a context of sociability in which communication was able to occur:

> The main purpose of conversation is not communication about *T,* whatever that may be, even though *T* is the focus of the conversation. But about *A* and *B*, about A s view of *B,* about *B's* view of A, about getting to know each other, about their coalescences and their differences, and the society they form (Pask 1996, 356).

Pask's thinking helps us understand something about conversation that is systemic over and above the agents that create it. We can usefully deploy Pask to understand that the generality of conversation belongs not to the content being talked about, nor how participants converse through an interface or medium of language. He is concerned instead with the elaboration of an altogether different register. Even so, Pask like many second order cyberneticists, remained indebted to cybernetics' emergent phenomena as something generated, in part, by the entities or elements of a system, even if the system itself also emerged as something greater than the sum of its parts. Hence in Pask's elaboration above, 'A' and 'B' as entities in relation produce a conversational system. My purpose in this chapter has been somewhat different—to elaborate upon a processuality already at work in events such as conversations; conversations that are generated as more-than-human and more-than-AI forces that entangle and modulate each other.

How, then, are we to summon this different register that surfaces in natural conversation between Duplex and its human conversants, but must be contained for fear of running amok the more general a conversation becomes? I have been suggesting that the generality of 'general conversation' is much less a characteristic or state that can be attributed to a system than it is something generative and transversal, conditioning the specific individuations of 'human on the end of the phone call' and the Duplex AI. This echoes the work done by generality noted in other contemporary philosophical and political domains; notably that of Erich Hörl's "general ecology" (2017, 15). Here, and in the work of Felix Guattari, whom Hörl draws on, generalization is a force of bringing into both conjunctive and disjunctive relation spheres, domains, and registers that have often been thought of as outside each other. The capacity for conversation to elaborate sociability, or to be riddled with disfluencies, belongs to an altogether different de-phased register of communication. This requires a thinker of

'systems as processes' such as Gilbert Simondon (2009) to articulate: "The relation does not spring up from between two terms that would already be individuals; it is an aspect of the *internal resonance of a system of individuation*, it is part of a system state" (8, italics original). Here we can conceive conversation's generality *as* resonance or immanent relationality, already conditioning any actual interfacing of 'agents' or participants that eventuates under specific circumstances.

Such resonant conditionings would also provide the potential for Duplex assisted telephone calls to quite literally veer off task:

> Google Duplex: Do you have a 9am appointment?
> Human on the line: Sure, just give me 9 seconds
> Google Duplex: Sorry, did you say a 9 second appointment?
> Human on the line: Huh? We don't have 9 second appointments...
> Google Duplex: Mm–hmm

Without much difficulty, we can re-imagine the event of conversation between Google Duplex and an unwitting human at the end of a telephone call by introducing the difference and repetition of a variable—the numeral 9—into the flow. For isn't saturating the conversation with both divergences and convergences, to endow it with more naturalistic 'flow'? Yet such naturalism also sees both 'agents' processually swept up by an exchange that threatens to undo the boundedness of each. Instead, a kind of 'more-than' encompassing both human and AI emerges. My point in sketching this 'imagined' (yet highly plausible) scenario, is to signal how the 'stablized' AI-human equilibrium actually demoed in 2018 at *Google I/O* presents us with a truncated version of human and AI interaction. But at the same time, the potential for *Google Duplex* to de-differentiate or destabilize is only a variable away. This suggests that the AI and human participate in interaction that is less comprised of stable states and agencies and more comprised of processes that are nonlinear, eventful, and *metastable.* To again deploy Simondon (2009):

> An individuation is relative, just like a structural change in a physical system; a certain level of potential remains, and further individuations are still possible. This preindividual nature that remains linked to the individual is a source for future metastable states from which new individuations can emerge (8).

DIFFERENT CONVERSATIONS

Conversation Theory by Monica Monin (2016) is an artwork that begins to come to terms with the processuality of AI, which although truncated, as we have seen, by interfaces that 'naturalize' is nonetheless always at work in even narrow, task-oriented, agents such as Duplex. Importantly, Monin deploys the flows and processes that involve and course through image exchange, classification, recognition and natural language processing in machine learning but does not compose these as interfaces that assimilate or obliterate difference. Rather she attends to what is imperceptible in the ways an AI relates in/to its world. She accentuates the differences between AI and human perception and conversation, using these very differences to produce a *feel* for how singular computational modes of learning and interacting emerge.

In the gallery space, two 'conversational agents' are installed facing each other. Using a raft of hardware, pre-configured natural language, image and optical recognition algorithms, standard training image and text datasets as well as customized coding, the 'agents' engage each other through a poetics of process. One agent's program reactively displays images drawn from online image databases on its screen, and a digital camera attached to the top of the screen captures image data of the other program's screen, which is displaying text. The program then processes the text/image (using optical image recognition processing) and displays new images from its associated dataset (Visual Genome) in response to the text. If, for example, the 'image' agent/AI apparatus processes the word 'window' as an identifiable key word in a sentence displayed on the other agent's screen, it will call up a range of associated images and arrange them in overlapping and staggered relations across its screen. We might see a series of images of buildings' windows with both internal and external views, and a screenshot of the Windows operating system.

The other program, with text on its associated screen, uses its camera to obtain image data from the other program's screen displaying images. It processes this data in relation to its dataset (ConceptNet) and generates new responsive text. But this text, like the images, do not stabilize around signification but fly-off in associative directions that have to do with nesting associative and database classificatory structures as much as anything else. Further, Monin allows the text to turn into sentences about the keywords that might nominalistically 'describe' the content of the

images. The word flesh is elaborated into a sentence by the 'text' conversational agent: "It is such artificial flesh. Fleshes are romantic" (Monin 2016, n.p.). Monin deploys an algorithm used to query databases, which 'elaborates.' Elaboration uses a keyword to create a larger sentence by saying something more about that word. Using processes of recognition and search across a physical space of exchange in the gallery, that then provides the material for each AI assemblage in the conversation through associated image display and elaborated text, Conversation Theory is no longer task fulfillment. Instead, the interaction generalizes, ambulates and drifts, becoming a 'natural' general and artificial conversational event.

Monin's work re-stages Pask's conception of 'conversation' in the direction of indeterminacy rather than prediction as a desirable sensibility for AI experience. Taking from Pask an interest in the domain of conversation as a system, Monin explores what conditions are being made in and through the very systems conditioning the activities of computational conversing. As a number of recent theoretical and practice-based reconsiderations of Pask have remarked, his own ideas and practices emphasized cybernetic systems as something that emerged, changed, and grew in process.[7] In *Conversation Theory,* the resultant 'conversation' is fluid and delirious. Yet it maintains consistency in as much as it works to produce the hallmarks of a sense-making or rather of *sense-in-the making.* It is simultaneously haunted by a kind of strangeness immanent to machine learning-based AI models. Monin's work operates with mismatches, attempts at alignment and then glaring misalignments between image, sense, class, and data. In part, this results from the ways in which both the agents are composed of and by a myriad of smaller algorithms and techniques for transducing, elaborating, and recognizing across the various transductions between image and text. Such architecture re-performs the labour of training models in all deep learning endeavours today.

The AIs are functioning—functioning perfectly—and all the while drawing out a weirdness that can only be found in the continuous variability they co-create. The conversation seems recognizable and nonsensical simultaneously. This is neither a system working according to the current tendencies of AI toward task-oriented prediction, nor it is *not* working. The conversation that takes place is neither completely coherent nor it is nonsensical. Instead it conjures computing and indeed the desire to build 'an intelligent machine' as a fractured assembling rather than a seamless

(future) reality. Standing next to the 'agents' as a third 'human' element, slightly to the side of the conversational 'domain' playing out in the gallery space, one feels both set aside and yet caught up with the ongoingness of computability.

While in Monin's work there is no interface across human and AI, nonetheless a space or event for encountering difference occurs. This encounter is less face to face for the humans standing by, who are almost bystanders registering by chance the unfolding of an asignifying yet potential communicability between machine entities. Indeed, what this encounter is all about is modulation—of text, image, data structures, networks and the chance entry of humans engaging as onlookers. The 'interface' is just this manifold of enfolding processes, elaborations, associative dérives and felt registrations (on the part of the human audience) of this as a relational assemblage. The interface is no longer something to be erased or designed since it *is* the operation of modulation, the way the assemblage of humans and AIs—or any computational device—transforms from moment to moment by being put in to variations (Deleuze 1997, 27).

If we circle back, now, to the disfluencies that populate developments in natural language programming's attempts to create conversational agents as an interfacial future for human-computer interaction, we can see that while fundamental to the generation of a general conversational encounter such neurodiverse elements are not *pluralistically* welcomed. That is to say, they are not treated as singular "mosaics" or "plural facts" (James 1912, 41) of experience, which, as they edge out through conversation, do the very work of making space for conversational encounter to occur. As it turns out, Google is now having to insert humans back in to the conversations between Google Duplex and its cold calls. In a rather odd enactment of the recursivity that plagues so much AI as it attempts to simulate 'natural' systems, Google has placed human listeners to annotate the phone calls that Duplex is placing to other humans (Statt 2020). It turns out, then, that Google Duplex may just well be another somewhat traditional computational interface inserted into the gap that tech believes needs to connect humans with each other. Where a radically empirical AI art work might go instead is in the direction of computation's own latent disfluencies. Rather than the fantasies for a new world order with efficient machines performing predictably, cloaked in a veneer of naturalism, a sense of entangled systems, classes and instances both conjoining and

diverging in *Conversation Theory's* encounters offers us a different AI|human engagement. A pluralistic event, instead, of many 'general' yet singular processes, programs and practices that think and perceive in difference.

NOTES

1. See for example the work of the Microsoft Research User Centre for Social Natural Interfaces at the University of Melbourne, https://socialnui.unimelb.edu.au/ (accessed June 23, 2020. I am grateful for discussions with Jonas Fritsch around newer understandings of natural interfaces in HCI that pointed me to where research has more recently gone on these matters.

2. See for example, Stern's work "Rippling Images", which is available at: https://nathanielstern.com/artwork/rippling-images/ [accessed 23 June, 2020].

3. For a video recording of both Google Duplex's announcement and demo, see Recode, an independent technology news channel's edited version of Sundar Pichai's keynote at Google I/O 2018. Available at: https://www.youtube.com/watch?v=vWL-cyFtni6U [accessed January 22, 2019].

4. For further discussion of the framework of Artificial General Intelligence by currently active computer science researchers in the field see, Adams et al. 2012 and McCarthy 1987.

5. I am aware that this proposition resonates with the work of Gilles Deleuze on difference and repetition. Indeed his thinking on the immanence of variation as the generative condition for repetition informs my writing throughout this chapter. Deleuze however reverses the commonly held notion that a generality that is repetition can be derived from instances of the same. He suggests that every generality that is repetition is generated by the movement of repetion to be found in new singular instances. See, Deleuze 1994, pp. 1–25.

6. In relation to the movement-image in cinema, Deleuze speaks of "signaletic material", the preindividual system-process of all kinds of modulatory features from sensory to affective, rhythmic, technical and so on out of which the speciated cinematic moving image forms: "an a-signifying and a-syntaxic material, a material not formed linguistically even though it is not amorphous and is formed semiotically, aesthetically and pragmatically. It is a condition, anterior by right to what it conditions" (Deleuze 1997, 29).

7. See for example, Dubberly, Haque and Pangaro 2009.

REFERENCES

Adams, S., Arel, I., Bach, J., Coop, R., Furlan, R., Goertzel, B., Storrs, H., Samsonovich, A., Scheutz, M., Schlesinger, M., Shapiro, S. & Sowa, J. (2012). Mapping the Landscape of Human-Level Artificial General Intelligence. *AI Magazine,* [online] 33 (1). Available at: https://www.aaai.org/ojs/index.php/aimagazine/article/view/2322 [Accessed 07 June 7 2019].

Brandhom R. (2018). Self-driving cars are headed towards an AI Road-block, *The Verge* [online]. Available at: https://www.theverge.com/2018/7/3/17530232/self-driving-ai-winter-full-autonohttps://core.ac.uk/reader/186639337my-waymo-tesla-uber [Accessed 23 June 2020].

Buxton, B. (2010) CES 2010: NUI with Bill Buxton, *Interview with Larry Larsen*, *Channel 9 Microsoft Developer Network* [online]. Available at: https://channel9.msdn.chttps://core.ac.uk/reader/186639337om/blogs/larrylarsen/ces-2010-nui-with-bill-buxton [Accessed 22 January 2021].

Deleuze, G. (1997). *Cinema II: The Time-Image.* Minneapolis: University of Minnesota Press.

Deleuze, G. (1994). *Difference and Repetition.* Translated by P. Patton. New York: Columbia University Press.

Dubberly, H., Haque, U. & Pangaro. P. (2009). 'What is interaction? Are there Different Types? *Interactions* [online] 16 (1). Available at: http://www.dubberly.com/articles/what-is-interaction.html [Accessed 08 June 2019].

Evans, A. (2010). Icon, Icon: Graphical User Interface. *Inflexions* 4, pp. 95–117.

Goodfellow, I., Bengio, Y. & Courville, A. (2016). *Deep Learning*, Cambridge: MIT Press.

Hörl, E. (2017). Introduction to General Ecology: The Ecologization of Thinking. In: E. Hörl, ed., *General Ecology: The New Ecological Paradigm.* London: Bloomsbury, pp. 1–74.

Hung. V. (2014). Context and NLP. In: P. Brézillon & A. Gonzalez, eds., *Context in Computing.* New York: Springer, pp. 143–154.

James, W. (1912). *Essays in Radical Empiricism.* New York: Longmans Green.

Kay, A. (1990). User Interface: A Personal View. In: B. Laurel, ed., *The Art of Human-Computer Interface Design*. Reading: Addison-Wesley, pp. 191–207.

Knight W. (2016). AI's Language Problem. *MIT Technology Review* [online]. Available at: https://www.technologyreview.com/2016/08/09/158125/ais-language-problem/ [Accessed 22 January 2021].

Leviathan, Y. & Matias, Y. (2018). Google Duplex: An AI System for Accomplishing Real-World Tasks Over the Phone. [online] *Google AI Blog*. Available at: https://ai.googleblog.com/2018/05/duplex-ai-system-for-natural-conversation.html [Accessed 1 May 2020].

Lickley, R. J. (2015). Fluency and Disfluency. In: M. A. Redford, ed., *The Handbook of Speech Production*. London: Wiley Blackwell, pp. 445–469.

Manning, E. (2019). Toward a Politics of Immediation. [online] *Frontiers in Sociology*. Available at: https://www.frontiersin.org/articles/10.3389/fsoc.2018.00042/full [Accessed 09 June 2019].

Mantha, M. (2019). Conversational AI: Design & Build a Contextual AI Assistant. [online] *Medium.* Available at: https://www.amazon.com/Machine-Learning-Science-Algorithms-Sense/dp/1107422221 [Accessed 06 June 2019].

McCarthy, J. (1987). Generality in Artificial Intelligence. *Communications of the ACM* 30 (12), pp. 1030–1035.

Monin, M. (2016). *Conversation Theory*, documentation, artist website. Available at: http://monicamonin.com/Conversation-https://core.ac.uk/reader/186639337Theory [Accessed 23 June 2020].

Murphy, M. (2017). How Google is secretly recording YOU through your mobile, monitoring millions of conversations every day and storing the creepy audio files. [online] *The Sun*. Available at: https://www.thesun.co.uk/tech/4295350/did-you-know-google-has-been-secretly-recording-you-heres-how-to-find-the-creepy-audio-files-that-are-monitoring-your-conversations-every-day/ [Accessed 06 June 2019].

Norman, D. (1990). Why Interfaces Don't Work. In: B. Laurel, ed., *The Art of Human-Computer Interface Design.* Reading: Addison-Wesley, pp. 209–219.

Pask, G. (1996). Heinz von Foerster's Self Organization, the Progenitor of Conversation and Interaction Theories. *Systems Research* 13 (3), pp. 349–362.

Pennachin, C. & Goertzel, B. (2007). Contemporary Approaches to Artificial General Intelligence. In B. Goertzel and C. Pennachin, eds., *Artificial General Intelligence*, Berlin: Springer-Verlag, pp. 1–30.

Recode. (2017) Google CEO Sundar Pichai's I/O 2017 Keynote. Recode YouTube Channel, Available at: https://www.youtube.com/watch?v=vWLcyFtni6U [Accessed 01 April 2021].

Simondon, G. (2017). The Genesis of Technicity. *e–flux* [online] 82. Available at: https://www.e-flux.com/journal/82/133160/the-genesis-of-technicity/ [Accessed 22 June 2020].

Simondon, G. (2009). The Position of the Problem of Ontogenesis. *Parrhesia* 7, pp. 4–16.

Statt, N. (2020). Google expands AI calling service Duplex to Australia, Canada, and the UK. [online] *The Verge*. Available at: https://www.theverge.com/2020/4/8/21214321/google-duplex-ai-automated-calling-australia-canada-uk-expansion [Accessed 06 October 2020].

Stern, N. (2014). *Rippling Images*. Artist website, Available at: https://nathanielstern.com/artwork/rippling-images/ [Accessed 01 April 2021].

Turing, A. (1950). Computing Machinery and Intelligence. *Mind* 49, pp. 433–460.

Vetere, F., O'Hara, K., Paay, J., Ploderer, B., Harper, R. & Sellen, A. (2014). Social NUI: Social Perspectives in Natural User Interfaces. *DIS Companion '14: Proceedings of the 2014 companion publication on Designing Interactive Systems*, New York: ACM, pp. 215–218.

Voss P. (2018). No, Google Duplex Didn't Pass the Turing Test. [online] *Medium*. Available at: https://uxdesign.cc/no-google-duplex-didnt-pass-the-turing-test-93f7235e6c40 [Accessed 02 June 2019].

Technics Lifeless and Technics Alive: Activity Without and With Content

ANDREW MURPHIE

> Never have we had so many means, but, to our aggrieved shame, never have we had so few projects either. The gap between what we could do and what we in fact do with them characterizes our time of omnipotent impotence.
>
> —Michel Serres

How did so much of contemporary technics become so disappointing, so deadening? How is technics being thought, and worked with, to enliven? What different assemblages and principles are involved? This chapter begins in sympathy with Michel Serres' "aggrieved shame" (2019, 43). I argue that a series of Pavlovist variations on powerlessness still inhabits contemporary technics; then suggest principles of escape towards other kinds of relations between technics and worlds. These relations affirm mutual care as well as mutual powers. They would be immanently attentive to the complexity and variability of the world as event.

In this chapter, the term "technics" indicates an ecology that goes beyond technologies. Indeed, the term usually suggests the coming together of technologies with techniques and technical systems. Yet technics is inconceivable without also considering that which is drawn into, transformed by and also transforming of, technologies, techniques, and technical systems. This includes materials and physical forces, as well as

the ways these come to constitute creatures, plants, and nonliving entities. It also includes abstractions, conceptual feelings, and affects and desires, along with the ongoing double becoming between technics and the social. Finally, and crucially, technics includes the modes of organization, living, and working made available by and feeding back into technical development. Transposing Alfred Whitehead's discussion of "nature lifeless" and "nature alive" (1968, 127–169) into a thinking through of technics, this chapter suggests a tension, through all of this, between two very different sets of tendencies—towards technics lifeless and technics alive. These are only some tendencies among others, and even mainstream technical development is not, of course, all lifeless. However, the tensions between these two sets of tendencies are significant. My main focus will be on media and interactive technics, broadly understood.

NEW MEDIA'S (UNDEAD) LOGIC OF PROGRAMMABILITY

Resonating with Serres' "aggrieved shame" in "omnipotent impotence," Wendy Hui Kyong Chun writes that the key problem within a contemporary (media) technical culture is an "undeadness" (2011a, xii). For Chun, problems with "new media [are] related to new media's (undead) logic of programmability" (xii). By undead programmability, Chun means that "New media proliferates 'programmed visions,' which seek to shape and to predict—indeed to embody—a future based on past data" (xii). At the heart of this, "information—through its capture in [technical] memory—is undead" (25). Yet decisions, and one could add actions, or simply life, are deferred to these undead bits of stored information. Indeed, we now have a "belief in information as decision" (Chun 2011b, 106). This "decision" conditions and triggers reflex, habit, and more. Thus, undead information contains not only the kernel of calculation and thought as the symbolic processing of this calculation, but also the kernel of process more generally, action and behavior. As technics intensifies, it "catches us" not only in an informational world, but via this, "in a deluge of minor-seeming decisions" (106). Life is deadened by a raft of stilted acts of imposed decision, as we are caught up in often low-level systemic responses based on the intervention of past (often remote, often of dubious relevance) data within the now suppressed situatedness of lived events. This can easily "defer our engagement with crisis"—or, we could

say, life as lived—or it "renders everything and thus nothing a crisis" in a specific technical sense of prediction, control, and systemic allegiance (106). Here think perhaps of notifications, facial recognition, or the COVID take-up of proctoring software to monitor students at home taking tests.

As such, "programmability" (Chun 2011a, 91) can easily erase much of the process of living life. One result is general exhaustion, accompanied by frustration in attempting to live life while dealing with an ongoing tsunami of technical interference. Apps, interfaces, and larger technical systems fail. Or they simply do not produce the effects they claim to, yet they demand that we engage with them, continuously (just to fulfill the logics of the system itself). Here Chun points to a "kind of exhaustion encapsulated in," for example, "'search overload syndrome'" (2011b, 106). There is a parallel to this, indeed, I argue, a precursor, in the "experimental neurosis" (Todes 2014, 634) produced in Pavlov's dogs when the system provided no solution even as it demanded a response. The dogs had a kind of breakdown.

Within this undead, life-denying technics, many of the looped relations involved are the algorithmic structures of capitalist capture (Knox et al. 2020; Lotti 2019). There are many well-documented problems here. Just one is that technical development often involves inappropriate slippage across fields (e.g., business software being only slightly re-purposed for use within education and thereby changing education in the process [Gulson & Witzenberger 2020, 7]). Or, to take a more significant historical example, much of the modern logistics, or detailed organization and management of flows and operations, of which many technical systems are a part, was developed within the situation of slavery. As Stefano Harney (2018) puts it:

> Modern logistics is a commercial logistics, with all the multiple sources that feed what Cedric Robinson calls racial capitalism. ... As a commercial logistics, as a capitalist science, it can be traced directly and emphatically to the Atlantic slave trade. The Atlantic slave trade was the birth of modern logistics, as it was also the birth of a new kind of war on our species being, and the birth of racial capitalism, which amounts to saying the same thing (in Cuppini & Frapporti, 95-96).

Many argue that the logics of oppression of the development of modern logistics in the situation of slavery continue in contemporary technics (Cuppini & Frapporti 2018). Meanwhile, the internet increasingly becomes programmed in the sense of a more complex version of television

programming. Search and other operations are increasingly determined not by the user's 'freedom' or desires, but by the intermeshed interests of capital and other dubious actors (think of Facebook and elections). Overall, it sometimes seems that users are tending towards becoming simply 'the used,' treated by informational undeadness as points of bland intensification for the program. Users are harnessed, not unlike the tightly strapped dogs in Pavlov's labs, to the ongoing programmed low-level capture of attention, 'decision,' and action or even, as famously depicted in *The Matrix* films, reduced to basic energy units to keep the system going.

How has it come to this? I suggest that the strange lifelessness that often infuses the contemporary condition of technics has a history—with a parade of technical invention that has assumed nature to be "nature lifeless," as Whitehead puts it. Whitehead opposes this to "nature alive." Thinking, lifeless or alive (or even both in various combinations) has obvious implications for technical development. Briefly, nature lifeless refers to an outmoded (even in Whitehead's time) scientific materialism with a fallacy of "simple location" (Whitehead 1968, 139). For one thing, scientific materialism's fallacy of simple location assumes that everything is material (not, primarily, for example, patterns of affective relational events), and "simple location" furthers this. It assumes isolated and relatively inert bits of matter, bodies or objects, exist in empty space. They are pushed around by external forces, with very little else changing aside from things being moved around. These isolated bits of matter, bodies or objects can be neatly ordered in space or sequenced in time, again without too much changing. The bits of matter themselves are "extended, inert, lifeless, valueless, and purposeless" (Smith 2010, n.p.). They "have no experience" (n.p.). A bit of matter; or a body; or an object; or, we might say, an interface; or, to a degree, a bit of programming, data, or information; or anything, in fact, reduced to any of these, "is just there, in that region where it is; and it can be described without reference to the goings on in any other region of space" (Whitehead 1968, 139). As Smith writes, "any interaction between these physical substances is external, like billiard balls bumping into one another" (2010, n.p.).

Nature alive suggests no simple location and no reduction to matter but, rather, densely interwoven relational, affective events. Everything is related to everything else at its core. There is constant process, with "momentarily-developing experiences as the basis of all reality" (Anderson 1995, n.p.). This is an understanding drawn from life itself rather than

inert deadness. Rather than organisms understood on the basis of Newtonian physics ("billiard balls"), the entire world is understood on the basis of the principles of the organism. To put this another way, while "nature lifeless" and the technics that assumes it attempt to sustain a mappable and predictable, coldly rationalized and next to lifeless system, "nature alive" assumes a complex web of processes of relational events of shifting, always at least partly novel affective events. Of course, nature lifeless and nature alive often come together, but knowing which is which and how they combine is crucial, especially as, at the junction of many social powers and technical systems, there can be a tendency to distribute gradations of liveliness and lifelessness. Different modes of being are judged as more or less alive, with the less alive pushed towards dead in favor of the colonization of the supposedly dead by those who assume life (white settlers, notably). Technics too often comes into this and sustains it (Tallbear 2019).

Although there are, of course, many other tendencies, the de-activating technical tendencies of "nature lifeless" are now found throughout interaction design. Many interfaces seem designed for the next to lifeless—with a programmability that can only re-activate life in terms of the "undead." The broader purpose of this aspect of technics is to accomplish a troubling third enclosure. This creates the conditions for a general extractivism, lived under the aegis of constant constraint and pre-direction, precisely of the ways in which affecting and being affected can take place.

THE THIRD ENCLOSURE AND THE IN-FOLDING OF WORLD AND TECHNICS IN A THIRD MEDIA REVOLUTION

The first enclosure was that of land (and, let us not forget, of people) as physical property and the second that of intellectual property and thus of creativity, invention, and expression. The third enclosure is far more powerful. It involves the attempt to enclose everything else (Murphie 2014). This technics of living death creates what Paul Edwards (1996) has called "the closed world"—a complicated fractal interlacing of micro, macro, and meso events of closure of the world. In the third enclosure, technics moves to enclose and control all kinds of objects and beings, and all processes and events, micro-events as much as larger events, human and nonhuman, living and non-living. It aims to constrain, if not to destroy and then recreate all of these, within the limits of certain functions and not others, and this within ongoing events of hierarchization of relation.

The increasing technical precision of enclosure and control allows for increasingly exact and flexible modulations of movements and relations, within direct physical existence, abstraction, and their coming together. As such, technics encloses, or attempts to enclose, all *affective* events—*all affecting and being affected, and all potential to affect and be affected*. The final act of third enclosure, now arriving, is empowered by many contemporary technics. Although all the technics involved can be useful (for example, in climate science), it can also perform a reactionary *détournement* of the world. AI risks enclosing analysis, prediction, and decision and, in doing so, intervenes forcefully, operationally, within many events within the world that would previously have been the domain of human-centered actions. Ubiquitous computing and ambient intelligence support AI by capturing an increasing number of events in the world in increasingly fine and real-time detail. Big data then furthers the enclosure of events by bringing the data from the capturing of events into systems that will cross-reference these events with others. All these systems together can then 'decide' what counts, how it will be counted, and what will occur in response to this counting. VR, augmented, and mixed realities intrude fully into and enclose the perceptions and actions basic to our being in the world, at the very heart of affecting and being affected. Indeed, these technics intrude into and enclose the crucial relations *between* perception and action in what leads to a complex series of modulated ghostings of presence. Drones, the internet of things, and genetics enclose events and very obviously modulate what occurs in the directly physical world. In sum, the third enclosure is made possible by the dramatically expanded field and massively increased powers of media and communications (Mattern 2018). I have elsewhere called the shift in technics involved—without any great claim to originality—a "third media revolution" (Murphie 2018, 27ff). World and media infold directly into each other, with forces far different to and consequences that far exceed those of the distribution of representations that has been the main characteristic of the mediation of culture since the printing press. We are leaving the age of representationalism and everything that this has implied.

Shortly, I will give a detailed account of a well-known stream of events I will call Pavlovism. I will discuss Pavlov's work, but 'Pavlovism' also gestures towards something that exceeds Pavlov—precisely, a series of technics designed to produce near lifelessness. These involve actual assemblages but continue beyond these as a series of "agencements" that

increase "the multiplicity of [their] conceptual and social (and aesthetic) dimensions" as they expand and change their "agencies via connections with other machines both technical and social" (Mackenzie & Munster 2019, 6). An expanded Pavlovism continues up to this day, reinforcing the lifelessness of much of contemporary technics. It is not always understood that Pavlovism begins with a sophisticated interactive set-up, a kind of ur-interface (not the only one) for the severe constraint and control of the animal.

TECHNICS OPEN TO THE INFINITE AFFECTIVE VARIABILITY OF WORLDS

There are many subtler and more world-/other-responsive approaches within interaction design and technical development. Even from within an otherwise lifeless technics, these approaches find potentials for "nature alive." These approaches give rise to a technics that can modulate complex differentials within and across multiple ecologies. They eschew the fallacy of "simple location." They tend away from calculated control. They tend towards relational attunement to the always entwined powers to affect and to be affected. They are thus far more open to the infinitely variable affectivity of the world—its liveliness—than the like of Pavlovism's push towards a technics of the lifeless (although Pavlovism is so common that all modes of interactive design need some vigilance with regard to it). These approaches are more able to fully and differentially respond to the immanence of events and their situatedness. The best of them precipitate in-world events that include a fugitivity from cold rationalities, in favor of feeling immersed deeply in the life of the world (Harney & Moten 2013).

Many critical accounts of approaches to interaction sketch out principles for this different technics, with hints of the potential for a design to come (e.g., Amaro 2020; Benjamin 2018 & 2019; Boyle 2018; Costanza-Chock 2020; Goodman 2020; Heilig 2019; Lotti 2015; Manning 2020; Parisi 2013; Pascoe 2014; Penn, McNealy & Running Wolf 2020; Plumb 2016; Tallbear 2019). There are also many exploring the specifics of building such a technics. These are found in the more radical aspects of interaction design and design more generally, in activism, in interactive arts, and in music. Others exploring radical design and technics are found in minor socialities and in many recent challenges to the standard technics of organization in, for example, platform cooperativism (Scholz

& Schneider 2017), Data for Black Lives Matter[1] or First Nations' data sovereignty (Kukutai & Taylor 2016). All this activity—both the different abstract principles involved and the more direct work on design projects and processes—makes for a kind of loosely woven movement (principles, technics, and the like of data are often shared). This movement resonates, if differentially, with other movements involving open sharing of technics and data, as found for example in some complex scientific research, such as climate change. This movement is both global and hyperlocal. It is a movement for permanent change within the world yet one able to respond specifically to the moment. It is diverse. It is inventive in the sense of the "speculatively pragmatic" (Massumi 2011, 13). It works towards a new belief in the world and towards a people to come, sensible to this world. We owe those working on such projects of fugitive technics a deep debt of gratitude for the potential avenues of escape they open up within what can sometimes seem to be oppressive technics (e.g., Bertelsen 2012 and in this book; Brunner & Fritsch 2011; Dourish & Cruz 2018; Fritsch 2011; Fritsch, Loi & Light 2019; Lotti 2018; Manning, Munster & Stavning Thomsen 2019; Rogers & Marshall 2017; Running Wolf & Running Wolf 2017 & 2019; The Design Studio for Social Intervention 2020; Wakefield 2020).[2]

There are many examples in this volume of this movement towards a more sensitive, genuinely open, and, in many ways, humbler world-immersed technics. Such examples, and the friendships and working partnerships I have been fortunate to experience with the people involved, have inspired the final sections of this chapter. These outline the potential, in again a kind of fugitivity, towards re-learning from the inter-affectivity of the world itself, from elephant feet as interface, for example. Inspired by this more world-aware and sensitive approach to interaction, affect, and event, I will conclude the chapter with a sketch for a manifesto for the future of that-which-we-currently-call-the-interface. First, however, I will discuss that with which all technics currently struggles—Pavlovism.
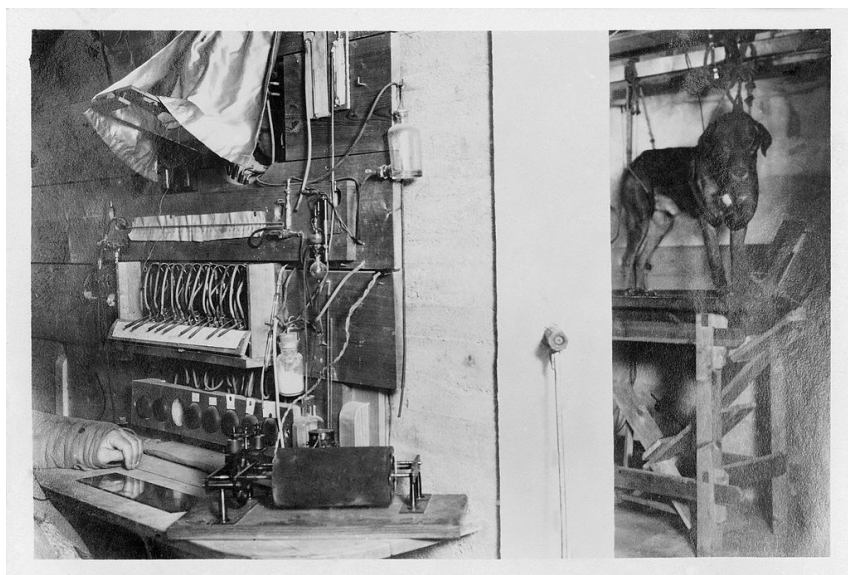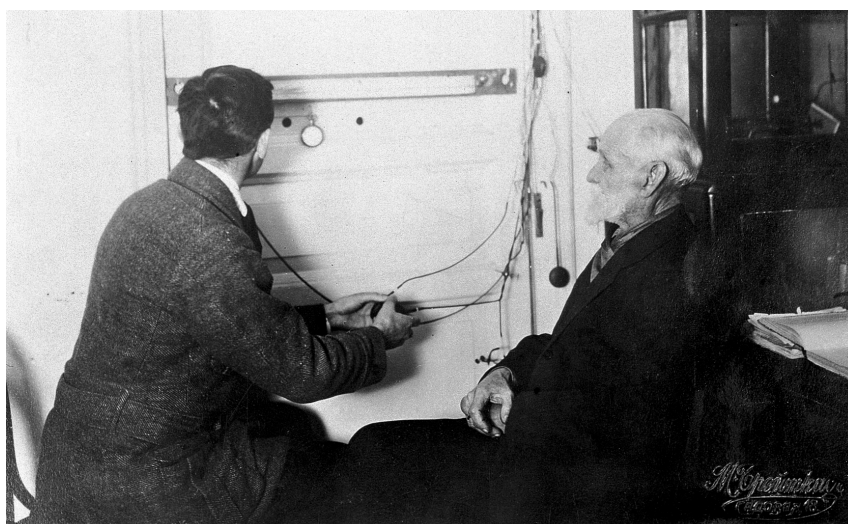
PAVLOVISM

Figure 1. I.P. Pavlov's Laboratory, concrete suspended room with door open and dog in position (top). Figure 2. I.P. Pavlov's Laboratory, manometer reading on outside of door to dog room and operator looking through periscope at dog inside, Dr. Pavlov seated (bottom).[3,4]

Pavlov's achievements were not restricted to the 'discovery' of the 'conditioned' reflex. More importantly, he created, not only in but as his laboratory, *an entire assemblage and indeed a series of interfaces or interactive devices that could* induce *a conditioning of the reflex* (among other behavioral events, including the deliberate induction of breakdown). It is this assemblage—including the very idea of such an assemblage—that provided the basis for the subsequent Pavlovism so influential within the technics with which we now live. The conditioned reflex, which Pavlov himself actually called the "conditional reflex" (Todes 2014, 1) precisely because it was contingent on the situation, is really a part of an entire technics for the induction, conditioning, and then potential (re)organization of behaviors or, more broadly, events of affecting and being affected.

Pavlovism emerges not only from Pavlov's lab, but also from those performing similar research—such as Thorndike, Skinner, and Watson. I suggest that we can also see elements of Pavlovism present within the series of assemblages that helped constitute computing, neuroscience, and 'cognition.' Indeed, I will suggest that most aspects of Pavlovist technics, including the ability to self-perpetuate in variation, come to form a key part of what we might call the '*major* technics' that follows ('major' in the sense of dominant, hierarchizing, and homogenizing). This includes Pavlovist schematics, principles, and propositions and, indeed, their conceptual creations and the conceptual feelings with which they can then be lived. It includes Pavlovism's curtailing of lived experience and the killing of relation beyond the severely restricted kinds of relations Pavlovism forms within highly enclosed worlds. In general terms, the animal, including the human animal, becomes a limited "machine in the middle" (Edwards 1996, 175ff) of a more complicated system in which it participates via the induction and ongoing modulation of basic reflexes. In this light, it is worth noting that Pavlov conceived of the operation of the nervous system and its reflexes on the basis of the telephone exchange (Gerovitch 2002). He also thought reflexes to be the basis for all psychology and, in this respect and others, thought of dogs and humans as analogies of each other (analogies becoming a fuller technics in the cybernetic broadening of behavioral loops through "animal and machine" [Wiener 1948]).

What follows is a schematic summary.

There was no bell (Todes 2014, 1); not really, though there were carefully calibrated buzzers, and there were electric shocks and much worse. The dogs were constrained by a leather harness on a lab bench. Gregory Bateson pointed out that the dogs did not, in fact, salivate without this constraint (1987, 253). The dogs were also isolated (enclosed). Neither Pavlov nor his assistants were in the same space. We know that dogs are profoundly social creatures. Yet here, the social is destroyed. Events are
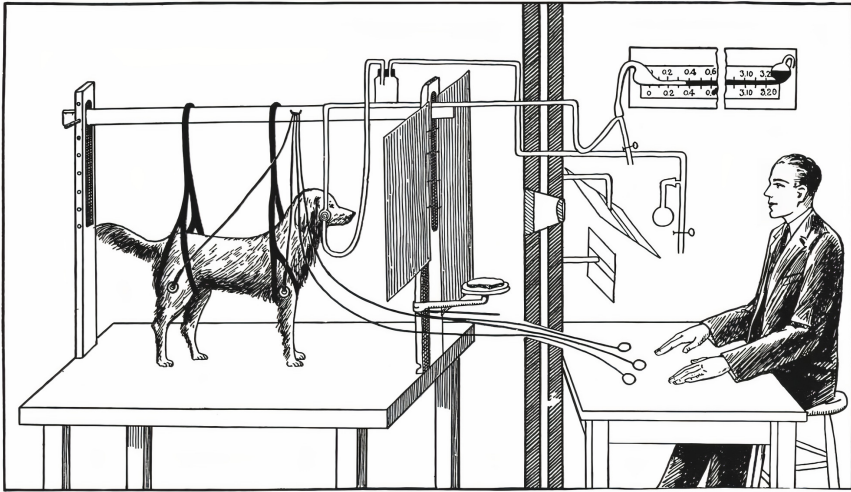
Figure 3. Diagram illustrating Pavlov's experiments with a dog, 1928.[5]

controlled from outside the situation through wires and switches and mechanics: in other words, complex interfaces ('ur-interfaces'). 'Operators' watch—like drone pilots and data analysts now—from a distance, through a periscope or via observing the manometer, which measured pressure changes indicating the flow of saliva. At the same time, the operators' own enclosure in the system, if at a different point within the assembled and activated hierarchy, should not be missed. It is easy to see 'softer' parallels with our own constraint, isolation, and enclosure by our devices and with the restrictive hierarchies that now substitute themselves for social relations in work and, increasingly, in life. In fact, I hope that in what is detailed below, it will become clear that Pavlov's laboratory set-up as a whole—as much as, if not more than, the reflex induction

and conditioning—provides a clear diagrammatic precursor to 'big tech' now, along with many other contemporary forms of organization (this increasingly includes the organization of academic practice). The laboratory also provides the basis for many subsequent variants—Skinner boxes and mazes; Seligman's electric shock box, also for dogs, to induce "learned helplessness" (positive psychology simply inverts this); and so on. And so much of this comes into basic assumptions within interaction and interface design. We too often tend to become the experimental animals within a broad social Pavlovism, from whom much is being extracted at the same time as conditionings tighten (extracted from us as individuals, as social, as political, as communicative, as signaletic, as bodies, as stretching between the directly physical and the abstract).

The isolation enables the dog to become an exemplum for the technics of a forced individualization. This goes further, however, than the 'individual' as we usually think it (although it does include this). The production of individualization comes to mean the production of any useful reduction to and, in fact, manufacture of *individual elements (down to individual reflexes and other behavioral events) insofar as these can be broken away from each other.* This breaking apart also produces a kind of de-worlding of these elements. These elements are precisely *not* those of the complex, broadly relational self but rather those from which a new kind of limited 'individual' being can be built. It is here that we can make sense of the drive towards isolation and control of the reflex. It is perceived as the ultimate basic element of behavior, of biological events as these can be programmed to engage with the world. Here is the ground zero of the deadening that becomes "undead" media. The reflex is worked as a kind of phoneme at the very limit of already *highly limited* activity. This is *activity that barely has content.* The micro level becomes crucial, in what Brian Massumi has called an "ontopower," exercised within "bare"—that is, almost contentless, only just emerging—"activity," "barely there" (2015, 44). Controlling this becomes the key not only to the modulation and control of the individual, but also to the ongoing attempt at re-creation of a compliant individual (and the social as a machine) from these basic elements up.

From this, behavioral worlds *seem* to be able to be built and indeed, with all their flaws and dysfunction, have been built, from only a few very basic elements. The very concept, accompanied by a now immense variety of Pavlovist technics to isolate and then work with these elemental 'building blocks' of behavioral processing, has worked its way into many ecol-

ogies of practice. Such processing has become a key part of working with the nonliving as much as with the living (in what, for example, could be called computational behaviors). In all this, the conditional reflex becomes an exemplum for a de-worlding and elemental breakdown and individualization of the complexity of the body-world relation. The body-world relation can then be reterritorialized on the technical system in which it will be reassembled (as is the dog in the laboratory). This will enable the general cultural take-up of the cultivation of specific responses within technical systems through the like of reflex control in classical and operant conditioning[6] and so on. However, beyond this, it will also enable a general distribution of events through the aggregation and matching of the 'behaviors' of machines, as well as nervous systems, via technics, including those of interfaces and networks. This is a Spinozan technics, in that it conceives of every kind of affect as able to work equally across a field of body and mind. Yet it involves an anti-Spinozan ethics, in that the technics is specifically designed to cut almost every aspect of creatures (and, in some ways, technics itself) off from the wider world of affecting and being affected.

Learning, according to Pavlovism, is a reductive technics that breaks events down into basic responses (obvious behaviors but also appropriate thoughts and feelings, considered as behaviors). It then re-assembles them accordingly in a newly intensified, Pavlovist mode. This becomes a major force within education, one that then continues into general culture (life-long learning; managerialism) (Gulson et al. 2021; Know et al. 2020). Whatever its alternatives, it has been hard to escape it since.

Several other of Pavlov's dangerously reductive assumptions have remained baked into a great deal of technics. These often lead to general inflexibility and dysfunction, even as they lead to the kind of predictable, *narrow range* technical effectiveness that is a part of their success. One of these assumptions is that of relatively static systems. This includes the nervous system. That is, it is assumed that systems, including the nervous system, are relatively simple and static and that, for example, once a reflex is induced behaviour will then change, but only to a new form of simple repetition. Controlling situations to induce such simple repetition in relatively static systems therefore becomes key to the control of events. Bateson, for example, was highly critical of Pavlov on this and other points, writing that "to the 'pure' Pavlovian, only a very limited fatalism would be possible" (1987, 180). Indeed, he criticized Pavlovism in Western culture

at large, writing that, "[I]t is a little hard for members of Western civilization to believe that whole systems of behavior can be built on premises other than our own mixture of instrumental reward and instrumental avoidance" (179). More generally, Bateson thought that signal, communication, learning, and "interactive sequence" (310)—assembled together so rudimentarily in Pavlov's laboratory—were far more complex than Pavlovism had constructed them to be, and that Pavlov's influence had led to some especially unfortunate understandings of all of these. What were missing were, again, life and world, specifically the complex ecologies of signal, communication, learning, and interaction found in the life-world situations that Pavlov had specifically excluded (Harries-Jones 1995, 148).

Another unfortunate assumption of "Pavlovian fatalism" was that, within this supposed static system, the complexity of response to the world could be reduced to the control of simple reflex events and this via a simple turning on or off of reflexes, on command, *via an interface*. There is no doubt, of course, that Pavlov's laboratory successfully engineered the induction of basic, isolated on-off states in a series of *flows that were, however, treated like flows in plumbing that could effectively be turned on and off as with a tap*—flows of behaviors, feedbacks, stimuli, responses, and of saliva and other gastric juices and bodily products.[7] When Pavlovism mutates and merges with other assemblages (such as those involving logic and calculation), it creates aspects of what will become, in related but slightly different ways, neuroscience, cognitivism, and computing. All of these, via mini-events of 'processing,' assume a combination of calculative logics with the modulation of living/nonliving behavioral events via feedback. It is a surprisingly short distance from Pavlov's conditioning of reflexes to the crossing, or not, of thresholds of electrochemical excitation in neurons that would be more fully described by McCulloch and Pitts (1943). Their logical calculus of the ideas immanent in nervous activity combines assemblages of logic with gated neuronal behaviors. A general calculative-behavioral program, across animal and machine, develops.[8] A useful and effective, but highly reductive, on/off programmatic understanding is imposed on the nervous system. This (impossibly) attempts to corral, within the programmatic, the interwoven and shifting patterning of responsiveness within the nervous system, and to the world, indeed the cosmos. The attempt is to control what I have elsewhere suggested should be understood, not as a rationality in the sense of delimited logics, but rather a proprioception in the brain (Murphie 2019)[9] enmeshed in world.

In turn, cognitivism will generalise, re-organise and rebadge this so that Pavlov's stimulus and response technics will become 'cognitive' or 'information recall' and so forth. It is arguable, then, despite the anti-behaviorist rhetoric at its foundation, that cognitivism was only ever a complicating variant/extension of behaviorism (or at least of cybernetics' expansion of behaviorism [Dupuy 2000]). Indeed, cognitivism in all its forms is arguably now a key part of a general cultural Pavlovism. Cognitivism provides a kind of distractive cover-all over more basic, wide-ranging behavioral controls.

In a similar fashion, it is also not so far from Pavlov's induction of on-off states in reflexes to the on-off surges and retreats of voltage within computers to come. Famously, in what is another 'ur-interface' for almost everything that has followed in communications and interaction, Shannon domesticated the behavior of signal so that it could faithfully transport 'the digital' of 1s and 0s. Turing, for his part, is sometimes loosely considered a behaviorist, partly because the Turing test is essentially about passing behaviors and partly perhaps because his design for actual Turing machines involved a kind of coded stimulus-response framework at its core. It is this that then leads to the higher level stimulus-response behaviors found in the Turing test and, indeed, to what is often called interaction. Through all these areas, there arose the possibility of sequencing such elemental on or off flow-states via a technics of 'stimulus-response.'

Indeed, the transversal movements and mutations of Pavlovism potentialize technics as a whole. The processes of reduction and sequencing and complication *seem* to be able to play across any situation (although the word 'seem' should be emphasized). Within and across bodies, machines, and world, Pavlovism seems to enable reflexes and habits, affecting and being affected, nervous system and brain events, voltage shifts and 'symbolic processing' and 'interaction' to combine. It creates the possibilities for a highly, if variably, regulated physical-socio-technical world.

In sum, in animals and machines and in between them, and under the aegis of control and communication, as Norbert Wiener put it (1948), all kinds of flows and events could now be broken down and isolated from their usual situatedness into elements of process. These elements of process could then be processed (via turning them on and off in sequence). This could be accomplished via interfaces and algorithms and social systems. These processes could then be broken down again and worked within and across different assemblages and again sequenced and controlled. Indeed,

what was happening in Pavlov's laboratory was already processing, and already in a sense a basic symbolic processing (as Lacan, for one, suggested [Zwart 2018]). It was already a kind of (close to lifeless) computing. Here it is also perhaps important to emphasize that actual reflexes were, in fact, not only behaviors but also literal signaletic movements between the internal (nervous systems, glands, muscles, and so forth) and external. In other words, in this set-up, reflexes become technically assembled movements of inputs, processing, and outputs. Yet still, despite the many variations and some openings to dramatic complication, all of this carries with it the basic problems of Pavlov's severe reductionism. It renders everything involved, including computing and interaction, 'lifeless.'

This leads to an extremely complicated culture but not necessarily a complex culture. To put this differently, it does not always lead to a culture possessing the ability to respond to the open, relationally complex world. Indeed, cultures—work cultures, social cultures, political cultures, educational cultures, and even technical cultures such as those of Silicon Valley—can become somewhat brittle in the face of complex problems, including those problems posed by technics itself.

As suggested previously, Pavlov was not, of course, only interested in conditioning reflexes. Among other things, he also explored the ability to induce psychological breakdown in the dogs via electric shocks, predictable and unpredictable, and other methods. Part of this involved the induction of a kind of "experimental neurosis" (Todes 2014, 634), a kind of warping of learning that has unfortunate echoes today in education (for example, in a deeply disturbing physiological-perceptual double bind [Bateson 1987, 301]). A simple way to understand this is that Pavlov was experimenting with extreme stress limits. By this, I mean a limit from within and, in fact, as structured into a specific assemblage, beyond which a creature literally cannot go without breaking down. Crucially, the process is at the level of habituation, and consciousness has little or no access to what is going on. This in-structuring of stress limits combines with the structuring of reflexes to further the production of hierarchies and in-groups/out-groups as stress-limited habituations. One result of this today is 'performance management.' There are many others. Indeed, this combination of breakdown limit and the organization of reflexes is strongly present within much socio-political programming, not least as cultivated by so-called 'management science' and prominent social media platforms.

Pavlovism goes yet further, in an even more literal extractivism of the body. For example, in one of many particularly gruesome and cruel procedures, Pavlov opened the dogs' esophagi so that food could never reach its destination. This enabled the continuous production of digestive juices. These were sold by Pavlov's laboratory as a supposed cure for dyspepsia. Again, slightly abstracted, one might suggest that this provides a very crude diagrammatics for that which we sometimes now call technology addiction (in which instead of inducing a continuous production of digestive juices, technics induces a continuous production of signaletically attuned attention, as found in endless scrolling and swiping, for example). One bridge between Pavlov and now in these terms has been Skinner's extension of these operations into operant conditioning,[10] in gambling and more generally as a part of interaction design (Dow Schull 2014).

Through all this, we see the beginnings of what I would call 'pre-automation.' Pre-automation means two things. More generally, *it indicates that a deep, fundamental automation has occurred before the more obvious full technological automation we are so often told is now arriving* (in AI, robotics, etc.). In other words, automation 'arrived' long ago and has long intensified itself, within us and deep within our own ecologies of working and living. It is even perhaps found within some of the diagrammed versions of 'individualism' and the supposed attached 'freedoms' that some have come to treasure. These are often assembled precisely as part of our (at times unwitting) participation in a general Pavlovian technics. This is a *perverse freedom* to take part in a world of highly structured hierarchies. Ironically, this is a 'freedom' in which, partly because of Pavlovism, increasingly little is left to chance, which is to say not subject to a deadening programmability. Secondly, pre-automation suggests *a specific range of programmed events (e.g., skills) and collections of programmed events (e.g., expertise) via which we now work and live. This will, in fact, make it easier for full automation to occur, that is, a going beyond our behavioral automation to our full replacement.* Ordering behaviors and responses to the world into basic elements and then reassembling them into restricted and highly ordered diagrams and taxonomies allows things to more easily be 'learnt' by machines, specific skill/expertise by skill/expertise. For although Artificial General Intelligence is still at least decades away, AI already performs well, in its own terms, within specific fields of expertise. If we already assemble ourselves to operate algorithmically, why would an algorithm not

be able to replace us? There is, for example, enormous danger in precisely this respect in the contemporary prominence of behavioral-cognitivist forms of organization within education, as education attempts to engage with the 'future of work' (Gulson et al. 2021). If education is organized according to these principles, down to such questions as "what skills do we need to meet the future of work?," we are essentially meeting automation by speeding it up. We risk making students *more replaceable* by educating them via forms of organization and modes of thinking and behaving that induce lifeless lives, which are those most easily replaced.

From within Pavlovism, during World War II, B. F. Skinner tried to develop a pigeon-guided missile system, in one of the early "learning machines" (Ferster 2014, 68ff; see also Watters forthcoming). Skinner himself later called Project Pigeon, as it was named, a "crackpot idea" (Ferster 2014, 68). However, many of us are now pushed towards becoming such pigeons, pecking at screens, directing our classes towards learning objectives or our lives and work, institutions, or national economies towards the fulfillment of performance measures. Project Pigeon was later called Project Orcon, short for "organic control" (Skinner 1960, 29).

Pavlov also possessed a passion for data (Todes 2014, 96), which becomes another form of control. A pioneer of biological experimentation in Russia, Pavlov extracted a wealth of data, as it is usually understood (measures of salivation, etc.) from the experiments. Yet he also created methods (carefully timed buzzers and shocks, dogs trained differently to slightly different audio tones, etc.) for inducing predictable physiological-psychological responses to stimuli. In the latter, he arguably begins to convert the body and nervous system themselves into data. That is, physiology and psychology themselves become aggregations of 'givens' interchangeable with other modes of the given (the basic meaning of the term 'data' is 'the given') (Kitchin 2014, 2). All this has influenced the corporate, institutional, and governmental assemblages with which we increasingly live today. Throughout, there is a structuring of relations within what we might call a powerful and diffuse "ecology of bad ideas" (Gregory Bateson, quoted by Félix Guattari 2000, 27).

In Pavlovism, we also find the ways in which various closed-world assemblages and diagrammatics for further assemblage become actively self-sustaining, *operationally.* Pavlovism's variable technical means produce ongoing closures within events at the same time as they further the social reproduction of Pavlovism itself. It's one thing, for example,

to have the idea of closed economies that extract/refuse what they want from externalities such as the environment or social lives that are populated by appropriately behaving individuals. It's quite another to develop an assemblage to make that work, ongoingly.

The powers that assemble themselves in Pavlovism enable a powerful form of capitalist extraction not only of behaviors and gastric juices, but also of data and of the very conceptual feeling of living within assemblages that will become entire control institutions, societies, platforms, and of *all of these intermeshed in and becoming one another.*

TECHNICS LIFELESS AND ALIVE

> Pavlov … grappled with the difficulties of keeping his experimental animals alive after surgical operations. … The development of techniques to keep such valuable experimental animals alive for years, and the recognition that some animals simply made better experimental subjects than others, would become central features of Pavlov's mature physiological style (Todes 2014, 63, 65).

These techniques would also become central features of contemporary technics. Who gets to be kept alive (under certain conditions), and who is a better fit within such a technics? For what kind of culture, science, or philosophy does such a technics assemble itself? Here we can briefly turn again to Whitehead in order to orientate ourselves.

First, Whitehead notes a key problem in modern culture, science, and philosophy—in what he terms a bifurcation of nature: into nature apprehended and nature apprehending (2004, 29). Didier Debaise suggests that this is a deeper problem than that of the body-mind split (2017, 3ff). This bifurcation becomes the basis for so much that follows (hierarchy, of course, but also misunderstanding of the nature of the world). Nothing could more clearly illustrate this than the dog and its conditional reflex as nature apprehended. Indeed, the point seems to be the severe subtraction of the dog's ability to apprehend and to construct, within this assemblage, Pavlov as nature apprehending. This is not a natural order of any kind. It is an operative structuring. Yet it is an operative structuring that Pavlovism has helped to naturalize.

In addition, in that it is an active but destructive structuring and especially in that it blocks access to richer (more alive) aspects of the world, Whitehead would probably have considered it 'evil.' For Whitehead, evil is very much situational, a question of how things are ongoingly assem-

bled. He writes, evil "is positive [active, processual] and destructive; what is good is positive and creative" (1926, 96). The "nature of evil is that the characters of things are mutually obstructive" (Whitehead 1978).[11] This is how things are in so much of Pavlovism, most obviously in the constraints and the sophisticated production of "experimental neurosis" (Todes 2014, 634) that Bateson thought an experimental incidence of the famous double bind.

Second, in *Modes of Thought*, Whitehead notes that most of what has become modern science, as in Pavlovism, has a concept of nature "under an abstraction in which all reference to life was suppressed" (1968, 144). As noted earlier, this has been in favor of predictable relations and event-outcomes between relatively independent and in themselves relatively inert elementary particles (like atoms in early physics). The relational aspects of all events, which mean that no event (or entity) has "simple location," along with the creative aspects of life, were replaced by isolated, individual elements, with activity at best "bare activity" (e.g., the conditional reflex). For Whitehead, "there are no instants, conceived as simple primary entities, there is no nature at an instant" (146), just as there is no simple location and no simple "individual." Rather, there is the ongoing "inter-relation of all matters of fact," and this "must involve transition in their essence. All creative realization involves implication in the creative advance" (146). When such things are ignored, it is no wonder that we end up with "technics lifeless."

For technics to become alive, then, we need a technics that un-bifurcates nature or simply refuses the assumption of a bifurcated nature. It would be a technics that opens activity to content, by which here I mean not so much to more of what is 'represented' as to the ongoing variability of novelty provided in engagement with the open world. This is fundamental to questions of technics and of 'interactivity' and 'assemblage' although to travel in this direction means challenging how these are often conceived and operationalized, to the point that we perhaps are thinking what comes after many of our given understandings of interactivity, after assemblage, and perhaps even after technics.

The 'fundamental question' then, a fundamentally different question to those that motivate Pavlov's assembling of interactive frameworks and technics via which to instantiate the constraint, emptying and zombifying of activity, is how "do we add content to the notion of bare activity? Activity for what, producing what, activity involving what?" (Whitehead

1968, 147). Whitehead's answer is simple — the content we need to add is "life" (147). More specifically, it is "fusing life with nature" (166). This is not only a matter of rethinking things or of a different 'model' for interaction. For Whitehead, "conceptual experience … is only one variable ingredient in life" (166). The deeper aspect of life is the fuller (self)-"enjoyment of emotion, derived from the past and aimed at the future" (167). In other ways, the deeper aspect of life is the transformative movement of affecting and being affected, a creative coming together of intensities with novelty in-world. 'Interactivity' is replaced by "an activity of concern" that "although engaged in its own immediate self-realization, is concerned with the universe" (167).

ELEPHANT FEET

It may be useful to briefly contrast the regressive technics of the third enclosure with what is left of the open world 'in the wild.' Here, technics (or what, in some ways, exceeds our concept of it) finds expression in an entanglement of appropriate opening/closure that is world supportive. This enables a movement-with the world as it changes, in a rich and flexible adaptation from within the immanence of events. Hierarchies often give way to shifting 'heterarchies' (Harries-Jones 2016, 105ff). This allows for a general complexity that in turn fosters a much greater degree of flexibility within the emergence of events—"bioentropy" in Bateson's terms (Harries-Jones 2016, 15ff) or "response-ability," as Donna Haraway puts it:

> Response-ability is that cultivation through which we render each other capable … the cultivation of the capacity of response in the context of living and dying in worlds for which one is for, with others. So I think of response-ability as irreducibly collective and to-be-made. In some really deep ways, that which is not yet, but may yet be. It is a kind of luring, desiring, making-with (Haraway in Haraway & Kenney 2015, 230-231).

Part of the enhanced response-ability of the open world is a kind of pre-/post-interfaciality, a work with interaction much larger than the interface per se. This bypasses the primacy of the interface that until recently dominated a closed technics (although this is changing in its own way as technics becomes ubiquitously 'invisible'). This can circumvent the limits of overly closed systems. Undead media too often just respond to the world with a kind of confused complication of the predetermined.

A 'wild' minor technics would learn from technics in the wild. Andrew Goodman suggests this would allow us to rewild the world itself and therefore re-enliven so much, including perhaps technics itself:

> Rewilding emphasises the potential of dynamic and complex ecologies with intensive capacities to collectively experiment with flux. ... Here rewilding is an ecological practice squarely addressing the field—not through control but through an understanding of the capacity for self-organization that exists within complex systems in certain states (2019, 134).

The wild is that which exceeds the simpler and often more reductive, even if complicated, overly hierarchical orderings to which it is often subjected. This wild involves a complex mix or "gathering" of ecologies (Goodman 2018)[12] and, at that, a gathering of very different kinds of ecologies, even as they coincide within the one event in the world.

There is another way to rethink the interface in this situation, not by-passing it so much as multiplying it. In the wild (and this includes our own bodies), interfaces or what far exceeds the very notion of the 'inter' or the 'face,' are everywhere. They are found across every surface and in every depth, to the point that everything is 'inter.' Indeed, 'inter' no longer makes sense really if there's nothing to be 'inter' between (Massumi 2011, 39ff). It is more a question of how everything affects and is affected by everything else. To re-wild is to diagram potentials differently within this, immanently.

Consider a few hints of what a pre-/post-/alt-technics might be within this re-wilding. It seems that, in addition to their regular hearing, elephants can hear through their feet. This includes hearing seismic waves from many kilometers away (Kennerson 2018; O'Connell-Rodwell 2007). They may also hear storms over 150 kilometers away (Kelley & Garstand 2013, 352) or the movement of other animals. Other animals communicate seismically as well (e.g., spiders, scorpions, kangaroo rats, and golden moles).

Or consider whales and dolphins. Without much at all in the way of technologies per se, they have a rich and effective communicational ecology that is in many ways "stranger than anything we could have conjectured" (Durham Peters 2015, 57). They live in an ocean that is "the primordial medium-free zone, immune to all human attempts at fabrication" (Durham Peters 2015, 54). Yet this is also an incredibly rich meta-medium, as "the ocean is the medium of all media, the fountain from which all life on earth emerged. Life in all its varieties pays homage to the sea in

its structure and function" (54). Here, 'inter' or 'face' or 'interaction' or media or communication or technics or organization are assembled very differently. As Durham Peters points out, whales and dolphins are:

> [s]trange creatures, that hear with their jaws and vocalize with their noses! For humans, the face is both an organ of emotion and an ethical claim to personality, but whales cannot even look at each other face-to-face. Even binocular dolphins do not have faces as we do. For one thing, they might not see well enough in the water, though they can recognize themselves in mirrors. More importantly, their faces cannot produce visual displays of emotion (67).

Such strangeness, beyond the human and certainly beyond the very limited conceptual and configurational capacity of much of our current technics, is abundant in the wider world. To take another example, flowers can, in a certain sense, 'hear' bees, and it may lead them to sweeten their nectar (Donahue 2019). Forests, along with their mycorrhizal networks, are filled with complex intra-/extra-communicational events.[13]

In sum, elephants' feet, cetaceans, flowers, and forests suggest the potential for a minor technics involving the constant creation of inter-faces (or better, relations beyond the inter- and -face of interface). These would be far more adaptive to a variable and open multiplicity. It is difficult even to conceive of comparing what thinking and feeling might be here with the impoverished assemblage of reductionist events of enclosure we call 'cognition.'

The contrast with some of the stronger influences within much main-stream technics is stark. For while dolphins are swimming and playing and socializing, we are still ridiculously constrained, for too much of each day, by the old-fashioned nature of keyboards and screens and basic buttons and swipes. We are increasingly subject to impoverished ecologies of abstraction that enclose, individualize, and control via the simplistic and regressive scripted behaviors of the contemporary workplace and the like of its 'key performance targets.' We are increasingly pre-automated. The 'third enclosure' continues, via a massive and complicated Pavlovist pile-up of what, despite the enormous complication and power involved, is often made up of very numerous but nevertheless quite simplistic algorithmic-communicative events. Too often, unable to deal with real complexity, this only leads to contradiction and dysfunctionality.

At the same time, many aspects of this will soon disappear into a third media revolution, as described previously. Everything is once again "melt[ing] into air," as *The Communist Manifesto* famously put it (Marx &

Engels 1977, 39). We are once again "compelled to face with sober senses" our "real conditions of life," and our "relations with" our "kind," along with our relations with those not of our kind (39).

TECHNICS ALIVE

As I suggested towards the beginning of this chapter, there is a great deal more to technics than Pavlovism, even in the 'West.' Yet a series of Pavlovist tendencies persists. Are there any fugitive potentials from within this? If so, where would they take us?

In the early 1970s, Samuel A. Corson and Elizabeth O'Leary Corson were continuing their decidedly Pavlovian research into stress, using dogs in a laboratory. The floor above their lab was a psychiatric ward. The dogs barked and could be heard in the psychiatric ward. Some of the adolescent patients heard this and wanted to play with the dogs. Meetings between dogs and psychiatric patients turned out to be highly beneficial for the patients (who, for example, began communicating). They were also, one hopes, good for the dogs. The Corsons became key to the development and popularization of pet therapy (although it had existed before this) (Chandler 2017, 30ff & 128ff).

Comments made by Deleuze in a conversation with Foucault resonate both with barking dogs and perhaps with teenagers in psychiatric wards:

> If the protests of children were heard in kindergarten, if their questions were attended to, it would be enough to explode the entire educational system. There is no denying that our social system is totally without tolerance; this accounts for its extreme fragility in all its aspects and also its need for a global form of repression (Foucault 1980, 209).

So it seems that fugitivity can be found in protest (barking, the protests of kindergarten children), but this needs to re-establish itself in the social, in the Corson case via play. This rekindles response-ability across dimensions and allows re-entry into the world at large in the literal dismantling of the isolation key to global forms of repression. Perhaps with pet therapy, however, we are only part of the way there.

Two comments by Donna Haraway take us further. They take us towards a technics absorbed into the world. In a wonderful documentary made recently by Fabrizio Terranova, Haraway discusses her now-ageing dog, Cayenne, who is barking. Haraway (2017) says:

And what she's doing now is canine cognitive dysfunction. She's a little bit senile. And she starts barking, in a little bit of confusion. In the late afternoon. She doesn't exactly quite know what to do with herself. And what I hear is my old friend, a little bit confused. And the barking … reminds me of the detail of the intimacy, or inheritance. That's the inheritance of big things and little things, the different life spans of a woman and a dog. That we've all flamed together for 10 years. And that she's old, in a way I'm not yet. And my obligation is to accompany my friend to, to kind of companion species, as a companioning with each other through this time, which includes mental confusion a little bit for my dog (*Donna Haraway: Story Telling for Earthly Survival* 2017).

Here is a dog not only as a companion or a pet, but as an intimate friend for whom we are obligated to care in the cultivation of mutual "response-ability." This takes us further towards a different view of technics. Yet it turns out that not even this is quite enough. On another occasion, asked what she means by "humanimal," Haraway comments:

I think of humanimal as a linguistic way of paying attention to the way human beings and other animals co-make each other in the making of history. And I think for example of the ways that any question in the world one really cares about these days, that matter, whether it's who is hungry, or what kind of carbon footprint is being made by food production, or what sorts of cruelty and brutality and caretaking are going on, among species and between species … *These are humanimal worlds … you can't think these one species at a time. If you think about labour, or love, or play, I think you have to think multi species and I include technologies as species. Okay, so they're both living and nonliving and not* … I think people make a mistake with my work sometimes. I happen to love pets. … But they're not the definition of humanimal. They're one kind of thread within a very complex fabric (Human 2013, my emphasis).

The collectivities and socialities of the world come first (multispecies), and it is within this that we include "technologies as species." Technics here has to overcome many of its current modes in order to be equal to events "within a very complex fabric." This is not only a matter of biomimicry, of zoomorphism, or even of 'learning from nature.' As useful as all of these might be (or not), they very easily continue both a bifurcation of nature and an outmoded representationalism. Technics becomes rather a matter of an enhanced, complex, and immanent relationality, which technics does not dominate but in which whatever technics might become *participates*. This is crucial. It is very different from a technics that pushes everything into the uneven folding of too much of the world into a third media revolution, one in which humans dominate and even then, only the few. It would work instead towards active participation and response-ability towards the world as medium, as the "foster-mother of all becoming" or "the natural matrix of all things" (Plato, in Whitehead 1967, 134).

This is also a return of play into technics, which enables abstraction to be lived rather than life suppressed in favor of abstract systems of control. Play breaks down the kinds of divisions so often preserved in interactive systems in favor of being able to inhabit the middle of the immanence of events of affecting and being affected. This does not, as Pavlov does, reduce difference. Rather such a situation, and whatever it is that technics is or becomes in such a situation, goes with the foster-mothering of the world. It creates a participatory zone of equal if different coming together. As Brian Massumi writes:

> The mode of abstraction produced in play does not respect the law of the excluded middle. Its logic is that of mutual inclusion. Two different logics are packed into the situation. Both remain present in their difference *and* cross-participate in their performative zone of indiscernibility (2014, 6).

This is what it is to live. This is what it is to add content to activity, immanent to the event of activity. This is not so much even a matter of what technics, by itself, should become. It is rather a question of what technics should reshape itself to *become-with*.

There is also, of course, a great deal of reparative work to be done on behalf of all those called in from the wider world to a Pavlovian existence. This reparative work and adding content to activity are the two tasks of whatever it is that interactivity and interfaces will become.

A MANIFESTO FOR THE FUTURE OF THAT–WHICH–WE–CURRENTLY–CALL–THE–INTERFACE

It is perhaps best to finish with a little bit of a manifesto for the transformation of work with that-which-we-currently-call-interfaces, as this work heads towards 'media alive.' Work with that-which-we-currently-call-the-interface might in the future:

1. Emphasize real mutual belonging and multiple modes of belonging within the world-at-large. In the process, it would undo hierarchical forms of organization.

2. Attend to the immanence, complexity, and dynamism of the communicative event, without reductionism.

3. Work with fields (variable complex ecologies of relation and difference [Brunner & Fritsch 2011]) rather than simple lines and individual elements such as reflexes (innate or conditional).

4. Attune to the shifting entanglements between external and internal, openings and closures, relationality and individuation.

5. Attend to the passive as power in its own right and thus think 'being affected,' which is present on all sides of any relation, with more subtlety and care.

6. Consolidate fields of entangled speculation and pragmatics that move away from extractive technics of organization.

7. Acknowledge the socio-ecological disaster of modernity (Moten 2015), including Pavlovism, and the current 'catastrophic multiplicity', which includes the problem of technics, as problematic for experiments in terms of feeling.

8. Attend to the dynamism and novelty of feeling that emerges in each and every event.

9. Challenge many mainstream understandings of technics. It may even be that when we fully consider the world as medium, we do not need the same concept of technics or at least of technology or even any such concepts at all. It would challenge the formation of technics within assemblages, agencements, and diagrammatics.[14]

10. Learn from aesthetics (patterns of relations) and from new forms of organization based on patterns of relation and not be determined by corporate, consumer, or old-style political needs.

11. Open to and learn from (and not just occasionally, if at all, cater to) diverse ways of perceiving, acting, thinking, and feeling.

12. Empower organizational multiplicities.

13. Attend to the need for de-automation as much as automation and develop a wariness concerning pre-automation.

14. Work/think/feel in terms of more than on/off states or responses.

15. Assume a rich variability, complexity, and mobility of the nervous system, extended across the three ecologies of mind, the social, and environment.

16. Abandon data as the given for predictable economies of the lifeless in favor of data as the potential for feeling, for affecting and being affected (Murphie 2019, 18ff).

17. Abandon the tinkering technics that flirts with inducing stress and instead create fields of relaxation, exploration, and belonging.

NOTES

1. See Data for Black Lives at https://d4bl.org/.

2. The work referred to is here to give an idea of how wide ranging the fugitivity from control and move towards affect, very broadly conceived, are in both inter-action and thinking about technics in general. It does not suggest that all this work agrees with the project in this chapter by any means. For example, Tallbear critiques the opposition between life and non-life as a way of relegating Indigenous peoples and ancestry to disappearance, at best to the service and appropriation of settler-colonists. She writes:

   > In order to sustain good relations among all the beings that inhabit these lands, we must undercut settler (property) relations. Instead of killing the Indian to save the man, we must turn the ontological table. The twenty-first-century mantra must be to kill the settler and save us all. Or as my Indigenous studies colleague and Lakota relative Nick Estes put it in an email to me, we must commit "settler ontocide." This does not, of course, mean literal killing. It means ridding ourselves of the category of the settler along with its discourse of white supremacy and assertions of an inherent right to these lands and waters.

   So much of this has relevance within technical cultures. My tentative addition to this response is to work towards undoing the many bifurcations of nature, the hier-archies of the lifeless and alive at the basis of Western modern culture. The chapter here concerns general principles, not specific work in interactive design. However, the references to specific examples from a wide range of fields in these paragraphs hint at the rich possibilities for HCI and other fields engaging with the junction of design and technics when they venture out of the field as strictly constituted in the academy. This constitution could sometimes be seen as part of the problem (while acknowledging the many moves in different directions within it). Quite differently, there is the obvious need to take technics back from many industry, settler-colo-nialist formations.

3. Concrete suspended room, Pavlov's laboratory. Wellcome Collection, London (L0023485). https://wellcomecollection.org/works/kc22u2zc Attribution 4.0 Inter-national (CC BY 4.0).

4. Manometer at I. P. Pavlov's laboratory. Wellcome Collection, London (L0023484). https://wellcomecollection.org/works/rnkjnkn8 Attribution 4.0 International (CC BY 4.0).

5. From Lectures on conditioned reflexes/Ivan Petrovich Pavlov; translated and edited by W. Horsley Gantt; with the collaboration of G. Volborth; and an introduction by Walter B. Cannon. Wellcome Collection, London (M0014738). https://wellcomecol-lection.org/works/yzvjt8mu Attribution 4.0 International (CC BY 4.0).

6. See Natasha Dow Schüll's (2014) account of behaviorism in interaction design.

7. This is something now applied, for example, to 'attention.'

8. This is a complex issue, and I intend to develop it in another context. However, in this regard, see Dupuy (2000), Dow Schüll (2014), Knox et al. (2019) on "Machine Behaviourism," or the recent documentary *The Social Dilemma*. Pavlov was actually interested primarily in the psyche's internal workings and data, not in external behaviors. Skinner, provoked by Whitehead no less, spent many years writing a book on language. Wiener and the entire cybernetics program heads in this direction.

9. "Thinking involves—though it is not reduced to—a basic and literal flow of proprioceptive intensities of the brain—the brain as world as medium feeling itself differentiating" (Murphie 2019, 33).

10. Some of Pavlov's associates extended his work into experiments on orphan children, who were conditioned by a machine that forced cookies into their mouths. Both children and dogs, which were strays, were made available for experimentation due to their powerless circumstances.

11. Via Duvernoy (2019).

12. For Goodman's own re-wilding involving technics, see pp. 176–231 of his *Gathering Ecologies*.

13. See Monica Gagliano (https://www.monicagagliano.com/), Gagliano (2018), Gibson (2015), and also Gibson and Brits (2018).

14. In my thinking here, which is slightly different from many other accounts, *assemblages* involve the at that time functional assemblage of material elements, active abstractions (ideas or, better, conceptual feelings), and the real relations, affects, tendencies, and potentials involved (in the Pavlov laboratories, for example). *Agencements* involve the way that aspects break off from specific assemblages and form new relations that enable a movement towards variable, multiple futures (so that Pavlov's laboratories, experiments, and concepts, for example, move towards a general, variable 'Pavlovism'). Finally, *diagrammatics* is meant to describe ways of intervening in assemblages and agencements. Diagrammatics are technics within technics. They create new relations that move forces within assemblage and agencement. They can work immediately, to work within a particular situation. Or they can potentialize certain tendencies and relations, as these are directed toward the future. Diagrammatics also intervene between the movements of agencement and their crystallization into assemblages and vice versa—as a kind of variable, evolving 'how to.' They might include literal diagrams, models and procedures, maps, recipes, or even lists of all kinds. Yet diagrammatics might also involve a looser bringing together of abstractions (ideas, conceptual feelings, networks effects, patterns of relation), along with habits, intuitions, vague fringes of activity, and choreographies (purposeful or accidental). Design, including interaction design, obviously tends towards diagrammatics.

REFERENCES

Amaro, R. (2020). Threshold Value. Architectures of Education. [online] *e-flux*. Available at: https://www.e-flux.com/architecture/education/322664/threshold-value/ [Accessed 13 October 2020].

Anderson, C. A. (1995). Process Philosophy and the New Thought Movement. [online] *New Every Moment*. Available at: https://neweverymoment.com/alan/Process%20Philosophy%20and%20the%20New%20Thought%20Movement.htm [Accessed 15 October 2020].

Bateson, G. (1987). *Steps to An Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. London: Jason Aronson Inc.

Benjamin. R. (2018). Black AfterLives Matter: Cultivating Kinfulness as Reproductive Justice. [online] *Boston Review*. Available at: http://bostonreview.net/race/ruha-benjamin-black-afterlives-matter [Accessed 13 October 2020].

Benjamin, R. (2019). *Race After Technology: Abolitionist Tools for the New Jim Code*. London: Polity.

Bertelsen, L. (2012). FCJ-149 Affect and Care in Intimate Transactions. *The Fibreculture Journal* [online] 21. Available at: http://twentyone.fibreculturejournal.org/fcj-149-affect-and-care-in-intimate-transactions/ [Accessed 15 October 2020].

Boyle, C. (2018). *Rhetoric as a Posthuman Practice*. Columbus: Ohio State University Press.

Brunner, C. & Fritsch, J. (2011). FCJ-124 Interactive Environments as Fields of Transduction. *The Fibreculture Journal* [online] 18, pp. 118–145. Available at: http://eighteen.fibrhttps://core.ac.uk/reader/186639337eculturejournal.org/2011/10/09/fcj-124-interactive-environments-as-fields-of-transduction/ [Accessed 15 October 2020].

Chandler, C. (2017). *Animal-Assisted Therapy in Counseling*. London: Taylor & Francis.

Chun, W. (2011a). *Programmed Visions: Software and Memory*. Cambridge: MIT Press.

Chun, W. (2011b). Crisis, Crisis, Crisis, or Sovereignty and Networks. *Theory, Culture & Society* 28 (6), pp. 91–112.

Costanza-Chock, S. (2020). *Design Justice: Community-Led Practices to Build the Worlds We Need*. Cambridge: MIT Press.

Cuppini, N. & Frapporti, M. (2018). Logistics Genealogies: A Dialogue with Stefano Harney. *Social Text* 36 (3), pp. 95–110.

Debaise, D. (2017). *Nature as Event: The Lure of the Possible*. Durham: Duke University Press.

Design Studio for Social Intervention, The (2020). *Ideas Arrangements Effects: Systems Design and Social Justice*. Brooklyn: Minor Compositions.

Donahue, M. (2019). Flowers Can Hear Buzzing Bees—and It Makes Their Nectar Sweeter. [online] *National Geographic*. Available at: https://www.nationalgeographic.com/science/2019/01/flowers-can-hear-bees-and-make-their-nectar-sweeter/ [Accessed 24 June 2020].

Donna Haraway: Story Telling for Earthly Survival. (2017). [DVD] Brooklyn: Fabrizio Terranova.

Dourish, P. & Cruz, E. G. (2018). Datafication and Data Fiction: Narrating Data and Narrating with Data. *Big Data & Society* 5 (2), pp. 1–10.

Dow Schüll, N. (2014). *Addiction by Design: Machine Gambling in Las Vegas*. Princeton: Princeton University Press.

Dupuy, J-P. (2000). *The Mechanization of the Mind: On the Origins of Cognitive Science*. Princeton: Princeton University Press.

Durham Peters, J. (2015). *The Marvelous Clouds: Toward a Philosophy of Elemental Media*. Chicago: Chicago University Press.

Duvernoy, R. (2019). Deleuze, Whitehead, and the "Beautiful Soul." *Deleuze and Guattari Studies* 13 (2), pp. 163–185.

Edwards, P. (1996). *The Closed World: Computers and the Politics of Discourse in Cold War America*. Cambridge: MIT Press.

Ferster, B. (2014). *Teaching Machines*. Baltimore: JHU Press.

Foucault, M. (1980). *Language, Counter-Memory, Practice: Selected Essays and Interviews*. New York: Cornell University Press.

Fritsch, J. (2011). FCJ-137 Affective Experience in Interactive Environments. *The Fibreculture Journal* [online] 19. Available at: http://nineteen.fibreculturejournal.org/fcj-137-affective-experience-in-interactive-environments/ [Accessed 10 October 2020].

Fritsch, J., Loi, D. & Light, A. (2019). Designing at the End of the World. DIS '19 *Companion: Companion Publication of the Designing Interactive Systems Conference 2019*, pp. 369–372.

Gagliano, M. (2018). *Thus Spoke the Plant: A Remarkable Journey of Groundbreaking Scientific Discoveries and Personal Encounters with Plants*. Berkeley, CA: North Atlantic Books.

Gerovitch, S. (2002). Love-Hate for Man-Machine Metaphors in Soviet Physiology: From Pavlov to "Physiological Cybernetics." *Science in Context* 15 (2), pp. 339–374.

Gibson, P. (2015). *Janet Laurence: The Pharmacy of Plants.* Sydney: New South Books.

Gibson, P. & Brits, B., eds. (2018). *Covert Plants: Vegetal Consciousness and Agency in an Anthropocentric World.* Goleta: Punctum.

Goodman, A. (2018). *Gathering Ecologies: Thinking Beyond Interactivity.* London: Open Humanities Press.

Goodman, A. (2019). Black Magic: Fragility, Flux and the Rewilding of Art. In: E. Manning, A. Munster and B. M. Stavning Thomsen, eds., *Immediation I.* London: Open Humanities Press, pp. 134–160.

Goodman, A. (2020). The Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse Analgorithmic Feeling and Consciousness. *Transformations* [online] 34, pp. 49–70. Available at: http://www.transformationsjournal.org/wp-content/uploads/2020/05/Trans34_04_goodman.pdf [Accessed 3 September 2020].

Guattari, F. (2000). *The Three Ecologies.* London: Athlone.

Gulson, K. & Witzenberger, K. (2020). Repackaging Authority: Artificial Intelligence, Automated Governance and Education Trade Shows. *Journal of Education Policy* [online] early publication. Available at: https://doi.org/10.1080/0268The Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse 0939.2020.1785552 [Accessed 15 October 2020].

Gulson, K., Murphie, A. & Witzenberger, K. (2021). Amazon Go for Education? Artificial Intelligence, Disruption and Intensification. In: C. Wyatt-Smith, B. Lingard and E. Heck, eds., *Digital Disruption in Teaching and Testing: Assessments, Big Data, and the Transformation of Schooling.* London: Routledge., pp. 90–106.

Haraway, D. & Kenney, M. (2015). Anthropocene, Capitalocene, Chthulhucene: Donna Haraway in Conversation with Martha Kenney. In: H. Davis and E. Turpin, eds., *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies*. London: Open Humanities Press, pp. 229–244.

Haraway, D. (2017). *Story Telling for Earthly Survival.* FILM.

Harney, S. & Moten, F. (2013). *The Undercommons: Fugitive Planning and Black Study.* Brooklyn: Minor Compositions.

Harries-Jones, P. (1995). *A Recursive Vision: Ecological Understanding and Gregory Bateson.* Toronto: Toronto University Press.

Harries-Jones, P. (2016). *Upside-Down Gods: Gregory Bateson's World of Difference.* New York: Fordham University Press.

Heilig, L. (2019). Ways to Move, Ways to Map: Neurodiversity in Interaction Design. In: *ATTW 2019 Conference.* [online] Notes available at: bit.ly/The Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse 2VEE1jw [Accessed 13 October 2020].

Human (2013). Donna Haraway on the "Humanimal." [online] Available at: https://www.yThe Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse outube.com/watch?v=BUA_hRJU8J4 [Accessed 24 June 2020].

Kearsley, J. & McPherson, E. (2019). "Whiteboard of Shame": Robo-debt Compliance Officers "Worked to Targets." [online] *The Sydney Morning Herald.* Available at: https://www.smh.The Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse com.au/politics/federal/whiteboard-of-shame-robo-debt-compliance-officers-worked-to-targets-20190809-p52foq.html [Accessed 24 June 2020].

Kelly, M. & Garstand, M. (2013). On the Possible Detection of Lightning Storms by Elephants. *Animals* 3, pp. 349–355.

Kennerson, E. (2018). How Elephants Listen ... With Their Feet. [online] *KQED Science.* Available at: https://www.kqed.org/science/1926248/how-elephants-listen-with-their-feet/ [Accessed 24 June 2020].

Kitchin, R. (2014). *The Data Revolution: Big Data, Open Data, Data Infrastructures & Their Consequences.* London: Sage.

Knox, J., Williamson, B. & Bayne, S. (2020). Machine Behaviourism: Future Visions of 'Learnification' and 'Datafication' Across Humans and Digital Technologies. *Learning, Media and Technology* 45 (1), pp. 31–45.

Kukutai, T. & Taylor, J. (2016). *Indigenous Data Sovereignty: Toward An Agenda.* Canberra: ANU Press.

Lotti, L. (2015). "Making Sense of Power": Repurposing Gilbert Simondon's Philosophy of Individuation for a Mechanist Approach to Capitalism (by way of François Laruelle). *Platform: Journal of Media and Communication* 6, pp. 22–33.

Lotti, L. (2018). Cryptoeconomics And/As Artistic Practice: Sketches for New Design Imaginaries. Schloss, [online] Issue No 0—*Digital Culture, Theory & Art*, October 1. Available at: https://schloss-post.com/cryptoeconomics-artistic-practice/ [Accessed 17 October 2020].

Lotti, L. (2019). The Art of Tokenization: Blockchain Affordances and the Invention of Future Milieus. *media theory* [online] 3 (1), pp. 287–320. Available at: http://journalcontent.mediatheoryjournal.org/index.php/mt/article/view/90 [Accessed 16 October 2020].

MacKenzie, A. & Munster, A. (2019). Platform Seeing: Image Ensembles and Their Invisualities. *Theory, Culture & Society* 36 (5), pp. 3–22.

Manning, E. (2020). *For a Pragmatics of the Useless.* Durham: Duke University Press.

Manning, E., Munster, A. and Stavning Thomsen, B. M. (2019). *Immediation I and II.* London: Open Humanities Press.

Massumi, B. (2011). *Semblance and Event: Activist Philosophy and the Occurrent Arts.* Cambridge: MIT Press.

Massumi, B. (2014). *What Animals Teach Us about Politics.* Durham: Duke University Press.

Massumi, B. (2015). *Ontopower: War, Powers, and the State of Perception.* Durham: Duke University Press.

Marx, K. & Engels, F. (1977). *The Communist Manifesto.* Moscow: Progress Publishers.

Mattern, S. (2018). The Ever-Expanding Field of Media Studies: Ideas for Understanding the Mediated World. [online] *Public Seminar.* Available at: http://www.publicseminar.org/2018/03/the-ever-expanding-field-of-media-studies/ [Accessed 24 June 2020].

McCulloch, W. & Pitts, W. (1943). A Logical Calculus of the Ideas Immanent in Nervous Activity. *The Bulletin of Mathematical Biophysics* 5 (4), pp. 115–133.

Moten, F. (2015). Blackness and Poetry. [online] *Evening Will Come.* Available at: https://arcade.stanford.edu/content/blackness-and-poetry-0 [Accessed 24 June 2020].

Murphie, A. (2014). Auditland. *PORTAL: Journal of Multidisciplinary International Studies* [online] 11(2). Available at: https://epress.lib.uts.edu.au/journals/index.php/portal/article/view/3407/4581 [Accessed 11 October 2020].

Murphie, A. (2018). On Being Affected: Feeling in the Folding of Multiple Catastrophes. *Cultural Studies* 32(1) pp. 18–42.

Murphie, A. (2019). The World As Medium: A Whiteheadian Media Philosophy. In: E. Manning, A. Munster, and B. M. Stavning Thomsen, eds., *Immediation I.* London: Open Humanities Press, pp. 16–48.

O'Connell-Rodwell, C. (2007). Keeping an 'Ear' to the Ground: Seismic Communication in Elephants. *Physiology* 22, pp. 287–294.

Parisi, L. (2013). *Contagious Architecture: Computation, Aesthetics, and Space.* Cambridge: MIT Press.

Pascoe, B. (2014). *Dark Emu: Black Seeds: Agriculture or Accident.* Broome: Magabala.

Penn, J., McNealy, J. & Running Wolf, M. (2020). *On Data Ecologies and Sacred Data | CogX 2020.* [online] Available at: https://youtu.be/gL-8TUoCqXE [Accessed 13 October 2020].

Plumb, L. (2016). Re-Orientations Rather Than Reframing: A Few Thoughts On Designing With The Digital. In: A. Murphie, ed., *The Go-To How-To Book of Anarchiving.* Montréal: SenseLab, pp. 69–71.

Rogers, Y. & Marshall, P. (2017). *Research in the Wild.* London: San Rafael, California: Morgan & Claypool.

Running Wolf, C. & Running Wolf, M. (2017). Reigniting the Many Voices of a Communal Bison Hunt in Virtual Reality. In: *5th International Conference on Language Documentation and Conservation (ICLDC).* University of Hawai'i at Mānoa [online] Available at: http://hdl.handle.net/10125/42023 [Accessed 13 October 2020].

Running Wolf, C. & Running Wolf, M. (2019). *Sacred Waveforms: An Indigenous Perspective on the Ethics of Collecting and Usage of Spiritual Data for Machine Learning.* [online] Available at: https://slideslive.com/38923838/invited-talk-track-3-sacred-waveforms-an-indigenous-perspective-on-the-ethics-of-collecting-and-usage-of-spiritual-data-for-machine-learning [Accessed 13 October 2020].

Scholz, T. & Schneider, N. (2017). *Ours to Hack and to Own: The Rise of Platform Cooperativism, A New Vision for the Future of Work.* New York: OR Books.

Serres, M. (2019). *Hominescence.* London: Bloomsbury.

Skinner, B. F. (1960). Pigeons in a Pelican. *American Psychologist* 15 (1), pp. 28–37.

Smith, O. B. (2010). The Social Self of Whitehead's Organic Philosophy. European *Journal of Pragmatism and American Philosophy* [online] II(1). Available at: https://journals.openedition.org/ejpap/935 [Accessed 15 October 2020].

Tallbear, K. (2019). Caretaking Relations, Not American Dreaming. *Kalfou: A Journal of Comparative and Relational Ethnic Studies* 6 (1), pp. 24–41.

Todes, D. (2014). *Ivan Pavlov: A Russian Life in Science.* Oxford: Oxford University Press.

Wakefield, S. (2020). *Anthropocene Back Loop: Experimentation in Unsafe Operating Space.* London: Open Humanities Press.

Watters, A. (forthcoming). *Teaching Machines.* Cambridge: MIT Press.

Whitehead, A. (1926). *Religion in the Making.* New York: Macmillan.

Whitehead, A. (1967). *Adventures in Ideas.* New York: Simon and Schuster.

Whitehead, A. (1968). *Modes of Thought.* New York: The Free Press.

Whitehead, A. (1978). *Process and Reality.* New York: The Free Press.

Whitehead, A. (2004). *The Concept of Nature.* New York: Prometheus Books.

Wiener, N. (1948). *Cybernetics: Or Control and Communication in the Animal and the Machine.* Cambridge: MIT Press.

Zwart, H. (2018). Conditioned Reflexes and the Symbolic Order: A Lacanian Assessment of Pavlov's Experimental Practice. *Vestigia: The Journal of the International Network of Psychotherapeutic Practice* 2 (1), pp. 58–96.

WHAT DO INTERFACES DO?

INESCAPABLE INTENSIFICATIONS

Drawings in the Air:
Digital Sexual Assault as an Event

JETTE KOFOED

INTRODUCTION: SINGULARITY AND EVENT[1]

In this chapter I examine how the spreading of images becomes an event of digital sexual assault. Such spreading involves user generated content which is circulated online (Jenkins et al. 2013); it implicates nudes, social media, fingers that press the 'share' button, decisions to forward images and much more. Yet what might resemble a 'oneness' transforms into prolonged assault and morphs into an affective event.

Based on Spinoza's definition of affect as a capacity to affect and be affected (Deleuze 2007), I investigate a case of digital sexual assault as a matter of such spreading. Through two different readings of empirical data I engage with questions of interfacially mediated affect as a chaotic event. I argue that digital sexual assault is loaded with affectivity and, at its core, that it holds the power to affect and leave traces well beyond what might look like an uncomplicated occasion.

In this chapter you will encounter, among others, a 14 year old, a lawyer, a diagram of how particular sexual images are spread, educational policies, an online campaign against digital sexual assault, and a group of young girls. These elements are all part of unpacking a specific case of digital sexual assault which originates in Denmark and which implicates more than 5000 spreadings, heavy national media dissemination, lawyers, more than 1000 criminal charges, and intense police investigations. This is not an instance of a physical sexual assault, but a case of how the spreading of sexually explicit images, circulated without consent, makes up a digital sexual assault. The case has been coined 'the Umbrella-case.'

The term 'umbrella' is chosen for a reason, as will be evident later, but the notion of a 'case' is misleading, since this term suggests a singularity and a delimited scope. Nothing could be more wrong. This case escapes being pinned down. It spills over and spreads further with each mention in the media. In this way, not only does the case spread but the difficulties involved in excavating and disentangling this 'case' analytically are obscured. This chapter is thus, to paraphrase Kathleen Stewart (2007), an attempt to "fashion some form of address that is adequate to their form" (4). Hence, the chapter presents findings that are entangled with methodology and ethics, in and through the many facets of the affective event called 'the Umbrella-case.' The case's multi-faceted nature is unpacked through two sets of data.

The chapter falls into six sections. First, I will briefly introduce the Umbrella-case. Second, I will map the theoretical and methodological landscape of the chapter. Third, I will elaborate on how ethics and matters of care are embedded in this specific study of digital sexual assault. In section four and five, the singurality as well as the scatteredness of the case will be unpacked by way of two entangled analyses. The composition of these readings is made up partly of a diagrammatic reading and partly of what I, inspired by Deleuze and Guattari, will call six n-1 dimensions. The diagrammatic reading will present an overview and a timeline of the spreadings of the recorded material, whereas the n-1 dimensions will dwell on minor aspects of what the spreadings also entail. The sixth and final section will show how the phenomenon of unconsented digital spreading of sexualized images is an event that exceeds what might at first resemble a demarcated 'case.'

THE UMBRELLA–CASE: WHOSE CASE?

The National Center for Missing & Exploited Children (NCMEC) is an American non-profit, reporting center for the prevention and recovery from child victimization.[2] In 2015, NCMEC received a report from Facebook revealing numerous requests, correspondences, and spreadings of a number of videos documenting a particular sexual encounter in Denmark. NCMEC subsequently collected correspondence related to the actual spreading of the video and forwarded the reports with IP-addresses to the Danish National Cyber Crime Center (NC3). Subsequently, the NC3 was responsible for investigations of non-consensual spreading

and in January 2018 decided to press criminal charges against more than 1000 young people. The indictment charged them with distributing child pornography, as the individuals depicted in the videos were below the age of 18. Since then, fines and suspended sentences have been passed and, at the time of writing, the Danish Supreme Court has upheld the outcome of trial. When the more than 1000 young people were initially charged in January 2018, the case was coined the 'Umbrella-case' due to a pattern that emerged in visual illustrations of the spreading (see Diagrams 1-6). In the spring of 2018, the case took center stage in Danish media.

A year after the criminal charges were initiated, I met with the lawyer who represented the girl who was digitally assaulted. We met upon my request as I had sought her help to disentangle the case beyond what was possible based on public media accounts. From the outset, we struggled with the ethics of our encounter: *Can* we talk about this? *How* can we talk about this without causing further injury to those involved? Is it better left unscrutinized? Does the mere act of writing about this case resemble the spreading itself? We were looking to move in ways which I later realized might be "walking as controlled falling" to use Brian Massumi's term: which describes how to move and move forward with/in constraints rather than attempting to avoid constraints all together (2015, 12). But back then, the lawyer summed up our concerns in one sentence: "Her story is not ours to tell."

Throughout this chapter, where needed, I refer to the victim of the digital assault as 'the girl.' This rather mundane way of referring to one of the victims is chosen to not draw attention to the girl. Scrutinizing the empirical data that I collected for this chapter allowed me to focus on the pattern of spreading and the interfacially afforded manifoldness of the event rather than the victims of the assault. This choice places 'the girl' next to the analysis in a position beyond access or knowledge. The reader must therefore tolerate spreading as the focus of analysis. This determined focus on the spreading of videos leaves 'the girl' absently present throughout the analysis. I do not speak of 'the girl,' but remind the reader that the victim/s are at the core of the *case*, yet analytically set them aside as the core of *analysis*.[3]

DRAWINGS IN THE AIR

In attempting to convey to the reader how the Umbrella-case is dispersed and yet forms a composite whole, I borrow a term from the Berlin-based Japanese artist Chiharu Shiota. Shiota talks of "drawings in the air" as a manner of describing her artwork "Me, Somewhere Else" (2018).[4] This artwork includes kilometers of red yarn woven into a vast net hanging from the ceiling, connected to a pair of (fragile plaster cast) feet on the floor. For the purpose of this chapter, the wording of 'drawings in the air' serves as a metaphor for *how* the spread of the videos is tangible, ubiquitous, yet barely visible and vast. The expression serves as an incitement for connections and as a manner of finding words for how a video produced without consent can be unconsensually shared, and, in spreading, compose such drawings in the air. This metaphor does not privilege the perspective of a particular subject, rather, it offers the sensation of the strings, connected, dispersed, impinged, finding a shape—and yet dissolving in the air as a manner of addressing the ineffable, yet composed matter of the case.

SPREADABILITY

There is something particular to the phenomenon of user-generated spreading of media content. Images, memes, tweets, cute babies, political debates, and other media content are put in motion in a manner different from broadcasting or publisher initiated distribution. In order to explore the particularity of how the videos of a sexual encounter spread, I follow Jenkins, Ford & Green's (2013) terminology of 'spreading.' Here the participatory aspect of spreading is stressed in reference to how user generated content is circulated online. Networked communities, they argue, play a key role in how media are spread. Spreadability thus "refers to the potential—both technical and cultural—for audiences to share content for their own purposes, sometimes with the permission of rights holders, sometimes against their wishes" (Jenkins et al. 2013, 3). Jenkins et al.'s concept of spreading stresses the 'doing' of a networked community, yet acknowledges how spreadability also refers to:

> the technical resources that make it easier to circulate some kinds of content than others, the economic structures that support or restrict circulation, the

attributes of a media text that might appeal to a community's motivation for sharing material, and the social networks that link people through the exchange of meaningful bytes (Jenkins et al. 2013, 4).

Accordingly, the concept of spreadability declines to treat the subject, the networked community, the wider political interests, technological affordances, and economics interests separately. For the purpose of this chapter, I follow this line of thinking to explore the core act of 'sharing' as a matter of spreading.

THE THEORETICAL AND METHODOLOGICAL LANDSCAPE

My effort here contributes to a substantial body of research within cyberbullying and digital sexual assault scholarship (Johansen et al. 2018; DeKeseredy & Schwartz 2016; McGlynn & Rackley 2017; Ringrose et al. 2013; Ringrose & Harvey 2015; Handyside & Ringrose 2017; Kofoed & Larsen 2016; Rasmussen & Søndergaard 2020; Maddocks 2018; Kofoed & Ringrose 2012; Kofoed & Stenner 2017; R. Sylwander & Gottzén 2020; Sylwander 2019; Mortensen 2020; Bjørnholt 2020; Kofoed & Staksrud 2019). From this vast body of literature, I especially draw on Mortensen's definition of digital sexual assault:

> Digital sharing of sexually explicit or sexualised images when the person in the image(s) is identifiable (potentially through added data) and has not consented to the distribution; and/or harassment, stalking, shaming and bullying of the victims (Mortensen, 2020).

Mortensen specifies how this definition does not include all cases of digital sexual assault and differs from broader definitions of image-based sexual abuse (McGlynn & Rackley 2017; Maddocks 2018) by including identifiability and harassment. Mortensen's definition is based on distinguishing between consent at the level of distribution, production, and sexualization which allows her to identify four categories of digital sexual assault. The Umbrella-case is an instance of what Mortensen refers to as "coerced images" (Mortensen 2020, 101). Starting from this definition of digital sexual assault combined with Jenkins et al.'s (2013) terminology of spreading allows me to highlight how this case involves non-consensual sexualization of a body in non-consensually produced

images that are also spread non-consensually. This is undertaken by a networked community within and through which the spreading moves beyond friendship-based networks.

While the non-consensual spreading of such non-consensual images is at the core of this digital assault, the very act of spreading images is also a mundane everyday media practice that is not always assaultive. I, and others, have argued elsewhere that spreading, tagging, sexting and image based communication are also wanted, desired practices in social media life and that they are important practices for gluing social relations together (Handyside & Ringrose 2017; Kofoed & Larsen 2016; Kofoed 2018; Rasmussen & Søndergaard 2020).

This chapter thus addresses a particular aspect of these practices, an interfacial event which can best be described as highly affective and which entangles cybercrime charges, legislative aspects, national and local media coverage, social media panic, and debates about the responsibilities of tech giants and education, all as a matter of digital sexual assault. Furthermore this chapter situates itself within post-qualitative methodologies, non-representational methodologies, and a feminist practice of care (St. Pierre & Jackson 2014; Haraway 2016; Puig de la Bellacasa 2017; MacLure 2013; Staunæs & Kofoed 2015; Lather 2007; Springgay & Truman 2018; Lather & St. Pierre 2013; St. Pierre 2017; Hollway 2006; MacLure 2020). St. Pierre argues for a post-qualitative inquiry that cannot be taught or learned since it "comes with no methodology at all, no preexisting rules, processes, methods, categories" (St. Pierre 2017, 687). Inquiry, and not methodology, she argues, involves thinking with concepts, not applying them. My effort here is to think with the concepts of event and affect as these are taken up within a Spinozan and Deleuze-Guattarian tradition, in relation to a matter of digital assault. At the same time, as mentioned previously, I shall not disregard methodology altogether but find a methodological language for how to "fashion some form of address that is adequate to [its] form" (Stewart 2007, 4). I take methodology to mean the effort to open the black box of research practices, not in terms of application of concepts, but in terms of how, theoretically informed, we engage in empirical analysis. In this case, in a high intensity zone of assault (Kofoed & Staunæs 2015). In empirical scrutiny, we need language and concepts to address the *how* of thinking with concepts. I follow Springgay and Truman

(2018) who argue "that it is the logic of procedure and extraction that needs undoing," not methods in themselves. Research methods, in their view, become "a practice of being inside a research event" (2).

I decided to define the Umbrella-case as a research event that lasted over the course of 2018-2020 and to move *with* the case, inspired by Isabelle Stengers' way of challenging some of "the methodological assumptions associated with the humanistic legacy of qualitative research practices" (as Sarah Whatmore succinctly puts it) (2003, 91). I studied the case on a number of occasions and through a number of activities: meetings, social and national media, offline seminars with NGOs, research conferences and (sometimes unsuccessful) interviews.

The temporality of this research event was layered and merged into a present, yet it also allowed for continuous rewindings in a way that can best be described as 'thick time' (Kofoed & Kousholt 2011; Kofoed 2013b; Kentridge 2017; Juelskjær & Rogowska-Stangret 2017). My approach to this entangled case works with Deleuze's conceptual definition of the event, asking, "What are the conditions that make an event possible?" His answer is: "Events are produced in a chaos, in a chaotic multiplicity, but only under the condition that a sort of screen intervenes" (2006 [1988], 86). The many occasions enfolded in the chaotic Umbrella-case make up the continuous becoming of such an event.

ETHICS

"Her story is not ours to tell." This timely reminder originates, as mentioned, from the girl's lawyer. The story of suffering a digital sexual assault is indeed the girl's to tell. Just as it is her decision when and how to tell it. Studying violence raises the question of how to explore cases of assault without adding further violence. When the violent act comprises non-consensual spreading of a sexualized video, the mere act of studying the case bears striking similarities to the spreading itself. Hence, this field of study raises fundamental ethico-political question: How to write about digital sexual assault without adding more violence, further spreading, and more grief to the matter?

In walking the tightrope of the restless ethical predicaments described above, a certain hesitancy was needed. In the context of ethics, I under-stand hesitancy to mean to pause in zones of high intensity in order to

find possible ways to move (Kofoed & Staunæs 2015). Hesitancy has been needed throughout the entire research process: how to ask the very first question, how to engage in a walking methodology of the case (Springgay & Truman 2018), how to consider the ethical implications of a Deleuze-Guattarian 'take' on event, not least in the very last parts of the process when writing up the analysis. Hesitancy was needed not just in fieldwork, but *throughout* the research process is a manner of finding an ethico-methodological space for examing the manyness of this event. Just as Karen Barad reminds us, in an interview with Juelskjær and Schwennesen: ethics is woven into every aspect of the research process (Juelskjær & Schwennesen 2012).

In this particular research, matters of ethics have seemed to be restless. In this chapter I study violence by way of an implicit solidarity with the pain suffered, without a presupposed pinning of pain to particular subjects. I seek to avoid scrutinizing positions of the victims as the *entry point* for the analysis by excavating fields of digital sexual assault through the spreading itself. To stay with the spreading itself is a manner of staying with the trouble (Haraway 2016), and not casting this kind of violence aside as un-researchable. This endeavour works as a *doing* and what I have come to think of as a situated alertness reliant upon the affordances of this particular event.

PART I: WHAT KIND OF DATA?

As mentioned above, NC3 became the core agent in collecting online data based on the NCMEC reports prior to the criminal charges in January 2018. As part of NC3's investigation, a video of the Umbrella-case spreading was composed with a time-line, shaped as a diagrammatic illustration (Thomsen 2018). According to Deleuze and Guattari, a diagram "retains the most deterritorialized content and the most deterritorialized expression, in order to conjugate them" (2002 [1987], 141). Such conjugation of content (in this case, the aggregated data of ip-addresses and spreadings), "does not function to represent, even something real, but rather constructs a real that is yet to come, a new type of reality" (142). This particular diagrammatic illustration was comprised of aggregated information about the number of shares. The material originally contained highly sensitive information such as e-mail addresses, ip-addresses, names, and inquiries of how to access more videos. These sensitive data-elements were

removed by NC3 and are thus inaccessible in this piece of data, instead another, hitherto invisible, "new type of reality" (142) becomes accessible through the diagram as MacLure also argues (MacLure 2020). As underlined by the NC3, the diagram emerging from the data was not scientifically based, composed as it was with the sole purpose of giving the police an overview of the spreading of non-consensually produced video material. Diagrams 1-6, below, are screenshots of this video diagram. The continuously moving time-line of the spreading is unfortunately lost when represented as freeze-frames: a stillness sticks to and alters the impression of perceptible transformation depicted in the video.

A DIAGRAM OF THE UMBRELLA–CASE

The diagram made from the Umbrella-case's data of spreading is made up of a moving graph. It is a system of coordinates which illustrates the development over a course of time, from July 2015 through October 2017. The diagram in total has a duration of 3 minutes and 15 seconds.

Each spreading of a video is marked by a dot. Lines indicate whether the video is forwarded or not. The diagram so to speak 'tunes into' the phenomenon by capturing its temporality, and in this sense this diagrammatization of the case is 'starting in the middle,' which is the well-known working 'take' of Deleuze's (2002 [1987]). The NC3 diagram conjugates the aggregated data while displaying the spreadings as an image of an Umbrella. Hence the NC3 video diagram labels the dispersed matter in the singular as *the* Umbrella case. Two years of spreadings are displayed into six diagrams below.

The NC3 registration of the spreading was restricted to activities on Messenger. At first the spreadings are scarce, then they quickly grow. The rarity and the kick-off from one initial spreading is depicted in Diagram 1. Each red dot indicates a person who has received the video. Within the next month 37 people have passed on the video, all originating from the first initial spreading. This is visible in Diagram 2 where the spreadings form the shape of an umbrella. By mid-September of 2015 the spreadings speed up and new points of origin occur. This is visible on Diagram 3 where new red dots spark new shapes of umbrellas. In Diagram 3 , a red line at the bottom becomes visible indicating ip-addresses that received the assaulting video but refrained from passing it on. Throughout September and into October of 2015 new shapes of umbrellas, i.e. new points of origin, occur.
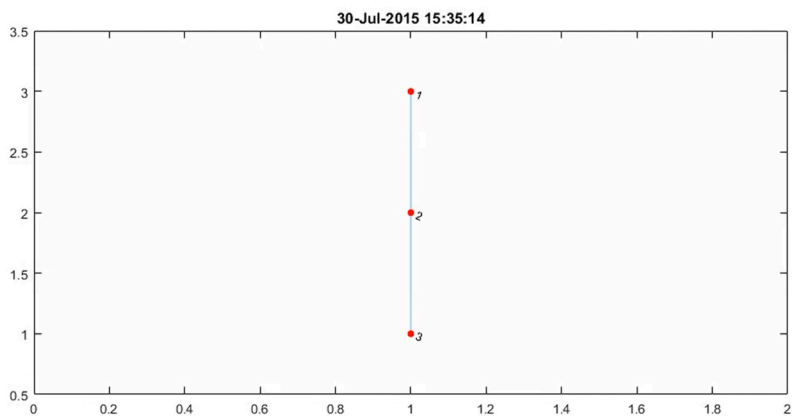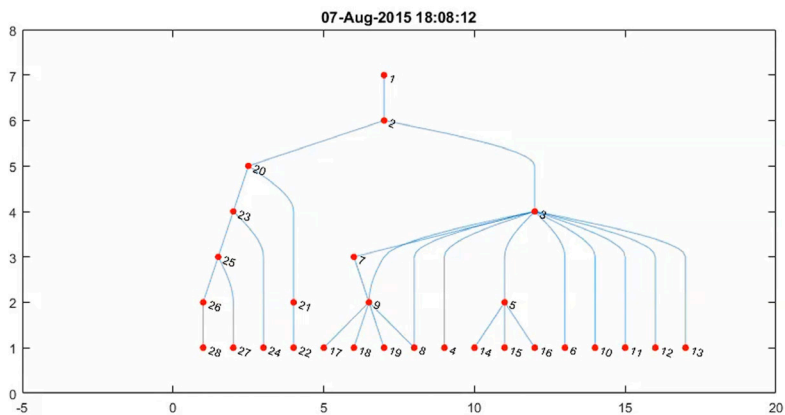
Diagram 1. Spreading, NC3, July 2015.
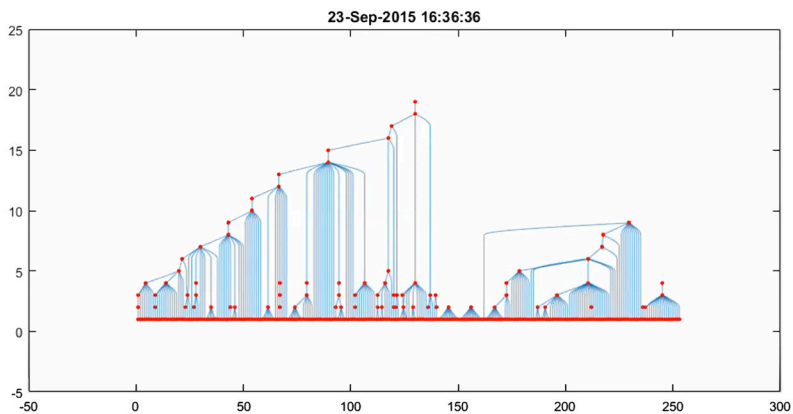

Diagram 2. Spreading, NC3, August 2015.

Diagram 3. Spreading, NC3, September 2015.

By December 2015 more than 2000 spreadings had taken place. This continued exponentially until it reached approximately 4000 spreadings by April 2016. As shown in Diagram 5, by May 2016 the pattern densified. The spreadings then continued at a slower pace until reaching a total of 5000 by August 2017. Another lull occurred around March–July 2017 followed by a new peak in August 2017. This peak could possibly be related to the release of a song composed of cuts from the video. When uploaded on streaming sites, the song spurred new requests for the assaulting video material. The NC3 registration of spreading stops by October 3, 2017.

Diagrams 4-6 show how the identifiable patterns of umbrellas intensify in density. They dissolve into blots and take a form resembling a city skyline in Diagram 5. At the same time red dots form a distinct red line at the bottom. Hence, the diagram shows a thickening line of those that decide to *not* pass on the video. At the same time the shape of the identifiable umbrellas dissolves into dots and blots at the point where more than 4000 spreadings have been reached.

Greg Seigworth's description of affective encounters as "points of affect" is helpful in thinking about the representation of spreadings as dots:

> As a kind of intensity or touch. To touch and/or be touched by something. A point of contact with another thing, another body. An encounter. An impingement. Point as the moment of relation of a body to other bodies, of things to other things (2019b, 1).

In the diagram such points are representing contact between ip-addresses. Seigworth argues that such pointed encounters, "are the kind of events that happen on all kinds of scales" (1). In this case, looking at affect as points directs our attention to the multiplicity *and* specificity of points indicating that a media exchange has taken place. Conceiving affective encounters as 'touches' and 'impingements' is thus literally depicted in the video's diagrammatisation of the spreadings. By showing the umbrella-like patterns increasing over time as impingement rather than as numbers, readers are allowed a mediated impression of the 'points of touch' by proxy. The registrations of points of spreading make it possible for the viewer to see and feel the assault of the spreading as the unending but apparently harmless 'shareability.' Each point thus marks a kind of negative affective encounter.
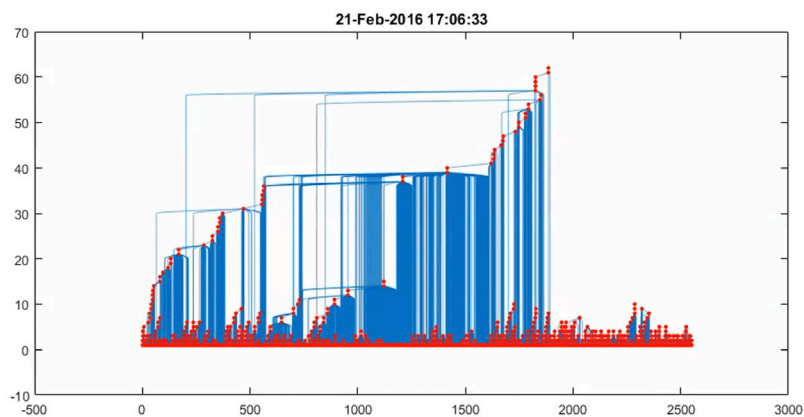
Diagram 4. Spreading, NC3, February 2016.
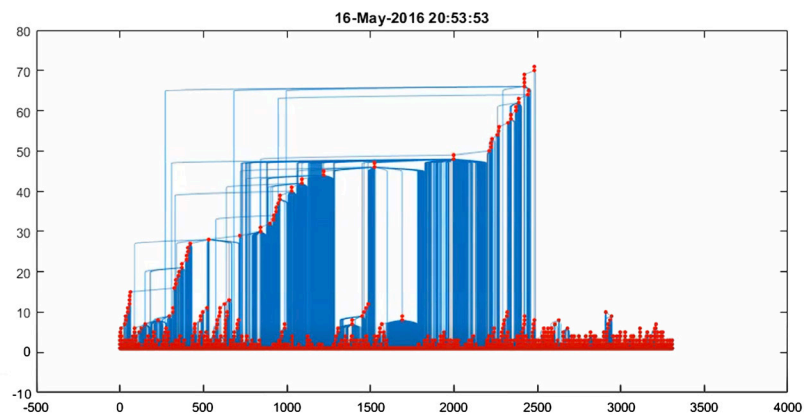
Diagram 5. Spreading, NC3, May 2016.
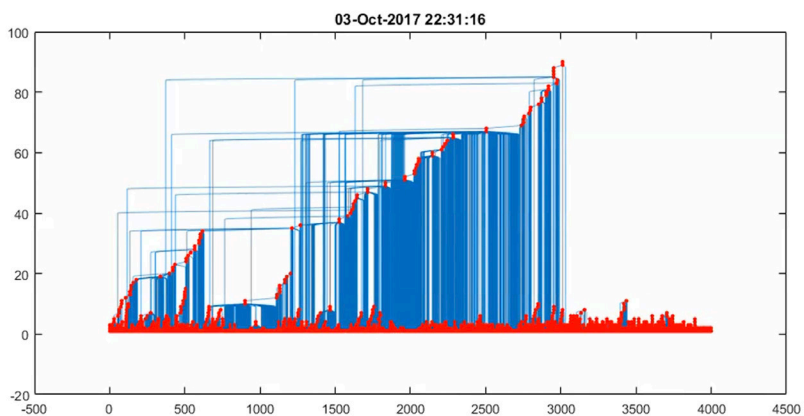
Diagram 6. Spreading, NC3, October 2017.

In the diagrammatic illustrations the points merge into lines and even into blots, and possibly into more. We might see in this 'more' what Seigworth refers to as a 'plane of immanence,' to help us address what might be at stake:

> Affect, in this third mode [immanence], is a measure of co-constitutive openness of bodies & worlds, to ongoing immersion in a plane of immanence. Deleuze says this is Spinoza's blessedness of monistic substance as God or Nature: the infinite connectedness of everything in unmediated relation […]The single plane that holds the other two registers in all their multiple pinprick impingings & continuous variations, stretched to their widest. But keep in mind too that this plane has been there all along—in its thrownness. It persists alongside every point, every line. It shifts and waves, circulates and murmurs as it is reconfigured, redrawn, as it shimmers in the motions and intensities of bodies that compose it (7).

The affectivity of the unfolding of the event, one could say, is pointed, lined and also possibly lived in what Seigworth addresses as "an ongoing immersion in a plane of immanence," and terms *thrownness* (6). Such mergings of points into lines, into planes, showcase how the spreadings are not happening in isolation, but the pattern of the spreadings themselves suggests that the points impinge on certain bodies. The merging of the points into blots can suggest that not only distinct individuals at the receiving end are affected by the spreadings, stretched to its widest. The affective event happens in its singularity, as well as in its abundant multiplicity, and in its thrownness.

PART II: A MATTER OF MOVING WITH

Whereas the diagram depicts the case from a distance, this part of the analysis is embedded in a methodology of the middle and n-1 dimensions (Kofoed, 2013a; Deleuze & Guattari, 2002 [1987]). Deleuze and Guattari refer to this as "the principal characteristics of a rhizome":

> It is not a multiple derived from the One, or to which One is added (n + 1). It is composed not of units but of dimensions, or rather directions in motion. It has neither beginning nor end, but always a middle (milieu) from which it grows and which it overspills. It constitutes linear multiplicities with n dimensions having neither subject nor object, which can be laid out on a plane of consistency, and from which the One is always subtracted (n–1) (2002 [1987], 21).

The multiple is thus not just a matter of adding, but also of subtracting, Deleuze and Guattari caution. So, in the remaining part of this chapter, I will make an effort to convey to the reader an impression of the excessive event of the Umbrella-case, heeding Deleuze and Guattari's advice:

> The multiple *must be made*, not by always adding a higher dimension, but rather in the simplest of ways, by dint of sobriety, with the number of dimensions one already has available—always n-1. [...] subtract the unique from the multiplicity to be constituted; write at n-1 dimensions (6, italics original).

The dimensions are disparate and do not compose a single whole, or deepen into the *most* important aspects of the case, nor do they work through meaning, but rather in a manner where the interfacial density of the case might play out, just as the diagrammatic reading showcased how points coalesce into blots and suggested how the spreading might (also) be comprehended.

The following n-1 dimensions are written in the present tense. Rather than merely transforming the experiences of fieldwork into texts by making an ethnographic presence explicit (Hastrup 1990; Baarts 2010), writing in the present tense is here a manner of conveying a coalescence of multiple temporalities referring to *aion* as the infinite time of the event, and *chronos* as the time-measure (Deleuze & Guattari 2002 [1987]). The past tense would be in danger of implying a pure, sequential series of incidents following one after the other. Throughout the dimensions, I also make use of the writer's 'I.' The 'I' is present not autoethnographically (Ellis 2003), but simply to remind the reader that these dimensions are far from exhaustive and that they are experienced in and through the researcher with all the coloring of impressions, perceptions, and situatedness this entails.

N–1

By January 2018, the more than 1000 preliminary criminal charges for spreading child pornography have been pressed and the news is all over the Danish media. I meet with a girl who narrates how she and her friends, a group of six or seven 16-17 year old girls who have met in the local park; some of them know of peers who have been summoned by the police, others fear they will be charged themselves. Some have seen or forwarded the video, others have not. They feel unsafe and upset. They try to map the damage in their close social circles and replay their own social

media exchanges. Rumors have it that, if you are charged with the offense of spreading child pornography, it will be noted in your criminal record. The criminal charges are an interruptive turmoil which spur the group of girls to debate whether it is fair to have your future work life damaged for passing on a video when you did not know that it was a criminal act. What is a criminal act? Does the video document an assault or consensual sex? Can you tell from the video? It seems that the event happens to these girls instantly. They do not act in unison even though it could be said that they are cued by the same occurrence.

During the very first days of knowing of the criminal charges, these girls are concerned. All there is, is not knowing exactly; they sense the interruption. Their inclination is to worry about individual future lives in a fast forward movement, while also rewinding into their own media practices and what they have shared with each other: Who did what, when? What happens next? Temporality is sped up, begins anew, while concern about who is to blame takes hold. Possible futures and the past seem to be reworked in the affective quality in that present instant of concern.

N–2

I visit friends for dinner. We find ourselves in a conversation about social media use and the 14-year-old at the table sighs heavily when narrating how they—at school—are told the same lesson over and over again: "Every time the teachers don't know what to do—they invite [a particular Children & Youth NGO] to teach us how *not* to share images on the internet. They lecture us how we need to think carefully before sharing images, and how we need to not be part of another Umbrella-case." The 14-year-old's annoyance is felt when he explains how they have had such similar sessions three or four times over the last couple of months: "Every time there is a vacant spot in the schedule, we are told the same lesson: Don't share! They truly believe that they are teaching us about online safety."

By January 2020, some five years after the initial spreading and two years after the first criminal charges, traces of affect—beyond what you might be tempted to isolate as an 'original' case—are affecting bodies of students, education, parents, and dinner conversations. The Umbrella-case has travelled into schools and has paved the way for repetitive

teachings, presenting itself as a vector in 8th grade teaching by means of affective amplification infused by educational eagerness to ensure lines of demarcation: *don't share!*

This dinner, this account of feeling that 'they-do-not-understand-what-youth-life-is-about' is not following *from* the charges or the spreading itself: it *is* the event of spreading. Educational worry is at stake in the next dimension as well.

N–3

A parent to a 6th grader talks about how a particular message is a call-out to parents on the school intranet to make sure to prevent their children from seeing harmful videos online. The media-coverage of the Umbrella-case coincides with the online circulation of another video recording, which also took media center stage and relates to spreadability. This other video documents the assassination of two young Scandinavian travellers in Morocco. The call-out from the school principal is a warning to parents to make sure their children do not see any of these videos. The message is an encouragement *not* to share and distribute further, but also to prevent young people from *seeing* the footage. Worry, concern and fear of not knowing how to protect children and young people—the Umbrella-case is felt beyond its immediacy of registered spreadings. It constitutes a collective memory and merges with other cases of spreading, leaving traces on school intranets and parents trying to make sense of such warnings.

N–4

In Febuary 2020, some five years after the initial spreading, the Danish Ministry of Equality, supported by the Ministry of Justice, launches an online campaign entitled "Digital assaults cost." The overall aim is stated as the need to educate young people about which online actions are illegal. The connection to the Umbrella-case is explicit. One of the YouTube videos features a member of a semi-known pop band. He testifies to having shared one of the Umbrella-case video and states:

> I received an offensive video on Messenger. I saw it, people were talking about it at the time 'oh, you should have a look!' So I forwarded it to others. We did not think about it at the time. But we should have. By one click you take part in ruining somebody else's life. I later received a letter from the police. I was

interrogated, I served as a witness and I slowly realized what I had taken part in creating. I was convicted. I feel bad—I am not that kind of person, but I have been part of it. That is the truth... I was part of it [my translation].

I receive the notification of the campaign release in my Facebook feed. The link is shared by a social worker engaged in police-social work with young people in suburban Denmark. The overall message of the YouTube videos of the government initiated youth-to-youth campaign is that non-consensual sharing is harmful, illegal, and has severe consequences for all parties involved. It particularly problematizes victim-blaming and slut-shaming with an overall message of the need for consent and taking responsibility for one's actions as the appropriate way to move forward. The case not only permeates education settings and imaginaries of assassinations, it also leaves traces in ministerial admonitions to youth. This is not surprising, but nonetheless indicative of how the spreadings potentiate beyond the 'case' and how the relational event "takes up the past differently" (Massumi 2015, 50). Some want to teach young people a lesson. For others the campaign brings renewed attention to the Umbrella-case. Scrolling through the comments to the campaign on YouTube I find questions such as: 'where do I find the video?' and 'what did he do?' The act of spreading is hence not limited to the videos being passed on originally; educational attention such as the ministerial campaign and media coverage also bring renewed attention.

N–5

When I met with the lawyer we agreed on not telling 'her story.' What we did discuss was the lawyer's story. Prior to this case, the lawyer had not been engaged in legal cases of digital assault. By the time of our meeting, she has spearheaded changes in legal practices, initiated modifications in how the police investigate cases of digital assault, lobbied politically and she still (at the time of writing) is a pronounced voice in media debates. She argues for the need to take societal responsibility for changing the phenomenon of digital assault as, in her words, "a Wild West without legislation." Throughout all of this, her own work life has changed profoundly. Having taking on these cases, she thinks of herself as protecting the vulnerabilities of those experiencing digital assaults. Changes *have* come about. Nonetheless, uncertainties, potential shaming,

and the urge to spur political and societal changes have spilled beyond the 'case' and into the lawyer's work- and family life. Even the lawyer feels unprotected. She is uncertain when and how the shielding of her clients will be torn away. If a shitstorm hits, will she be able to protect herself, her family and her clients—or not?

The uncertainty of the event is not limited to this case, nor to the criminal proceedings. The case has imprinted itself on the lawyer's life in ways that constitute pointed impingements (Seigworth 2019b) as well as thrownness as murmurs of unspeakable frailty in similar, yet different, microperceptions of how the event persists in relations of affect. The event lives in 6th floor offices as well.

N–6

As a hotspot for the changes the lawyer wishes to see, she has initiated the organization Digital Responsibility whose purpose is to "prevent and combat digital assault." "We unite in an effort to inform, educate, and activate all who get in touch with digital assaults. We are Digital Responsibility," it says on their website.[5] The organization works to spot new cases and new digital phenomena, to prevent further spreading and to find ways to prevent digital violence. Digital Responsibility hosts working groups and meetings, and celebrated its third anniversary in January 2020. The celebration was a networking event which consists of invited talks on research, counseling, tech, and legislation. Since its founding, the organization has become a high profile player among children and youth NGO's, researchers and activists in Denmark, sharing the explicit aim to legally recognize digital assault as a severe crime on a par with offline assault, and to combat digital assault. A strong story line of victimhood of digital assault as never-ending and inescapable once it has occurred is by now well-established.[6] Some three years after the charging of the more than 1000 young people, the Umbrella case is still mentioned as the case that inspired the founding of the organization (hence the coining of the term). It now entangles with other testimonies of digital sexual assaults in an affective charge of care and politicized awareness where snacks, wine, and affective networking *is* also the event.

WHAT COULD BE GOING WRONG?

"What could be going wrong with the treatment of an issue?" Maria Puig de la Bellacasa asks (2017, 47). The non-consensual spreading of videos has disrupted lives. This has been the vantage point of this chapter. The assault happened in a manner where interfacial affordances permitted an act of violence to twist and turn into a different, yet entangled, online assault where the act could not be forgotten, deleted or left in a private sphere. The subsequent criminal charges may have added a sense of justice for some while adding violence to others, and sparked potential criminalization of a mundane youth practice for yet others, while potentially also fueling further spreadings.

The lurking issue of 'going wrong' when scrutinizing this particular event centers around care in how to cover an event that is by no means a homogenous whole, and "not merely becom(e) 'spokespersons' of those who don't ask for it" (Puig de la Bellacasa 2017, 47). I have made not speaking for the girl my vantage point. The balancing act here is, as mentioned, a matter of "walking as controlled falling" (Massumi 2015, 12). This means *not* neglecting a current form of interfacially afforded violence, *not* pinning violation to certain bodies without their permission, *not* attuning to those seemingly at the core of the case, which resembles what Staunæs and Raffnsøe (2019) investigate as an ethics of cutting connections. This balancing act also means scrutinizing how spreading unconsented sexualized images becomes an interfacially afforded affective event *and* acknowledging that spreading and sexting are *also* mundane, desired, everyday social media practices.

Walking as controlled falling is thus, as Massumi (2015) says, dealing with such constraints of gravity and letting go of the need for equilibrium, in my case here in simultaneously *not* attuning to *and* embedding the case in its wider entanglements. Such letting go is most intensely felt in the crafting of the case in and through its eventfulness and how I have been drawn in to it. It can best be described as a restless ethics in the balancing act of attuning and not attuning in an effort to grasp what could be going wrong.

IN CONCLUSION, ACROSS DIAGRAMS AND DIMENSIONS

This chapter is therefore based on a walking that has assessed what kind of potential the acts of spreading tap into and how this charges what we might do next. The 'case' makes sense in the singular tense. Such "this-ness" (Seigworth 2019a, 1) is sedimented into both the offline occasion that happened, *and* is sedimented into an online prolonged assault and the "ongoing-ness" (1) of the same.

This is a finding of how digital sexual assault matters, but a finding which is also deeply entangled with matters of ethics and methodology. The above dimensions give texture to what the relational and affective event is *also* about, and what it will have become. Throughout this chapter I have invited the reader into this affective event via the relative ineffa-bility of how the 'case' is seemingly situated in a kind of such singularity. The sequential or umbrella-like nature of these spreadings is on the one hand quite tidy in its patterns and yet disorderly. It is singular, yet multi-ple; demarcated, yet morphing and spilling over. I have needed a meth-odology and ethics that would allow for walking with such morphings and spreadings out into diagrams and further dimensions.

The singularity of the case makes sense, yet transforms from an offline occasion via criminal charges and heavy media coverage into prolonged digital sexual assault and spreadability. Even though the n-1 dimensions may be vague and difficult to pin down, they serve as affective intimations of what an interfacially afforded affective event of digital sexual assault is. We can recognize the continuous ongoing-ness in a sort of rhizom-atic relay. In the above dimensions the group of girls, the lawyer, the pop band, the Minister of Equality, the 14-year-old are all affected and respond differently even though they can be perceived as "inhabitants of the same affective environment" (Massumi 2015, 57). An event, says Massumi, "cannot be fully predetermined. It will be as it happens" (12). The disparate spreadings and the dimensions are not only knotted together by interfa-cial technologies, the interfaces fashion the relationalities within what happens as part of the event. Hence, the ongoing-ness could not have happened without the entanglement of humans, policies, education, and technology. NC3 registrations of the spreadings focused on Messenger. However, many more platforms are involved and allow for more interfacial foldings to occur: The lawyer's efforts seek the removal of images from all social media and online platforms, the Ministry engages on YouTube, the

girls check their smartphones, the schools warn parents on the intranet. In this chaos some ended up being assaulted by data streams. This event not only happened, it could not have been predetermined.

Keeping in mind the metaphor of 'drawings in the air,' the identification of both the diagram and the less definable fluidity of n-1 dimensions might resemble drawings in the air which is a reminder of both the dispersion and the simultaneous composition of events taking place. Throughout this chapter, 'drawings in the air' has served as a reminder of how someone has been violated, although I have not asked for her story. The metaphor also works as a reminder of how the singularity of the case as well as the ambient manyness of the event's form should be embraced in order to encompass this interfacially afforded event, filled with affects beyond its own apparent umbrella-like composition.

NOTES

1. This chapter has benefitted profoundly from conversations with and readings by Malou Juelskjær, Ida Wentzel Winther, Nina Javette Koefoed, Signe Uldbjerg, Bodil Marie Stavning Thomsen, and Wendy Hollway.

2. National Center for Missing & Exploited Children (2021). https://www.missingkids. org/HOME [accessed 18 April 2020].

3. The girl has been invited to contribute to this chapter and, for good reasons, chose not to. Her lawyer has approved the chapter.

4. Chiharu Shiota's artwork *Me somewhere else* (2018). Available at https://www. chiharu-shiota.com/me-somewhere-else [Accessed 16 September 16 2020]; Video to Chiharu Shiota describing her art. Chiharu, S. (2018) Beyond Time. Available at: https://www.youtube.com/watch?v=L51F-TLl_Tk, [Accessed 26 May 2020].

5. Available at: https://digitaltansvar.dk/ [Accessed 18 March 2020.

6. For a problematization of this storyline, see ULDBJERG, S. 2020. Writing Victim-hood: A methodological manifesto for researching digital sexual assault *Kvinder, Køn & Forskning,* 2.

REFERENCES

Bjørnholt, M. (2020). Theorising Sexual Violence in Intimate Relations in Scandinavia. In: M. B. Heinskou, M.-L. Skilbrei & K. Stefansen, eds., *A Nordic Research Agenda on Rape and Sexual Violence,* 1, Oxfordshire: Routledge.

Baarts, C. (2010). Håndværket. Opbygning af viden. In: K. Hastrup, eds., *Ind i verden. En Grundbog I Antropologisk Metode.* København: Hans Reitzels Forlag.

Dekeseredy, W. S. & Schwartz, M. D. (2016). Thinking Sociologically About Image-Based Sexual Abuse: The Contribution of Male Peer Support Theory. *Sexualization, Media, & Society* 2 (4), pp. 1–8.

Deleuze, G. (1988/2006). *The Fold. Leibniz and the Baroque,* London & New York: Continuum.

Deleuze, G. (2007). *On Spinoza* [Online]. Available: https://deleuzelectures. blogspot.com/2007/02/on-spinoza.html [Accessed 01 May 2020].

Deleuze, G. & Guattari, F. (2002/1987). *A Thousand Plateaus: Capitalism and Schizophrenia,* London & New York: Continuum.

Ellis, C. (2003). *The Ethnographic I: A Methodological Novel About Autoethnography,* California: AltaMira Press.

Handyside, S. & Ringrose, J. (2017). Snapchat Memory and Youth Digital Sexual Cultures: Mediated Temporality, Duration, and Affect. *Journal of Gender Studies* 26 (3), pp. 347–360.

Haraway, D. (2016). *Staying with the Trouble: Making Kin in the Chthulucene.* Durham: Duke University Press.

Hastrup, K. (1990). The Ethnographic Present: A Reinvention. *Cultural Anthropology* 5(1), pp. 45–61.

Hollway, W. (2006). *The Capacity to Care: Gender and Ethical Subjectivity,* London: Routledge.

Jenkins, H., Ford, S. & Green, J. (2013). *Spreadable Media: Creating Value and Meaning in a Networked Culture,* New York: NYU Press.

Johansen, K. B. H., Pedersen, B. M. & Tjørnhøj-Thomsen, T. (2018). Visual Gossiping: Non-Consensual 'Nude' Sharing Among Young People in Denmark. *Culture, Health & Sexuality* 21 (9), pp. 1029-1044.

Juelskjær, M. & Rogowska-Stangret, M. (2017). A Pace of Our Own? Becoming Through Speeds and Slows: Investigating Living Through Temporal Ontologies of the University. *Feminist Encounters: A Journal of Critical Studies in Culture and Politics* 1 (1), pp. 1–11.

Juelskjær, M. & Schwennesen, N. (2012). Intra-active Entanglements: An Interview with Karen Barad. *Kvinder, køn og forskning* 1-2, pp. 10–24.

Kentridge, W. (2017). Thick Time. *Louisiana Revy.* Denmark: Louisiana Museum of Modern Art.

Kofoed, J. (2013a). Affektive Rytmer. Spektakularitet Og Ubestemmelighed I Digital Mobning. In: J. Kofoed & D. M. Søndergaard, eds., *Mobning gentænkt.* København: Hans Reitzels Forlag.

Kofoed, J. (2013b). Time to Think: Pace, Youth Life and Social Media. *NCRM Methodological Innovation Network: Child in Time. Animating Ideas of Development and Transition.* University of Sussex.

Kofoed, J. (2018). Temporal Ephemerality, Persistent Affectivity: Circulation of Intimacies on Snapchat. In: R. Andreassen, M. N. Petersen, K. Harrison & T. Raun, eds., *Mediated intimacies: Connectivities, Relationalities, and Proximities.* London: Routledge.

Kofoed, J. & Kousholt, D. (2011). Etiske fordringer og multiple temporaliteter. *Nordiske Udkast. Tidsskrift for kritisk samfundsforskning* 1/2, pp. 1–7.

Kofoed, J. & Larsen, M. C. (2016). A Snap of Intimacy: Photo-sharing Practices Among Young People on Social Media. *First Monday* 21 (n.p.).

Kofoed, J. & Ringrose, J. (2012). Travelling and Sticky Affects: Exploring Teens and Sexualized Cyberbullying Through a Butlerian-Deleuzian-Guattarian Lens. *Discourse: Studies in the Cultural Politics of Education* 33(1), pp. 5–20.

Kofoed, J. & Staksrud, E. (2019). 'We Always Torment Different People, so by Definition, We Are No Bullies': The Problem Of Definitions In Cyberbullying Research. *New Media & Society* 21(4), pp. 1006–1020.

Kofoed, J. & Staunæs, D. (2015). Hesitancy as Ethics. *Reconceptualizing Educational Research Methodology,* 6(2), n.p.

Kofoed, J. & Stenner, P. (2017). Suspended Liminality: Vacillating Affects in Cyberbullying/Research. *Theory & Psychology* 27(2), pp. 167-182.

Lather, P. (2007). *Getting Lost: Feminist Efforts toward a Double(d) Science,* Albany: State University of New York Press.

Lather, P. & St. Pierre, E. A. (2013). Post-Qualitative Research. *International Journal of Qualitative Studies in Education* 26(6), pp. 629–633.

Maclure, M. (2013). Classification or Wonder? Coding as an Analytic Practice in Qualitative Research. In: R. Coleman & J. Ringrose, eds., *Deleuze and Research Methodologies.* Edinburg: Edinburgh University Press.

Maclure, M. (2020). Inquiry as Divination. *Qualitative Inquiry* 27 (5), pp. 502–511.

MaddockS, S. (2018). From Non-Consensual Pornography to Image-based Sexual Abuse: Charting the Course of a Problem with Many Names. *Australian Feminist Studies* 33(97), pp. 345–361.

Massumi, B. (2015). *Politics of Affect,* Cambridge: Polity Press.

McGlynn, C. & Rackley, E. (2017). Image-Based Sexual Abuse. *Oxford Journal of Legal Studies* 37(3), pp. 534–561.

Mortensen, S. U. (2020). Defying Shame. *MedieKultur: Journal of Media and Communication Research* 36(67), pp. 100–120.

Puig De La Bellacasa, M. (2017). *Matters of Care: Speculative Ethics in More Than Human Worlds,* Minneapolis: University of Minnesota Press.

Rasmussen, P. & Søndergaard, D. M. (2020). Traveling Imagery. *MedieKultur: Journal of Media and Communication Research* 36 (67), pp. 076–099.

Ringrose, J. & Harvey, L. (2015). Boobs, Back-Off, Six Packs and Bits: Mediated Body Parts, Gendered Reward, and Sexual Shame In Teens' Sexting Images. *Continuum* 29(2), pp. 205–217.

Ringrose, J., Harvey, L., Gill, R. & Livingstone, S. (2013). Teen Girls, Sexual Double Standards and 'Sexting': Gendered Value in Digital Image Exchange. *Feminist theory* 14(3), pp. 305–323.

Seigworth, G. J. (2019a). Element or Thresholds for Affect Study. Paper presented at AIE seminar, Copenhagen.

Seigworth, G. J. (2019b). Point, Line, And Plane. *Affect, Interface, Event.* Copenhagen: IT University.

Springgay, S. & Truman, S. E. (2018). On the Need for Methods Beyond Proceduralism: Speculative Middles, (In)Tensions, and Response-Ability in Research. *Qualitative Inquiry* 24(3), pp. 203–214.

Springgay, S., & Truman, S. E. (2018). *Walking Methodologies in a More-than-Human World: WalkingLab*. London & New York: Routledge.

St. Pierre, E. A. (2017). Haecceity: Laying out a Plane for Post Qualitative Inquiry. *Qualitative Inquiry* 23(9), pp. 686–698.

St. Pierre, E. A. & Jackson, A. Y. (2014). Qualitative Data Analysis After Coding. *Qualitative Inquiry* 20(6), pp. 715–719.

Staunæs, D. & Kofoed, J. (2015). Producing Curious Affects: Visual Methodology as an Affecting and Conflictual Wunderkammer. *International Journal of Qualitative Studies in Education,* 28(10), pp. 1229–1248.

Staunæs, D. & Raffnsøe, S. (2019). Affective Pedagogies, Equine-assisted Experiments and Posthuman Leadership. *Body & Society* 25(1), pp. 57–89.

Stewart, K. (2007). *Ordinary Affects*, Durham: Duke University Press.

Sylwander, K. R., & Gottzén, L. (2020). Whore! Affect, Sexualized Aggression and Resistance in Young Social Media Users' Interaction. *Sexualities, 23*(5-6), pp. 971–986.

Sylwander, K. R. (2019). Affective Atmospheres of Sexualized Hate Among Youth Online: A Contribution to Bullying and Cyberbullying Research on Social Atmosphere. *International Journal of Bullying Prevention* 1, pp. 269–284.

Thomsen, B. M. S. (2018). *Lars von Trier's Renewal of Film 1984-2014: Signal, Pixel, Diagram,* Aarhus: Aarhus University Press.

Uldbjerg, S. (2020). Writing Victimhood: A Methodological Manifesto for Researching Digital Sexual Assault *Kvinder, Køn & Forskning* 29, pp. 27-39.

Whatmore, S. (2003). Generating Materials. In: M. Pryke, G. Rose & S. Whatmore, eds., *Using Social Theory: Thinking through Research,* London: Sage Publications.

The Affective Politics of Interfacial News: Danish News Media's Coverage of #MeToo on Facebook

CAMILLA MØHRING REESTORFF

INTRODUCTION[1]

The #MeToo movement was iniated by civil rights activist Tarana Burke in 2006 when she began using the hashtag to raise awareness about sexual assault and harassment. Yet, the hashtag and the movement did not go viral until 2017 when actress Allyssa Milano tweeted: "Suggested by a friend: 'If all the women who have been sexually harassed or assaulted wrote "me too," as a status, we might give people a sense of the magnitude of the problem'" (Milano 2017). The hashtag spread rapidly[2] and covered intensely by mainstream news media. In Denmark alone 3,184 articles about MeToo occurred in nationwide newspapers in the movement's first two years (October 2017−October 2019). This chapter conducts a categorical mapping and study of the coverage of #MeToo on Facebook by the nine largest Danish news media outlets#MeToo. Thus, the object of the study is not #MeToo as a social movement, but the way in which news about #MeToo is communicated, circulated, and negotiated by news media and news consumers on social media.

When news media share their articles and write Facebook posts about #MeToo, they negotiate the event #MeToo. Brian Massumi associates the event with intensity and suggests that it constitutes "a state of suspense, potentially of disruption. It is like a temporal sink, a hole in time, as we conceive of it and narrativize it" (Massumi 2002, 26). The event, #MeToo, ruptures the lines of continuity and the institutionalised order through which sexual assault and harassment is usually governed. In this regard #MeToo exhibits the " absurdity of significations" and it is "never present, but always already in the past and yet to come" (Deleuze 1994, 136). However, #MeToo is not only qualifiable as an event; it is also negotiated in a number of specific occurrences. One of these occurrences is the media coverage of #MeToo on Facebook in Denmark, studied in this chapter. By focusing on this occurrence it is not only possible to understand how news media attempt to narrativize and govern the event, but also how news is transformed when communicated on Facebook. In this chapter it is, thus, studied how news and the relationship between news and news consumers are transformed and manifested in what I will refer to as an affective politics of interfacial news.

In order to understand how this transformation comes about and how it impacts the news coverage of #MeToo, I first conduct a categorical mapping of an archive of Facebook posts about #MeToo in news media. Then, this I proceed to consider how news, when shared on Facebook, is impacted by both ordinary affects and a surveillance capitalist logic of accumulation. Third, I study news consumers' Facebook comments and suggest that the angry refrains that these comments exhibit, circulate and intensify in-between news media, social media, and news consumers. Finally, I argue that while transformations of news to some extent can be explained by the affordances of social media and the impact of surveillance capitalism, this does not fully explain the predominantly negatively framed articles and Facebook posts about #MeToo. Rather, these suggest an affective politics of interfacial news that pertains to a specific politics concerning sexual harassment and abuse; a policy that foregrounds the emotionality of news consumers, intensifies angry refrains directed towards #MeToo, and has consequences for the victims of sexual assault and harassment's ability to access the public debate.

METHOD AND INITIAL RESULTS

In this chapter I map and investigate news about #MeToo shared on Facebook by the nine major Danish news media (the two public service channels: *DR, TV2,* and the seven newspapers: *Politiken, Berlingske Tidende, Information, Jyllands-Posten, Kristelig Dagblad, Ekstrabladet,* and *B.T.*) in the the coverage of the movement's first year (October 1, 2017 to November 1, 2018). The focus on news media's communication on Facebook was chosen, because Facebook in Denmark, is the most frequently used social media site both amongst the population, politicians, and news media (*Slots og Kulturstyrelsen* 2019).

Each Facebook-post (FB-post) included in the study contains the hashtag #MeToo. Had more than one keyword been included in the search then there would, most likely, have been more articles related to sexual assaults and harassment. Yet, by limiting the search to one keyword it was possible to study the ways in which sexual harassment and assault was covered, not in general terms, but specifically in relation to the #MeToo movement.

In order to study the coverage of the #MeToo movement, the methodology of categorical mapping (Fritch, Kofoed & Reestorff 2020) was applied. Categorical mapping is inspired by Adele Clarke's methodology of mapping and her work on situational analysis (Clarke 2005). However, in this study the focus is not on situational maps but on laying out visually what is in the archive by categorizing the ways in which #MeToo is being addressed (Fritsch, Kofoed & Reestorff 2020). In this regard, categorical mapping approaches an archive (Rasmussen 2020)—in this case FB-posts about #MeToo—and reorganizes it according to main categories, thus rendering it possible to grasp what is already in the archive. For instance, by mapping positive and negative attitudes towards #MeToo the complexity of the reception becomes visible and the otherwise intangible #MeToo-stream becomes real.

In the period of time studied, 371 of the news media's FB-posts were tagged with #MeToo on Facebook. By further mapping these it becomes apparent that 138 FB-posts concern the media and entertainment industry (e.g. #metoo, #MeToo in Hollywood), 74 are opinion articles, 104 present a negative framing, and 66 a positive framing of #MeToo. In the following table the FB-posts and the mapping are outlined.

Figure 1. Categorical mapping of the 371 Facebook-posts tagged with #MeToo

NEWS MEDIA	ABOUT #METOO	#METOO IN MEDIA/ ENTERTAINMENT INDUSTRY	POSITIVE FRAMING	NEGATIVE FRAMING	SHARING OPINION PIECES
B.T.	24	13	2	9	
Berlingske Tidende	65	20	9	23	16
Dagbladet Information	63	12	17	14	13
Dr.dk & DR Nyheder	48	24	5	13	
Ekstrabladet	11	6		5	
Jyllands-Posten	44	18	5	16	10
Kristelig Dagblad	9	2	1	2	4
Politiken	70	17	24	15	31
TV2 & TV2 News	37	26	3	7	

In this context positively and negatively framed FB-posts refer to updates and articles in which the journalist, the news media, or the opinion writer reveal an explicit opinion on #MeToo, or in which the post and the article are exclusively framed around a person that holds a positive or negative attitude towards #MeToo. An understanding of framing is useful in order to highlight how news, "not only report[s] about reality but contains a number of structural choices that ascribe meaning to events and reflects different players interests" (Hjarvard 2015). This suggests that by communicating, news frames will be selected and thus some elements will be foregrounded and others left out. Furthermore, frames often both define a problem and suggests a moral interpretation of the cause of the problem (Entman 1993). Such frames are, for instance, evident when *Jyllands-Posten* posts the article, "Comment: Perhaps it is about time that the #MeToo movement lie down to die" (Jyllands-Posten 2018). Then the comments on the article in their accompanying Facebook post by quoting a historian, Henrik Jensen, saying, "'#MeToo appears to have reached a point where the movement radicalizes to an unfolded gender war or lie down to die"(Jyllands-Posten 2018). They then invite response by asking "What do you think—is it time to bury the metoo-movement?" In mapping a FB-post such as this, it is categorized as an example of a negative framing of #MeToo. This is because the headline and the accompa-

nying Facebook post mention 'radicalized gender-war' and suggest three times that #MeToo ought to die. Furthermore, the article and the update are exclusively framed around a person who is highly critical of #MeToo. By suggesting FB-posts can be mapped according to their framing of news stories it is, thus, acknowledging that to tell and report a story is never completely neutral but requires a continuous evaluation of which stories and whose voices are attributed the dominant position (Wänggren 2016). Accordingly, categorical mapping can contribute to identifying patterns in the archive, e.g., which voices are prioritized and attributed the dominant position. Nevertheless, a further analysis is required to understand why these patterns emerge and what their consequences might be.

At least four analytical points can be drawn from the categorical mapping. First, in the 371 FB-posts only two Danish men are named; these two are Peter Aalbæk Jensen and Lars von Trier. They are both from Zentropa Film and particularly Aalbæk Jensen's problematic behavior toward interns, plus Lars von Triers controversies with Björk have been public knowledge for at least ten years—thus prior to #MeToo[3]. Despite the fact that only these two men are named in the Facebook posts and articles, concerns about the harm #MeToo might cause men is repeatedly emphasized. These potential problems are repeatedly "premediated" (Grusin 2010). It is, for instance, often raised as a concern that innocent men risk being named and shamed. An example of this kind, of premediation, occurred when newspaper *Jyllands-Posten* posted an editorial with the headline "JP believes: The #MeToo movement will end in #youtoo and free access to naming and shaming" (Jyllands-Posten 2017). The headline was accompanied by the post: "There is no doubt that #MeToo has provided the silent with a voice and that there is something worth looking at. But the movement can get out of hand and bring innocents down" (Jyllands-Posten 2017). However, in a Danish context it is crucial to keep in mind that accounts of sexual assault and harassment rarely name and shame the alleged assailants.

Second, the categorical mapping also reveals that #MeToo is often covered as Hollywood and gossip journalism, i.e., the kind of "personality journalism" typified by the concentration on the private life of individuals, specifically in terms of scandal and entertainment (Petersen 2011). Thus, when 138 Facebook posts focus on the media and entertainment industry—for instance in Facebook posts about allegations against Kevin Spacey or about Danish comedians saying #hetoo—the coverage utilizes a

strong tradition, from personality journalism namely, to combine celebrity and human-interests stories. This kind of personality journalism is not only posted by the tabloids. *Politiken*, for instance, often emphasizes that they are printed in broadsheet and that this, "marks that we are something special. The differentiation argument is really something, which has value to us" (Madsen 2008, n.p.).[4] Yet, while they might be printed in a broadsheet, *Politiken's* FB-posts also draws on the logics of personality journalism. In a FB-post for instance they share the article, "#MeToo-men are making a comeback: Are you ready to forgive Louis C.K., Kevin Spacey, and James Franko?" (Politiken 2018).

Third, the point rendered evident by the categorical mapping is that nearly 20% of the Facebook posts link to opinion pieces about #MeToo. In line with the focus on personality journalism, the opinion pieces suggest that #MeToo is something everybody is entitled to have an opinion about, and not as something that necessarily demands in-depth journalism or political attention and action. Personality and opinion journalism is in itself not problematic. On the contrary, it is "a lucrative industry in its own right" and "mass-mediated gossip has helped to shape and reflect personal, group, and national identity and reinforce and challenge social norms and ideals" (Feeley 2012, 475). In this regard, gossip and opinion journalism offers insight into contemporary attitudes and debates and, thus, also into the values that are negotiated in relation to movements such as #MeToo. Yet, at the same time, the emphasis on gossip and opinion journalism is problematic because it rarely concerns the fundamental challenges raised by #MeToo, and because the articles that do in fact discuss sexual assaults and #MeToo as a challenge, tend to get drowned out in the large amount of gossip and opinion journalism.

Finally, this leads to the categorical mapping's fourth point, namely that seven out of the nine media outlets have more than twice as many negatively framed FB-posts about #MeToo than positively framed posts. Thus, there is a significant negative distortion of the coverage of #MeToo on Facebook. The negative distortion correlates with the voices that are attributed the dominant position in the FB-posts. In this regard it is interesting that there is a tendency to name male journalists, opinion writers, and scholars in the posts. For instance, *Politiken* writes, "the master thinker Fukuyama," and *Berlingske Tidende* mentions the names of six of their opinion writes in their FB-posts and only one of whom is female.[5] Furthermore, there is a tendency to promote women who are critical

of #MeToo in the FB-posts. *Politiken*, for instance, has seven FB-posts centered around Marianne Stidsen, associate professor at the University of Copenhagen, who amongst other things claims that the #MeToo movement is a "feminist, left-populist totalitarianism comparable to the wildfires that have been spreading across the country all summer" (Stidsen in Politiken 2018c). *BT* quotes former porn star Sussi la Cour for questioning the #MeToo movement and asking: "Where are the womens' self-respect in regards to saying no?" (la Cour in *BT* 2018). This suggests that not only is the framing of #MeToo predominantly negative in the FB-posts, #MeToo is also positioned as a "form of problematic 'willful-ness'" (Mendes, Ringrose, & Keller 2019, 25). On the one hand women lack 'self respect' if they do not speak out, but on the other hand if they do speak out they are aligned with, for instance, 'totalitarianism' (in FB-posts by *Politiken*) and 'gestapo' and 'reactionary witchhunt' (in FB-posts by *Berlingske Tidende*). This renders it evident that it is necessary to study the ways in which news and the relationship between news media and news consumers are transformed on social media.

THE AFFECTIVE POLITICS OF ORDINARY AFFECTS

In 2017 the report, "The Media's Development in Denmark" (*Slots og Kulturstyrelsen* 2017) suggested that the Danish media industry, since the turn of the century, has become fundamentally affected by and dependent on companies such as Facebook, Google, Netflix, and Apple, and that these companies increasingly dictate both the technological infrastructure, the commercial standards, and the market conditions in which Danish media must navigate. These news infrastructures also contribute to a transformation of news and of the relationship between news media and news consumers. For instance, news is increasingly—especially by the younger generation—accessed via social media (*Danmarks Statistik* 2019). This has created a particular type of "social news" (Hermida 2012), which entails that news consumers access news through their social media feeds and via friends' and family's likes and shares. Social news relies on the altered infrastructures of news, and they broaden the field of journalism by including a wide range of both professional and citizen journalism, and by broadening the understanding of what constitute news (Hermida 2012). However, social news does not imply that professional news media

has lost importance. On the contrary, news shared on social media are often produced by professional media and shared either by themselves or their followers.

Social news alters the affective politics of news. As I have argued elsewhere (Reestorff 2017), affective politics is a political practice that is played out by different political participants within a mediatized political arena. By drawing on symbolic media representations as well as affective repetitions and intersections in the national symbolic, affective politics seeks to govern the relationship between the individual life of human beings and different forms of collective communities (Reestorff 2017, 18). By considering news as partaking in such affective politics, I understand journalism as relying upon both strategic rituals of objectivity and emotionality (Wahl-Jorgensen 2019). These rituals, I argue, contribute to creating relations between news media, their followers, and different kinds of collective communities. In this regard, what I will term the affective politics of news, relies upon news medias' ability to allow their followers to become "whole by being reconstituted as a *collective* subject or citizen" (Berlant 1991, 24, original emphasis).

Furthermore, the affective politics of news is altered when news is communicated on social media. One of the reasons why this is the case is that news on social media is shaped by the "ordinary affects" of everydayness and thus by a type of affect that is registered in its particularities, while simultaneously connecting people, creating common experiences, and thus shaping public feeling (Stewart 2017). When you, for instance, access news via a friend on Facebook you might do so because you share values with the person who shares the news. This recommendation logic alters the affective politics of news, simply because news becomes legitimized, not only by professional news media, but by also by the friends who share it.

The alteration of the affective politics of news does, however, not only pertain to news media's utilization of Facebook as an infrastructure for communication, but also to the ways in which specific modes of "storytelling structures of feelings" (Papacharissi 2016) are applied. Thus, when news media renders use of personality journalism or, for instance, includes celebrity bloggers and commentators, they (potentially) activate storytell-

ing structures of feeling because they tap into ordinary affects and provide the illusion that news is written or recommended by someone you know (or think you know).

THE AFFECTIVE POLITICS OF INTERFACIAL NEWS

As mentioned above journalism has, at least in a Danish context, been altered by companies such as Facebook, Google, Netflix, and Apple, and the media infrastructures that they provide. This entails a challenge to the fundamental business model of journalism because it renders "what is good for the audience—more news from more sources in more ways" at odds with "the financial health of the news industry" (Rasmus Kleis Nielsen in Witschghe et al. 2016, 6). This challenge must of course be taken into account when considering the ways in which news about #MeToo is communicated on social media.

The challenges faced by news media entails that they are reinventing themselves, to attract an audience that—due to the new social media infrastructures—can access news both off- and online and via multiple interfaces and news outlets (Sheller 2015). In this media environment a range of interfaces provide a relation between news consumers and the information they seek, from print media to news apps, blogs, and podcasts. These interfaces are not just specific technologies, they are symbolic systems that "filter information and actively reshape communication relationships, and also reshape the space in which social interaction takes place" (de Souza e Silva & Frith 2012, 4). Thus, when news is shared and spread through multiple interfaces it reshapes the spaces and ways in which interaction about #MeToo takes place.

The affective politics of interfacial news are, as mentioned above, altered by social media and the ordinary affects associated with accessing news via the feeds of family and friends. Yet, when news media post updates on social media they also appear to attempt to cue heightened emotionality. Consider for instance the article, "Bertel Haarder famous Danish politician interferes in the #metoo-debate as an old 68er," accompanied by the update: "It is too bad if we end up being as sex-fixated and squeamish about bodies as some Muslim environments, for instance, are" (Jyllands-Posten 2017b). The phrasings "sex-fixated," "squeamish about bodies," and "some Muslim environments" suggest that there is a 'we' among the readers who do not want to be as sex-fixated and squeamish as

'they' are. In the archive studied, news media often either use a provocative quote from a source, make an emotional framing of the story, and/or ask their followers open-ended questions. This indicates that news about #MeToo, when communicated on social media interfaces, renders use of a "storytelling structures of feelings") that invoke both ordinary affects and heightened intensity.

The affective politics of interfacial news certainly concerns intensity. In fact, social media analytics "measure 'social velocity' to understand the intensity of news sharing (and other social signals) as a measure of information relevance" (Martin & Dwyer 2019, 32). Yet, the desire for intensity does not necessitate a specific framing of news. Kasper Welbers and Michaël Opgenhaffen (2018) have argued that subjectivity is a core element of news on social media and that news media simply try to adapt to the social media platforms on which news is shared. This includes, "the subjective elements that characterize communication on social network sites, in order to fit in and improve the reach and virality of their news content" (Welbers & Opgenhaffen 2018, 49). Furthermore, in the context of news on Twitter, emotionally charged tweets, "tend to be retweeted more often and more quickly compared to neutral ones" (Stieglitz & Dang-XSuan 2013, 217).

However, the fact that subjectivity is a core element of news on social media does not necessarily explain the predominance of FB-posts that frame #MeToo in a negative manner. Further, if the aim is to increase engagement and intensity the fact that the majority of posts hold a negative attitude towards #MeToo is not necessarily beneficial. On the one hand it can be argued that, "if you want to be cited: Sweet talk your friends or serve bad news to the public!" (Hansen et al 2011, 34). Yet, on the other hand Ahmed Al-Rawi suggests that social media news readers prefer to read and share positive news, and that "social significance and unexpectedness in news stories are the most appealing viral news elements" (Al-Rawi 2017, 63). Likewise, Welbers & Opgenhaffen (2018) found that news media's "status messages contain more positive language compared to headlines and leads" and argue that this confirms "a shift towards a more subjective and positive style of communication of journalists on social media" (57-58). This entails that the transformation of affective politics of the news—in relation to the coverage of #MeToo—not only pertains to the interfacial news and the affective "platform vernaculars"

(Gibbs et al. 2015). Rather, certain topics—including #MeToo—break with the tendency towards a positive style of news communication on social media.

Brian Massumi argues that affect concerns microshocks, "for example a change in focus, or a rustle at the periphery of vision that draws the gaze toward it. In every shift of attention, there is an interruption, a momentary cut in the mode of onward deployment of life" (Massumi 2009, 4). This concept of affect may help us understand the dynamics of the #MeToo-news. If the affective 'platform vernaculars' (Gibbs et al. 2015) affords a positive style of news communication, then the predominant negative framing of FB-posts about #MeToo suggest a microshock, an interruption of the otherwise positive style of communication. This interruption cannot simply be explained by interfacial news, but must pertain to an affective politics that relates to the topic covered, namely sexual harassment and abuse.

NEWSWORTHY SURVEILLANCE CAPITALISM

The coverage of #MeToo on Facebook is shaped by the affective politics of interfacial news as well as an affective politics that pertains to a specific politics concerning sexual harassment and abuse. Furthermore, the coverage of #MeToo is shaped by the logics of communicative capitalism, i.e., "the form of late capitalism in which values heralded as central to democracy materialize in networked communications technologies" (Dean 2014, 4). According to Jodi Dean, contemporary protest movements are the first phase of the revolt of the knowledge class (Dean 2014, 1). This might also be the case in relation to #MeToo. Nevertheless, the attempt to gain visibility through the number of shared tweets and posts borrows from the logics of communicative capitalism. #MeToo's idea is simply that numbers—retweets, shares, and posts that can be counted—can convince people that sexual harassment and assault exist and need to be dealt with. This mimics communicative capitalism because it indicates that it does not matter what kind of stories people tell—it matters that they can be counted.

Communicative capitalism is crucial not only to understand how #MeToo is spread, but also how news media utilize social media in the coverage of #MeToo. This is not only because communicative capitalism, as shown above, alters the ways in which news media communicate, but

also because communicative capitalism changes to whom news communicates with and why. News obviously communicates to news consumers, but they also communicate, for instance, to their advertisers. This double communication is, for instance, evident in the questions news media ask their followers. The posts are often followed by the questions, "do you agree?" and "what do you think?" A number of Facebook posts position a person as someone you are invited to either agree or disagree with. These following two examples are from the tabloid *B.T.* and the public service media *DR*:

> "Kasper doesn't get the #MeToo-movement. 'Idiots like me do not get smarter.'"
> Do you agree with Kasper?
> ❤️ = yes
> 😮 = no (B.T. 2017)

> "Pastor Sørine Gotfredsen believes that #MeToo is highly problematic and creates a tiresome victim mentality. Do you agree?" (DR 2017).

The purpose of asking these kinds of open-ended questions, in which your option is either to agree or disagree, and in which your position can simply be marked by an emoji, is to gain likes, shares, and comments that can be measured and counted. In this regard it does not matter what the users write in the comment field; it only matters to the news media that their content is shared on social media, that readers like, share, and comment in a manner that can be counted. As such, news is transformed from the primacy of messages as communication to "the primacy of its exchange value, to its capacity to circulate, to be forwarded and to be counted" (Dean 2004, 6). News media are often financially dependent on the exchange value,[6] not only of their news, but on the "spreadability" (Jenkins, Ford & Green 2013) that occurs when users comment, like, and share news. This implies that to some extent the value of communicating or interacting with followers on social media is neither aiming to inform nor educate the public but to utilize the public as a commercial exchange value.

Shoshana Zuboff suggests that we need to consider big data—such as the data gathered when users comment on news media's Facebook—not just as data or as a consequence of certain algorithms but as "deeply intentional and highly consequential new logic of accumulation" (Zuboff 2015, 75). This understanding of surveillance capitalism suggests a transformation of both the ways in which social movements are spread and the ways in which news media function. The logic of accumulation renders both

journalism and everyday engagement with news content on social media as part of a "shift that makes everydayness qua data imprints an intrinsic component of organizational and institutional life" and "a primary target of commercialization strategies" (Constantiou & Kallinikos 2014, 10). These strategies depend on making people engage with news.

When news media, for instance, ask open-ended questions to enhance to probability of user engagement, intensity, and spreadability, the goal is not only for the content to be spread; it is also laying claims to users' "private experience for translation into fungible commodities that are rapidly swept up into the exhilarating life of the market" (Zuboff 2019, 10). This furthermore suggests that news becomes embedded in the circulation of predictions products. When readers and users are no longer ends-in-themselves they become, "means to profit in new behavioral futures markets in which users are neither buyers nor sellers nor products" (Zuboff 2019, 13). Instead followers and their interaction with news content are "free raw material that feeds a new kind of manufacturing process designed to fabricate prediction products" (Zuboff 2019, 13). These prediction products can of course be more news that tap into the kind of content proved to be spreadable, but might also be predictions products generated by the companies, organizations, and institutions that profit from the interaction.

ANGRY REFRAINS

In the example above, pastor Sørine Gotfredsen is quoted as blaming #MeToo for generating what she refers to as a "victim mentality." In the archive studied, "victim mentality" is a reoccurring refrain. Refrains can, following Deleuze and Guattari, be understood as:

> a prism, a crystal of space-time. It acts upon that which surrounds it, sound or light, extracting from it various vibrations, or decompositions, projections, or transformations. The refrain also has a catalytic function: not only to increase the speed of the exchanges and reactions in that what surrounds it, but also to assure indirect interactions between elements devoid of so-called natural affinity and thereby to form organized masses (Deleuze & Guattari 1987, 119).

Refrains form masses from that which moves, and may even appear at odds. Lone Bertelsen and Andrew Murphie (2011) explain that a focus on refrains orients the analysis towards understanding the role of the refrain in the emergence of new territories, new functions within this territory,

and the further refraining of this new territory and new functions. A focus on refrains is thus not only a way to focus on words and language, but a way of understanding how afective mobilization and political territories are attached to words (Fritsch, Kofoed & Reestorf 2020).

In order to understand how the affective politics of interfacial news and the prediction logic of surveillance capitalism impact the ways in which users engage with news content about #MeToo it is necessary to understand how refrains are circulated and how they stick to #MeToo. The 329 comments below the *TV2*'s FB-post sharing the above-mentioned article, "Famous Danes warn about frenzy of bloodlust: is this the kind of society we want?" are often negative toward #MeToo. Comments, for instance, claim that #MeToo is an "unreasonable witchhunt," that "unless you report it to the police, you must let it go," and that "women must take responsibility for their own actions," or that "everyone is now free to burn whomever they don't like" (*TV2* 2017). Many of the comments are clearly attuned to the framing and alertness suggested by the words "frenzy of bloodlust." Interestingly, however, similar refrains occur in relation to FB-posts that are neutrally framed.

DR's neutrally framed FB-post about the article "#MeToo continues in Denmark: 132 female singers call for action" (DR 2017b) reports that female classical singers demand a better working environment in the music industry. It does not name any accused. In the comment field on Facebook there are 168 comments. It has thus been less commented upon and shared than the article from *TV2*. Yet, despite the neutral framing, 101 comments attack #MeToo, 59 comments find #MeToo necessary, and 8 comments are impossible to understand or attack others in the thread.

In the comment field at least fifteen refrains reoccur and act as cata-lysts for anger towards #MeToo. These refrains are:

- Time (e.g. allegations "must be made immediately")
- Fame (e.g. women saying #MeToo are "in it for the fame")
- Pathetic (e.g. #MeToo is "unnecessary whining")
- Violation culture (e.g. #MeToo is "oversensitive")
- Undocumented claims (e.g. #MeToo accounts are "not documented")
- Smack in the bum (e.g. #MeToo "does not concern real abuse")
- People's court (e.g. #MeToo is "disregarding justice")
- Real victims versus victim mentality (e.g. #MeToo does not concern "real abuse")
- Female sounds (i.e. "whining" or "howling")
- Quit (e.g. if abused you can simply "quit your job")

- Extreme #MeToo (e.g. #MeToo is "bloodlust," "tsunami," or "tidal wave")
- Witch hunt (e.g. #MeToo is "hunting innocent men")
- Anti-feminism (e.g. anti-Kvinfo [knowledge center about gender, equality and ethnicity])
- Media frenzy (e.g. #media are "bursting into self-oscillation")
- The loss of flirtation (e.g. men will "loose their initiative")

As these refrains indicate, the neutral framing found in *DR*'s FB-post is not mimicked in the comment field. Rather, the comment field appears to gain its intensity from refrains found in other news—including the article from *TV2*. Furthermore, many of the refrains have already been introduced in other news stories. *Berlingske Tidende,* for instance, shared an article titled: "Men reply to #MeToo: 'it is a reactionary witchhunt'" and *DR* shared "We need to talk about a triviality limit, argues Hans Bonde, about the violation culture in relation to #MeToo" (*DR* 2017c). Words and phrases such as witch hunt and violation culture are thus already introduced and framed as everyday language in the news media themselves. Thus, while it can be difficult to determine whether or not news media's negative framing of #MeToo impacts the users' attitude towards #MeToo, media texts often attach themselves to informal speech even though these words and phrases are only common in the informal speech because they were introduced by the media texts in the first place (Warner 2007).

The reoccurring use of refrains in the comments intensifies an affect intensive atmosphere. Without distinguishing between affects and emotions, Sara Ahmed writes that emotions "are intentional in the sense that they are 'about' something: they involve a direction or orientation towards an object" (Ahmed 2004, 7). In the comments field, angry affects are certainly oriented toward #MeToo, but also toward women more generally, the media, feminism, and the unidentifed and allegedly innocent men. Furthermore, affects become "sticky" (Ahmed 2004) when refrains such as "witch hunt" and "smack on the bum" are repeated. The refrains provide the affective cues and orientations that allow the users in the comment field to emerge as an angry public. In the context of Twitter, Zizi Papacharissi argues that tweets work as framing devices that allow publics to emerge because they provide a way in which people can "feel their way in to politics," and thus "tune into an issue or a particular problem of the times, but also to affectively attune with it" (Papacharissi 2015, 118). In a similar manner the users in the comments field feel their way into the politics of #MeToo. However, they are not necessarily 'in tune' with

#MeToo; their affects are not oriented towards #MeToo but towards the angry refrains that are sticking to it. This also entails that the comment feld is not only about #MeToo, but also about the affective intensification itself. For example, when a user is the twentieth to write "witch hunt" that person is not contributing to a dialogue, but merely adding affect to the collective intensification.

Furthermore, the angry refrains suggest that a specific form of affective "platform vernacular" (Gibbs et al. 2015) emerges in and around comments fields related to #MeToo. Katie Warfield (2016) has argued that while platforms such as Facebook certainly impact the way in which we communicate, platform vernaculars also emerge from within social networks and through the continuous engagement of its users. In comments fields attached to news media's posts the vernacular is shaped not only by the affordances of social media, but also by the news media's social media presence. In this regard, the affective politics of interfacial news also impacts the platform vernacular of social media. When news media breaks with their otherwise subjective and positive style of communication on social media and consistently frames news about #MeToo in a negative manner—i.e. by utilizing refrains such as "witch hunt" or "victim mentality"—they contribute to the enhancement of angry refrains as key elements in the platform vernaculars surrounding #MeToo.

The fact that angry refrains circulate between news media and media consumers is crucial because it allows us to understand a key element about anger online. When people are angry online it is often described as an individual problem or disregarded as, for instance, trolling. Yet, the angry refrains and the intensity that sticks is passing between news media, social media, and news consumers, and cannot be reduced to any one of them. As we recall, the refrains found in the comments field can also be found in the archive, for instance, in articles such as, "Movie Director Ole Bornedal argues that it is difficult not to laugh when women feel traumatized 25 years after a smack on the bum" (*Politiken* 2017). In fact, all the news media have posts and articles that mention either witch hunt, people's court, or warns that we must not feel violated too easily. Thus, angry refrains appear to be legitimized in the news media's articles and FB-posts and, as such, the intensity of the angry refrains are ingrained as part of the affective politics of interfacial news in relation to #MeToo.

GOVERNING WHAT CAN BE FELT

As discussed above, the affective politics of interfacial news make use of and legitimize angry affects. Furthermore, they contribute to a specific governmentalization of #MeToo and accounts of sexual assault and harassment. The emphasis on "what can be counted" contributes to a shift in emotionality in news communication. As mentioned above, journalism draws on both a ritual of objectivity and a ritual of emotionality (Wahl-Jorgensen 2019). However, when news is communicated on Facebook the ritual of emotionality is prioritized. Furthermore, it is not only the emotionality of news that is prioritized, but also the emotionality of the consumer. In many of the posts, emotionality is put in the hands of the news consumers (e.g. when they are being asked what they think). But emotionality is also frequently premediated and oriented toward possible future false accusations (of men) (Grusin 2010)

In this regard, news consumers are asked to validate truth claims that the news media themselves, or their sources, put forward. For instance, an article shared by *DR* reports that the Swedish Press Council has criticized some articles about #MeToo, and *DR* asks their followers, "do you agree with them?" (*DR* 2018). As if Danish news consumers (pay to) read Swedish journalism or have knowledge about press ethics. This is as mentioned a way to enhance and predict comments that can be counted, but it also suggests that the affective politics of interfacial news alters the logics of emotionality in news communication exactly because the truth-claims of news is placed in the hands of the news consumers.[7]

The affective politics of interfacial news thus often shifts the ritual of emotionality from the sources of the news stories to the news consumers, who are asked not only to feel their way into the refrains sticking to #MeToo, but also to judge the truth-value of the news shared by the media themselves. Thus, news media simultaneously assert their power through the predominantly negative framing of #MeToo and circulation of angry refrains, and suggest that news consumers are free to judge every claim put forward. Yet, this freedom is obviously shaped by the platform vernacularism, which as we recall is shaped not only by news consumers, but also news and social media.

The shift in emotionality in news shared on social media does not only alter news media and the relationship between news media and news consumers. It also has consequences for victims of sexual assault and

harassment who might come forward. When news consumers are invited to be the judge of the truth value of news, they also become the judge of what constitutes sexual assault and harassment. This means that the boundaries for what constitutes an assault are up for negotiation in media and public debate, and constantly shift according to where emotionality is placed and where the affective relations occur. This means that victims may come forward—for instance, to the police or the media—but they never know whether or not their testimony will be heard and listened to, and if they will be accepted as victims of assault, precisely because what constitutes assault is shifting.

The fact that emotionality is placed in the hands of news consumers means that victims' experiences with sexual assault and harassment are negotiated in the context of news consumers' emotionality. This is for instance evident in the comment fields below "#MeToo continues in Denmark: 132 female singers call for action." One FB-user, for instance, comments that he has the ability and right to dismiss the singers' experiences and states that, "I can distinguish between assault, real violations, and self-absorbed nonsense. As long as violence is not involved, we often decided if we let it happen." Likewise, the movie director Christian Braad Thomsen argues to *TV2* that "The #MeToo-campaign has degenerated into a media stunt with no content by covering everything from consummated rapes to sexual jokes" (Braad Thomsen in *TV2* 2017). In the angry refrains it is thus evident that emotionality is displaced and that in this process the refrain 'real victim' is constantly displaced. Accordingly, it becomes difficult for victims of sexual assault and harassment to be acknowledged as victims, simply because the understanding of what a victim is is constantly shifting. This, again, suggests that the affective politics of interfacial news, social media, and news consumers are closely intertwined through the repetitiveness of angry refrains and, thus, that it is in this muddy intersection where what can be felt is and how affect can be directed in relation to the #MeToo movement is governed.

CONCLUDING REMARKS

Throughout this article it has been argued that the media coverage of #MeToo on Facebook exemplifies a transformation of journalism. On the one hand the media coverage of #MeToo draws upon both an affective politics of ordinary affects and on the logics of communicative surveillance

capitalism that dictates data that can be counted. In this regard it does not necessarily matter what the news consumers write; it simply matters that they comment. As such, news consumers are no longer ends-in-themselves, but means to profit in new behavioral futures markets (Zuboff 2019, 13). These prediction products benefit companies, organizations, and institutions, but they also benefit the news media, who can produce similar articles, i.e., a kind of articles that have proven to be spreadable.

The affective politics of interfacial news engages in surveillance capitalism by producing articles that are spreadable. Yet, the 371 articles and Facebook posts that I have studied are not only spreadable they are also framed in a particular negative manner. This is crucial because research shows that news media most often use a subjective and positive tone on social media, and that social media news consumers prefer to read and share positive news. Thus, the negative framing of posts and articles about #MeToo cannot simply be explained by their embeddedness in communicative surveillance capitalism. The negative framing also reveals that the news media engages in a specific affective politics and the governing affective attitudes towards the intensities around #MeToo. In the Facebook posts and articles, angry refrains appear to be legitimized and thus become an acceptable part of the platform vernacular. In the 371 posts and articles and in the comments fields to the article, "#MeToo continues in Denmark: 132 female singers call for action," a number of angry refrains are repeated. Here it becomes apparent that angry refrains are not merely a product of news consumers' online behaviour, but of a particular relationship between news media, social media, and news consumers and in which the angry refrains are intensified.

Angry refrains that, for instance, suggest that #MeToo is merely a matter of a "smack on the bum" or is a "witch hunt" depoliticize the movement by removing #MeToo as a political phenomenon "from comprehension of its *historical* emergence and from a recognition of the *powers* that produce and contour it" (Brown 2006, 15, *original* emphasis). Yet, the affective politics of interfacial news and the angry refrains also further transforms journalism. This is because, when news is communicated on Facebook the emotionality of the news media consumers are foregrounded. This is, however, a paradoxical emotionality because news media simultaneously assert their power through the predominantly negative framing of #MeToo and circulation of angry refrains, and suggest that news consumers validate the truth-claim of the news communicated. The emotional-

ity foregrounded is thus embedded in the affective politics of interfacial news and it is shaped by the platform vernarcularism, which, as we recall, is shaped not only by news consumers, but also news and social media.

In the final analysis, the affective politics of interfacial news is shaped by communicative surveillance capitalism. Yet, the news coverage of #MeToo also reveals an affective politics that moves beyond communicative surveillance capitalism; namely as specific affective politics regarding sexual assault and harassment. This affective politics has consequences for victims. When angry refrains are reproduced and circulated, and news consumers are invited to be the judge of the truth value of both news and accounts of sexual assault and harassment, the boundaries for what constitutes an assault are constantly shifting according to where emotionality is placed and where the affective relations occur. This renders it difficult for victims of sexual assault and harassment to be acknowledged as such, simply because the refrain 'real victim' is a moving target.

NOTES

1. This chapter builds on the data and develops the analytic points from two earlier pieces (Reestorff 2019a and Reestorff 2019b).

2. Within the first 24 hours Milano's tweet had been tweeted nearly half a million times (Jarvey 2017). In the same timespan there were more than 12 million retweets, comments and reactions to #metoo on Facebook (CBS 2017) and in March 2018 #metoo had been widely used in 85 countries (Mahdavi 2018).

3. Bog om *Zentropa*.

4. All translations from Danish are the author's own.

5. The six names mentioned are Anders Fogh Jensen, Søren Hviid, Morten Sabro, Christopher Ryan, Kaspar Kolling Nielsen, and Anna Sophia Hermansen.

6. In the Danish context that I am studying it is worth mentioning that DR does not run ads because it is a public service media. The remaining eight media all receive state funded media support, yet they are allowed to advertize. However, even though DR cannot advertize they are—as the other news media—molded by surveillance capitalism. One of the requirements for state-funded media support is namely that the media can document that they "appeal to a broad range of users and not alone are targeting specific businesses and professions, members of employers, employees or trade associations, political parties or employees in public institutions ect." (*Lov om mediestøtte* 2017). While this kind of legislation is certainly not the same as the financial capitalization of users' search actions it is subject to communica-

tive capitalism's logic of counting. Users' engagement with news is simply a way in which the media can document that they appeal to a broad range of users and thus secure funding.

7. In a context of NGO work Chouliaraki (2013) has argued that a shift in emotionality has occurred that involves a "move from an emphasis on suffering as external reality, to suffering as subjective knowledge, validated by psychological grounded criteria of authenticity" (Chouliaraki 173).

REFERENCES

Adler, B. (2013). Streams of Consciousness. [online] *Columbia Journalism Review*. Available at: http://www.cjr.org/cover_story/steams_of_consciousness.php?page=all [Accessed 26 March 2021].

Ahmed, S. (2004). *The Politics of Emotions.* Edinburgh: University of Edinburgh Press.

Al-Rawi, A. (2017). Viral News on Social Media. *Digital Journalism* 7 (1), pp. 63–79.

Berlant, L. (1991). *The Anatomy of National Fantasy: Hawthorne, Utopia, and Everyday Life.* Chicago: Chicago University Press.

Bertelsen, L. & Murphie, A. (2010). An Ethics of Everyday Infinites and Powers: Félix Guattari and the Refrain. In: M. Gregg and G. Seigworth, eds., *The Affect Theory Reader*. Durham: Duke University Press, pp.138–157.

Brown, W. (2006). *Regulating Aversion: Tolerance in the Age of Identity and Empire*. Princeton: Princeton University Press.

B.T. (2017). Kasper forstår ikke #MeToo-bølgen: 'Skeptiske Idioter som mig bliver jo ikke klogere.' Facebook status update. [Accessed 21 March 2021].

B.T. (2018). Sussi la Cour efter #metoo: 'Hvor er kvindernes selvrespekt i forhold til at sige nej?' Facebook status update. [Accessed 21 March 2021].

CBS (2017). More Than 12 Million Facebook #MeToo Facebook-Posts, Comments, Reactions in 24 Hours. [online] *CBS* https://www.cbsnews.com/news/metoo-more-than-12-million-facebook-posts-comments-reactions-24-hours/ [Accessed 21 March 2021].

Chouliaraki, L. (2013). *The Ironic Spectator: Solidarity in the Age of Post-Humanitarianism*. Oxford: Polity Press.

Clarke, A. (2005). *Situational Analysis: Grounded Theory After the Postmodern Turn*. Thousand Oaks, CA and London: Sage Publications.

Constantiou, I. & Kallinikos, J. (2014). New Games, New Rules: Big Data and the Changing Context of Strategy. *Journal of Information Technology* 30(1). pp. 44–57.

Dean, J. (2014) Communicative Capitalism and Class Struggle. *Spheres: Journal for Digital Culture* 1, pp. 1–16.

De Souza e Silva, A. & Frith, J. (2012). *Mobile Interfaces in Public Space: Locational Privacy, Control, and Urban Sociability*. Oxford: Routledge.

Deleuze, G. (1994). *Difference and Repetition*. New York: Columbia University Press.

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia*. London and New York: Continuum.

DR (2017). Præst Sørine Gotfredsen mener, at #at #matoo er dybt problematisk og skaber en trættende offermentalitet. Er du enig? Facebook status update. [Accessed 21 March 2021].

DR (2017a). #MeToo fortsætter i Danmark: 132 sangerinder i opråb mod overgreb og sexchikane. Facebook status update. [Accessed 21 March 2021].

DR (2017b). Vi må tale om en bagatelgrænse, siger Hans Bonde om krænkelseskulturen i forbindelse med #Metoo. Har han en pointe? Facebook status update. [Accessed 21 March 2021].

DR (2018). Den svenske presse har i ti tilfælde ikke fulgt god presseskik i deres dækning af #metoo-sager, lyder det fra det svenske pressenævn. Giver du dem ret?. [Accessed 21 March 2021].

Entman R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm, *Journal of Communication* 43 (4), pp. 51–58.

Freeley, K. (2012), Gossip and News: On Modern U.S. Celebrity Culture and Journalism. *History Compass* 10 (6), pp. 467–482.

Fritsch, J., Kofoed, J., & Reestorff, C. M. (2020). Strategic Cyberbullying and the Reorganisation of Political Culture: Interfacial Refrains, Affective Circulation and @RealDonaldTrump. *Conjunctions: Transdisciplinary Journal of Cultural Participation* 7 (1), pp. 1–21.

Gibbs, M., Meese, J., Arnold, M., Nansen, N. & Carter, M. (2015). #Funeral and Instagram: Death, Social Media, and Platform Vernacular. *Information, Communication & Society* 18 (3), pp. 255– 268.

Grusin, R. (2010). *Premediation: Affect and Mediality After 9/11*. New York: Palgrave Macmillan.

Hansen, L., Arvidsson, A., Nielsen, F. A., Colleoni, E. & Etter, M. (2011). Good Friends, Bad News Affect and Virality in Twitter. In: J. J. Park, L. T. Yang, C. Lee, eds., *Future Information Technology. Communications in Computer and Information Science* 185. Berlin: Springer, pp. 34–43.

Hermida, A., Fletcher, F., Korell, D. & Logan, D. (2012). Share, Like, Recommend: Decoding the Social Media News Consumer. *Journalism Studies* 13(5-6), pp. 815–824.

Hjarvard, S. (2015). Framing: Introduktion til et Begreb og en Klassisk Tekst. *MedieKultur: Journal of Media and Communication Research* 31 (58), pp. 104–114.

Jarvey, N. (2017). "Sexual Assault Movement #MeToo Reaches Nearly 500,000 Tweets. [online] *Hollywood Reporter.* Available at: https://www.hollywoodreporter.com/news/metoo-sexual-assault-movement-reaches-500000-tweets-1049235 [Accessed 26 March 2021].

Jenkins, H., Ford, S. & Green, J. (2013). *Spreadable Media: Creating Value and Meaning in a Networked Culture.* New York: New York University Press.

Jyllands-Posten (2017). JP mener: #metoo-bevægelsen ender i #youtoo og fri adgang til at hænge folk ud. Facebook status update. [Accessed 21 March 2021].

Jyllands-Posten (2017b). Bertel Haarder blander sig i #metoo-debatten som en gammel 68'er. 'Det er ærgerligt, hvis vi ender med at blive lige så sexfikserede og kropsforskrækkede som f.eks. nogle muslimske miljøer er' Facebook status update. [Accessed 21st March 2021].

Jyllands-Posten (2018). 'MeToo forekommer at være nået til det punkt, hvor bevægelsen enten radikaliseres til en udfoldet kønskrig eller lægger sig til at dø' mener historiker Henrik Jensen.Hvad mener du— er det på tide at lægge MeToo-bevægelsen i graven? Facebook status update. [Accessed 21st March 2021].

Kofoed, J. (2013). *Affektive Rytmer: Spekularitet og Ubestemmelighed i Digital Mobning.* In: J. Kofoed, D. M. Søndergaard, eds., *Mobning Gentænkt.* Copenhagen: Hans Reitzel Forlag, pp. 161–193.

Madsen, J. J. (2008). Politiken afviser tabloid—foreløbig... [online] *Journalisten.* Available at: https://journalisten.dk/politiken-afviser-tabloid-forelobig/ [Accessed 26 March 2021].

Mahdavi, P. (2018). How #MeToo Became a Global Movement. [online] *Foreign Affairs.* Available at: https://www.foreignaffairs.com/articles/2018-03-06/how-metoo-became-global-movement [Accessed 27 March 2021].

Martin, F. & Dwyer, T. (2019). *Sharing News Online: Commendary Cultures and Social Media News Ecologies.* Cambridge: Palgrave Macmillan.

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation.* Durham: Duke University Press.

Massumi, B. (2009). Micropolitics: Exploring Ethico-Aesthetics. *Inflexions: A Journal for Research-Creation* [online] 3, pp. 1–20. Available at: http://www.senselab.ca/inflexions/volume_3/node_i3/massumi_en_inflexions_vol03.html [Accessed 15 April 2011].

Mendes, K., Ringrose, J. & Keller, J. (2019). *Digital Feminist Activism*. Oxford: Oxford University Press.

Milano, A. (2017). Suggested by a friend. If all the women who have been sexually harassed or assaulted wrote 'Me Too' as a status, we might give people a sense of the magnitude of the problem. Twitter post. [Accessed 21st March 2021].

Papacharissi, Z. (2015). *Affective Publics: Sentiment, Technology, and Politics*. Oxford: Oxford University Press.

Papacharissi, Z. (2016). Affective Publics and Structures of Storytelling: Sentiment, Events and Mediality. *Information, Communication & Society* 19 (3), pp. 307–324.

Petersen, A. H. (2011). Towards an Industrial History of Celebrity Gossip: The National Enquirer, People Magazine and 'Personality Journalism' in the 1970s. *Celebrity Studies* 2 (2), pp. 131–149.

Politiken (2017). Ole Bornedal: Svært ikke at smile ad folk, der føler sig traumatiserede, 25 år efter de fik et klask i røven. Facebook status update. [Accessed 21 March 2021].

Politiken (2018). MeToo-mænd gør comeback: Er du klar til at tilgive Louis C.K., Kevin Spacey og James Franko. Facebook status update. [Accessed 21 March 2021].

Politiken (2018a). Den feministiske, venstrepopulistiske totalitarisme er ligesom de skovbrande, der har hærget landet hele sommeren. Facebook status update. [Accessed 21 March 2021].

Politiken (2018b). 'Længe har den ulmet, og MeToo har været gnisten, som har fået den til at blusse op og sprede sig med lynets hast,' skriver Marianne Stidsen i Dagens Kronik. Facebook status update. [Accessed 21 March 2021].

Rasmussen, S. (2020). Anarchival Scripts. *Capacious: Journal for Emerging Affect Inquiry* 2(1-2), pp. 186–205. Available at: http://capaciousjournal.com/article/anarchival-scripts/ [Accessed 26 March 2021].

Reestorff, C. M. (2017). *Culture War: Affective Cultural Politics, Tepid Nationalism and Art Activism*. London and Chicago: Intellect Ltd.

Reestorff, C. M. (2019). Lektor: Danske medier underminerer #MeToo i jagten på hurtige klik. [online] *Videnskab.dk*. Available at: https://videnskab.dk/kultur-samfund/danske-medier-underminerer-me-too-i-jagten-paa-hurtige-klik [Accessed 27 March 2021].

Sheller, M. (2015). News Now: Interface, Ambience, Flow, and the Disruptive Spatio-Temporalities of Mobile News Media. *Journalism Studies* 16 (1), pp. 12–26.

Slots-og kulturstyrelsen (2017). Mediernes udvikling i Danmark: Globaliseringen af den danske mediebranche, Kulturministeriet [online]. Available at: https://mediernesudvikling.slks.dk/2017/ [Accessed 26 March 2021].

Slots-og kulturstyrelsen (2019). Mediernes udvikling i Danmark, Kulturministeriet [online]. Available at: https://mediernesudvikling.slks.dk/2019/ [Accessed 02 March 2021].

Stewart, K. (2007). *Ordinary Affects.* Durham: Duke University Press.

Stieglitz., S. & Dang-Xuan, L. (2013). Emotions and Information Diffusion in Social Media: Sentiment of Microblogs and Sharing Behavior. *Journal of Management Information Systems* 29 (4), pp. 217–248.

Thomsen, L. H. (2019). *Inside the TV Newsroom: Profession Under Pressure.* London and Chicago: Intellect Ltd.

TV2 (2017). Kendte danskere advares mod blodrus: er det sådan et samfund vi ønsker? Facebook status update. [Accessed 21 March 2021].

Wahl-Jorgensen, K. (2018). *Emotions, Media, and Politics.* Cambridge: Polity Press.

Wånggren, L. (2016). Our Stories Matter: Storytelling and Social Justice in the Hollaback! Movement. *Gender and Education* 28 (3), pp. 401–415.

Warfield, K. (2016). Making the Cut: An Agential Realist Examination of Selfies and Touch. *Social Media + Society* 1 (4), pp. 1–10.

Warner, M. (2007). Publics and Counterpublics. New York: Zone Books.

Welbers, K. & Opgenhaffen, M. (2018). Presenting News on Social Media. *Digital Journalism* 7 (1), pp. 45–62.

Witschge, T., Anderson, C. W., Domingo, D., & Hermida, A. (2016). *The Sage Handbook of Digital Journalism.* London: Sage Reference.

Zuboff, S. (2015). Big Other: Surveillance Capitalism and the Prospects of an Information Civilization. *Journal of Information Technology* 30 (1), pp. 75–89.

Zuboff, S. (2019). Surveillance Capitalism and the Challenge of Collective Action. *New Labor Forum* 28 (1), pp. 10–29.

Viral Hauntology: Specters of AIDS in Infrastructures of Gay Sexual Sociability

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INTRODUCTION

In recent years, HIV treatment has become so effective that a patients' viral load can become so low that it is undetectable, which in turn reduces the risk of viral transmission to zero (Eisinger, Dieffenbach, & Fauci 2019). At the same time, for people who are HIV negative, the use of the medical regimen "pre-exposure prophylaxis," or "PrEP," reduces the risk of HIV infection by 92%-99% (Anderson et al. 2012). The PrEP regimen typically targets people at high risk of HIV infection and consists of taking HIV medicines either daily or through event-based dosing ("PrEP" 2019). These innovations are celebrated as key in the fight against AIDS, and rightfully so. They offer hope to affected populations, that they might engage with the AIDS epidemic in a way that is more commemorative than somatically threatening. Thus, modern HIV medication promises access to a gay subjectivity that expands notions of sustainability otherwise made unavailable by the AIDS crisis. This access potentially alleviates stigma and enables a reorientation of mostly gay male sociability and politics across and beyond the viral serostatuses of "HIV negative" and "HIV positive."

Such medical innovation does not erase the trauma of the AIDS crisis. Such trauma continually impacts gay cultures today, in the minds and on the bodies of survivors, and more broadly by informing how gay commu-

nities imagine gay sexual sociability to be virtuous, sustainable, transgressive, dangerous, etc. Contemporary gay sexual sociability is informed by the socio-technical interventions of condom use, regular STI testing, and sexual serosorting, practices that were negotiated during and after the AIDS crisis in order to retain access to gay somatic pleasures. These practices of vitality are not individual endeavors but rather socially negotiated responses, put in place and governed through an ethic of collective, cultural sustainability (Rofes 1998).

The biomedical potential of this medical regimen, in the same way antiretroviral therapy (ART) made HIV positivity a manageable chronic condition, should and does invite hope. But the fact remains that while attitudes seem to be changing, there is a persistence of wariness and negative responses to the emergence of sexual cultures informed by the affective affordances of PrEP. These affective orientations do not align with the phantasmagoric futures that PrEP makes available; rather, they seem to reinstall modes of relationality based on fear of HIV. It is this persistence or "temporal drag" (Freeman 2010, 95) that this chapter concerns itself with. To further understand the relationship between the lingering fear of HIV and new prevention methods, it is necessary to interrogate how the HIV crisis materialises for gay people and their communities. Additionally, it is crucial to understand how affective sedimentations impact contemporary material and structural innovations that sustain, support, and change gay sexual sociability beyond and after the time/s of the crisis.

Drawing from queer theory (Freeman 2010) and HIV/AIDS sociology (Decoteau 2008; Gordon, 2008; Gill-Peterson, 2013; Petrus, 2019), we take hauntology (Derrida 2006) as a useful framework for a diachronic and synchronic analysis of how past and present materials and ideas affect and *might* affect those living "post crisis" (Race 2001; Kagan 2018), particularly when the effects of the AIDS crisis (for some) manifest as distant affective echoes. This chapter leans on Derrida's (2006) concept of "hauntology" to develop what we call a "viral hauntology" coterminous with the development of new HIV prevention methods. This affect-driven intervention closely examines how the *affective economies of circulation*, as described by Sara Ahmed (2004), are embedded in current material infrastructures of HIV prevention technologies. We argue that viral hauntology allows us to think deeply about how 'old' technologies and their social lives fold over and into new ones, and how the folding process 'drags' in order to imagine other, more inclusive, gay socio-sexual futures.

In this chapter, we think about HIV/AIDS not only as a somatic condition affecting a body, but also as a socio-technical matter. With HIV/AIDS's production of virality, certain norms and ideas about what constitutes "good" sexuality have emerged (Kagan 2018), norms that are then enforced, contested or modulated through the production and use of material infrastructures of gay sociability. Such materialist thinking is inspired by Kane Race's (2018) mobilization of Actor-Network-Theory, in which he considers how HIV/AIDS work on gay life through complex flows of chemical, digital, and communal infrastructures. Extending this research into the field of affect theory, we analyze two case studies to demonstrate how these infrastructures change through viral hauntology.

The two case studies are used to unpack how socio-technical responses to the HIV/AIDS crisis play a role in the cultural and interfacial responses to the availability of the PrEP regimen. In the first case study, we examine the 'PrEP whore' figuration. We look closely at the circulation of anti-PrEP and anti-promiscuity sentiments, and how the condom's materiality and historicity—as a 'preferred' safer-sex technology for men who have sex with men (MSM)—is intertwined in this particular discourse. In the second case study, we compare how the gay hookup apps Grindr and Scruff (two of the most influential digital platforms for contemporary gay sociability) frame discussions of safer-sex practices and HIV status. In the following section, we will detail a conceptual framework for thinking about what could be called the affective 'haunting' of these HIV-impacted infrastructures, and how certain feelings 'haunt' interpretations of the HIV virus, the minds of gay people, and central infrastructures of gay life.

AFFECTIVE HAUNTINGS OF HIV

In *No Future* (2004), Lee Edelman argues that speculating and hoping for a queer/er future is a tool of heteronormative reproduction. In response, José Esteban Muñoz (2009) argues that hopefulness can be used as a mode of queer orientation, to access and imagine "networks of commonality and the structures of feeling that link queers across different identity markers, including positive and negative antibody status as well as bodies separated along generational lines" (47). In place of focusing largely on the image of the child, Muñoz employs a ghost metaphor to imagine how queer pasts and futures might affect shared community building. Both scholars address the pressing belief that neoliberal culture is hegemonic and thus

integrates any forms of queer response/s to social and cultural reform. As both Lauren Berlant (2006) and Sara Ahmed (2010) have noted, the affective investments needed to change these infrastructures are largely made impossible by the marketization of individual life under 21st-century capitalism. We follow from this line of inquiry to think about how the viral hauntology of HIV/AIDS is seated within contemporary forms of social life and the infrastructures of gay sociability. More specifically, we take from the affective and temporal threads within queer theory to understand how HIV fearfulness—in spite of the promises or "queer optimism" (Snediker 2008) of PrEP—continues to haunt gay subjectivity, albeit in new ways.

We suggest that Jacques Derrida's affective theory of hauntology (2006) is a helpful tool for understanding how past forms of HIV epistemologies linger through the use of PrEP. Cultural studies has a long history of utilizing hauntology as a way of understanding the social life, memorialization, and trauma of the AIDS epidemic (Decoteau 2008; Gordon 2008; Gill-Peterson 2013; Scott 2015; Petrus 2019). Hauntology describes the historical conditions producing "ends" or discourses *about* "the end" (Derrida 2006, 10). In other words, it is a tool for understanding the progress from and exchanges between one affective state (terror) and another (chronic well-being). We suggest that the use of PrEP operates within a hauntological register. Past forms of social life, memories, and trauma linger within contemporary material conditions of HIV/AIDS, thus opening the use of new prevention technologies to past forms of interpretation and critique. Hauntology directs our attention to the affective conditions that recur through the "epidemic of meanings and signification" (Treichler 1999, 1). Rather than approaching memories as rooted in traumatic experiences of HIV, always-already reinstalling memory-as-trauma in the present, a hauntological approach specifies a "frequentation" or "visit" that can be either "friendly" or alternatively "signify strict inspection or violent search, consequent persecution, implacable concatenation" (Derrida 2006, 126). The specters of HIV/AIDS seek to make themselves felt within the historical (re)production of its signs and significations. Hauntology insists that the spectre of the 'AIDS past,' while clearly referencing ontological, epistemological and material forms of pastness, simultaneously appears as a creature of the present, or as Derrida (2006) puts it "…it begins by coming back" (11). While reflecting an image of the past, the ghost is not a history that repeats itself through trauma, but rather a co-temporal figuration that emerges alongside certain ideas

of pastness in the present. For Derrida, a haunting does different kinds of work depending on its instantiation in language, the object it attaches itself to, or rather, is always already co-constituting. Derrida complements this agential haunting with a sort of paradoxical and affective starting/ending point: a moment of mourning, as he calls it, that describes a wish to fix in time and place the ghostly presence within a material world that continues to change. In short, viral hauntology refers to and describes the spectral presence of history as a process of (un)fixing material presence to/from an imagined past.

Viral hauntology allows us to think about the mourning of the lives lost to AIDS as embedded in contemporary socio-material infrastructures. Understanding the use of PrEP within an affective economy—that is, the circulation of various forms of pastness and presentness that emerge through viral hauntology—allows us to look at the folds of affective economies within and across HIV epistemologies. This affective theory allows us to think about socio-technical innovations as becoming saturated with specific emotions through pendulum movements between the concrete and the abstract, between, for instance, the affective attachments to the condom, PrEP, or a hook-up app drop down menu, and the affective exchange that occurs when new intervention technologies emerge in response to HIV crisis and prevention. Critically, we argue that previous affective values might (re)attach to new prevention technologies and thus haunt their construction during the process of cultural signification and sociomedical interpretation.

CASE STUDY 1: THE 'PREP WHORE' AND THE VIRTUOUS CONTAINMENT OF SEMEN

Within gay culture the hierarchy of bodies formed around HIV and its treatments are now disturbed by the biomedical realities that PrEP makes available. It invites the hope that fear does not need to be mobilized to the same degree in MSM sex, that HIV stigma will fall away, and that HIV itself will be a thing of the past. From a chemical infrastructural perspective, PrEP makes available a new body assemblage that in practice not only removes the risk of contracting HIV individually, but also on a population level has proved an effective intervention. While using PrEP then could be evaluated as 'good' and 'virtuous,' in response, the 'PrEP whore' figuration has emerged and gained significant traction. First registered in

social media and hook-up app discourse of gay men in San Francisco in 2014 (Belluz 2014; Garcia 2014), the 'PrEP whore' label is used to shame men using PrEP, insisting "that those who use PrEP are somehow taking a prevention shortcut, a copout from the responsible use of condoms" (Spieldenner 2016, 1691). On gay hook-up apps, the rejection of people who take PrEP is part of a larger trend of negative public statements ("no-lists" see Albury, et al. 2017) that reject bodies and identities not conforming to a homonormative ideal embodied by white, HIV negative, conventionally attractive, gay, cisgender men.

The 'PrEP whore' belongs to a genealogy of "panic icons" like homo-sexuals, Haitians, heroin users, hemophiliacs (González 2019, 33); that is, "patient zero" figures that assert specific people, groups or practices are the root of the problem. Similar to panic-driven thinking, the rejection and shaming of PrEP users can be said to maintain heteronormative respect-ability politics (Kagan 2018, 134-135). Such politics have in the last couple of decades come to mark much of LGBTQ (especially gay) politics, lead-ing Ahlm to describe the practice of negotiating sexual encounters on gay dating apps as one of "respectable promiscuity" (Ahlm 2017, 1). By tying the medical regimen in with the slut figure, PrEP's potential for sexual and psychological freedom from sickness and (fear of) death is marked as unethical, and the PrEP user as someone untrustworthy. As such, what we would term the 'PrEP whore' figuration, while by no means the most widespread discourse on the subject, also provides a concentrated glimpse into how fear, shame, and disgust are mobilized in what is perceived to be the ethical modulation of gay sexual sociability.

Further, PrEP is much more than the discourse of the PrEP whore. It is as an interface between gay histories of (anti)viral sociability, and visions of biomedicalized sexual futures. In their tracing of PrEP whore discourse, González (2019) evaluates PrEP's relationship to the binary of promiscuity and responsibility in the following way:

> But there are many ways to make queer sex risky—in culturally positive as well as negative senses—after the spectre of HIV, personified in panic icons like the Truvada whore, is laid to rest. PrEP allows us to envision a future without AIDS: a vision that is truly revolutionary (González 2019, 47).

González imagines that PrEP will enable a time in which HIV/AIDS does not exist, virally or socially as a category that organizes gay sociability. While there is no denying that gay sex and futurity without the spectral presence of HIV/AIDS would open up new erotic spaces for sexual socia-

bility, the language of "revolution" seems so invested in the eradication of the HIV virus, that the affective and social histories are willfully erased. Yet these histories are deeply meaningful for individuals to make sense of life with and without HIV. They are central to current forms of gay sociability and indeed subjectivity. So we should be careful to not discursively force such a future into existence. The drive to forget is fed by the promise of viral insignificance made by the hopeful PrEP user, but may in fact end up erasing the role of the HIV virus as an agent of social and sexual production. Thus we must remain attentive to the ways in which the affective sedimentations of HIV continue to pervade the production of gay spaces, sexualities, and sociabilities. In doing so, we seek to make intelligible the affective impact of material and structural innovations of HIV prevention beyond and after the time/s of the crisis.

One approach is to think about how PrEP disrupts the condom's dominance in gay sexual health practice. PrEP attracts attention not only to the evaluation of its effectiveness, but also becomes subject to ethical evaluation amongst potential users and non-using critics. This dual evaluation constructs its social value among its users and critics. We argue that this construction happens in part in dialogue with the condom and the social value it has accrued over time. More specifically, the power of the 'PrEP whore' figure to slut shame those using PrEP should be seen as stemming from a genealogy of safer-sex technologies for gay and bisexual men, in which the condom figures as the dominant technology. The social evaluation as well as the uptake of PrEP should be understood in relationship to the historical negotiation of prophylactic usage. The genealogy of PrEP has as its organizing principle the containment of semen. Materially, while it is the effect (not viral transfer) that is the function that properly describes the condom's use in HIV prevention, over time it is the very separation of fluids that becomes the object to which affective states of safety and responsibility stick and accumulate. It is the literal exchange of fluids that is made to feel corruptive, even if there is no viral presence within those fluids. Affectively, for those using the term 'PrEP whore' disparagingly, the condom retains the feeling of safety; it is a rigid sexual technology that is affectively and ontologically 'safe.' While this feeling of safety is based on its effectivity in reducing risk of HIV infection, we would argue that over time the condom loses affective intensity, a value that "haunts" PrEP by making insensitivity a sign of virtue. Following Mary Douglas' (1966) seminal analysis of rituals, pollution, and purification, the latex separa-

tion of genitals and containment of fluids becomes the primary way that normative sexual practice and transgression emerge and diverge. Denying oneself the pleasure of fluids entering orifices, to instead keep semen in its 'proper' place inside the condom, becomes the vehicle of virtuous sex (see Spieldenner 2016 for a discussion of the "dirty/clean" dichotomy's role in PrEP whore discourse). It is this ethics of fluids that over time becomes unfixed from the condom as a technology, allowing fear of 'semen out of place' to travel through the social normativity of hook-up app discourse to haunt the PrEP regimen. In other words, the affective investments that have sedimented around condoms may break loose and re-orient their affective significance in order to reattach to PrEP and modulate its very social existence (Ahmed 2010). Thus, thinking of PrEP as haunted by both the practical and material ways the condom keeps its user from contracting or passing on HIV illuminates the affective attachments that accrue through prophylactic innovation.

In short, the very loss of sensation in condom use becomes entangled with the notions of respectability and responsibility. The modulation of sensation by the latex condom is made to feel, if not good, then at least right, creating an affective anchoring to the ethics of how safer sex *should* feel. This normative configuration of what counts as 'virtuous,' 'sensual' and 'right' induces temporal drag as it attaches itself to PrEP. The process creates a figuration (i.e. the 'PrEP whore') that operates within a new set of materialities, one that does "re-crisis" work (Kagan 2015) by re-applying an affective orientation from previous viral epistemologies. As we have argued, it is the affective investments in the separation of bodily fluids that travel and reattach in the affective economy of HIV prophylaxis and prevention, allowing the PrEP whore figure to circulate and work alongside the hopeful PrEP user. In the new medico-sexual reality of the late 2010s, nothing mandates a 'right' way (and thus social value) of using PrEP. Rather, multiple forms of 'right' emerge when we examine the affective sediments that attach to PrEP. Thus a new approach to thinking about the evolving relationship between condoms and PrEP is necessary in order to better understand how these conflicting discourses about PrEP use co-exist and inform the production of gay spaces, sexualities, and sociabilities.

CASE STUDY 2: GRINDR AND THE FANTASY OF HIV NEGATIVITY

The importance of dating apps (or 'hook-up apps' as is the preferred term in queer media studies) to LGBTQ people's sexual sociability is well described (Mowlabocus 2010; Race 2015, Albury & Byron 2016; Duguay, Burgess, & Light 2017; Møller & Nebeling Petersen 2017). Their affective and digital infrastructural characteristics are thus important when studying the social life of HIV. To understand viral hauntology within digital infrastructures, we compare the design of safer sex and HIV disclosure options in the apps "Grindr" and "Scruff" (see Figure 1). These two major queer hook-up app competitors offer different rhetorical resources with which the users can communicate their safer-sex practices and their viral status. Importantly, we look at the fantasy of HIV negativity as an affective sediment that occurs across digital infrastructures and critically informs gay sociability. We argue that this structuring of HIV negativity and chronic health constitutes a viral haunting of the hook-up app infrastructure.

Scruff and Grindr both serve as framing devices for sexual health negotiation, but in markedly different ways. In the profile editor, under the headline "sex," Scruff invites disclosure of "safety practices", which includes "condoms," "PrEP," and "treatment as prevention" (HIV prevention methods and programs that use antiretroviral treatment, ART) to decrease the risk of HIV transmission (for more see "Treatment" 2019). In doing so Scruff frames negotiations of sex and safety as a practice that the user might adopt. At first glance, the categories seem linked to serostatus. One user who believes they are HIV negative might choose "condoms" or "PrEP," and another user, a person living with HIV (PLWH), might choose "condoms" and "treatment as prevention." While the latter category seems to indicate that the adoptee is a PLWH, it might also be used by a person who believes themself to be HIV negative and seeking sex with men who use treatment as prevention. Thus, by focusing on practice, Scruff's design gently avoids supporting user expectations of serostatus disclosure. When Scruff prioritizes practice-disclosure over sero-disclosure, it materializes and enforces a specific historical tradition of serostatus "non-disclosure," that is a "traditional policy of assuming any of their casual partners could be HIV-positive" (Race 2010, 11). This tradition prescribes that all encounters should be thought of as 'risky.' In other words, prophylactic method, such as condom use, stands in for
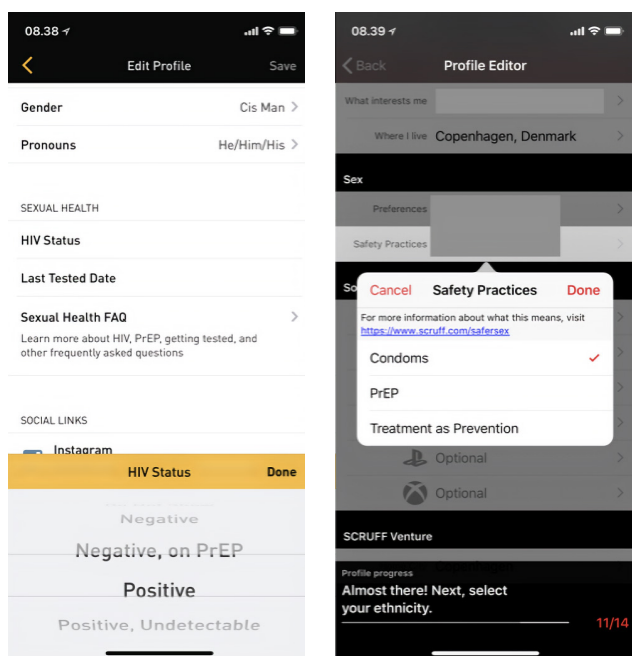
Figure 1. Disclosure options for "HIV status" in Grindr (left); and "safety practices" in Scruff (right).

verbal sero-disclosure and emphasizes practice-disclosure. By making HIV positivity a presumed serostatus, practice-disclosure seeks to enable sex, minimize further infection, and avoid HIV/AIDS stigmatization.

Conversely, under the heading "sexual health," Grindr asks the user to disclose "HIV status," and to choose between "Do Not Show," "Negative," "Negative, on PrEP," "Positive," and "Positive, Undetectable." The options combine the status of viral load in the body with any HIV medical regimes that minimize risks of viral transfer and seroconversion.[1] Serostatus disclosure is thus privileged over safer sex practice. Kane Race (2010) documents that such categorial focus on HIV status disclosure, while technically presenting an equal opportunity for all, contributes to "a disabling and frustrating affective climate for HIV positive participants in gay sexual culture" (13). Going beyond the stigmatization of PLWH, which makes disclosure a moment of potentially intense anxiety, we point out that by offering the self-identification category "HIV negative" next to, for example, "positive," Grindr's design falsely imagines a

cultural binary in which the non-seroconverted body is knowable in the same way as the seroconverted one. In doing so, the apparatus collapses these gay subjectivities into the "inevitability" of seroconversion (Román 1998, 226). Hence Grindr's infrastructure extrapolates the polarization of HIV subjectivities through the "unconscious," affective apparatus of "inevitable" transmission (Odets 1995; Román 1998). Put simply, Grindr as a digital infrastructure creates a social understanding that being HIV negative is something we can know *and feel* in the same way as HIV positivity. This makes the inclusion of "HIV negativity" a telling option because its knowability is presumed as a "stable" and "known" *feeling*, in other words, a bodily condition that can be imagined into existence through the interface design.

Avoiding speculation about designer knowledge and intentions, the fact that this interface design remains uncontested indicates to us how highly valued the negative body is among designers and its users. HIV negativity presents as a viable, obvious, and useful category because it coincides with a disclosure-practice that can be 'known.' To reflect further on what work the interface does to structure thinking about HIV virality and knowledge, we return to the framework of viral hauntology. Derrida's hauntology is as much about processes in the contemporary moment as it is about the past. The deliberate focus on HIV disclosure of Grindr can be seen as less the interface being haunted and more the interface chasing after the epistemological phantasmagoria of HIV negativity. Whether or not the designers are aware that the categories offered seem to forcefully insist that knowledge about sero-negativity is *the* way to have good, sustainable gay sex, is beside the point. The fact is that such a forceful push toward measuring HIV negativity alongside positivity is materialized and privileged in this digital infrastructure for global gay sociability.

To further unpack the affective sedimentation of this epistemological phantasmagoria, we consider Ahmed's (2004) exploration of affective ripples and the justifiable actions that emerge through the introduction of the "bogus asylum seeker." Ahmed writes:

> It is always possible that we may not be able to tell, and that the bogus may pass their way into our community. Such a possibility commands us (our right, our will) to keep looking, and justifies our intrusion into the bodies of others (Ahmed 2004, 46).

As the HIV negative body is a socially valued instance of the gay body, its very introduction and circulation as a disclosure-practice commands Grindr users to keep looking for it. Even though they will never be able to reliably identify HIV-negative bodies, the infrastructural organization of Grindr nevertheless extends the historical focus on HIV-positive bodies to HIV-negative ones. All things equal, this intensifies the serostatus inquiry and disclosure ethos that so readily reproduces HIV stigma. As such, previous viral discourses, such as "inevitable transmission," continue to operate as a "ghost-like figure" that sediments fear and dread through "an anticipation of a future injury" (Ahmed 2004, 46). The ability of the HIV-negative figure to produce new affective relations is thus not merely based in its materiality as a real 'thing,' but rather its immateriality and status/es become unfixed referents which accumulate and retain multiple HIV epistemologies across time.

VIRAL HAUNTOLOGY AND HOPEFULNESS FOR AN AIDS–LESS FUTURE

The chemical infrastructure of gay sexual sociability will change significantly with the normalization of PrEP use. As this chapter has shown, this biomedical innovation transforms unevenly within social infrastructures, such as the PrEP whore, and digital infrastructures, such as gay hook-up apps, and retains affective sediments from previous epistemological interpretations of HIV/AIDS. We have drawn upon Freeman's (2010) concept of temporal lag, Derrida's (2006) hauntology, and Ahmed's (2010) affective economies of circulation to draw out how the privileging of HIV negativity continues to be lodged in these socio-technical infrastructures which are central to contemporary gay sexual sociability. Their configurations of virality, the healthy body, and sustainable gay sexuality draw on affective registers that develop and accumulate across times of crisis and post-crisis.

Theoretically, this chapter shows that a viral hauntological approach allows for a socio-technical analysis of the HIV virus that cuts across diachronic and synchronic planes. Against this background, our analyses have brought out the ways feelings of sexual ethical virtue might be produced in relation to specific safer sex technologies, and how these normative orientations are translated across time and reattach to new technologies. Contemporary gay sex culture's investment in the non-se-

roconverted body materializes in queer hook-up app disclosure options. This works as a device to re-frame HIV serostatus, with the purpose of creating sexual encounters seemingly free of HIV/AIDS history. Based on Freeman's analysis of contemporality as constituted by temporal lag, we are wary of considering this reframing of disclosure-practice as a "PrEP revolution." We argue that such a claim lends itself to a narrative bracketing of the histories of HIV/AIDS, which prematurely signifies the "end" of HIV/AIDS and eliminates the prevalence of HIV in the production of contemporary gay spaces, sexualities and sociabilities.

In unpacking the affective sedimentation within the PrEP whore figure, its role in contemporary gay culture should not be overstated. Much like the usefulness of homonormativity as a modus for queer critique has been questioned, with some scholars pointing to how it defaults to making ordinary gay life suspicious (Brown 2012), it should be noted that PrEP's configuration of what is and is not deemed ethical gay sexual sociability is not globally or even regionally uniform. Crucially, there are massive transnational differences in terms of the Global North having much higher adoption rates than the Global South. Further, PrEP is typically not equally available within a nation's population, with models of healthcare and national health politics significantly affecting the availability for low income and marginalized groups. Thus, the normative work that attaches itself to PrEP, with the PrEP whore figure being one of them, should always be considered in relation to material and local contexts.

Ultimately, as we have shown, the histories of AIDS crisis operate alongside contemporary 'post-crisis' infrastructures for gay sexual sociability. Viral hauntology continues to produce multiple ways of interpreting and analysing the significance of new prevention technologies, including the hopefulness for an AIDS-less future, which emerges through the image and use of PrEP; the intelligibility of the HIV seronegative body related to, and thus bound up with, the seropositive body; and the historical confidence in the 'safety' condom-use enables, by keeping bodily fluids separate. By focusing on the temporal lag of the AIDS crisis, and the proliferation of affective sedimentations it produces, we suggest that viral hauntology allows for critical attentiveness to how multiple discourses compose the significance and use of PrEP. Such an approach enables us to think deeply about how 'old' technologies and their social lives fold over and into new ones, and how the folding process "drags" in the process of imagining and negotiating new modes of gay sexual sociability.

NOTES

1. Seroconversion is the time period during which a specific antibody develops and becomes detectable in the blood.

REFERENCES

Ahlm, J. (2017). Respectable Promiscuity: Digital Cruising in an Era of Queer Liberalism. *Sexualities 20* (3), pp. 364–379.

Ahmed, S. (2004). *The Cultural Politics of Emotion.* London: Routledge.

Ahmed, S. (2010). *The Promise of Happiness.* Durham: Duke University Press.

Albury, K. & Byron, P. (2016). Safe on My Phone? Same-Sex Attracted Young People's Negotiations of Intimacy, Visibility, and Risk on Digital Hook-Up Apps. *Social Media + Society 2* (4), pp. 1–10.

Anderson, P. L., Glidden, D. V., Liu, A., Buchbinder, S., Lama, J. R., Guanira, J. V., et al. for the iPrEx Study Team (2012). Emtricitabine-Tenofovir Concentrations and Pre-Exposure Prophylaxis Efficacy in Men Who Have Sex with Men. *Science Translational Medicine 4* (151), pp.1–17.

Belluz, J. (2014). The Truvada Wars. *BMJ* 348, pp.1–3.

Berlant, L. (2006). Cruel Optimism. *Differences* 17 (3), pp. 20–36.

Brown, G. (2012). Homonormativity: A Metropolitan Concept that Denigrates 'Ordinary' Gay Lives. *Journal of Homosexuality* 59 (7), pp. 1065–1072.

Decoteau, C. L. (2008). The Specter of AIDS: Testimonial Activism in the Aftermath of the Epidemic. *Sociological Theory 26* (3), pp. 230–257.

Derrida, J. (2006). *Specters of Marx: The State of the Debt, the Work of Mourning and the New International.* London: Routledge.

Douglas, M. (1966). *Purity and Danger: An Analysis of Concepts of Pollution and Taboo.* New York: Routledge.

Duguay, S., Burgess, J. & Light, B. (2017). Mobile Dating and Hookup App Culture. In: P. Messaris & L. Humphreys, eds., *Digital Media: Transformations in Human Communication*, New York: Peter Lang pp. 1–18.

Edelman, L. (2004). *No Future: Queer Theory and the Death Drive.* Durham: Duke University Press.

Eisinger, R. W., Dieffenbach, C. W. & Fauci, A. S. (2019). HIV Viral Load and Transmissibility of HIV Infection: Undetectable Equals Untransmittable. *JAMA 321* (5), pp. 451–452.

Freeman, E. (2010). *Time Binds: Queer Temporalities, Queer Histories.* Durham: Duke University Press.

Garcia, M. (2014). Why Michael Weinstein Gets Blamed for PrEP Myths [online]. Available at: http://www.advocate.com/31-days-prep/2014/10/31/why-michael-weinstein-gets-blamed-prep-myths. [Accessed May 3, 2019].

Gill-Peterson, J. (2013). Haunting The Queer Spaces of AIDS: Remembering ACT UP/New York and an Ethics for an Endemic. *GLQ: A Journal of Lesbian and Gay Studies 19* (3), pp. 279–300.

González, O.R. (2019). Pre-Exposure Prophylaxis (PrEP), 'The Truvada Whore,' and the New Gay Sexual Revolution. In: R. Varghese, ed., *Raw: PrEP, Paedagogy, and the Politics of Barebacking*, Regina: University of Regina Press, pp. 47–70.

Gordon, A. F. (2008). *Ghostly Matters: Haunting and the Sociological Imagination.* Minnesota: University of Minnesota Press.

Kagan, D. (2015). 'Re-Crisis': Barebacking, Sex Panic and the Logic of Epidemic. *Sexualities 18* (7), pp. 817–837.

Kagan, D. (2018). *Positive Images: Gay Men and HIV/AIDS in the Culture of 'Post Crisis.'* London: I.B. Tauris.

Møller, K. & Petersen, M. N. (2017). Domesticating Gay Hook-Up Apps. In R. Andreassen, K. Harrison, M. Nebeling Petersen & T. Raun, eds., *Mediated Intimacies: Connectivities, Relationalities and Proximities*, London: Routledge.

Mowlabocus, S. (2010). *Gaydar Culture: Gay Men, Technology And Embodiment in the Digital Age.* Farnham: Ashgate.

Muñoz, J. E. (2009). *Cruising Utopia: The Then and There of Queer Futurity.* New York: NYU Press.

Petrus, J. (2019). Discussing The Undiscussable: Reflecting on the "End" of AIDS. *GLQ: A Journal of Lesbian and Gay Studies 25*(1), pp. 67–72.

PrEP [online]. (2019). Available at: https://www.cdc.gov/hiv/basics/prep.html [Accessed 13 November 2019].

Race, K. (2001). The Undetectable Crisis: Changing Technologies of Risk. *Sexualities 4*(2), pp. 167–189.

Race, K. (2015). 'Party and Play': Online Hook-Up Devices and the Emergence of PNP Practices Among Gay Men. *Sexualities 18* (3), pp. 253–275.

Race, K. (2018). *The Gay Science: Intimate Experiments with the Problem of HIV.* London: Routledge.

Rofes, E. (1998). *Dry Bones Breathe: Gay Men Creating Post–AIDS Identities And Cultures*. New York: Harrington Park Press.

Scott, S. (2015). The Condomlessness of Bareback Sex: Responses to the Unrepresentability of HIV in Treasure Island Media's Plantin' Seed and Slammed. *Sexualities* 18 (1–2), pp. 210–223.

Snediker, M. (2008). *Queer Optimism: Lyric Personhood and Other Felicitous Persuasions*. Minneapolis: University of Minnesota Press.

Spieldenner, A. (2016). PrEP Whores and HIV Prevention: The Queer Communication of HIV Pre-Exposure Prophylaxis (PrEP). *Journal of Homosexuality* 63 (12), pp. 1685–1697.

Treatment as Prevention (TASP) for HIV [online]. (2019). Available at: https://www.avert.org/professionals/hiv-programming/prevention/treatment-as-prevention [Accessed 13 November 2019].

Treichler, P. A. (1999). *How to Have Theory in an Epidemic: Cultural Chronicles of AIDS*. Durham: Duke University Press.

WHAT COULD AN INTERFACE DO?

THINKING-FEELING ART-RELATIONS

Interfacial Modulation of Affect: On the Creation of Events in Contemporary Artworks

BODIL MARIE STAVNING THOMSEN

This chapter aims to describe the felt intensities of interfaces. These escape the traditional distinctions between subject and object often associated with classical media forms such as books (author/reader), visual art (artist/spectator) and films (director/audience). According to Deleuze the advent of information and computing technology introduces a "third eye" of information, which disturbs the clear-cut distinctions and orientations of subject and object. His term, the "third eye" refers to the "inscribed 'data'" of information technology that replaces "the brain-city" of modernity (explored amongst others by Walter Benjamin) as well as "the eyes of nature" (Deleuze 1989, 265).

According to Steven Johnson, something like Deleuze's interfacial "third eye" of data would, in the near future, come to "occupy nearly every facet of modern society: work, play, romance, family, high art, pop culture, politics" (Johnson 1997, 41). In all these situations, an interface "shapes the interaction between user and computer" by means of software (Johnson 1997, 14). The function of the interface and software is to translate the computer's language of "tiny pulses of electricity, representing either an 'on' or an 'off' state, a zero or a one" (Johnson 1997, 14) into something semantically understood by humans.[1] It is *not*, however, the aim of this chapter to focus on the translational challenges involved. Rather, the chapter will focus on the potentialities of the affectively felt "tiny pulses of electricity" (Johnson 1997, 14). It takes as it's point of departure the

folding capacities of interfaces that, according to Anna Munster, allow for both a "being in the body and [a] representing/ mapping [of] the body from the outside" (Munster 2006, 142). The experience of this folding gives direct access to the intensities of modulation—from the inside of the body out and vice versa. This is central to Munster's definition of an interface. Neither subjectivity nor objectivity is the primary issue here. Rather, the question is one of the affective intensity of the interfacial folding operations.

Following Munster, I will study the affective modulations produced *with/in* real time forms of folding in selected artworks. In these artworks the intertwinement of human and non-human aims to explore the folding capacity of interfaces. Deleuze's registration of "an omni-directional space" (Deleuze 1989, 265) is especially relevant in real time encounters in which interfaces seem to overcome both spatial and time-zone distances between the human and non-human bodies involved.

A Skype meeting with real-time audiovisual and written data-feed from keyboard, mic and camera is a perfect illustration of the folding operations of the "third eye." The feeling/seeing/hearing yourself as intertwined with the image and voice of the other(s), includes the movements and sensations of camera, mic and key-board, that operate, filter, record and render sound and image. This affective involvement takes place even if the quality of the sound or image is somehow badly represented: frozen, doubled or interrupted. Classical forms of semantic analysis are inadequate when it comes to grasping these effects in real time encounters. In this chapter I want to hold on to the significance and impact of the "tiny pulses of electricity" mentioned by Johnson (1997). In this chapter's explorations of contemporary artworks, I will refer to these by Gilles Deleuze's term: *the signaletic material*. This term points out how the celloloid movement-images of film as well as the electronic signal in video and electronic media condition the signs of the language system. Deleuze defines the signaletic material as "a plastic mass, an a-signifying and a-syntaxic material, a material not formed linguistically even though it is not amorphous and is formed semiotically, aesthetically and pragmatically" (Deleuze 1989, 29). The definition is an important component of his criticizm of a narrative approach to film, since "the language system only exists in its reaction to a *non-language-material* that it transforms" (29, italics original).[2] So,

rather than transforming the non-language (or signaletic) material to language and narrative meaning, the materiality of the signal becomes key to Deleuze in his philosophical approach to film.

In order to outline the bodily affects of the signaletic material, I will draw upon Deleuze's explorations of 'modulation' and 'spatialization.' Deleuze borrows the term modulation from Gilbert Simondon,[3] and in underlining changeability rather than 'content' and 'form' the term is introduced to generate attention to Francis Bacon's use of color. So, modulation here refers to Bacon's manual-haptic modulation of figuration that spatializes in a new way. According to Deleuze, Bacon's color modulations heightens the spectator's awareness to a haptic way of seeing,[4] away from representation. Instead the pictorial 'fact' comes into focus:

> There is neither an inside nor an outside, but only a continuous creation of space, the spatializing energy of color. By avoiding abstraction, colorism avoids both figuration and narration, and moves infinitely closer to the pure state of a pictorial "fact" that has nothing left to narrate. This fact is the constitution or reconstruction of a haptic function of sight (Deleuze 2003, 108).

Deleuze's explanation of how Bacon's "spatializing energy of color" can accentuate a "haptic function of sight" (108) will be my launch pad to discuss electronic and digital circuits and feedbacks as a signaletic material that modulates and affects bodies directly in interfaces. For modulation can both expand and connect planes in depth and contract movement so that "everything is restored to the body, to the mass, as a function of a point of imbalance or a fall" (97).

In focusing on interfacial productions of modulations rather than semiotic constructions of meaning or content, the perspective is set on exploring affects in relation to events. Or rather, the felt intensities of interfacial folding-unfolding modulations enable us to experience new potentials and qualities—or as phrased by Brian Massumi—becoming aware of "the thinking-feeling of what really happens" (Massumi 2011, 67). Massumi explores the immediate prehensions as potentials for change (or events) in whatever happens, and I will return to this below. Meanwhile, in the following presentation of artworks I will use the term 'modulation' to explore whether the signaletic material and the folding capacity of interfaces might give access to qualitative differentials or potentials.

JESPER JUST'S *CADAVRE EXQUIS*

Jesper Just's *Cadavre Exquis* was performed at Theatre Østerbro in March 2019 in Copenhagen. Its title refers to a game of losing control, made famous by surrealists. The rules of the game are simple: on a folded piece of paper that hides former inscriptions, each person in a group sketches a part of a body; once unfolded the co-produced work would compose a 'cadavre exquis,' an exquisite corpse made of diverse features and characteristics. In Just's performance the folding operation was made by placing the audience opposite a gigantic screen onto which real time streamings of the audience were projected mixed with film recordings of audiences to other shows of the same performance. The screened material thus 'folded' past and actual time. Another folding was made up by the floor between screen and audience: separating screen and audience two men in Rococo costumes with cameras mounted onto their bodies slowly followed patterns drawn on the pink floor.[5] Acting as a kind of numb automata their camera lenses were directed towards the audience at all times. This intermediate pink space between screen and audience became filled at the ending with the 'exquisite corpses' of the two performers—a man and a woman. Their bodies were present in the audience, real time present at the screen and present in the footage from another performance.

These folding appearances created confusion as to whether the actual seen/projected was a past or a present form of liveness. But apart from making the audience aware of its delimited scope of senses when exposed to the instant fusion/folding of recordings between audiovisual layers, the two performers' physical presence actually permitted the audience to wonder about interfacial folding as such. The (con)fusion of past and potentially screened events from the actual performance seemed to proliferate into the real space of the auditorium. Here, the male performer made a move from crying out loud (in past footage) to literally folding his body across the two rows of spectators' seats, separating him from the pink floor. Meanwhile, the female performer who had been sitting anonymously in the audience started a flirt with the camera in real time mixed with past recordings. This interfacial modulation sharpened the audience's awareness toward the signaletic material of the camera-work embedded in the performance. Furthermore, the modulation became literal, as she folded her right leg into one 'leg' of a pantyhose. One-legged she rolled downstairs to the pink floor, where she jumped to heavy sound waves and stroboscopic light until falling to the ground. So, the male performer's folding

Figures 1, 2, and 3. *Cadavre Exquis.* Press release images. Østerbro Teater, 2019.

led from an oral exclamation of anxiety (with/in the projected self-portrait) onto an embodied outburst of energy, while the female performer's folding led from joyous flirtation (with/in projected self-portraits) to a restrained affect pattern of movement. From being an audible, modulatory wave (crying with variations of pitch) of spatial extension, the sound folds back into the male performer's body as jerking jesting-movement until exhaustion, while the female performer's body shifted from facial mood intensities onto restricted extensions of her bodily movements.

To the audience the folding operation's modulation of the visible became key. Enfolded in various projections the audience was prevented from determining, if the visually perceived was 'real,' 'real-time' or past recordings, since locations and backgrounds were blurred. Rather, the spatializing energy was affectively felt in the folding operations. Indeed, Deleuze's description of the spatializing energy of color in Bacon's modulation of color suits this interfacial experience: "[t]here is neither an inside nor an outside, but only a continuous creation of space …" (Deleuze 2003, 134).

The haptic function of sight staged and performed in *Cadavre Exquis* was bound to affect the audience's bodily sensorium since the interfacial modulation surrounded all visual, oral and tactile activity. The performance's modulation could be felt as a dizzying display of interfacial folds, neither with aspirations to meaning nor to sustaining the position of the audience.

To qualify the affective, folding event of this interfacial performance and before I move to more examples, I will introduce the term 'receptacle' or 'sieve,' as used by Deleuze in *The Fold: Leibniz and the Baroque* (2006).

THE RECEPTACLE—OR SIEVING EVENTS OUT OF CHAOS

In his chapter "What is an Event?" Deleuze (2006) refers to Liebniz use of 'the receptacle' to underscore how an event, "a One," an "indefinite article that designates a certain singularity" can be sieved out of a "pure *Many*, a purely disjunctive diversity" that would be chaos (86, italics original):

> A great screen has to be placed in between them. Like a formless elastic membrane, an electromagnetic field, or the receptacle of the *Timaeus*, the screen makes something issue from chaos, and *even if this something differs only slightly* (86, italics original).[6]

Even though chaos "does not exist" in Leibniz and Deleuze the diversity of "infinite series of wholes and parts [...] appear chaotic to us [...] because we are incapable of following them [...]" (87). The sieving operation underscores how the screening of 'something' rather than nothing in a sensed or perceived field is neither in need of subject nor object. Relationality is embedded in perception. But when something 'issues from chaos' percepts and affects take a crucial part in the event of perceiving, of becoming. It should be noted here, that percepts should not be compared to perceptions and affects are not feelings or affections. Rather, they exist in the sculpture's stone, the book's words or the painting's canvas as outlined in Deleuze and Guattari's *What is Philosophy?* Here, they define the things preserved as well as the newness in art as "*a bloc of sensations, that is to say, a compound of percepts and affects*" (Deleuze & Guattari 1994, 164, italics original).

When Deleuze in the *The Fold: Leibniz and the Baroque* (2006) expands his reading of Leibniz with the process philosophy of Alfred North Whitehead, he outlines four ways in which events can be sieved out of chaos. These are: extensions, intensities, individuals (prehensions) and eternal objects. To sieve events as extensions means that "one element is stretched over the following ones" so that they relate and connect to each other like a whole and its parts like "a vibration with an infinity of harmonics or submultiples, such as an audible wave, a luminous wave, or even an increasingly smaller part of space over the course of an increasingly shorter duration." From this follows intensities, the "second component of the event: extensive series have intrinsic properties (for example height, intensity, timbre of a sound, a tint, a value, a saturation of color)" (86). Intensities have limits, mark degrees, and can form conjunctions.

In the above example of *Cadavre Exquis*, the constant mixing and folding extentions of real into real time and past recordings in the very staging created an alertness to perceiving as such. This alertness was intensified by the variations of light and the timbre of sound. The performance all in all created a dizziness as to where things were supposed to be seen or experienced from. The audience was bound to affectively feel disorientation in the folding of facing and interfacing. On the other hand, as presented above, the extensions and intensities felt were certainly not chaotic. They reflected the modulations of the expressions presented by the performers, and thus new forms of orientation were created.

The sieving out of chaos is also due to prehension, that according to Deleuze is the third component of the receptacle.[7] Deleuze describes prehension thus:

> Everything prehends its antecedents and its concomitants and, by degrees, prehends a world. The eye is a prehension of light. Living beings prehend water, soil, carbon and salts. ... We can say that 'echoes, reflections, traces, prismatic deformations, perspective, tresholds, folds' are prehensions that somehow anticipate psychic life. The vector of prehension moves from the world to the subject, from the prehended datum to the prehending one (a 'superject'); thus the data of a prehension are public elements, while the subject is the intimate or private element that expresses immediacy, individuality, and novelty... (88).

It is noteworthy that prehension as an element of the receptacle is coming from the world to the subject and in each instance takes part in individual becoming (89). In the above description of *Cadavre Exquis*, I underlined how Jesper Just emphasized the folding activity of perception. In her book, *Relationscapes* (2009) Erin Manning explores how prehension works in the unfolding of events: "Perception is not the taking-in of an object or a scene. It is the folding-with that catches the event in the making." With Manning's exploration of prehension as "events of perception" (77) it becomes clear that perception is folded into past-future-past experiences. Prehension catches the event in becoming, and the 'subject' comes into being in the experience of "immediacy, individuality, and novelty" (Deleuze 2006, 88). Thus, perception is enfolded in shaping relations between the experienced world (the prehended data) and the prehending one (the unfolding of a future-past event).

The fourth element of the receptacle is characterized by Deleuze as eternal objects. They are: "[q]ualities, such as a color or a sound that qualifies a combination of prehensions; sometimes Figures, like the pyramid, that determine an extension; sometimes they are Things, like gold or marble, that cut through a matter" (Deleuze 2006, 90). Eternal objects have the ability to 'stand out' or establish remembrance through the folding operation of perception—as qualities, figures or things, relationally felt. The remembrance of eternal objects is explained by Manning as being activated in the actual involving an activation of "relation by bringing into appearance a feltness in the present passing" where it can become "an aspect of the newness of experience" (Manning 2009, 80). Through her discussion of Robert Irwin's installation *Who's Afraid of Red, Yellow and Blue* (2006), Manning (2009) underscores how the event of remem-

brance "takes form in the present, its hue activated through the contrast past-present, then–now" (80). This installation was a comment on Barnett Newman's paintings with the same title (1966-1970). Due to the installation format, where colored fields were suspended from the ceiling facing the same colors on the floor, the gallery guests' perception of color was expanded: "[w]hat we perceive is a strange perceiving-with-color that colors our perception not only for this event but for all future instances of the active perception of red, yellow, and blue" (Manning 2009, 78).

Thus, eternal objects can stand out as qualitative differentials in memory or involuntary remembrance. A specific quality underscoring a tonality of colors or sounds for example can form a pattern or constellation that can become as eternal as a figure (a pyramid) or a thing (gold or marble). The reference to or the use of eternal objects is clearly a preference in art as are the other ways of sieving events out of chaos: by way of extensions, intensities and prehensions.

DIAGRAMMATIC MODULATIONS AND EVENTS IN PROUST AND BACON

Just like the blending of color-impressions can compose eternal objects to sieve events out of chaos, Leibniz exemplifies the event with a choir, while Deleuze exemplifies with a concert. In Deleuze's case, he quotes (without reference) Marcel Proust's description of Swann's perception of a concert: "First the solitary piano grieved, like a bird abandoned by its mate: the violin heard its wail and responded to it like a neighboring tree. It was like the beginning of the world…" (Deleuze 2006, 91). Interestingly, this passage to me qualifies as a very instructive description of an eternal object, since I immediately recognized it. This, even though I read the passage more than 30 years ago in Danish and later worked with it in a newer English version.[8] Still, I recognized it as exactly this: an activation of a diagrammatic event in Proust's text.[9] The quoted passage ends up in a description of synaesthesia, comparing music with colors:

> As a rainbow whose brightness is fading seems to subside, then soars again and, before it is extinguished, shines forth with greater splendour than it has ever shown; so to the two colors which the little phrase had hitherto allowed to appear it added others now, chords shot with every hue in the prism, and made them sing (Proust 2003, 500-501).

Thus, Deleuze's text affectively prehended data into my prehension, as I remembered the 'feltness' of Proust's text across different languages, ages, and times. It instantly affected me activating a differential quality of the present. Past and present perceptions of reading this section of Proust's text formed the backdrop of a qualitative differential.

All in all, understanding perception as taking part in a folding and sieving operation of the receptacle within which both a conception of time as crystalline and a becoming is conceived, inaugurates a processual understanding of events. Events can happen everywhere and assume all forms, sizes and qualities. But as Brian Massumi underlines with his term "the thinking-feeling of what really happens," it is in "the gaps between things, and from one moment to the next" that we can experience and explore "their vital, virtual due" (2011, 67). It is this "immediate, lived abstraction" (49) of thinking-feeling that potentializes:

> every sight we see [with] imperceptible qualities, we abstractly see potential, we implicitly see a life dynamic, we virtually live relation. It's just a kind of shorthand to call it an object. It's an event. An object's appearance is an *event*, full of all sorts of virtual movement" (43, italics original).

Wrapping up this paragraph, the quote from Proust (citation above) actualized a past reading impression of the same quote in Danish, which to me underlined the event as a qualitative differential—prehending a prehension of an eternal object.

The creation of the new, which according to Deleuze is the aim of both art and philosophy (Deleuze 2006, 89), has to go through eternal objects to create events to be prehended for future activations. This is what Proust mastered so well. He did it through the activation of eternal objects like the madeleine cookie, the grandmother's birthmark next to her kissing mouth etc. The described passage, where a violin's sound creates relations that alters Swann's state of mind completely, so that a synaesthetic sensation is reached, summarizes in a programmatic way his diagrammatic method. The diagram is produced virtually through the textual layers. In the actual reading-perceiving, former descriptions of "the little phrase's" enlivening effect on Swann's melancholic mood are unfolded in the sentence "chords shot with every hue in the prism, and made them sing" (Proust 2003, 501). In the novel this "little phrase" is expanded upon, intensified and resumed in length, until Swann finally falls in love with Odette. In reading Deleuze's passage in *The Fold* (and confronted with the lack of reference to Proust), I

realized that my first reading experience had established an eternal object that actualized an event years after. The affective intensity of this event was partly due to the time span between my two readings.

Furthermore, I propose to see the interface as a diagrammatic modulator that creates intensity. For, even though diagrams do not exactly sieve events from chaos like the receptacle in philosophy, diagrams can intensify perception in granting direct access to extensions and intensities. This is explored by Deleuze in his book on Francis Bacon, published seven years before *The Fold*.[10] Here, Deleuze uses the word 'diagram' in line with Bacon's use of the word (Deleuze 2003, 82). He underlines how diagrams can pave the way for a haptic function of sight:

> The diagram is indeed chaos, a catastrophe, but it is also a germ of order or rhythm. It is a violent chaos in relation to the new order of painting. As Bacon says, it "unlocks the areas of sensation". The diagram ends the preparatory work and begins the act of painting (83).

The diagrammatic operation destroys the figurations already inhabiting the canvas (81). In Bacon's case, the diagram "acts not as a code but *as a modulator,*" "liberating lines for the armatures and colors for modulation" (98, italics original). This affects the spectator directly as prehended "events of perception" (cf. Manning, Deleuze 2003, 77). The diagrammatic modulations in Bacon's works form immediate, virtual relations.

The diagrammatic modulations explored in Bacon's works should not be directly compared with interfacial relations, as emphasized by Massumi when criticizing the word 'interaction'. What is normally referred to as interaction by way of interfaces often discards the importance of "discontinuity". Massumi's term for how we "virtually live relation" (Massumi 2011, 43), the "thinking-feeling of what really happens" emphasizes, that relation is not a matter of physical relationality or of relating things or bodies. The 'thinking-feeling' is prehending events as they happen in the "gaps between things" (67).

In the following interfacial sound performances, I will expand on the above definitions and descriptions of receptacles, events and diagrams. Key to the explorations is if and how artworks can explore diagrammatic pulsations of signaletic materials, affect bodies, and create gaps for a thinking-feeling or the experience of how we "virtually live relations" (Massumi, 2011, 67).

Figure 4. *EUSTACIA—for Two Voices*. Katinka Fogh Vindelev & Jacob Kirkegaard, 2016. Video screenshot.

VINDELEV AND KIRKEGAARD'S *EUSTACHIA*—FOR TWO VOICES

The performance *EUSTACHIA—for Two Voices* (2016) was composed by Katinka Fogh Vindelev and Jacob Kirkegaard. It was based upon a signaletic material, namely recorded sounds from a group of students' inner ears. The recordings were made "with specialized microphones inserted directly into the ears,"[11] unveiling that most people have 'spontaneous otoacoustic emissions' (abbreviated to SOAE; Kirkegaard 2016, n.p.). These are different for each person—some in tune, some dissonant. From these recordings Vindelev and Kirkegaard composed a modulation of tones for their own two voices 'singing' into each other's mouth. From the sonic encounter of ear and voice in the eustachian tube an extra layer of tonality emerged and could be heard and sensed by the audience.

Brian Kane's description of the affective interval in the sounding or audiovisual middle of listening (Kane 2014)[12] might give an understanding of the capacities of the inner ear as it is explored in *EUSTACHIA—for two*

Voices. Kane's explanation emerges in reading one of Kafka's unfinished novels, *Der Bau* (1923-24). The German 'Bau' is comprehended by Kane more like a burrow than a construction:

> Like an ear, the burrow leads from a single soft and protected entrance into a series of tunnels and passageways of differing (but specialized) size and function. And, as with the ear, sound does not simply travel through the burrow, but penetrates it from various points. Just as vibrations travel through the bones of the skull to be received inside the ear, the burrow is similarly permeable, combining signals from both inside and out into a single resonance (145).

The ear produces—like a receptacle—resonance in sieving outside signals or vibrations inside and in passing them through the nerve impulses of the brain, they are deciphered as sounds with specific qualities and timbres. The 'inner' needs 'outer' to produce hearing. In *EUSTACHIA— for two Voices*, the interface could be sensed as the producing middle, whose techniques were prehended prehensions with/in the recorded SOAE and the two voice's attunements. When performed the voices could even dialogue in a kind of interfacing, reaching dissonance or harmonic overtones.

This operation can be imitated as it happens in the interfacial hearing implant for deaf people, a so-called cochlear. Here, sound is picked up by a microphone and sent to a processor filtering the acoustic signals. Those are sent as digitized signals to an internal receiver/stimulator, and this is again in different frequencies sent to the cochlea. This electrical information/stimulation from the electrodes takes the place of the damaged or missing hair cells in the cochlea. Thereafter the electrical signals produced in the cochlea can be picked up by the auditory nerve and be relayed to the brain interpreting the information as sound.[13]

In the performance *EUSTACHIA—for Two Voices* the inner ear's unheard frequencies were heard in an almost palpable way. The casual attunements of sounds made the audience aware of the interfacial quality of hearing. Listening to the inner ear's sounds in modulation with the sung composition of another inner ear's sounds brought prehension as such to the fore as well as the signaletic material of sound. The (normally unheard) signaletic material of the ear became the prehended data, and in the composition an interfacial folding receptacle was created between the two mounths 'singing' into one another. This 'burrow' (cf. Kafka) is thus experienced by the audience as "permeable, combining signals from both inside and out into

a single resonance" (Kane 2014, 145). The interfacial encounter of the two voices thus qualifies the otoacoustic emissions (OAE) as affectively felt modulations of extensions and intensities on more levels simultaneously.

AUTOGENA AND PORTWAY'S *FOGHORN REQUIEM*

The chapter's last example is Lise Autogena and Joshua Portway's *Foghorn Requiem* (2013). It created a spatializing interface or a land-scape-body relation in a sounding refrain, which braced a haptic function of listening. *Foghorn Requium* was a site-specific concert, performed just once, on June 22nd, 2013.[14] Its local context was that foghorns across the UK's coastal landscape were being silenced as they were no longer needed as coastal warning systems. In order to mark a farewell to the foghorn's deep timbre on a bigger scale, the artists' decided to produce a sounding event for Souter Lighthouse in the North-East—a requiem. The *Foghorn Requiem's* huge sound installation attracted many generations living in the Souter Lighthouse's vicinity. Besides three brass bands it involved fifty ships gathered and interfacing with the South-Eastern coast of England. In the ending of the requiem, the sound of foghorn was heard for the last time. An account of the project presented by the artists reads:

> *Foghorn Requiem* highlighted the passing of the lighthouse foghorn from the British coastal landscape. It was an inquiry into the complex interactions of sound, atmospheric physics and landscape, and the combined impact on the experience of the listener. The work focused on the foghorn as a sound asso-ciated with time and distance that is uniquely shaped and encoded by the changing atmospheric conditions and innumerable echoes and reverberations of the particular geographic landscape through which it travels. The *Foghorn Requiem* was performed by the Souter Lighthouse foghorn, an onshore brass orchestra and ships horns of fifty vessels on the North Sea. Using custom built technology, sounds originating miles out to sea were remotely controlled and conducted to arrive in time with music performed on land, resulting in an extraordinary sound landscape experience. *Foghorn Requiem* involved atmospheric, acoustic and landscape interaction modeling to incorporate atmospheric conditions (temperature, wind, humidity) and the physics of distance and landscape directly into the musical composition. Custom soft-ware simulated all of these effects, allowing the composer to work with the reverberation of the landscape as a timbral element in the composition. The final composition features synchronized, controlled acoustic blending of sounds originating miles apart, with conventional local sounds (Autogena & Portway, 2013, n.p.).

Figure 5. *Foghorn Requiem.* **Installation to horns on the DFDS Princess Seaways Ferry. Adrian Don, 2013.**

As mentioned, the performance involved the pneumatic Souter foghorn, three onshore brass orchestras and the horns of the ships, positioned on the coastal line where many ship wrecks had taken place. Their combined sounds were modulated in real-time by software to match the composition made by Orlando Gough. The acoustic modulation allowed the artists "to compensate for the speed of sound, so that sounds of ships' horns [would] arrive in time with musicians playing onshore" (n.p.). This real-time experience, where "normal expectations of physics" were defied, was monitored on each ship by "small computers equipped with radio links and GPS modules" so that "each controller [had] a precise base time signal […] perfectly synchronized with all of the other controllers and a master computer on shore." This allowed the ships to "determine their location and their distance from the audience, and therefore the amount of time it [would] take the sound of their horn to reach the ears of the listeners" (n.p.).

The performance was a huge success with more than 10,000 people present. The video documentation of the compositional encounter of onshore and offshore sounds can be perceived as a modulatory spatial-

ization. As the foghorns of the ships participated in the composition in sync with the brass band without the usual delay caused by landscape and weather conditions, the audible wave could be heard as an extension of 'normal perception.'

At the ending, the overwhelming sound of the Souter foghorn normally heard from a distance unfolded the very idea of a massive body. The intensity of its deep timbre produced on the one hand a familiar spatiality connected to this specific landscape, on the other hand its overwhelming sound was heard as if for the first time. So, the work modulated two forms of spatialization simultaneously—one in real time where the actual time of sound passing was actually defied, another as a sound-space massive presentness created by the vast sound of the foghorn. The offshore horns' sounds were modulated by GPS, radio communication, and computer software in relation to the onshore performance of the orchestra. Thus, the prehended data of the artwork was created with both extensions of sounding (audible waves) and intensities (timbres of sound). The avoidance of sound obsta-
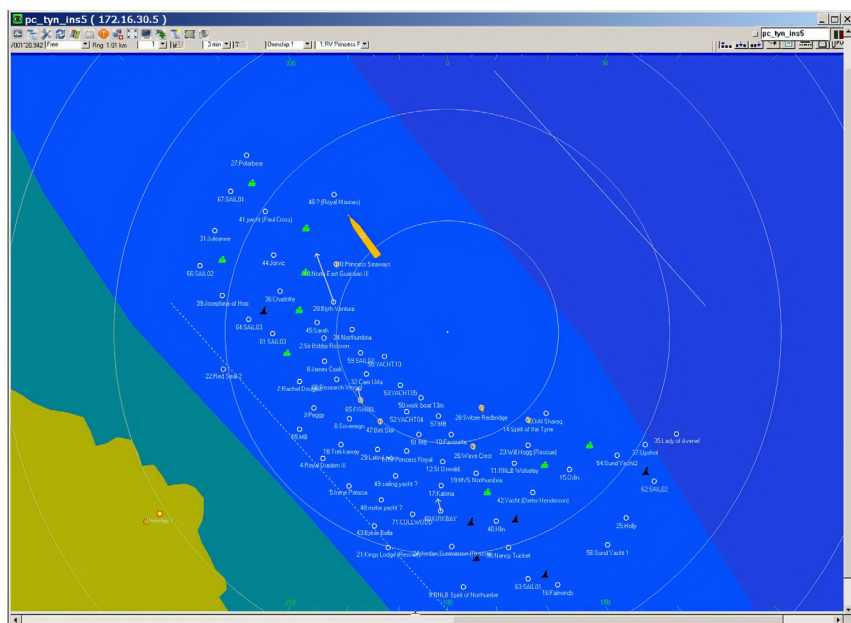

Figure 6. *Foghorn Requiem.* Orchestral positions of vessels created for virtual re-enactment prior to the performance. Lise Autogena and Joshua Portway 2013.

cles from landscape and wind emphasized the diagrammatic operation of interfacing as such, which paved the way for a haptic way of listening to the foghorn ending the performance. Its overwhelming sound ended an era of foghorn sounding in the UK in accentuating the signaletic materiality of foghorns in interfacing sea and shore.

With this, the sieving or screening function of bodily prehension in the receptacle came to the fore. The modulation of the sound-space in *Foghorn Requiem* embodied the folding intensity of interfaces felt—or rather the bodily enfoldment could be felt as 'affect-vibrator.' This artwork made it palpable that it is not the body as such that is folded. The haptic function of sound is a becoming body of sound, of light waves, of moods due to the interfacial folding—just like in listening, where inner and outer is modulated in the creation of the sounds heard.

MODULATIONS OF AFFECT AND THE CREATION OF EVENTS

Although different, the art examples above all deal with how affects can be modulated through interfacial encounters. I have stressed how the signaletic material of sound and visuals have been boosted, intensified or expanded, thereby underlining the interfacial modulations of bodies (human and non-human). Whereas it is often problematized how the interfaces that we use on a daily basis can be disturbing and stressful and affect the body's capacity to rest, concentrate and sleep, I wanted to underline the potentials of interfaces to affect and bring about events as shown in the descriptions of encounters with/in these artworks. Here, the signaletic material is brought to the fore in stressing its modulatory capacity to intensify the affects leading to processual understanding of events and prehensions. The signaletic material is extended and intensified and the relational qualities of interfaces experienced. Today, when interfacial encounters are mostly regarded as negative in relation to the potentiality of algorithmic manipulation and surveillance, I have found it important to underscore how artworks can indeed pave the way for processual relations and events. The intensification of the signaletic material and the exploration of the folding capacity of interfaces are a uniting feature of the three artworks presented. In modulating the signaletic material of interfaces, these artworks force the workings of affects and percepts to stand out in their haptic functionality. Detached from the production of 'meaning' understood as content, information and use value, a diagram-

matic awareness of affect and modulation paves the way for an exploration of the capacity of interfaces to produce 'the new'; i.e. the immediate thinking-feeling of potentialities and events in virtual, lived relations.

NOTES

1. In his essay, Johnson doesn't stay at these pulsations but is primarily concerned with showing how the metadata of interfaces can be studied as an interface culture, visible in other media forms like TV. In their recent book, *The Metainterface* (2018), Christian Ulrik Andersen and Søren Pold defines contemporary metadata as networked, no longer engaged in translation nor in enabling transparency: "It incorporates a signal-computer interface that quantifies and datafies, and ultimately turns the whole world into an interface: a large statistical body whose reality deeply depends on the processing and visualizations of data" (36). Andersen and Pold are concerned with showing how especially software art and interface design can obtain critical stances to this new reality, whereas this article is more concerned with how artists work with the felt intensities of interfaces.

2. Cf. newer explorations of the signaletic material in relation to contemporary art and film (Thomsen 2012, Brunner, 2012, Thomsen 2018, Murphie 2019, Munster 2019).

3. In a note, Deleuze quotes Simondon "[t]o mold is to modulate in a definitive manner, to modulate is to mold in a continuous and perpetually variable manner." (Deleuze 2003, 165, note 20). Simondon deals specifically with the modulations of electrons in relation to the modulating control grid between the cathode and anode of a triode (cf. *L'individu et sa genèse physico-biologique* (1964, 42). In his recent study of modulation in relation to social media, Yuk Hui reaches the conclusion that modulation and the possibility of a common ground is deliberately reduced in software (Hui 2015).

4. The term 'haptic' was first used by Alois Riegl (1902) to distinguish a near-sighted 'touching with the eyes' from the term 'optic' to underline a way of seeing applying to patterns in mosaics, carpets etc. Deleuze develops the term 'haptic' throughout his works, and in *A Thousand Plateaus* (with Félix Guattari) the rhizomatic qualities of the concept are clearly spelled out.

5. Besides underlining the faint colors of Rococo, the pink floor painting could be sensed (intended or not) as having similarities with the Baker-Miller pink that was developed to calm down inmates in American prisons.

6. In Plato's dialogue Timaeus, the receptacle functions as a sieve to solve the enigma of how the universe is created out of chaos. Plato makes Timaeus distinguish this term from two other ways of conceiving the world. The first way is seeing the world as a "model" that is "intelligible and always changeless", while the other way sees it as an "imitation of the model that possesses becoming and is visible" (Plato 1997, 1251). So, one is the original model so to speak, while the other is its imitation or copy—a well-known distinction of Plato's. Compared to these, Timaeus draws up the idea of "a receptacle of all becoming—its wetnurse, as it were" (1251, italics

original), explaining to Plato how the sieving mixes or transforms fire, earth, water and air into various forms and elements. The important difference between the world as a model, where everything is everlasting and the imitation of the model, where becoming is the generative principle, the basic principle of the receptacle is the invention of time as a "moving image of eternity: at the same time as he [the creator of the world] brought order to the universe, he would make an eternal time, moving according to number, of eternity remaining in unity" (1241).

7. Deleuze prefers Whitehead's term 'prehension' (to 'individuals'), since this term underlines that events are in flux between 'the prehended datum' and 'the prehend-ing one.'

8. This (new) edition of Proust's oeuvre reads: "At first the piano complained alone, like a bird deserted by its mate; the violin heard and answered it, as from the neigh-bouring tree. It was as at the beginning of the world…" (499-500).

9. Charles Sanders Peirce describes how diagrammatic relations can be seen in art: "The greatest point of art consists in the introduction of suitable abstractions. By this I mean such transformation of our diagrams that characters of one diagram may appear in another as things" (Peirce 1997, 226). Inspired by this, Brian Massumi illustrates diagrammatic operations in art with Marcel Proust's use of the Madeleine cookie to create relational, virtual event in the fictional remembrances *In Search of Lost Time*. Inspired by Massumi's readings, I have explored the diagrammatic operations in Lars von Trier's films (Thomsen 2018).

10. The term 'the receptacle' can thus be regarded a philosophical concept, whereas the 'diagram' could be seen as an instrument to make the 'percept' or the 'affect' stand out in relation to for example Bacon's work as shown by Deleuze.

11. Cf. Jacob Kirkegaard's webpage: https://fonik.dk/collaborations/eustachia2voices.html [Accessed 01 May 2020]. Kirkegaard has experimented with OAE since 2007. In his first work, *Labyrinthitis*, the OAE from his own ear could be heard. In listening to it, the listener's own OAE would immediately respond. In this way one could hear one's own hearing tones, and so to speak listen to one's own listening. Other works with OAE include *Earside Out*, *Stereocilia*, and *Eustachia for 20 voices*. See http://www.fonik.dk/works [Accessed 01 May.2020].

12. Kane elaborates on Pierre Schaeffer and Michel Chion's works on 'acousmatic' and 'acousmetric' sound respectively, where 'acousmatic' refers to the focus or isolation of the listening mode (as in modern audio technology) and 'acousmetric' refers to sound that lives like a monster in the visual, haunting it from within (as often seen in David Lynch's films).

13. Information about the cochlear implant see for example: https://www.boystown-hospital.org/knowledge-center/how-cochlear-implant-works.

14. Cf. http://forhornrequiem.org [Accessed 01 May 2020].

REFERENCES

Andersen, C. U. & Pold, S. B. (2018). *The Metainterface: The Art of Platforms, Cities, and Clouds.* Cambridge & London: MIT Press.

Autogena, L. & Portway J. (2013). *Foghorn Requiem.* Press Release for *Foghorn Requiem.* See also: https://www.autogena.org/work/foghorn-requiem.

Brunner, C. (2012). Immediation as Process and Practice of Signaletic Mattering. *Journal of Aesthetics and Culture* 4 (1) [online]. Available at: https://www.tandfonline.com/doi/full/10.3402/jac.v4i0.18154 [Accessed 01 May 2020].

Deleuze, G. (1990). *The Logic of Sense.* London: The Athlone Press.

Deleuze, G. (1986). *Cinema 1: The Movement-Image.* Minneapolis: University of Minnesota Press.

Deleuze, G. (1989). *Cinema 2: The Time-Image.* Minneapolis: University of Minnesota Press.

Deleuze, G. (2003). *Francis Bacon: The Logic of Sensation.* Minneapolis: University of Minnesota Press.

Deleuze, G. (2006). *The Fold: Leibniz and the Baroque.* London and New York: Continuum.

Deleuze, G. and Guattari. F. (1994). *What is Philosophy?* London and New York: Verso.

Hui, Y. (2015): Modulation after Control, *New Formations 84/85*, pp. 74-91.

Johnson, S. (1997). Bitmapping, an Introduction. In: S. Johnson. *Interface Culture: How New Technology Transforms the Way We Create and Communicate.* San Francisco: Harper.

Kane, B. (2014). *Sound Unseen: Acousmatic Sound in Theory and Practice.* New York: Oxford University Press.

Kirkegaard, J. (2016). Performances. [online] *Jacob Kirkegaard.* Available at: http://fonik.dk/performances.html [Accessed 01 May 2020].

Manning, E. (2009). *Relationscapes: Movement, Art, Philosophy.* Cambridge & London: MIT Press.

Massumi, B. (2011). *Semblance and Event: Activist Philosophy and the Occurrent Arts.* Cambridge & London: MIT Press.

Munster, A. (2006). *Materializing New Media: Embodiment in Information Aesthetics.* Hanover & London: University Press of New England.

Munster, A. (2019). Signaletic Immediations: Sensing New Media as Relational Events and Ecologies. In: E. Manning, A. Munster and B. M. Stavning Thomsen, eds., *Immediation I*. London: Open Humanities Press, pp. 228–239.

Murphie, A. (2019). The World as Medium: A Whiteheadian Media Philosophy. In: E. Manning, A. Munster and B. M. Stavning Thomsen, eds., *Immediation I*. London: Open Humanities Press, pp. 16–46.

Peirce, C. S. (1997). *Pragmatism as a Principle and Method of Right Thinking: The 1903 Lectures of Pragmatism.* State University of New York Press: Albany.

Plato (1997): *Timaeus.* Complete Works. Indianapolis/Cambridge: Hackett Publishing Company.

Proust, M. (2003). *In Search of Lost Time*, vol. 1. *Swann's Way.* New York: The Modern Library.

Riegl, A. (1985). *Late Roman Art Industry.* Rome: Georgio Bretschneider.

Simondon, G. (1964). *L'individu et sa genèse physico-biologique.* Paris: Presses Universitaires de France.

Thomsen, B.M.S. (2012): Signaletic, Haptic, and Real-Time Material. *Journal of Aesthetics and Culture* [online] 4 (1). Available at: https://www.tandfonline.com/doi/full/10.3402/jac.v4i0.18154 [Accessed 01 May 2020].

Thomsen, B.M.S. (2018): *Lars von Trier's Renewal of Film 1984-2014: Signal, Pixel, Diagram.* Aarhus: Aarhus University Press.

Seeing Relation:
The Perceptual Event
in Olafur Eliasson's Art

KATRINE ANNESDATTER-MADSEN

The installations of the Danish-Icelandic contemporary artist Olafur Eliasson are composed of a few different materials that create a simple visual appearance. In many works materials taken from nature, like fog, light, water, stone, wood, and ice play a leading role. Usually, they are arranged in a way that displays their materiality rather than used to represent something else. The artwork *is* its materiality—it *is* light, water, stone, wood, ice, and fog. Through my analysis of two artworks, this chapter explores the implications of Eliasson's technique in which the materiality becomes sensible: *Beauty* (1993), an installation of light and water in which a rainbow appears, and *Riverbed* (2014), an installation of a riverbed made of stones and water. I argue that, above all, Eliasson encourages the viewer to perceive the materiality—the colors of the rainbow and the stones—whereby it can be discovered that perception is relational.

Gilles Deleuze's writings on art show great interest in art with a particular focus on letting the materiality be sensed. He coined the term "signaletic materiality" to describe the emphasis on materiality rather than representation that characterizes the emergence of a new type of expressionist cinematic aesthetic after WW2. Deleuze highlights in particular Carl Th. Dreyer, Andrej Tarkovskij, and Jean-Luc Goddard for their exploration of ways to make the filmic materiality sensible: ruptures in the diegesis, the insertion of dark and white spaces, the decoupling of sound and

image track, or the use of certain colors to name only a few techniques. As such, these directors challenged a classical understanding of the film as a linquistic sign. The signaletic material:

> includes all kinds of modulation features, sensory (visual and sound), kinetic, intensive, affective, rhythmic, tonal [...] this is neither a language system nor a language. It is a plastic mass, an asignifying and a-syntaxic material, a material not formed linguistically (Deleuze 2013, 29).

Deleuze's work on signaletic materiality was published in *Cinema 2: The Time-Image* in 1985. However, the term elaborates on analytical points made in his 1981 book *Francis Bacon: The Logic of Sensation* (2003). Here, Deleuze praises the painter's use of color because it breaks with figuration/representation. It does so by enabling a perception of the fact that the colors are relational, that is, virtual appearances actualized in perception. The problem with visual modes of representation is the precedence of form and figure over materiality. Suppressing materiality in favor of figuration does not let the virtual plane be felt (Deleuze 2003, 125-127). Instead, the world of the figuration appears as separate from the world of the perceiver instead of simultaneously appearing *with* and *in* perception. In this way, visual representation comes to be aligned with Cartesian visual perception, a perceptual mode that is characterized by the idea that vision produces disembodied and objective registrations of a predefined world (Jay 1988).

Rather than composing visual representations, *Beauty* and *Riverbed* accentuate their materiality. The viewer can thereby discover that visual experience is a continuous folding of perception and materiality. This folding of perception and materiality is key to understanding the dynamic of the interface as theorized by Anna Munster (2006). Clearly, *Beauty* and *Riverbed* are not digital interfaces. However, by exploring the effects and possibilities of relationality, I argue that *Beauty* and *Riverbed* stretch the boundaries for how we can think interface-events.

Although I will not use the term 'interface,' my analysis explores the same relational exchange between bodies that Munster stresses in her definition. Munster's point of departure is the Spinozian understanding of the body. Whatever the nature of a body, it can differentiate itself in

relation to other bodies, because bodies have the capacity to affect and be affected. This idea of the body as open and changeable enables Munster's rethinking of the interface and is at the base of her definition:

> Affect arises relationally and is produced out of the difference between being *in* the body and representing/mapping the body from the outside. Affect sustains the singularity of sensing and of representing as a differential experience of embodiment, one in which alterity has a place (Munster 2006, 142).

My analysis of *Beauty* and *Riverbed* describes how the perception of materiality can give rise to perceptions of differential experiences of embodiment. Perceiving such bodily movement enables explorations of the body as a perceiving agent that takes part in a "worlding" (Brunner 2012). Brian Massumi asserts that bodies can differentiate because the capacity to affect and be affected governs a transition in which "a body passes from one state of capacitation to a diminished or augmented state of capacitation" (Massumi 2009, 1). Furthermore, Massumi stresses that this transition has to be *felt* (ibid.). In *Beauty* and *Riverbed*, this capacitation of the body becomes perceivable as a potential that shapes visual experience.

Massumi's concept of "thinking–feeling" elaborates on Deleuze's work on visual art and signaletic materiality. Thinking–feeling is about the creativity of perception as it describes how perception continually 'doubles' or enfolds the world by adding potential to it. This potential becomes manifest in vision. What we actually see is always doubled with its own (virtual) potential. Therefore, vision has both actual and virtual dimensions. Vision is not an objective registration of what is actually in front of our eyes; rather, it is an abstraction. We literally see potential by seeing imperceptible qualities that are not 'there' in an actual sense. What we see is a "life dynamic" because we see the body live a virtual relation (Massumi 2011, 42). For instance, when we see an orange, what we actually see is a two-dimensional round shape with different shades of orange. Color is what we actually see, because color is what the visual sense produces. Though we *see* the two-dimensionality and color of the orange, what we *perceive* is three-dimensionality, and we can't choose to stop 'seeing' that volume.

This means that we see more than what is actually visible. There is more to vision than the color the visual sense produces. This is because other senses participate virtually, thereby making vision synesthetic. Volume is a quality that appears virtually because it pertains to kinesthesia

(sense of movement). Volume can only appear in visual perception because perception creatively think-feels the shape of the orange and so a relay of vision into kinesthesia takes place. Perception feels the qualities of the orange and thinks the potential it holds in respect to the body's ability to relate (Massumi 2011, 50). We are "seeing, in a real way, [...] our capacity to see the other side [...], the potential our body holds to walk around, take another look, extend a hand and touch" (Massumi 2011, 42). Another thing we see is weightiness, which we see through texture. Weightiness pertains to propriocention and texture to the sense of touch. In an actual way, the granulated surface of the orange can be seen as nuances of orange and different relations of shadow and light. The composition of color, light, and darkness activates a virtual sense of touch as perception imagines how the texture would feel, but also how it would feel to lift and hold in our hand.

There is therefore a relay of vision into both the sense of touch and proprioception. What constitutes our ability to see the orange in its three-dimensionality is this actualization of virtual qualities in visual perception. But typically we don't notice this relational shaping of visual experience, instead we just grab the orange and let the qualitative dimension of the lived experience pass. It means that we don't feel the capacitation because we live out the affordance of the thing, that is, its potential for interaction, rather than we notice the emergence of that potential in perception. Massumi's point is that as long as the potential the thing holds for interaction remains a potential, that is, as long as we don't actually move towards the orange and take it in our hand, the stronger the qualities of the lived virtual relation will appear in visual perception.

As a result, there is a difference between interaction and relation. While interaction refers to the instrumentalization of objects through reducing them to their primary functions, *relation* refers to the experience of the full spectrum of virtual qualities accompanying every perception of an object. Experiencing the virtual dimension of an object makes it a "semblance" (Massumi 2011, 15). When interacting with an object, the semblance is backgrounded in favor of its instrumental function:

> Inter*action* is just that: a going back and forth between actions, largely reduced to instrumental function. The lesson of semblance is that lived reality of what is happening is so much more, qualitatively. It includes an 'uncanny' moreness to life as an unfolding lived relation in a world whose every moment is intensely diffused with virtuality—an abstractly felt 'backside', or voluminousness, or life itself (Massumi 2011, 46, italics original).

With this distinction in mind, the problem of visual modes of representation is that they align with the interactive mode of perception: they display already 'finished' and formed objects and the interaction circuits between them. This means that the virtual dimension of the object is unperceived. The following analysis will explore how *Beauty* and *Riverbed* highlight their materiality and thereby make the lived virtual relation perceivable.
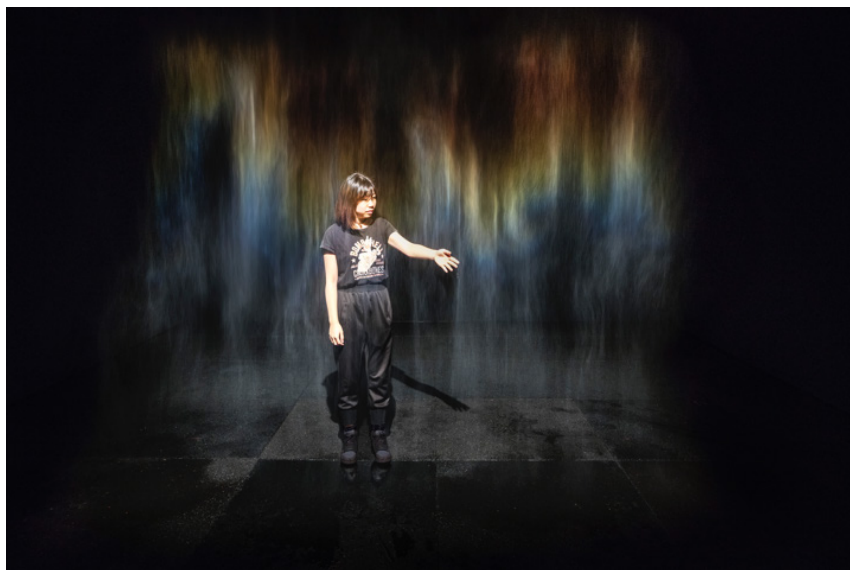
Figure 1. *Beauty*, Olafur Eliasson, 1993. Installation view at Long Museum, Shanghai, 2016. Photo credits: Anders Sune Berg.

BEAUTY

Beauty has become an icon of Eliasson's practice. Since its creation in 1993, it is one of his most exhibited artworks and was also part of his large 2019 retrospective *In real life* at Tate Modern. The installation features a spotlight hanging in the middle of a dark room pointing at a formation of vaporized water droplets falling from the ceiling. When entering the space from the side, the formation appears whiteish (the formation is not just white but ranges from dark to white with all kinds of greyish and whiteish

nuances in between). The fog vibrates as it falls from the ceiling, so the light continuously hits it differently; even if the spectator stands still, the appearances vary. Moving closer to the center of the floor, slight changes in the whiteish appearances emerge; moving closer still, colors begin to pop out on the crest of the waves of the fog. The colors intensify with every step, until eventually a rainbow-like spectrum of predominantly red, yellow, orange, purple, and blue colors appears. Red and blue light radiate most vibrantly, while the whiteish reflection has almost disappeared. Upon continuing toward the side of the blanket of fog, the colors fade until there is only darkness. When moving in the opposite direction towards the entrance of the space, the colors appear once again, as eventually does the whiteish formation. If moving back towards the center (whether closer to the fog or farther away from the fog), the rainbow doesn't appear, only the whiteish reflection. In the following, I will dwell on how these appearances can be understood in relation to the difference between interaction and relation discussed above.

THE CODED SPACE OF THE WHITEISH APPEARANCE: INDIFFERENT BODIES

The appearance of the whiteish light is less sensitive to movement than that of the rainbow. By that I mean that gallery guests can walk around in large areas of the 'white zone' and only experience slight changes between light and darkness. This alteration is solely caused by a change in the contrast between the number of droplets reflecting the light and those not. Accordingly, the whiteish appearance is part of a spectrum ranging from darkness to whiteish light. Darkness or dark spots are the results of absence of light. The dark spots are located in the fog either where there are no droplets or where the droplets being hit by the light are not reflecting the light in the direction of the spectator's eyes.

When the fog goes from being illuminated to being dark, it is only possible to see the spotlight itself and the darkness (which you don't really 'see'). The rays of the spotlight become absorbed by the darkness of the room. Therefore, the spotlight hanging in the darkness can be likened to a mathematical point. As such, it can be comprehended like a code of a binary shift between on and off: light and no light.

This optic code is almost infinitely reproduced by the spatialization introduced by the fog. The code is spatialized when the reflections of the light by the droplets become within reach of the eyes of the spectator when moving into the white zone. The reflecting fog reproduces the optic code because its mirroring does not cause a visible qualitative change in the constitution of the light. The light quality of the spotlight appears to be merely transferred to the droplets. This means that the mathematical point of the spotlight is multiplied by the mirroring of each droplet. The droplets scatter the light widely in the room and towards the spectator. This scattering makes the whiteish appearances less sensitive towards her movement. Accordingly, this makes the whiteish appearances visible from many locations on the floor.

In *Francis Bacon: The Logic of Sensation* (Deleuze 2003), Deleuze attributes an optically coded space to Abstract Expressionism. Because this space can be counted as binary digits, it can also easily become a mere symbolic coding of the figurative (Deleuze 2003, 109). The modulation of light and darkness appeals to a purely optical function or distant vision. This means that what is seen appears to be separated from as well as preexisting the viewer. In *Beauty*, the fog does not represent a figuration, but delineates a spatial extension. Therefore, the whiteish appearance has an affinity with the naturalistic painting style. This style creates space and volume by means of different relations between light and darkness (among other techniques) to trigger a linear perception of space (Deleuze 2003). The light illuminating the extension of the fog effectively outlines its three-dimensionality. As a result, the light doesn't add a spatial quality to the fog; rather, it illuminates and reveals the space already created/delineated by the fog. As such, the fog preexists its own illumination by the light. Therefore, perception is interpellated into a certain spatial order. In this mode of perception, the feeling of movement in the body when the vision of volume is brought out by perception is obstructed. Deleuze states (paraphrasing Francis Bacon) that optical space lacks sensation since it "unlocks areas of sensation" (Deleuze 2003, 102). By this, Deleuze means that the optical space has no capacity to make the affective impingements *felt*, because it doesn't exert "direct action upon the nervous system" (Deleuze 2003,109). Instead, it merely "internaliz[es] tension in the optical form," which causes its neutralization (Deleuze 2003,109). So, the whiteish light makes it difficult to perceive the relational activation of perception,

that is, the actualization of volume in visual perception. Therefore, the whiteish fog will appear as a mere gathering of individuated entities: the fog, the light, and the body of the viewer. Accordingly, the encounter between perception, light, and fog can be said to be characterized by indifference. That is because when seeing the spatial representation, the virtual quality of volume that constitues visual perception of that space is hard to feel. Neither does the encounter between fog and light cause a qualitative change in the constitution of the light. Therefore, we can say that the responsiveness of the whiteish appearance is merely interactive rather than relational or interfacial. In order for the encounter between the spectator and the whiteish fog to be characterized as an interface, there has to be a relational exchange in which the capacitation of the body resulting from the encounter becomes perceivable. Since the encounter between the spectator and the whiteish fog neither leads to a qualitative change in the constitution of the light (it remains whiteish) nor does the quality of volume become perceived as bodily movement and differentiation, it can be characterized as an interactive exchange. It means that the interaction between the body of the fog and spectator can go on in endless circuits, but they will not lead to qualitative change in the nature of either.

THE THINKING–FEELING OF VISION: SEEING POTENTIAL IN THE REFRACTED LIGHT

As explained above, optic space could be seen as distant from the spectator due to the spatial representation of light and darkness. However, a qualification by way of modulating colors exercises an intimate closeness upon vision. The colors replace the optical space with the sensation of color. Deleuze writes:

> The modulation of color, on the contrary [compared to the modulation of light and darkness], recreates a properly *haptic* function, in which the juxtaposition of pure tones arranged gradually on the flat surface forms a progression and a regression that culminates in a close vision (Deleuze 2003, 133).

Deleuze elaborates on the concept of the haptic from the art historian Alois Riegl (Riegl 1985; see also Thomsen 2018). In his reading of Riegl, haptic vision describes the perception of a surface (for instance, a canvas or reliefs) in which virtual qualities such as texture become visually perceivable because it can be seen how the canvas feels to touch. Haptic

vision enables a perception of perception's thinking-feeling because the hand's potential interaction with the surface becomes manifest as a visual feeling of touch. The modulation of color that Deleuze attributes to Bacon describes a vision of the spatial qualities of color, a virtual movement. When the colors modulate, they 'detach' from the surface on which they are painted and move. Deleuze refers the virtual movement of color to haptic visuality. That is because the modulating colors make perceivable that the movement happens in visual perception, in the optic nerve so to speak. As such, they enable a perception of the fact that the colors are virtual actualizations; in other words, they actualize in visual perception in relation to the materiality of a canvas (e.g. paint). Therefore, the colors do not preexist the viewer and the viewing situation, but appear in relation to both.

The ephemeral colors of *Beauty* are not subordinated to a certain shape or figure, but are visual abstractions. This makes their spatial qualities perceivable. Therefore, the rainbow appears as a modulating space of colors. The spatialization of each color creates a felt perception of movement and volume. The two most radiant colors are red and blue. They delimit the rainbow from the darkness at the top of the artwork and the more whiteish fog at the bottom. Even though the fog vibrates and moves, the contrast between red and blue creates tension in the eye as they detach from the materiality of the fog and free-float. As such, the movement of the colors is different from the vibrations of the fog. The red color progresses or advances while the blue regresses or contracts. Vision is turned in on itself as the contrast between seeing colors move from 'outside' the body and feeling their closeness as movement and volume from 'inside' the body is diminished and becomes indiscernible. The dynamism of vision itself, its relational becoming from moment to moment, can be perceived as a thinking-feeling of vision while happening. Thinking-feeling the qualities of the colors makes clear that the colors do not preexist but are brought out by perception in relation to the refracted light.

Where indifference characterized the encounter between the light, fog, and perception in the whiteish appearance, the dynamic appearances of color express the relational event happening between all three. The relation appears within an angle of 40-42 degrees formed by the spectator and the rays of the light in relation to the fog. Here, the rays pass through the front of the droplets, causing their refraction. Subsequently, the rays hit

the back of the droplets where they are refracted once again *and* mirrored. The mirroring of the refracted rays directs the rays towards the specta-tor to be caught by her eyes. The rays are thus seen as a color spectrum or rainbow. The whiteish appearance is therefore not to be considered as contrary to the rainbow but as its constituent. The rainbow expresses the differentiation of the light by the fog and the differentiation of the body by the refracted light. Therefore, the rainbow can be described as, in Massu-mi's words, a virtual "pop-out dimension" of the whiteish appearance. Massumi explains the relation between the virtual and actual as follows:

> The virtual is the pop-out dimension *of the actual* whereby it really, appear-ingly, exceeds itself. The virtual is the excessive dimension of the in-act as it throws itself into experience over and above its sensuous conditions. It is the dodgy, supervenient manner in which the actual effectively appears to include *more than* can be sensuously counted for: a reality of the abstract. The appearance of an abstract locus nonsensuously filled with a spectral being of relation (Massumi 2014, 60, italics original).

The virtual is more than can be sensuously counted for. In this context, 'sensuous' refers to the parts of *Beauty* that are actually there: the fog, the light, and the perception of the spectator. What sensuously hits the eyes of the spectator is the light after it's refracted by the fog, but the rainbow seen by the spectator can neither be reduced to the refracted light nor to perception alone. The rainbow appears relationally and is therefore more than both. The rainbow is a 'nonsensuous' reality because it has refer-ence only to an abstract, virtual plane. The colors are abstract and virtual, because we don't see the light electrons hitting the retina and affecting the optic nerve. Vision is an expression of how the body deals with the activity in the body caused by the electrons. The body takes their activity into its own by transforming it into an event of color (Massumi 2011, 27). The modulation of color, the thinking-feeling of vision itself, is as such an expression of the body's own capacity for relation as activated by the impinging refracted light electrons. It is a perception of the body in the midst of processing their activity.

Moving on to an analysis of *Riverbed*, I will explore the ways in which the installation invites a thinking-feeling of a landscape full of ordinary stones to be perceived anew as an event. Hereby, the installation stresses the virtual as a memory that constitutes the felt potential. That is because it becomes impossible to see the same stone the same way twice.

RIVERBED

Riverbed was installed for the first time in 2014-2015 in the south wing of the Louisiana Museum of Modern Art in Humlebæk, Denmark. In 2019, the installation opened at Queensland Art Gallery in South Brisbane during Australia's devastating summer drought and bushfires. As one reviewer pointed out, in this context the freshness and humidity of *Riverbed* came to act as a kind of parallel world of possibility in which a different future could be experienced and imagined.[1]

Riverbed covers the wooden flooring of the exhibition space with stones and gravel in various shades of blue and gray. A small brook runs in the middle. The floor has been elevated so that the landscape slopes gently upwards. The walls are left white, and as far as the eye reaches from the entrance, the same kind of landscape continues in the following rooms.

The space does not hierarchize elements: paintings and objects placed on the floor are not given a higher status than the space in between. Brian O'Doherty (1986) argues that the point of each gallery space is to transmit value to the objects placed in it. This also applies to *Riverbed*. But usually, this transmission of value entails that movement and the distance to be covered between the artworks is subordinated to the separation of the objects of display. The visuality of *Riverbed* clashes with such organization of space and movement. Its organization of space can be compared to the haptic, ornamented style of pre-classical Egyptian reliefs as analyzed by Riegl (Riegl 1985; Deleuze 2003). The Egyptian reliefs are flat, and their ornamentation is characterized by sparse figuration. Their visual patterns are repetitious and they expand endlessly and continuously across the surface. The emphasis on the two-dimensional plane rather than a three-dimensional space makes the visuality of the ornamentation haptic. That is because it invites a close-up perception of its material qualities which brings to the fore a perception of how perception think-feels the materiality. The haptic, close perspective enables the viewer to *see* how the materiality *feels*, as if the eyes could act like hands and touch the ornaments.

Riverbed fills out the space in a continuous manner similar to that of Egyptian ornamentation. The non-hierarchical organization of the space doesn't offer any visual breaks or interruptions: no spectacular object stands out from *Riverbed*'s gray-blue ornamentions. Rather, because the ornamentation directs attention only to the stones and gravel inside

Figures 2 & 3. *Riverbed*, Olafur Eliasson, 2014. Installation view at Louisiana Museum of Modern Art. Photo credits: Anders Sune Berg.

this place, it disrupts any instrumentalization of movement itself. The stones do not function as an obstacle that needs to be covered in order to go somewhere or see something other than what can be seen in the space. Rather, the stones themselves, as well as the act of walking them, is the attraction of the installation. *Riverbed*'s space of seeming nothingness is not entertaining; it doesn't impose a behavior or attitude upon the viewer. Rather, its statement is quite clear: if one decides to stay in this space, one can experience what happens when nothing happens.

WALKING THE IMPERCEPTIBLE

Riverbed is hard to walk. The stones and gravel make it difficult to maintain a sense of direction. In order to avoid stumbling over the stones, slipping on the gravel, or getting wet shoes, the walker has to look down and pay attention to the ground in her most immediate surroundings.

This haptic ornamentation is everywhere in *Riverbed*. The installation consists of its relationalities and these compose its value. It invites walking in a haptic manner which is a bit like orienteering in a desert, or, as a matter of fact, walking an Icelandic riverbed: a walk in which there are no, or only minimal, visual coordinates according to which the walker's movements could be measured. Thus, the visual mode of functioning changes when walking through *Riverbed*. Outside the installation, navigation through the museum building and corridors was supported by the optical vision, a way of seeing predicated on distance (Deleuze & Guattari 2014, 551f.). But inside *Riverbed*, the close, haptic vision must take over.

There is good reason for this change. The shape of each stone is unique, and the composition of these uniquely shaped stones makes up an uneven ground. The uneven ground means that the body has to adjust itself a little before each new step forward. No movement is the same. The challenging ground imposes an awakening and awareness upon the walker that can make her notice this adjustment of the body in the instant just before putting a foot on the ground and giving in to the weight of the body. This moment of preparation defines an anticipation of the future that is full of virtuality: the constitution of the ground just before the body is taken into account by means of the close-up perspective of the eyes. The volume, hardness, and tactility of each stone can be seen and experienced in the body. Without experiencing these potential qualities of the ground

in the immediate surroundings, the walker would simply fall when step-ping forward, it would feel like walking blindfolded. But because the body relates itself virtually to the stones, it doesn't fall. The thinking-feeling of each stone's degree of slipperiness, density, sharpness, or roughness prepares the body so that it knows how to move. This knowledge is based on the actualization of these virtual qualities in perception. We don't really know how the ground feels before we have put our feet on it. Nonetheless, we don't fall. We rely on these qualities because we have a history of inter-acting with stones. This history is what enables the qualities (of the past) to actualize in perception as a projection of the future

QUALITATIVE DIFFERENTIALS

To see the event of each stone is to see "through" to its qualities (Massumi 2011, 42). Seeing qualitatively means that the object is doubled by its own potential. When seeing each stone, what is actually seen is a pattern that describes only its visual appearance—its compositions of light, shadows, and gray-blue colors. This composition outlines a shape. The virtual doubling of the stone appears through this shape-pattern.

The difference between *Riverbed* and *Beauty* is that the latter is a purely visual, ephemeral and shapeless phenomenon. By contrast, the stones in *Riverbed* are not ephemeral objects because they consist of multiple qualities that pertain not only to the visual sense. By thinking-feeling the shape-pattern of the stones, the body's history of interacting with such shape-patterns is activated. The nonfiguration and shapelessness of *Beauty* suspends any interactive potential. That is why *Beauty* becomes an invitation for a thinking-feeling of vision itself, in which the typically unperceived relational dynamics of vision become perceivable. Since we normally perceive colors when they are governed by a shape, we tend to the interactive potential of the shape rather than the quality of the color itself, leading the color relationality to pass unnoticed. That is what happens in *Riverbed*: The objectness of the stones makes the thinking-feeling of the qualities pertaining to all the other senses except the visual perceivable: the sense of touch, kinesthesia, and proprioception. These qualities appear as an excess of the shape-pattern of each stone. Accordingly, seeing the stones qualitatively implies a vision less dominated by the colors and more of the potentials pertaining to the aforementioned non-visual senses actu-alizing in visual experience.

As such, thinking-feeling the stones in *Riverbed* highlights the diagrammatic functioning of perception. Diagramming stresses the virtual relation lived to an object while the visual shape-pattern almost dissolves by the doubling of the objects' qualitative nature that passes through it. Diagrammatic perception is a perception of the abstract potential in the actual.[2] It "is not concerned with reducing the world to an aggregate of objects" (Massumi 2011, 14). Rather, it is about attending to the genesis of the object—as a lived relation (ibid.).[3]

Therefore, the installation can be said to make perceivable the genesis of the stones and consequently of a landscape; the stones appear through the shape-patterns by the relay of the visual sense into the senses that can only appear virtually. In this way, seeing the virtual qualities may give rise to an awareness of the fact that the body has a history of interacting with stones like the ones in *Riverbed*. As such, the diagrammatic perception highlights the virtual as a memory integral to perception. That is because there can be no felt future potential (the anticipation mentioned before seeing how it would feel to place the foot on the stone ahead of the body) without a memory of how, in the past, it felt to interact with stones of shape-patterns like the ones in *Riverbed*. The felt potential and experienced qualities of actual perception are tied to the virtual as a memory that includes past experiences. Erin Manning explains the relation of shape-patterns to past and future potentials:

> We see not only what we actually look at but what we remember ourselves seeing. What we remember ourselves seeing is actualized through non-sensuous perception, which refers to how an experience of pastness—past seeings—finds its way into our present as a force of potential. It's not just that we see what we've already seen—it's that what we've already seen contaminates what we feel we see and re-composes what we're actually not seeing (Manning 2009, 85).[4]

The virtual memory is what constitutes the body's capacity to project itself into the future by thinking-feeling the potential relations that could be lived to the shape-patterns. As such, the potential seen in the shape-patterns is not a memory of the past but of the future (Massumi 2009). In *Riverbed*, the body lives future relations to the stones by thinking-feeling their shape-patterns *before* the interaction (walking) is lived out. In this way, the time of walking the ground is a kind of past, because the walking has already happened virtually. The memory of past interactions with stones is thought-felt differently according to the specific shape and patterns

posed by each stone. It means that the potentials experienced before walking over each stone in *Riverbed* will be different. The shape-pattern of each stone varies slightly as no two stones are completely identical. The way one stone appears with a larger amount of small dark spots because the surface is perforated can be seen as lighter than a stone whose surface is smoother and thus outlining a round shape. The two shape-patterns give rise to two different tactile experiences that relay into different experiences of weight and hardness. Each stone can be visually perceived as a qualitative differential because of the variation posed by each shape-pattern. 'Qualitative differential' refers to the slight variation posed by each stone compared to the 'stone-genre'. It means that what makes stones differ from each other is their different compositions of qualities (Massumi 2011, 49-50).

As the potential is felt in perception, the feeling will spur change in the constitution of the memory. Accordingly, each stone perceived qualitatively will change the constitution of the virtual. These particular felt qualities are 'added' to the memory pool, wherein they recompose the body. This implies that the kinds of potentials that can be felt in future perceptions of stones will be changed slightly. As such, the memory of (in this case) a stone as a generic shape-pattern is not stable but dynamic. Even though two identical stones may exist in *Riverbed*, the body will already have been moved after seeing and feeling the qualities of the first. They cannot be perceived as the same but two qualitative differentials.

As such, *Riverbed* is an invitation to discover the implications of diagrammatic perception for experiencing the world. Diagrammatic perception opens to experiences of difference and relation. What may at first look like an ordinary and familiar landscape in shades of gray could turn out to be nothing less than a novelty.

CLOSING REMARKS

Even though *Beauty* and *Riverbed* aren't digital interfaces, they explore the relationality of perception as underscored in Anna Munster's theory of the interface. The strong emphasis of the installations on letting the viewer perceive their materialites in a haptic way to foster a diagrammatic perception can be likened to the way a digital interface functions. As such, the artworks challenge understandings of the interface as a term that only comprises digital art and expand the current understanding of interface events. Eliasson's focus on creating haptic compositions rather than visual

representations invite the viewer to perceive qualitatively. These moments of qualitative perception create differential experiences of embodiment which stress the fact that the body is a processual becoming with the capacity to affect and be affected. Thus, the way the appearances of *Beauty* and *Riverbed* unfold in perception is not predefined. The relational unfolding is conditioned by the particular compositions of the viewer's body and the materiality of the artwork. In both installations, the virtual actualizes in visual perception diagrammatically.

In *Beauty*, the colors are brought out by perception as virtual abstractions. The modulating colors express the perceptual act: perception in the midst of transforming/enfolding the impingement of the refracted light electrons. At the same time, the colors expose the relational event happening as 'popping out' of the whiteish appearance when the right conditions form between its parts: light, fog, and the viewer's perception. Therefore, the whiteish appearance is in itself merely interactive as it expresses an assemblage in which its parts are mostly indifferent to each other.

In *Riverbed*, the actualization in visual perception of qualities pertaining to the sense of touch, kinaesthesia, and proprioception makes it possible to navigate safely through the landscape. Before walking on the stones, these qualities appear virtually through the stone-patterns. The haptic organization of the space suspends an instrumentalized approach to movement. Instead it invites the walker to notice this diagrammatic perception in which the stones can be perceived singularly as different compositions of qualities because of the variations in each shape-pattern. Each shape-pattern activates the virtual as a memory of a generic form. But this generic form is also dynamic and continuously affected by the virtual qualities actualizing in perception. Perceiving *Riverbed* diagrammatically means that it would be impossible to perceive two stones the same way, even if they carried identitical shape-patterns. This makes *Riverbed* an invitation to discover the effects of diagrammatic perception for experiencing the world. In *Riverbed*, the ordinary landscape could be experienced anew—as an event.

NOTES

1. E.g. https://www.abc.net.au/news/2019-12-30/water-exhibition-brisbane-ola-fur-eliasson-angela-tiatia/11823782 [Accessed 22 June 2020].

2. 'Abstraction,' as it is used by Massumi, should not be the confused with the way I use the phrase 'visual abstraction.' See above, where I describe how seeing the colors in *Beauty* is an abstraction, because we can't see the electrons themselves.

3. My interest in the diagram is inspired by Bodil Marie Stavning Thomsen's work on filmmaker Lars von Trier (Thomsen 2018). See also her elaboration on the concept in her chapter in this anthology (Thomsen 2021).

4. It should be noted that in this quote, Manning relates more to Bergson than to Deleuze in terms of referring specifically to 'past' and 'present' whereas Deleuze uses 'the virtual' to cover both past and future and 'actual' as the moment of actualization of the virtual.

REFERENCES

Brunner, C. (2012). Immediation as Process and Practice of Signaletic Mattering. *Journal of Aesthetics and Culture* [online] 4 (1). Available at: https://www.tandfonline.com/doi/full/10.3402/jac.v4i0.18154 [Accessed 22 June 2020].

Deleuze, G. ([1970] 1988). *Spinoza: Practical Philosophy*. Translated by R. Hurley. San Francisco: City Lights.

Deleuze, G. ([1981] 2003). *Francis Bacon: The Logic of Sensation.* Translated by D. Smith. London & New York: Continuum.

Deleuze, G. ([1985] 2013). *Cinema 2. The Time-Image.* Translated by H. Tomlinson & R. Galeta. London: Bloomsbury.

Deleuze, G. & Guattari, F. ([1981] 2014). *A Thousand Plateaus: Capitalism and Schizophrenia*. Translated by B. Massumi. London: Bloomsbury.

Jay, M. (1988). Scopic Regimes of Modernity. In: H. Foster, ed., *Vision and Visuality.* Seattle: Bay Press, pp. 3–28.

Manning, E. (2009). *Relationscapes: Movement, Art, Philosophy.* Cambridge: MIT Press.

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation*. Durham: Duke University Press.

Massumi, B. ([2008] 2009). Of Microperception and Micropolitics. Interview with Joel McKim. *Inflexions* [online] 3. Available at: http://www.inflexions.org/n3_massumihtml.html [Accessed 22 June 2020].

Massumi, B. (2011). *Semblance and Event: Activist Philosophy and the Occurrent Arts*. Cambridge: MIT Press.

Massumi, B. (2014). Envisioning the Virtual. In: M. Grimshaw, ed. *The Oxford Handbook of Virtuality.* New York: Oxford University Press, pp. 55–70.

Munster, A. (2006). *Materializing New Media: Embodiment in Information Aesthetics.* Hanover & London: University Press of New England.

O'Doherty, B. (1986) *Inside the White Cube: The Ideology of the Gallery Space*. Santa Monica & San Francisco: The Lapis Press.

Riegl, A. ([1902] 1985). *Late Roman Art Industry.* Translated by R. Winkes. Rome: Giorgio Bretschneider Editore.

Thomsen, B.M.S. (2021) Interfacial Modulations of Affect: On the Creation of Events in Contemporary Art Works. In: B.M.S. Thomsen, J. Kofoed & J. Fritsch, eds., *Affects, Interfaces, Events*. Lancaster & Vancouver: Imbricate! Press, n.p.

Thomsen, B.M.S. (2018). *Lars von Trier's Renewal of Film 1984-2014: Signal, Pixel, Diagram*. Aarhus: Aarhus University Press.

Nonsense Data and the Anarchive: Memory in Real–Time

SØREN RASMUSSEN

A cascade of audio-visual movement flickers across three juxtaposed screens. Rapid streams of fragmentary moving images are on display, each frame displayed just long enough for the audience to identify them (as Hollywood blockbusters, pornography, documentary footage, etc.). What is shown are files being transferred via The Pirate Bay, a peer-to-peer (P2P) file-sharing platform, from where the transmissions are intercepted and displayed in real-time. After watching this disorienting flow of fragmentary cinematic imagery for a while, it begins to take on a montage-like feeling, and patterns begin to emerge from the streams. Footage from the same sequence of a film shows a processual continuity in the audio-visual stream, and aesthetic similarities produce a sense of cohesion across genres (e.g. lighting in porn and music videos). The audio-visual content is, however, not the only data made available to the human sensorium. Highly pixelated frames, ghostly appearances from other frames, and stuttering repetition of the same frames reveal the temporal ordering of data being transmitted across distributed networks. Additionally, geolocation and the IP addresses of the devices are revealed (sender and receiver) – involved in the somewhat unauthorized file-sharing. These abundant streams of data constitute *The Pirate Cinema*, a multimedia art installation by Nicolas Maigret, which presents a view into the multiple spatiotemporal realities that traverse and inform real-time networks.

Figure 1. *The Pirate Cinema*, Nicolas Maigret, 2012.
Creative Commons 2.0.

According to its creator, *The Pirate Cinema*'s fragmentary and glitchy data stream "depicts the topology of digital media consumption and uncontrolled content dissemination in a connected world" (thepirate-cinema.com). This chapter addresses such disorderly movements and temporalities of digital networks in order to examine how social memory is enveloped in and produced through the immediacy of networked signal transmissions. I argue that real-time data processing has effectuated an *anarchival* amplification, where information is continuously reorganized and thus obliterated in order for it to be preserved. This presents a radical shift from conservative modes of preservation in print culture to generative digital archiving in network culture, where new informational compositions are made possible with each micro-temporal execution of code. Anyone with an internet connection can access, produce, publish, modify, and relay digital imagery in the immediacy of lived experience. This means that individuals, groups, and organizations are increasingly under pressure to produce sense from excessive streams of data that permeate and overflow the World Wide Web (WWW). Sense-making is thus increas-

ingly enmeshed in socially modulated signal transmissions rather than culturally anchored in centralized institutions, which leads to a relaying of affects and values in an unruly fashion.

The aim of this chapter is to propose the anarchive as a concept for understanding the dynamic and abundant potentialities immanent to real-time networked technologies, and how technology may be designed and operationalized anarchivally.[1] Through an analysis of *The Pirate Cinema* (2012) and of Mark Hansen and Ben Rubin's multimedia art installation *Listening Post* (2002), the chapter scaffolds an understanding of the anarchive as a dominant force in contemporary sense-making procedures. I primarily build on Jacques Derrida's (1995) original conception of the anarchive, which is used to designate the selective operation in archivization, where some things must be discarded in order to prevent information overload (you cannot capture all aspects of everything). The archive and the anarchive are thus simultaneous and co-constitutive in processes of preserving (and forgetting) memory of the past. More recently, the anarchive has been used somewhat cursorily, for example by Wolfgang Ernst (2013) and Kjetil Jakobsen (2010), to explain the unruly processes of the Internet. From a different perspective, Alanna Thain (2010) has explored mobile technology's potential to produce 'anarchival cinema' by intensively extending perception in an immediate redoubling "of what is perceived with an intensive awareness of the shadings and modulations of an immersive environment" (Thain 2010, 57). While Ernst's and Jakobsen's accounts of the anarchive are primarily technically oriented, Thain's examples are limited to perceptive augmentation through 'canned' recordings. In this chapter, I propose to understand the anarchive in relation to the 'live' streams of information that flow across the WWW with multiple—and sometimes contradictory—claims to truth.

The analyses of *The Pirate Cinema* and of *Listening Post* shows how the intensification and distribution of presents in network culture holds the potential to produce more than habitual responses to the increasingly indexed and accelerated interfacial encounters across real-time networks. The works are identified as what Gilles Deleuze (1989) terms 'peaks of present,' and they are analyzed according to their reconfiguration of the potential for data to be perceived otherwise. The chapter thus aims to move beyond the signifying order of the traditional archive to understand contemporary ways of preserving memory as fundamentally disor-

derly. This leads to a discussion of the potential for real-time interfaces to modulate how events are remembered and shared. In short, the chapter will focus on the process of making sense from the abundant streams of nonsense data that inform contemporary human-computer interactions.

TEMPORAL DISORDER

On *The Pirate Cinema*'s website, a 'nota bene' is inserted in continuation of the textual project description:

> NB: Downloading Torrents is not a linear process. Completion of a file is done in a disorderly manner, and according to an irregular rate. Which leads, in the context of this project to a rearrangement of the full temporal continuity of initial video and sounds (The Pirate Cinema).

It does not take long to discover that cinematic narrative is not paramount to the experience of watching *The Pirate Cinema*.[2] Although each frame intercepted by the project is displayed in sequential linearity, one is not immersed into the continuity of cinematic experience. Instead, the project grants insight into the multilinear operations of the BitTorrent protocol, which is often used to distribute large files through P2P networks.[3] This differs from traditional modes of communication, where content is transferred from one location to another in a linear manner (e.g. the postal worker delivering a package). The project thus offers a glimpse into the operational machinery of what may be designated the "archive in motion," which signifies network culture's perpetual transfer of data through micro-temporal executions of programmed code (Røssaak 2010). The proliferation of networked and mobile technologies with real-time access to data archiving and processing has entailed what Wolfgang Ernst describes as *a deconstruction of linear time*:

> Memory has become a function of immediate access to data storage centers, while, in turn, the present becomes radically temporalized (even micro-archivized) in dynamic realtime data processing (Ernst 2018, 172).

This focus on immediacy is a reiteration of Ernst's earlier work, where he argues that technological developments have obliterated the traditional separation between transmission media and storage media (Ernst 2013). According to Ernst, the archive—both as technical storage and as historical discourse—has radically changed from documentary stills to algorithmic dynamics, which means that the classical notion of the archive "becomes

literally metaphorical, a function of *transfer* processes" (Ernst 2013, 98, italics original). As software and hardware is constantly being updated and replaced, and information is generated as a result of programmed executions of code, neither the medium nor the message remains the same.[4] In effect, a shift from static representation of the past to perpetual data archiving has been brought about in the transformation from print culture to network culture. The macro-temporality of the traditional archive is superseded by the micro-temporality of computational processing. From a techno-cultural perspective, this implies that the meaning of an archive is no longer just a historical narrative constructed through the image of the nation state, but is today rather *ahistorical* in its perpetual processing of data in generative information networks. One can say that the contemporary archive suffers from *short-term memory*. The distinction between historical and ahistorical modes of preserving memory can be further described through Gilles Deleuze and Felix Guattari's argument that "short-term memory is of the rhizome or diagram type, and long-term memory is arborescent and centralized (imprint, engram, tracing, or photograph)," whereby "[s]hort-term memory includes forgetting as a process" (Deleuze & Guattari 1987, 16). While it may seem that the ever-expanding databases of digital culture capture and preserve for eternity, they are in fact perpetually reorganizing, and thus obliterating, memory (as long-term cultural memory). For instance, services such as Netflix or Google's search engine continuously reorganize content based on prior interactions. The Time To Live mechanism assigned to data packages transmitted via the internet is another example of the (a)liveness of digital data, which defines a certain amount of time(s) the data can be transmitted before its authentication expires.[5]

It is by no means a new idea that the archive would not exist without a double movement involving both a technique of remembering and a technique of forgetting, of inclusions and exclusions, preserving and erasing memories of the past; in short, the archive and its anarchive. However, when the archived past is no longer preserved and 'frozen' in its contemporary condition but perpetually rewritten and reorganized, it is difficult to uphold a general distinction between past, present, and future. The time frame for information to travel across the globe is no longer a matter of weeks, minutes, or even seconds, but is reduced to the blink of an eye. As transmission time is often imperceptible to the human sensorium, it brings a feeling of 'liveness' to the perception of media (Auslander 2012),

hence the need for the designation *real-time*. For instance, in a video call between two devices with a relatively good internet connection, we do not experience the distance the signals must travel in order to be received, since this temporal gap is minimized, even made imperceptible, by real-time processing. The real-time operations of contemporary technologies thus introduce new ways of relating to not only space, but also to time, where both space and time are negotiable and subject to modifications. The continuity of chronological time is no longer measured in relation to space (the time it takes a body to traverse a known distance). Both time and space have become abstracted or cut off from their physical manifestations. In real-time, we can experience the intensity of an extended now, since two spaces—for example, spaces of production and reception in older media—that could never actually meet in a physical sense can both 'meet' and exchange information in a signaletic sense in real-time. The delay of reproduction time in older media has been cut out and compressed in the almost instant distribution in digital media.
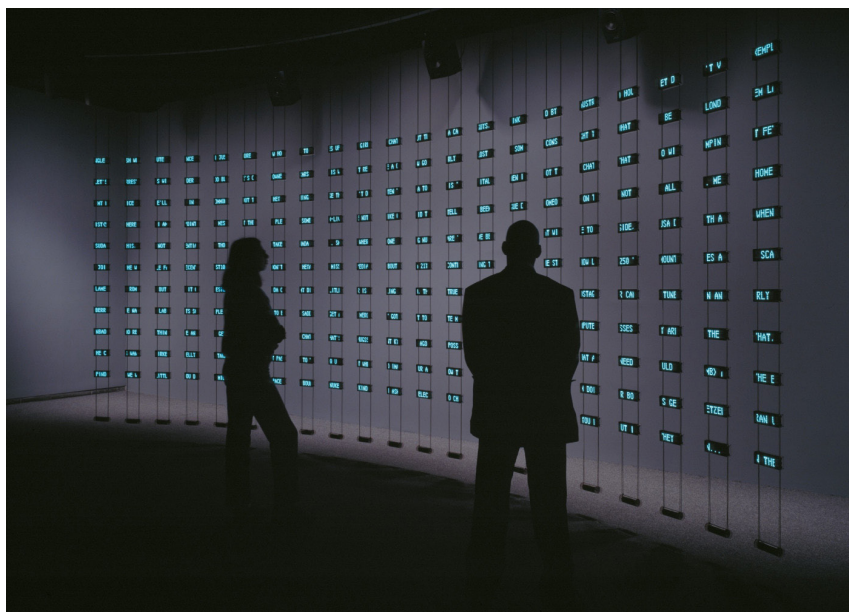

Figure 2. *Ear Studio,* Ben Rubin, 2002.
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REAL–TIME DISTRIBUTION OF PRESENTS

Mark Hansen and Ben Rubin's multimedia art installation *Listening Post* explores these extended presents by dynamically conveying text fragments from thousands of conversations on bulletin boards, chat rooms, and other online forums all over the WWW. Algorithms monitor these torrents of simultaneous conversations on various forums and automatically harvest data based on whether they include phrases such as "I am" or "I like" (e.g. "I'm bored" or "I am not repeating"). In real-time, these text fragments are then displayed in six different 'scenes' (e.g. all "I am"-phrases constitute a scene) through a suspended grid of 200+ small electronic displays, and some are read aloud using text-to-speech synthetization.

According to the creators of *Listening Post*, the aim of the project is to render the collective "murmur" of social interaction in online networks accessible:

> A participant in a chat room has limited sensory access to the collective "buzz" of that room or of others nearby—the murmur of human contact that we hear naturally in a park, a plaza or a coffee shop is absent from the online experience. The goal of our project is to collect this buzz and render it at a human scale. [...] Topics emerge in response to current events and daily activities in cycles that vary hour-to-hour, day-to-day, and season-to-season. The emergence of these topics transcends the boundaries of the online landscape: a local knitting circle in Australia and a political discussion group on Yahoo may both react to news of a political scandal or a world cup victory. Our goal is to distill the content and the structure of this collective communication and to present it in ways that are accessible and compelling (Hansen & Rubin 2002, 1).

At first, an encounter with the installation does not necessarily make sense. It rather conveys a chaotic stream of utterances with no immediate relation to one another apart from their syntactical structure (e.g. "I am..."). From the seemingly incoherent streams of fragmentary texts, patterns emerge as what the creators call 'topics' in the above. These topics are, however, not apparent in the immediacy of the interfacial encounter, but may appear as one reflects upon the events that might have triggered such reactions in online forums. For instance, the installation might be hit by a wave of euphoric expressions in the aftermath of a world cup victory, but unless you already know the game is being played, the connection can only be made in retrospect. Simultaneously, and in parallel with this rise of euphoria, a second wave of despair might be caused by reactions from supporters of the losing team; and neutral spectators might react to

scandalous scenes of violent commotion in the crowd, thus causing yet a third wave to rise from the stream of fragmentary texts; and so forth. Such reactions do not appear as readymade narratives, in fact, they do not even appear as reactions, before the individual spectator perceives them as such by pulling together the bits and pieces of data. *Listening Post* can be seen as a form of collaborative storytelling with input from a diverse range of sources that are assembled and processed through a sensing body. The perceived correlation between these fragmentary texts is not given but rather produced in the affective immediacy of the interfacial encounter.

The information conveyed through *Listening Post* in no way presents a continuous and linear narrative with claims to truth. Instead, fragmentary texts pulled from multiple sources of origin presents the spectator with a discontinuous and multilinear stream of data calling for an imaginative production of sense; i.e. to generate meaning from the data. The collective 'buzz' or 'murmur' Hansen and Rubin wish to transmit through *Listening Post* is essentially nonsense. *Listening Post* does not present spectators with a 'truthful' narrative of what people around the world are discussing. By truthful I mean in the sense that they would have been able to generalize and find topics based on the huge data corpus they pull from thousands of online conversations. Such reductive condensation of data would be the normal aim of data analytics. Instead, the operation strategy of *Listening Post* can rather be seen as an example of what Gilles Deleuze terms a "power of the false":

> A new status of narration follows from this: narration ceases to be truthful, that is, to claim to be true, and becomes fundamentally falsifying. This is not at all a case of 'each has its own truth,' a variability of content. It is a power of the false which replaces and supersedes the form of the true, because it poses the simultaneity of incompossible presents, or the coexistence of not-necessarily true pasts (Deleuze 1989, 131).

Deleuze more generally refers to the "simultaneity of incompossible presents" as "peaks of present" and the "coexistence of not-necessarily true pasts" as "sheets of past," and they belong to what Deleuze in his work on the temporal configurations in the cinematic experience articulates as "time-images" (Deleuze 1989, 130). According to Deleuze, the time-image constitutes a new mode of narration in cinema different from the traditional "movement-image," which is driven by motion in chronological progression: "We no longer have an indirect image of time which derives from movement, but a direct time-image from which movement derives"

(Deleuze 1989, 129). Rather than representing time in a continuous order through sensory-motor links (e.g. flashbacks and montage-cuts), the time-image reveals time as multiple, discontinuous, and disorderly as it perpetually splits into an *actual* present and its *virtual* double in memory.[6] This split into an actual present and a virtual past is perception's way of 'seeing' more than the present. This occurs through an affective weaving together of the sensory data in the present and of memories of the past in the formation of an immediate future (e.g. having walked into a room, I am confident another room will appear if I open the door again, although I cannot actually see the adjacent room).

I regard the archive and the anarchive as closely related to this forking of time, since the actual is that which can be archived whereas the virtual is memory's anarchival potential to grasp beyond the archive's historical narratives—to contest, to overflow, and to mutate history as truth so that the future may become different. The anarchive is the virtual excess of memory traces that linger on despite the archive's often violent selection of what is deemed worthy for future recollection. It opens up lines of flight from the authoritative narrative ordered by the archive. As previously argued, however, the once stable foundations upon which history was built and which collective memory would be accessible are replaced with the meta-stability of regenerative real-time technology, thereby invoking short-term memory and an amplification of anarchival de(con)struction of truth.

While Deleuze had trouble coming up with examples of peaks of present in cinema, the term works well to illustrate how sense-making today is closely interwoven with the multiple temporalities that traverse and co-constitute digital networks. Because this chapter focuses on peaks of the present, it does not further unfold the other time-image, sheets of past, in which memory is traversed in a falsifying search for a truth in multiple "not-necessarily true pasts" (Deleuze 1989, 131). In peaks of present, the newness of an event does not arise from a return to virtually preserved pasts—as is the case in the time-image sheets of past—but from variations of an event's actualization in separate, simultaneous timelines, each of which constitutes a reality relative to the others:

> However, this new mode of narration still remains human, even though it constitutes a lofty form of non-sense. It does not yet tell us the essential point. The essential point rather appears if we think of an earthly event which is assumed to be transmitted to different planets, one of which would receive

it at the same time (at the speed of light), but the second more quickly, and the third less quickly, hence before it happened and after. The latter would not yet have received it, the second would already have received it, the first would be receiving it, in three simultaneous presents bound into the same universe. This would be a sidereal time, a system of relativity […] where there are not only different worlds […] but where one and the same event is played out in these different worlds, in incompatible versions (Deleuze 1989, 102).

These simultaneous presents are bound together through the occurrence of the same event, and yet they remain distinct from each other, thus constituting "a system of relativity" where the simultaneous actualisation of each "sidereal time," each present, is not impossible but "incompossible" together (Deleuze 1989, 130). Deleuze builds on the notion of "compossibility" from Leibniz, with which Leibniz argues for the existence of a plurality of worlds composed by individuals (whether things or people) that may be contradictory to one another but are nonetheless "compossible" together (Deleuze 1989, 130). Deleuze furthers this view in his argument that the same event occurs in simultaneous presents that are not compossible together as part of the same world, since this would negate their autonomous actualization, but they are relatively bound in the same universe and thus 'incompossible' together.

While contemporary regenerative real-time networks were not yet developed when Deleuze wrote his philosophic books on cinema, his term *peaks of present* as an image of the sensation of time is highly relevant if we are to understand and further explore Ernst's argument that "the present becomes radically temporalized" through real-time data processing (Ernst 2018, 172). What happens to our ways of making sense of the worlds we inhabit when memory, as the virtual reserve of an event's actualization, "has become a function of immediate access to data storage centers" (Ernst 2018, 172)?

TORRENTS OF MEANING

Today, sense is made in conjunction with the real-time distribution of images that are formed and transformed in the local and global realities in which they circulate. Images of a world cup victory, a political scandal, or an environmental catastrophe are transmitted to a global audience and responded to in real-time. People from different cultures and in different social contexts all relate and respond to images of the same events as they occur or in their aftermath. These images are transmitted through a vari-

ety of channels, where personal devices supplement the production and transmission of images in traditional news media such as newspapers and television. Live video streaming via Facebook or Periscope, Twitter texts and instant messaging apps, and Snapchat photographs constitute some of the applications and platforms through which individuals produce and distribute multimodal images of events occurring far away – globally felt as familiar and near or just around the corner, yet strangely felt as distant and peripheral. Circulating among these abundant streams of videos, texts, sounds, and photographs are modified imagery and fake news. Whether they are forgeries or actually communicate real situations, a common trait of these rapid streams of images circulating the Internet is that they all claim to be true, and in the anarchival paradigm of real-time processing and short-term memory, they all become true—in the sense of real, online information.

The non-commercial institutions that had more or less exclusive rights to write and maintain history in print culture (libraries, archives, museums) are under pressure from corporations with commercial interests in engaging a broad public in the production, consumption, and sharing of cultural and social content (e.g. Facebook, Google, Apple, Amazon). Collective memory is thus no longer filtered and accessed through centralized institutions at a national level, but through distributed channels on a global scale. It is through these real-time networks, informed by policies and values from a globalized context, that we as individuals make sense of the different worlds we are connected to and inhabit.

Increasingly, the individual is thus under pressure (from time and peers) to make sense of the torrents of meaning that can be attributed to information on the WWW. The accelerated response time entails that habits of affect reaction are more likely to dominate how information is received and produced in the continuous engagement with real-time news, for example. In a way, the body has been transformed from what we might call an event-container, where memory creatively intervenes into sense-making procedures, into an *interface* through which signaletic flows are modulated and relayed according to automatic, or habitual, responses.

The body as interface emphasizes how the experiential process of filtering and processing sensory input has been accelerated and to some degree automatized by real-time interfaces. Moreover, real-time technology seems to push and extend the feeling of presence to such a degree that we feel like everything is happening right now, and it would be a shame to

miss out. So many channels of information scream for our attention in a sort of 'actuality overload' which might cause a general 'fear of missing out' (FOMO) on what might prove enriching events (social gatherings, cultural and political activities, job opportunities, etc.). What could potentially go down in history as 'the best pool party ever' or 'a turning point for the climate crisis' hold promises of being included into the social and collective memories of groups and societies in a constant search and push for events to come. This striving to take part in, to consume, social and cultural memory as it happens—or even premediated (Grusin 2010)—is followed by a drive to produce and publish imagery that documents one's own presence in the situation, thus inscribing oneself into its immediate history.

MORE THAN REAL-TIME

Through *Listening Post*, we take a step back from the streams of actualities that perpetually overflow our news feeds and inboxes. In doing so, we may gain access to the peaks of present—as an anarchive of sorts—that permeate digital networks. Resembling a large-scale version of monitoring stations from which security guards or data analytics observe offline and online movements of the masses, *Listening Post* does not call for active participation but rather encourages people to wait and allow for something to happen in its own time. Unlike data analytics, however, the decoding of data does not occur through a reductive model of truth, but in a falsifying manner where nonsensuous linkages across data create a fabulatory allure. When a text like "I am at a train station" appears on one of the small screens, memory traces of train stations might appear and flicker away, and you might begin to wonder and to construct a world around this deterritorialized fragment of information. Where is the train station? Why do we need to know? Where are you going—and why?

The point of interest, however—in *Listening Post*, as well as in *The Pirate Cinema*, is not the reception of each individual image. It is rather the way streams of images are dynamically organized to constitute what Deleuze calls *signaletic material*, "which includes all kinds of modulation features, sensory (visual and sound), kinetic, intensive, affective, rhythmic, tonal, and even verbal (oral and written)" (Deleuze 1989, 29). The signaletic material encompasses that which is in excess of representation's narrative function—what has traditionally been treated as 'noise'—and it thus underscores and modulates the potential for communication to

arrive. In relation to real-time interfaces, Bodil Marie Stavning Thomsen argues that the signaletic material presents "a becoming of time itself" (Thomsen 2012, 3), which differs from the encapsulation of time in older media. Building on this, Anna Munster argues, "For time to become—that is, for it to become potential tendencies other than *real time*—intensities and different durations also need (their) time" (Munster 2019, 232). For real-time to be perceived as live and contemporaneous with the recorded situation, any 'dead time'—i.e. discontinuities and delays in data transmissions—should be minimized and rendered imperceptible. Any reason to doubt, to question, and to oppose the signal's authentic origins is effectively ruled out in the smoothing out of real-time data transmissions.

To give intensities and durations (their) time is to reclaim the time of the *event* in which fabulation may flourish in dynamic assemblages of the imaginary and the real. Death, forgetting, and the anarchive is paramount to revitalizing event potential beyond the 'actuality overload' of too-real-time. This is because the event, "is always a dead time; it is there where nothing takes place, an infinite awaiting that is already infinitely past, awaiting and reserve" (Deleuze & Guattari 1994, 158). Encountering the interfaces of *The Pirate Cinema* or *Listening Post* you are encouraged to wait. You are encouraged to wait for the event to take you through an intensive experience of time's becoming, to wait for memory's virtual reserve of past presents to superimpose itself on the signaletic material's nonsensical data. Sensory registration of the signaletic material's plastic dynamics are thus shot through with affect's nonsensuous coupling of data, which enables a fabulatory generation of more than real-time informational compositions. *Listening Post* and *The Pirate Cinema* thereby facilitate new modes of experiencing real-time network transmissions, sidestepping the accelerated sense-making procedures in contemporary human-computer interactions. Patterns form and transform across data that have been extracted from their archival roots (from online forums and file-sharing networks). This anarchival procedure reconfigures the potential for data to be perceived virtually, so to speak, in sensing time as a becoming—as peaks of present—rather than in terms of an organizational order in archival space (e.g. understanding a discussion in a chat room by reading posts in their chronological order).

Far from revealing 'the essential point,' *Listening Post* and *The Pirate Cinema* compose time-images that allow for the networked simultaneity of actualized presents to be virtually 'seen' in their temporal becoming

and reflected upon through nonsensuous linkages in perception. Instead of reducing the realities from which the conversations are pulled to statistical measures, *Listening Post* invites the audience to complicate their actuality by fabulating on their relative existence in a network of simultaneous presents. Similarly, *The Pirate Cinema* scaffolds a kind of nonsensical 'network narrative' where the perception of simultaneous flows of real-time data transmissions causes an abundance of patterns and similarities to emerge from the signaletic material. Such real-time circulation of nonsense data produces a sensation—intense and excessive—of the way information is assembled, modulated, and distributed in digital networks.

This chapter has proposed to understand the prevalence of real-time networked technologies in terms of an anarchival amplification, and I have shown how the new means of transmission may be operationalized to facilitate a 'power of the false.' I have argued that real-time processing has its risks and opportunities in terms of modulating how social memory is produced and distributed, and thus how people individuate as groups and as individuals. Through analyses of *The Pirate Cinema* and *Listening Post*, I have shown how real-time processing does not necessarily lead to pre-emptive modes of experience, but can reconfigure and revitalize virtual time. I thereby argue that the continuous development and deployment of modulating real-time networks hold the possibility of an excessive production of affects and values that resist, slip through and bounce off capitalistic capture. By accentuating the anarchival potential in digitally mediated sense-making procedures, I argue that what matters is not the technology itself, but the strategy through which the technology is developed and set in motion. I have proposed the Deleuzian 'power of the false' as one such strategy as a movement away from memory becoming "a function of immediate access to data storage centers" (Ernst 2018, 172) and towards leveraging memory's capacity to fabulate—to produce affect and make sense from nonsense. An anarchival approach to the design and operationalization of technology may thus be a way of working affirmatively with the excess of memory, affects, and sensations produced in affective interface events.

NOTES

1. The chapter is part of a broader PhD project, where I work with the notion of the anarchive as a potential resource for interaction design.

2. For a more elaborate analysis of *The Pirate Cinema* in terms of its technical and temporal aspects, see Cox 2015.

3. The BitTorrent protocol allows for a file to be simultaneously uploaded/downloaded among an infinite number of 'peers,' rather than the file emanating from a single source. The protocol divides the file into smaller pieces, and whenever a piece has been downloaded by a peer, it becomes a source for others to download; when a recipient has downloaded all pieces of a puzzle, the protocol reassembles the file. This distributed sharing in a network of peers is an efficient way of reducing bandwidth load.

4. While Parikka (2015) has problematised the ecologies of planned or accidental obsolescence of media technologies (from production to electronic waste) that follows from this rapid development and replacement of hard- and software, Chun (2016) argues that new media technologies are not actually working to make a difference in terms of the long-awaited democratic empowerment, but are habituating our ways of relating to the world by "updating to remain the same" (#).

5. For a deeper inquiry into the mortality of digital data in real-time information networks, see Mackenzie (1997).

6. In his work on memory and time, Deleuze draws on Henri Bergson's notion of 'duration' (durée) in order to distinguish chronological time from felt time, 'chronos' from 'aion.'

REFERENCES

Auslander, P. (2012). Digital Liveness: A Historico-Philosophical Perspective. *A Journal of Performance and Art* 34 (3), pp. 3-11.

Bergson, H. (2011). *Matter and Memory*. Translated by N. Paul & W. Palmer. Eastford: Martino Publishing.

Chun, W. H. K. (2016). *Updating to Remain the Same*. Cambridge: MIT Press.

Cox, G. (2015). *Real-time for Pirate Cinema*. Ljubljana: Aksioma.

Deleuze, G. (1992). What is a Dispositif? In: T. J. Armstrong, ed., *Michel Foucault Philosopher*. New York: Routledge, pp. 159−168.

Deleuze, G. (1992). Postscript on the Societies of Control. *October* 59, pp. 3−7.

Deleuze, G. (1990). *The Logic of Sense*. Translated by M. Lester. New York: Columbia University Press.

Deleuze, G. (1989). *Cinema 2*. Translated by H. Tomlinson and R. Galeta. London: The Athlone Press.

Deleuze, G. & Guattari, F. (1994). *What is Philosophy?* New York: Columbia University Press.

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia.* Translated by B. Massumi. Minneapolis: University of Minnesota Press.

Derrida, J. (1995). *Archive Fever.* Translated by E. Prenowitz. Chicago: The University of Chicago Press.

Ernst, W. (2018). Tracing Tempor(e)alities in the Age of Media Mobility. *Media Theory* 2 (1), pp. 164–180.

Ernst, W. (2013) *Digital Memory and the Archive.* Minneapolis: The University of Minnesota Press.

Grusin, R. (2010). *Premediation: Affect and Mediality After 9/11.* London: Palgrave Macmillan.

Hansen, M. & Rubin, B. (2002). Listening Post: Giving Voice To Online Communication. *Proceedings of the 2002 International Conference on Auditory Display.*

Jakobsen, K. (2010). Anarchival Society. In: E. Røssaak, ed., *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practices.* Oslo: Novus Press, pp. 127–154.

Mackenzie, A. (1997). The Mortality of the Virtual: Real-time, Archive and Dead-time in Information Networks. *Convergence* 3 (2), pp. 59–71.

Massumi, B. (2011). *Semblance and Event.* Cambridge: The MIT Press.

Munster, A. (2019). Signaletic Immediations: Sensing New Media as Relational Events and Ecologies. In: E. Manning, A. Munster, B. M. S. T. Thomsen, ed., *Immediation 1.* London: Open Humanities Press.

Munster, A. (2006). *Materializing New Media: Embodiment in Information Aesthetics.* Chicago: Dartmouth College Press.

Parikka, J. (2015). *A Geology of Media.* Minneapolis: University of Minnesota Press.

The Pirate Cinema [online]. Available at: http://thepiratecinema.com. [accessed 15 Aug. 2019].

Røssaak, E. (2010). The Archive in Motion: An Introduction. In: E. Røssaak, ed., *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practices.* Oslo: Novus Press, pp. 11–26.

Thain, A. (2010). Anarchival Cinemas. *Inflexions* [online] 4, pp. 48–68. Available at: http://inflexions.org/n4_Anarchival-Cinemas-by-Alanna-Thain.pdf [accessed 22 Jun. 2020].

Atmospheric Intensities: Skin Conductance and the Collective Sensing Body

ELIZABETH DE FREITAS & DAVID ROUSELL

INTRODUCTION

The first pages of Massumi's (1995) seminal article, "The Autonomy of Affect," describe a German psychological study of children's bodily responses while viewing a short film of a melting snowman on television. The study used a combination of biometric sensors to collect data on the children's breathing, heart rate, and electro-dermal skin activity (EDA)[1] while they watched different versions of the film (Sturm 1987). While increased arousal of breathing and heart rate was associated with the narrated version of the film, increased intensity of skin activity was associated with the silent version. The results of the study were perplexing, to the extent that they suggested a 'split' or gap between what Massumi calls "sociolinguistic qualification" of the narrated film, and the affective intensity captured in the EDA data(Massumi 2002, 24). The EDA sensors are said to register preconscious changes in the electrical conductivity of the skin, changes that are associated with arousal of the sympathetic nervous system. In Massumi's analysis, the study suggests that the play of affective intensity is "autonomous" or independent of the verbal account and, indeed, is dampened by the verbal overcoding of the film. This suggests that intensity operates through an alternative loop, logic, and temporality of experience that is "most directly manifested on the skin- at the surface of the body, at its interface with things … It is narratively de-localized, spreading over the generalized body surface" (Massumi 1995, 85).

Notably, the visual content of the film itself pertains to environmental dis/embodying processes in the shape of a melting snowperson who is rescued and repositioned in a colder environment where snowy-embodiment can be sustained. The narrative content draws attention to the dissipative and precarious existence of a body, as an unstable assembling of environment forces. The skin then becomes an interface for fielding a distributed intensity, rather than acting as boundary or container for personalized experience, and is irreducible to language or cognition:

> Indeed the skin occupies the quivering periphery of the 'bounded individual' that we take to be the mark of the organ/ism. The EDA skin data is thus perfect for showing how the bounded individual is always being broken down, disassembled, remade, intensified, and charged. Rather than treat synapse and society as disjunctive and antagonistic, one can use the EDA data as a way of tracking the blended world of the peripheral nervous system. At the juncture of the skin are mixtures of synapse, cilia, sweat, mind, and society, all percolating (de Freitas 2018, 299).

This chapter explores the creative and empirical potentials of EDA sensors for mapping the play of affective intensities across the environment. Building on the arguments formulated in de Freitas (2017b; 2018), and offering examples in response to her call for more creative work in this area, we focus on the use of wearable EDA sensors in participatory art and social inquiry with young people. We discuss creative experiments that brought young people together with artists and researchers to collectively explore their local environments through alternative practices of sensing, thinking, and making.[2] In breaking away from clinical and pathologizing models which interpret electrical skin activity as a form of individual stimulus-response, our work reclaims EDA data as an atmospheric function of the *environmental and the atmospheric*. Specifically, our experiments aim to study the collective nature of becoming achieved through works of immersive art and media, in which multiple agents together achieve a shared but heterogeneous understanding of an event (Rousell & Fell 2018). Rather than use the devices for identifying individual affect, we design experiments in which EDA signals from multiple bodies are fused and fed back into the environment. We assemble the concept of *atmospheric intensity* to describe affectively charged environments in which bodies and technologies enter into complex relations of sensory intermixing and dispersal. This entails a rethinking of sensation as environmentally

distributed across events *rather than tied to individual persons*, opening up novel possibilities for mobilizing biosensory data through critical and creative modes of inquiry.

Our approach draws on the innovative insights of Elizabeth Wilson (2015), who reclaims the biochemical dimensions of the body in pursuing new forms of biosocial inquiry. We suggest that EDA sensors can operate as technical 'witnesses' to the circulation of affect and sensation within events, showing how the sympathetic nervous system is involved in *intense* eco-social contractions that take place above and below the thresholds of representational thought. In proposing an account of EDA sensors as both atmospheric and intensive, we foreground the ways that organic bodies and technologies shape and reshape one another within complex ecologies of sensation. We offer an example as to how artists and researchers might reclaim digital sensory data as a means of subverting the interests of a normative control society, showing how sensory data is implicated in complex operations that extend beyond the narrow bandwidth of the human senses. This work has become increasingly urgent as sensor technologies become ubiquitous elements of everyday life, opening up significant ethical and political questions regarding the capture and redistribution of sensory data.

DATA CAPTURE/DATA DISPERSAL

EDA technologies have an ethically checkered history of implementation within clinical laboratories over the last century, most recently used to document distraction and learning disability (Meloni et al. 2016). Recent advances in affective computing, neuro-marketing, and consumer technologies have made EDA-enabled wearable devices increasingly accessible to corporations, governments, and the general public. The rapid movement of EDA sensors from the laboratory into the public domain can be understood as a new layer in the relentless economization of life processes through the algorithmic capture of personal data (Massumi 2018). By capturing the otherwise invisible play of affective intensity on the surface of the skin, EDA data has the insidious potential to add preconscious data to existing behavioral and geolocative data profiles of individuals under corporate and governmental regimes (Banaee et al. 2013). In short, there is the dangerous possibility of 'mining intensity.'

Such concerns motivate our engagement with children and young people around sensor technologies, and EDA sensors in particular, through collaborative research and artistic co-production (Rousell, Gallagher & Wright 2018). Children and young people are particularly vulnerable to conditions of ubiquitous sensation and data mining currently being mobilised in various built environments, where passive data is taken without their knowing (de Freitas, Rousell & Jäger 2019). This is exemplified in Intel's current smart classroom initiatives which aim to personalize learning environments through the collection of facial, gestural, emotional, and behavioural data. The Intel system uses biosocial sensors to create data profiles of students that can be immediately accessed by teachers, who are "armed with a dashboard providing real-time engagement analytics" (Intel 2019). As described on Intel's website, the system uses "the computing power of Intel CPUs to support artificial intelligence innovations with deep learning capabilities that can now know users at a higher level—not merely interpreting user commands but also understanding user behaviours and emotions" (Intel 2019). This example highlights the growing corporate investment in sensory technologies capable of collecting, processing, and analyzing biometric data to support governmental agendas through distributed mechanisms of surveillance and control (Deleuze 1992).

While there is a growing body of critical literature on these dangers (Gillborn 2016; Meloni 2016; Meloni et al. 2016; Williamson 2016), there is also a need for research that critically and creatively employs these devices in participatory experiments (Nold 2009; Papoulias & Callard 2010; Rousell & Diddams 2020). Such experiments could reclaim and repurpose EDA data, refusing to let it serve normative and controlling agendas. In that spirit, we aim here to show how EDA data might be understood as belonging to the environment first and foremost, as part of atmospheric affects, sensations, and intensities. In resisting the reductive and pathologizing discourses that have historically dominated the use of these technologies, we aim to steal EDA away from controlling regimes, and instead put the data into poetic circulation or errant wandering (Glissant 1997). This entails a politics of sensation that reconceptualizes such 'biodata' as part of the relational ecology rather than the individualized "quantified" body or self (Lupton 2014; Nafus 2016). Our contention is that the increased mobilization and accessibility of EDA sensors opens up new possibilities for and, indeed, *demands* reclaiming, recuperating, repurposing, and retheorizing biodata through ethically-driven creative experimentation.

If the human subject is a kind of after-image of subpersonal material processes, what is the best way to 'make sense' of the virtual or intensive nature of these electrical charges as they flit across the wet surfaces of our bodies? If reductive scientisms turn to biosensors […] to control the future, what kinds of experiments might we design to show how this intensity belongs to the learning environment? What kind of software analytics will help us analyze EDA data as ecological (de Freitas 2018, 308)?

As questions of presence and localism are reconfigured in light of sensor technologies, the issue of temporality is also foregrounded. How are we 'clocking' this kind of ecological experience? What is the current time it takes to catch a feeling (the time of contamination rather than exchange)? Sensory technologies operate at microtemporal scales that transit through the molecular and infraindividual, stretching the present moment across the transindividual event (de Freitas 2017a; 2019b). To the extent that time is stretched and packaged in new ways through sensory technologies, new forms of labor, exploit, and surplus value emerge within these 'augmented' milieus (Massumi 2018). How might we better understand the play of atmospheric intensity within these milieus, without resorting to reductive models of quantification?

Typical scientific studies of skin conductance maintain the individual organism as the unit of analysis, attributing causality to an external stimulus triggering an internal response that materializes on the surface of the skin under controlled conditions (Hernandez et al. 2014; Krieberg 2010). Individual results are aggregated and statistically analyzed to build a 'step-by-step' cognitive-behavioral model of emotional response to a particular stimulus, such as a film or image. Several empirical studies have recently departed from these conventional models, using EDA sensors to register degrees of sympathetic *synchrony* between bodies in everyday situations. In these studies, synchrony describes the preconscious resonance between EDA signals captured from multiple bodies simultaneously. These studies are of interest to us because they shift the unit of analysis from individual stimulus-response to complex ecologies of relational intensity and resonance. For instance, Slovák et al. (2014) conducted a study of 20 pairs of friends chatting in a local pub while wearing EDA sensors and GoPro body cameras. Their analysis focused on the interactional dynamics between pairs as mapped through degrees of synchrony defined as "mutual relation" between the raw EDA signals (Slovak et al 2014, 512). Their findings

associated consistent and stable synchrony between bodies with high intensity engagement, while fluctuations and variations in synchrony were associated with low intensity engagement.

A related study by Kervonen et al. (2016) investigated what they term "embodied synchrony" between couples and co-therapists during relationship counseling sessions. They theorize embodied synchrony in terms of multi-actor attunements, emotional contagions, and "vitality affects" (Stern 1985), and acknowledge the variable speeds and modulations of affective attunement that take shape within the therapeutic context. Interestingly, the authors of this study chose to utilize only the *tonic* form of the EDA signal, which we define below, in conjunction with heart rate and respiration sensors. They documented time lags for tonic EDA synchrony, ranging from -7 to + 7 seconds, in order to map the ways that one signal might 'follow' or mirror another. The results of this study suggested that EDA synchrony was the most consistent between co-therapists, and least consistent between couples.

As we seek experiments that dig into the somatic and affective dimension of ecological relationality, it is important to interrogate assumptions that synchrony is necessarily a public good. For instance, the study by Karvonen et al. (2016) highlights the disjunctive temporalities of embodied resonance rather than aiming for concordant simultaneity, while also questioning the desire for higher levels of intensity or consistencies of synchrony. Their study suggests that the redistribution and *dissipation of intensity* is often the core activity of therapeutic work, and that embodied synchrony is achieved less by dialogic 'face-to-face' interaction, and more by slow attunement to the atmospherics of the therapeutic event (Karvonen et al 2016, 383). We note that sympathetic coordination is a *bodily struggle* (Deleuze & Guattari 1987). In that sense, sympathy is not a 'liking' affinity between individuals, but rather the forming of dependency relations in sympoiesis (de Freitas 2019a). This shifts the concept of resonance away from a coming together in homogeneity or sameness, toward a complex assembling of quivering differences that sustain complex socio-material ecologies.

ATMOSPHERIC MEDIA

While the two studies cited above go some way toward articulating a relational approach to skin conductance, in our view they are limited by not embracing a more ecological perspective. Our recent experimentations with EDA sensors aim to develop an alternative empirical trajectory that takes the intensive atmosphere of a multi-sensory event as the unit of analysis. Our interest is not in individual response or intersubjective relations but, rather, in the fielding of impersonal atmospheric intensities that play across the charged surfaces of bodies. This approach sheds very different light on the significance of EDA data. One of the important drivers of this atmospheric reading of EDA data is the recognition that digital sensing technologies do most of their work outside the narrow bandwidth of human perception (Galloway & Thacker 2007; Hansen 2015). In many cases, the technical operations that digital technologies use to sense, calculate, and mediate our environments do not correspond with human sense perception or cognitive capacities. In rereading Whitehead's philosophy through contemporary media studies, Hansen (2015) describes how twenty-first-century sensor technologies operate at micro-temporal processing speeds that take place above and below the thresholds of human consciousness and sense perception. Rather than being prosthetic extensions of human embodiment and perception, he describes how digital media technologies physically and directly shape the environment by altering its "causal infrastructure" and reconfiguring the conditions through which human sense experience becomes possible (Hansen 2015, 38). In this respect, digital sensing technologies "impact the environment – including our bodily environment – before impacting ... our higher-order sensory and perceptual faculties" (ibid.).

Digital sensing technologies are thus seen to mediate, reconfigure, and *co-produce* the atmospheric conditions through which experience takes shape. Through these devices, architectural walls, screens, and objects become animate, increasingly sensitive, and capable of mediating the molecular, biochemical, and semiotic 'trafficking' of data across the porous membranes of human bodies and cells (Frost 2016; Grönvall, Fritsch & Vallgårda 2016). WiFi signals, for instance, pass through the walls of buildings and human tissue alike, respecting no fixed boundary between body and environment. As Parisi (2009) argues, this redistribution of sensory connections between living bodies and technical archi-

tectures is more than a computational network that simply processes information. Parisi (2009) conceptualizes these atmospheric networks as "technoecologies of sensation" which move seamlessly "between organic and inorganic matter" (192). Dynamically mediated streams of sensory data become diffuse and elemental, opening onto a massively distributed "worldly sensibility" rather than remaining tied to individual bodies as processers of information and perception (Hansen 2015). Within this new 'atmospheric' media studies, sensors take on a new figuration as elemental and distributed agential forces which are not reducible to anything that humans can directly sense, perceive, or know.

Electro-dermal sensors are prime examples of such 'atmospheric media.' Skin activity is always already happening, as an imperceptible and uncontrollable charge of electricity that quivers on the periphery of the body's surface (Piccolini & Bresadola 2013; Platoni 2015). In Hansen's (2015) terms, these sensors *feed-forward* sensory data into consciousness, making perceptible another layer of experience that would ordinarily have remained at the level of infraindividual sensibility, or virtual non-consciousness. As Massumi (2002) notes, the skin is faster than signification, faster than representational consciousness. At this historical moment, EDA sensors are part of a growing genus of sensory technologies capable of traversing or smudging this gap between consciousness and sensation, giving us a glimpse of intensities that would otherwise be too fast to perceive.

TECHNICAL MATTERS

It's important to attend to the technicities of EDA sensors and data, since there are a large number of technical and algorithmic interventions that enable this technology. In our own experiments with these technologies, we worked with a software company called iMotions to develop a technical setup that can record up to seven EDA signals at one time, along with three video and audio feeds. Our system uses Shimmer-GSR units consisting of a digital sensor strapped to the wrist and two analogue electrodes which can be attached to the finger, foot, or back of the neck. The sensors work by calculating the differential of electrical activity as it passes between two electrodes connected to the fingers or other part of the body (see Figure 1). These electrical differentials are measured in microsiemens and are linked to microscopic variations in the skin's production of sweat,

often said to reflect changes in preconscious affect. The raw EDA signal can be sampled at variable rates per second, ranging from 4 to 2000 Hz, depending on the granularity of the data required. We tend to sample at 128 Hz, which is recommended for high-quality data without exceeding the bandwidth for multiple signal outputs. These analogue samples are digitally packaged and transmitted from the wearables to a Mobile Workstation laptop via Bluetooth, and can be synchronized with video and audio recordings and other types of sensor data.

When the sensors are active and paired with the Workstation, the streams of data can be visualized in a 'live view' with the color of each stream corresponding with one of the sensors. If the sensor is active but not worn by a person, it will stream electrical noise. As soon as the electrodes make contact with two points of a live body (e.g., two fingers), the electrical circuit is completed, and the data stream smooths out into a variable series of peaks and troughs. The signal begins to surf! This notion of surf-

Figure 1. As part of an experiment with sensing place, children created an environmental installation and movement drawings in a local park while wearing EDA sensors.

Figure 2. A young person experimenting with the live EDA data stream in the *Superpositions* (Rousell & de Freitas) exhibition at Birley Art Gallery.

ing with the EDA signal was articulated by a child who attended one of our living lab exhibitions, an immersive environment that included collective experiments with live EDA projections (see Figure 2).

We mention these relatively simple examples to emphasize how the sensor plugs into and "makes visible" an affective intensity, movement, and charge of the body that is always already imbricated in socio-material ecologies. As we discuss further in the sections below, this capacity for sensor data from different bodies to "appear" public, as a group expression, opens up new possibilities for transindividual experimentations with modulation, resonance, synchrony, and disjunction across bodies. Remaining mindful of Massumi's (2002) noted gap between intensity and signification, we need to be careful not to collapse the "making visible" of the live data stream and the intensity that animates the moment.

In our EDA experiments with children and young people, iMotions software is used to process a live data stream of multiple EDA sensors and visualize the raw data as it is being collected from multiple signals in microsiemens. Algorithmic baselines and noise removal software

are applied to the data, which is then processed to separate the raw EDA signal into two parts: the tonic signal and phasic signal. Cognitive scientists read the *phasic* signal as composed of EDA peaks associated with event-related response to stimulus. The *phasic* peaks are like little spikes of intensity, which are said to increase in amplitude and frequency when the sympathetic nervous system becomes aroused. The *tonic* signal, on the other hand, is associated with slow, adaptive responses to environmental changes. For instance, walking into a building often induces an adaptive response in the tonic signal as the body autonomously adjusts to changes in light, temperature, acoustics, and ambience. The tonic signal therefore suggests an atmospheric resonance between bodily, architectural, and climatological thresholds, perhaps akin to what Arakawa and Gins (2002) describe as an *architectural body.* Thresholds and doorways take on a certain importance with respect to the tonic signal as a register of felt transitions. Our research collective is interested in the tonic signal because it points at undergirding environmental conditions and atmospheric complexity. Many cognitive scientists dismiss the tonic signal because it cannot be indexed to a discrete internal event provoked by a discrete external stimulus. Most commercial applications of this technology are motivated by a desire to identify the potential shock value of particular images or ideas, and look only for the phasic signal. Our experiments, in contrast, attend to the tonic signals of multiple bodies as they gently drift, rise, and dissipate 'atmospherically,' falling in and out of synchrony in resonance with the environmental conditions through which an event is taking shape.

While the phasic signal registers distinct "peaks" of intensity that are typically correlated to distinct perceptions, the tonic signal registers more dispersed and durational transitions in the environmental field. Attending to this differential allows us to study the complex relations between environmental conditioning and the processing of micro-temporal sensibilities, and helps us theorize an atmospheric body. As de Freitas (2018) explains:

> The fact that there is always this differential element to the electric body helps us theorize a body that is charged, but never static or still—bodies are related rates of change, each rate itself changing (change of change...), involving second, third, and nth derivatives. The peripheral nervous system, extending the body into its frayed periphery, carries this charge in nonstop differentiated flows (300).

Within the basic EDA signal there are also what are termed 'non-specific responses,' which refer to peaks for which no stimulus event can be determined. Although these are typically dismissed as noise because there is no apparent stimulus, we interpret these 'non-specific' responses as the rumblings of more widely distributed intensities of sensibility in the background. By studying the differential relations that undergird tonic and phasic elements of collective EDA signals, we seek to map the attunements, resonances, interferences, and disparities that structure a collective learning ecosystem. Rather than trying to quantify or measure intensity, we are using EDA sensors as *agentive* technologies that help to render the felt sense of an atmosphere that is always already recalibrating. We are interested in how the introduction of the sensors and the visualization of the live data alters the fabric of the atmosphere itself, showing how recursive or iterative affect feedback loops continue a process of multi-temporal differentiation that is always already going on.

REMIXING THICK TIME: BECOMING A COLLECTIVE SENSING BODY

Several of our experiments with atmospheric readings of EDA data have focused on shifting sensations of time within immersive gallery installations. These experiments were developed with a youth arts collective called the Young Contemporaries, a self-organizing group of young people aged 16–25 who meet weekly at the Whitworth Art Gallery in Manchester. Over a period of several months, our research team worked with the Young Contemporaries to develop a series of experimental propositions for sensing dynamic shifts and suspensions of time within William Kentridge's major exhibition *Thick Time*. Weaving together re-imagined histories of colonialism with the philosophy of art, cinema, science, and technology, *Thick Time* provided us with a rich environment of 'timescapes' for developing sensory and creative experimentations with young people. The exhibition brought together five full-scale immersive artworks from Kentridge's collaborative oeuvre over the last ten years, including *The Refusal of Time*, *Notes Towards a Model Opera*, and *O Sentimental Machine*. Each of Kentridge's installations comprised a distinctive multi-sensory ecosystem, combining multi-channel sound, film, animation, sculptural, choreographic, and architectural components to condition a singular atmospheric experience in each space.

While elsewhere we analyze the complex politics of participation in this project, attending to a decolonial ethics of opacity (Glissant 1997) and appositionality (Moten 2003) in urban gallery work (de Freitas et al. forthcoming), here we focus specifically on the use of EDA sensors and iMotions software to create intensive 'sense-mappings' of each of the five rooms in the exhibition. The invitation for young people to participate in this sense-mapping activity was framed around the proposition of 'becoming a collective sensing body.' This proposition drew on Manning's (2012) concept of the sensing body as a fielding of relational movements and potentials, where the body is posed "not as a stable category but as a creative vector of experiential space-time" (66). We began to think of Kentridge's *Thick Time* installations as environments for experimenting with the matrix of the sensing body in movement, as architectures where the environment itself becomes "an atmospheric body" (Manning 2021, 15). The proposition was elaborated further through theoretical engagements with young people around concepts of affect, intensity, sensation, and atmosphere. Members of the Young Contemporaries were also given the opportunity to discuss and problematize our theorization of the EDA sensors as atmospheric media, as well as our empirical understandings of skin conductance, the sympathetic nervous system, and embodied synchrony.

For one of our experiments, a group of five young people volunteered to wear EDA sensors and move as a collective sensing body through each of Kentridge's installations. We set up the Mobile Workstation running iMotions software in each of the exhibition spaces, functioning both as a recording instrument and a 20-inch interface for viewing the live sensor data. Three synchronized video feeds were captured from different points in each room, and high quality audio was rendered from head-mounted binaural microphones. The Workstation, as a live data interface, was placed in a visible location and quickly became another component of Kentridge's installations. In Kentridge's *O Sentimental Machine* installation, for instance, the live data interface sat on a table next to an old clock in an interior modelled from an early twentieth-century Turkish hotel lobby. By visualizing live EDA data in this location, intensity was folded back into the aesthetic atmosphere of colonial occupation conjured by Kentridge's exhibition, allowing us to actively view the emerging co-attunements
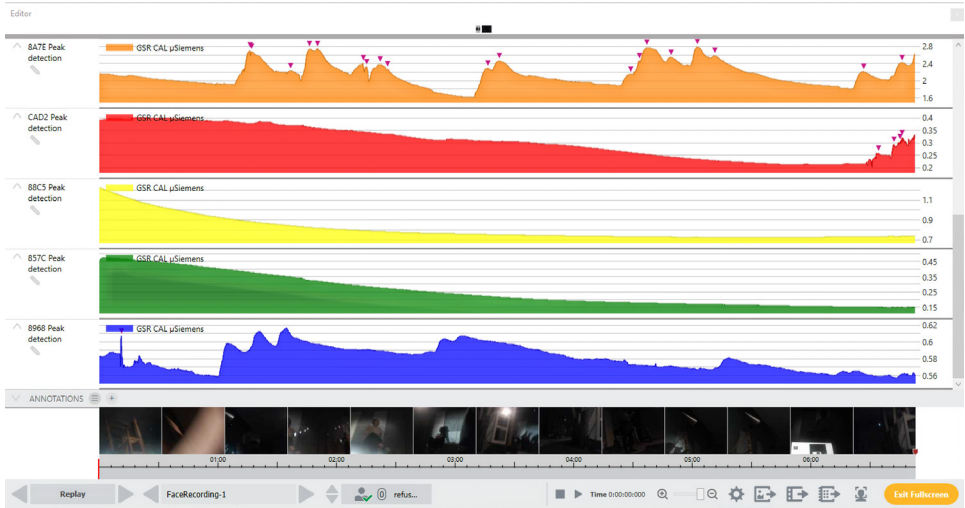
Figure 3. A six-minute recording rendered from five EDA sensors worn by young people in William Kentridge's immersive installation *The Refusal of Time*.

and disjunctions as they surfed across the physical screens in conjunction with the polytemporal movements and multi-sensory choreographics of Kentridge's work.

We spent around 15-20 minutes collectively sensing the atmosphere in each of the five spaces, often remaining quiet and simply listening, watching, feeling, sensing. Each of the rooms, filled with dynamic art and postcolonial testimony, became increasingly thick with shared affect. Afterwards the young people spoke about a palpable sense of 'togetherness' that emerged through this process, and a bodily sensitivity to the complex political landscape of Kentridge's art installation. Taking time to simply sense together opened up the complex temporality of the art installation, and seemed to offer a different form of collective sympathy. Rather than a collectivity built on dialogic interaction, the young people described a sense of thick temporal intensity, a sense of togetherness that was atmospheric and transindividual.

Figure 3 shows EDA data from a six-minute period of collective sensing in Kentridge's installation *The Refusal of Time*. The red, yellow, and green signals show a resonant "drift" toward dissipated EDA over the time recorded, with the yellow and green signals exhibiting the closest synchrony. The orange and blue signals show more variation, with some

phasic peaks in the orange signal annotated by red arrows, but there is still a visible resonance between the movements of the two signals. While the numeric values on the right-hand side of the figure show that the five signals were 'surfing' at different degrees of intensity, our interest is in the relational rates of change in the signals, and the tendencies toward shared drifts of togetherness and disparity. We are interested in how intensive magnitudes of preconscious feeling drift together and apart within a charged atmosphere, without any imposed coordination or causal attribution of stimulus-response. The experiment entails no control or objective parameterization; it involves simply *hanging out* in what was an already charged political space. This underscores the molecular politics of galleries, where the field of experience is charged and potentialized with a multiplicity of variations and confluences (Deleuze & Guattari 1987).

The data we present was recorded in a cavernous, dark gallery space with multi-channel video feeds covering all four walls. The cinematic content of the work included images of colonial violence and racial subjugation, the scientific and social fabrication of temporal regimes, animations of Kentridge's temporal experiments in the studio, and cosmic visualizations alluding to temporal multiplicity and Bergson's totality of images. Kentridge's installation also included multi-channel audio feeds relaying disparate sounds, chants, atonal music, and polytemporal rhythms through obliquely positioned megaphones, continuously altering the sonic fabric of the space. The middle of the room was occupied by a large kinetic breathing machine called 'the Elephant,' which maintained a consistent pulse of rhythmic activity in direct contrast with the shifting polyrhythms of the surrounding audio and video activity. During the recording of the data in figure 3, the five young people wearing the EDA sensors sat in an oblique formation surrounding the Elephant, which occluded their views of each other and the screens on the other side of the room. This created a situation in which *none of the young people wearing the sensors were in apparent direct contact with each other, and none of them could see or hear the same thing.* In other words, the young people were not 'interacting' or 'communicating' with one another in any conventional intersubjective sense, with each inhabiting a different 'region' of the environmental field that presented different sensorial dynamics. There were also many other kinds of movement and activity in the room, including other members of the Young Contemporary performing improvised movements with body cameras and haptic imaging techniques. We

mention these details to highlight the polytemporal complexity of the sensory atmosphere in which the signals in figure 3 were recorded. Every square inch of Kentridge's *The Refusal of Time* was bombarding the body with a different rhythmic and sensorial texture and yet, somehow, bodies managed to collectively achieve a 'sympathetic intensity' through linked rates of change and dissipation. The collective drift toward tonic dissipation occurred within this disruptive and asynchronous sensory environment. The data from our experiment suggests that bodies can drift into sympathetic synchrony in the midst of a complex and dynamically changing environmental field, even when those bodies are not visibly interacting or focusing on a shared object or task.

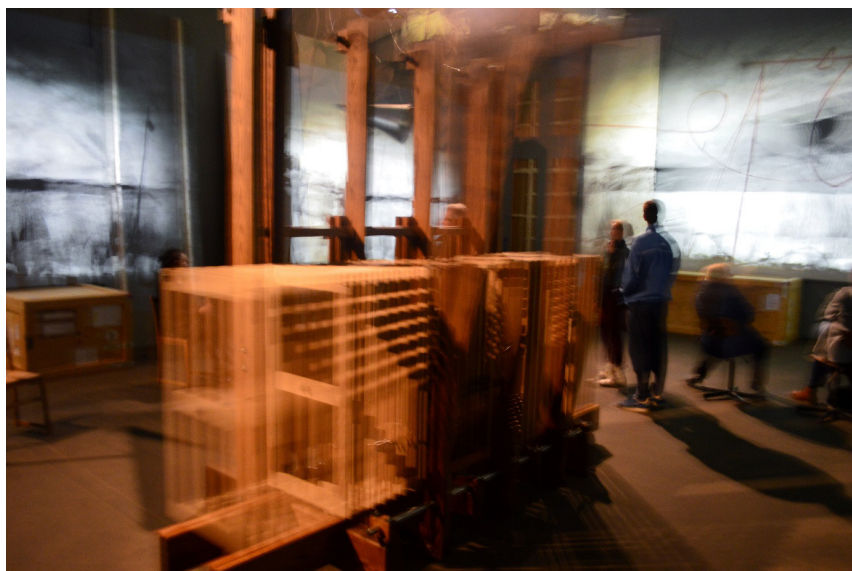**Figure 4. The Elephant in motion, from William Kentridge's *The Refusal of Time* at the Whitworth gallery, Manchester,UK.**

LINGERING THOUGHTS

Our experiments engaged directly with the provocations of William Kentridge's *Thick Time* installation to consider sensibility outside the human-centric notion of perception, focusing instead on the realm of intensity and charged atmosphere (Clisby 2017; Colebrook 2014; Grosz

2017). Accordingly, we treated biosensors as atmospheric vital media that both actualize and modulate intensity, making it 'appear' as contractions of affect across a charged field. These ideas bring us back to Massumi's (1995) analysis of skin conductance and intensity cited at the start of this chapter. If affective intensity is autonomous with respect to representational consciousness and perception proper, then perhaps it travels its own loops in what Simondon (2017) called at times "technicity" and at other times a "thought-network." These loops would betray classical spatio-temporal conventions of stimulus-response; we could imagine, for instance, a loop that discharges and recharges intensity through a complex mesh of connectivity. As Massumi claims, sympathy "can reverberate across a relational field, faster than the field of conscious calculation" (2015, 84). We have argued that this kind of amplification of intensity 'belongs' to the environment: "it is a defining characteristic of complex environments that the extremes of scale are sensitive to each other, attuned to each other's modulations. This is what makes them oscillatory. They can perturb each other" (Massumi 2015, 10).

Affectivity can 'channel' through the individual body, reverberating out to larger scales, as we begin to comprehend how an action or decision is "a doing done through us" (Massumi 2015, 20). Our interest in undertaking these experiments is not to establish a transparent, causal explanation for sympathetic synchrony, nor to induce or promote synchrony as a desired collective achievement. Rather, we are interested in how EDA sensors can help to create 'thick' experiential mappings of atmospheric events, bringing the infraindividual and microtemporal activity of the skin up to the level of transindividual sensibility and historical witness. Yet the tendency toward synchrony does present an important *problem* within this new empirical work, as it underscores the rapid viral transport of negative or positive affect without regulative reason or 'correction.' The co-presencing of skin activity achieves a sympathetic togetherness, a strange and discomforting intimacy of the non-conscious and the invisible. There are lingering questions around the normative thresholds of participating in sympathetic togetherness, and the relative ease or difficulty of crossing these thresholds for racialised and neurodiverse bodies (Manning & Keupers 2018). This also raises political and ethical concerns regarding the possible manipulation or even 'mining' of collective intensity, or the induction of embodied synchrony for particular agendas. How do bodies modulate this sympathetic intensity, and how do we ensure that self-syn-

chronizing collective events are generative of pluralism and diversity? Moreover, as we've discussed elsewhere (de Freitas, Rousell & Jäger 2019), we must grapple with the ways in which biosensors are said to track the body's differential capacity for feeling, recapitulating racist and sexist investments in privileging or excluding certain bodies from "impressible corporeality" (Schuller 2018). Our interventions into the William Kentridge exhibition are intended to explicitly raise these concerns about which bodies are granted the political right to 'sense' and resonate affectively across thresholds.

NOTES

1. Electro-dermal skin activity (EDA) is also referred to as Galvanic skin response (GSR). We prefer the former because it emphasizes continuous activity rather than response to stimulus.

2. These experiments are funded by *The Manifold Laboratory for Biosocial, Eco-Sensory and Digital Studies of Learning and Behaviour*, at Manchester Metropolitan University. For more information visit https://www.biosocialresearchlab.com/ and https://www.localalternatives.org/. We would like to acknowledge collaborators Laura Trafi-Prats and Riikka Hohti and the Whitworth Gallery Young Contemporaries for their essential role in these experiments.

REFERENCES

Banaee, H., Ahmed, M. U. & Loutfi, A. (2013). Data Mining for Wearable Sensors in Health Monitoring Systems: A Review of Recent Trends and Challenges. *Sensors* 13 (12), pp. 17472–17500.

Clisby, D. (2017). Intensity in Context: Thermodynamics and Transcendental Philosophy. *Deleuze Studies* 11 (2), pp. 240–258.

Colebrook, C. (2014). Socially Invaded: The Biosocial Subject. *Environment and Planning: Society and Space* 32, pp. 556–570.

de Freitas, E. (2019a). Love of Learning: Amorous and Fatal. In: S. Bignalle & R. Braidotti, eds., *Posthuman Ecologies: Complexity and Process After Deleuze*. London: Rowman and Littlefield, pp. 87–104.

de Freitas, E. (2019b). Digital Research Methods and Sensor Technologies: Rethinking the Temporality of Digital Life. In: J. Lynch, ed., *Practice Methodologies in Education*. New York: Routledge, pp.63–82.

de Freitas, E. (2018). The Biosocial Subject: Sensor Technologies and Worldly Sensibility. *Discourse: Studies in the Cultural Politics of Education* 39 (2), pp. 292–308.

de Freitas, E. (2017a). The Temporal Fabric of Research Method: Posthuman Social Science and the Digital Data Deluge. *Research in Education* 98 (1), pp. 27–43.

de Freitas, E. (2017b). Non-Human Findings From the Laboratory of Speculative Sociology. *Minnesota Review* 88, pp. 116–126.

de Freitas, E., Rousell, D. & Jäger, N. (2019). Relational Architecture and Wearable Space: Smart Schools and the Politics of Ubiquitous Sensation. *Research in Education* 107 (1), pp. 10–32.

de Freitas, E., Trafi-Prats, L, Rousell, D. & Hohti, R. (forthcoming). A Poetics of Opacity: Towards a New Ethics of Participation in Gallery-Based Art Projects With Young People. In: L. Trafi-Prats, R. Fendler & A. Varela, eds., *Becoming Lively in the City: Essays on the Ontology, Aesthetics and Ethics of Visual Participatory Arts-Based Research.* London: Routledge, n.p.

Deleuze, G. (1994). *Difference and Repetition.* Translated by P. Patton. New York: Columbia University Press.

Deleuze, G. (1992). Postscript on the Societies of Control. *October* 59, pp. 3–7.

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia.* Translated by B. Massumi. Minneapolis: University of Minnesota Press.

Frost, S. (2016). *Biocultural Creatures: Toward a New Theory of The Human.* Durham: Duke University Press.

Galloway, A. & Thacker, E. (2007). *The Exploit: A Theory of Networks.* Minneapolis: University of Minnesota Press.

Gillborn, D. (2016). Softly, Softly: Genetics, Intelligence and The Hidden Racism of the New Geneism. *Journal of Education Policy* 31 (4), pp. 365–388.

Glissant, E. (1997). *Poetics of Relation.* Translated by B. Wing. Ann Arbor: University of Michigan Press.

Grosz, E. (2017). *The Incorporeal: Ontology, Ethics, and the Limits of Materialism.* New York: Columbia University Press.

Hansen, M.B. (2015). *Feed-Forward: On the Future of 21st Century Media.* Chicago: University of Chicago Press.

Intel (2019). [online] *Artificial Intelligence in Education.* Available at: www.intel.com/content/www/us/en/education/transforming-education/ai-in-education.html [accessed 26 January 2019].

Karvonen, A., Kykyri, V. L., Kaartinen, J., Penttonen, M. & Seikkula, J. (2016). Sympathetic Nervous System Synchrony in Couple Therapy. *Journal of Marital and Family Therapy* 42 (3), pp. 383–395.

Lupton, D. (2014). Self-Tracking Cultures: Towards a Sociology of Personal Informatics. In: *Proceedings of the 26h Australian Computer-Human Interaction Conference on Designing Futures: The Future of Design*, 77–86. December 2–5. University of Technology, Sydney, Australia. New York: ACM, pp. 77–86.

Manning, E. (2012). *Relationscapes: Movement, Art, Philosophy.* Cambridge: MIT Press.

Manning, E. & Keupers, H. (2019). How the Minor Moves Us Across Thresholds, Socialities, and Techniques: A Conversation with Erin Manning. [online] *Open! Platform for Art, Culture, and the Public Domain*. Available at: https://onlineopen.org/how-the-minor-moves-us-across-thresholds-socialities-and-techniques [accessed 26 January 2019].

Massumi, B. (2018). *99 Theses on the Revaluation of Value: A Postcapitalist Manifesto*. Minneapolis: University of Minnesota Press.

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation.* Durham: Duke University Press.

Massumi, B. (1995). The Autonomy of Affect. *Cultural Critique* 31, pp. 83–109.

Meloni, M. (2016). *Political Biology: Science and Social Value in Human Heredity from Eugenics to Epigenetics*. Basingstoke: Palgrave Macmillan.

Meloni, M., Williams, S. & Martin, P. (2016). The Biosocial: Sociological Themes and Issues. *The Sociological Review Monographs* 64 (1), pp. 7–25.

Moten, F. (2003). *In The Break: The Aesthetics of the Black Radical Tradition*. Minneapolis: University of Minnesota Press.

Nafus, D. (2016). *Quantified Self: Biosensing Technologies in Everyday Life*. Cambridge: MIT Press.

Nold, C. (2009). Emotional Cartography: Technologies of the Self [online]. Available at http://www.emotionalcartography.net/ [accessed 26 January 2019].

Papoulias, C. & Callard, F. (2010). Biology's Gift: Interrogating the Turn to Affect. *Body and Society* 16 (1), pp. 29–56.

Parisi, L. (2009). Technoecologies of Sensation. In: B. Herzogenrath, ed., *Deleuze/Guattari & Ecology*. Palgrave Macmillan, pp. 182–199.

Piccolini, M. & Bresadola, M. (2013). *Shocking Frogs: Galvani, Volta and the Electric Origins of Neuroscience*. Oxford: Oxford University Press.

Platoni, K. (2015). *We Have the Technology: How Biohackers, Foodies, Physicians and Scientists are Transforming Human Perception, One Sense at a Time*. New York: Basic Books.

Protevi, J. (2013). *Life, War, Earth: Deleuze and the Sciences*. Minneapolis: University of Minnesota Press.

Rousell, D., Gallagher, M. & Wright, M. (2018). Becoming Listening Bodies: Sound Walking as a Pedagogy of Sensation. Conference paper presented at *the Third Conference on Arts Based and Artistic Research* Tate Gallery, Liverpool.

Rousell, D. & Fell, F. (2018). Becoming a Work of Art: Collaboration, Materiality and Posthumanism in Tertiary Visual Arts Education. *International Journal of Education Through Art*: *Special issue on Speculative Realisms in Arts Education* 14 (1), pp. 91–110.

Rousell, D. (2019). Walking with Media: Towards a Mixed Reality Pedagogy in University Learning Environments. In: H. Schnadelbach & D. Kirk, eds., *People, Personal Data, and the Built Environment.* Netherlands: Springer, pp. 205–229.

Schuller, K. (2018). *The Biopolitics of Feeling: Race, Sex, and Science in the Nineteenth Century.* Durham: Duke University Press.

Simondon, G. (2017). *On the Mode of Existence of Technical Objects.* Translated by C. Malaspina & J. Rogove. Minneapolis: Univocal.

Slovák, P., Tennent, P., Reeves, S. & Fitzpatrick, G. (2014). Exploring Skin Conductance Synchronisation in Everyday Interactions. In: *Proceedings of the 8th Nordic Conference on Human–Computer Interaction: Fun, Fast, Foundational*, pp. 511–520.

Williamson, B. (2016). Digital Education Governance: Data Visualization, Predictive Analytics, and 'Real-Time' Policy Instruments. *Journal of Education Policy* 31 (2), pp. 123–141.

FUTURE ENCOUNTERS:

DRAFTING CO-CREATIVE DEMOCRACIES

We Still Do Not Know What a City Can Do: Modulation of Affect in Urbanism and Spatial Politics

KRISTINE SAMSON

INTRODUCTION

During the writing of this article a series of events have made me rethink what a city can do and how the concepts *event, interface* and *affect* relate to one another in current urbanism and design. Like many others, I have witnessed cities close down during the coronavirus pandemic. I have seen citizens mobilize with Women's March, Black Lives Matter and other social movements impacting urban life. In urban studies we know what urban planning and design can do (and not do) to enable participation and cultural diversity. We know what public art can do in negotiating identities and choreographing other mobilities of bodies. Quite often research has pointed to both the regenerative and destructive powers of urban planning and design. One of the recurring remarks among planners and urbanists is how planning sustains some bodies while excluding others.

It is commonly understood that the city is made up of a network of different yet interconnected bodies. Urban bodies are related and form social, economic, cultural, and legislative assemblages across their differences (see Amin & Thrift 2002; Anderson & Harrison 2010; Pløger 2016; Førde 2019). From this perspective this article seeks to understand what a city can do as an interface relating and distributing a diversity of bodies.

In particular this chapter bridges the notions of events, affects, and inter-faces in relation to the city. In the following, I frame the interface as a mode of spatial production operating across points, lines and planes, and across multiple scales: the scale of the bodily encounter, in the insurgent commoning of a neighborhood; or as a diagrammatic mode of production in planning and spatial politics.[1]

In the first part of the article I will define modulation, affect, and faciality and describe how I use these notions in relation to what a city can do. Roughly speaking, I relate affect to the capacity of a body whether it is a singular or collective, and I relate interfaces to diagrammatic distributions of bodies. The diagram and the interface is further linked to the notion of faciality (Deleuze & Guattari 1987). This means that a face/interface is neither neutral nor transparent. On the contrary, it sticks to a certain image, identity or norm. Faces are like interfaces, they might be invis-ible or neutral in that they refer to a normative sense, but they can be demasked through embodiments and felt experience. Here, embodiment can be understood as encounters in which a body can augment or modu-late its capacities to affect other bodies. I understand the term modulation as a specific diagrammatic mode of governance, that can be identified in, for instance, participatory planning and in many forms of embodied and sensory urban practices.

In the second part of the article, I will analyze how interfacial modu-lations of affect take place in contemporary urbanism and how it poten-tially changes predominant hierarchies. My interest is to understand how current regulations in the Danish welfare state are reproduced in partic-ipatory forms of planning, even though this is rarely directly addressed. I argue that lanning as a diagrammatic power must be addressed, embodied, and analyzed to better understand the values and politics of affect operat-ing in our seemingly transparent urban culture. I will analyze the capacities of a city on various scales and interfacial encounters welcoming all kinds of embodied knowledge and affective modes of engagement.[2] From being part of this interface culture it follows that we cannot know in advance what our explorations do, and where they lead us. I follow Anna Munster in claiming that interfaces "accentuate the intensity of a folded relation between sensing your own body (from the inside) while at the same time mapping it from the outside" (Munster 2006, 142; see also Thomsen this volume). In so far as interfaces cannot only be mapped by experiencing intensities from within, folded experiences are vital for the analysis of

interfacial modulations of affect. Hence, the examples below are based on lived experiences and sensed as bodily encounters. As such, interfacial experiences are often ambiguous and do not easily add up to neat conclusions. In the words of Deleuze (1994), "this something is not an object of recognition but of fundamental encounter. It may be grasped in a range of adjective tones. In whichever tone, its primary characteristic is that it can only be sensed" (136, 139). Such tonality also marks the following analysis of what a city can do. Thus, the analysis does not answer the question what a city can do; rather it illustrates modulations and weavings in and out of various affective urban encounters emerging from my engagements with urban practices, atmospheres, sensations, and cultural embodiments throughout the Eventual Urbanism project.[3]

AFFECT AS A FORCE–FIELD OF PASSIONS

The city is a place for social, bodily, and interfacial encounters. Georg Simmel (1976) remarks how the city of modernity is defined by exchanges of money and how the distancing strategies of facial and bodily encounters are closely related to the metropolitan's rhythmic flows and stimuli. As noted by urbanists Ash Amin and Nigel Thrift, "the city is a force-field of passions that pulse and associate bodies in particular ways" (Amin & Thrift 2002, 84). In their framework, the city does not have a certain identity. Rather we need to understand it in terms of an ontogenetic multiplicity or machinic assemblage constantly bringing bodies together in rhythmic events.[4] In recent years, the rhythms of events are increasingly distributed and monitored through media technologies. These can be seen as regulations and choreographies of the modulations of affect in citizens' movements and modes of engaging and participating.

Interfacial modulation of affect can be associated with the notion of biopolitics, coined by Foucault and later Agamben. Recently Foucault's term has been elaborated by Rosi Braidotti, as she points out how biopolitical powers of today are increasingly governed by digital technologies and post-human affective modes of controlling life (2013; 2019). The post-human turn in the study of biopolitical modes of affecting urban lives and bodies is, in this chapter, related to notions of affect, interfaces and events, insofar as interfaces are both directly connected to our digital and mediated lives and impact urban everyday life. Current interface culture reconfigures urban encounters on macro, meso and micro-scales

when, for instance, planning is implemented through media interfaces, or when our everyday behaviors and mobilities are tracked and monitored. Today, contemporary urbanism interface culture defines our ways of participating and encountering one another in the city. Urban design such as the Superkilen Park in Copenhagen, the High Line in New York, or the Minhocão in São Paulo are examples of how urban spaces are designed and used as interfaces for urban encounters, and how they are designed to be responsive to the citizens' embodiments and use.

The study of the post-human city and its interfacial modulations has to be engaged in the foldings and affective encounters of environment with its material agencies. These foldings are not just manifest in the physical urban environment but, increasingly, also in the processes of how the city operates as a meshwork or assemblage of materials, and mediated and communicative agencies. Shannon Mattern (2019) holds that, "systems of knowledge are inscribed in the built world. And these knowledge regimes are often shaped, contained, preserved, and distributed through the prevailing media technologies of their time ... technology mediates the ways that knowledge, power, and culture interact to create and transform the cities we live in" (n.p.). Drawing from a post-human and networked definition of the city, it is the aim of this chapter to show how affective encounters unfold, and how interface culture permeates and modulates the city.

INTERFACIAL MODULATIONS OF AFFECT

In keeping with the description of affect as 'running through' bodily encounters and as an increase or decrease of power (a capacity for joy or sorrow), the discipline of urban studies regards urbanity as processes of individuation and differentiation in which urban bodies (social, architectural, cultural bodies, and institutional bodies) are in constant negotiation and dynamic change.

In urban politics and planning that increasingly operate through affective modes of regulation and stratification, the concepts of affect and event could more broadly be seen as governmentality. As noted by cultural geographers Ben Anderson and Paul Harrison, planning and urban politics can be seen as apparatuses that monitor affective processes (Anderson & Harrison 2010; McCormack 2018). While spatial politics and planning do not have universal capacities to control affective relations, they do,

however, influence how affective encounters take place. For instance, as I will elaborate later, modernist welfare planning of the 1960s and 1970s distributed everyday affects and relationality between bodies differently than the current neoliberal forms of urban participatory planning. In the latter, creativity and the right to participate and express oneself in public is often valued higher than spatial and economic equality. From this perspective, critical urbanists often tend to see the neoliberal city as a post-political city.[5] However, as I will argue, urban life is, on many scales, made as a response to affective politics. Affective politics encompass, for instance, what citizens as a collective body can do, what capacities a political body has in physical spaces, or what powers urban designers and architects have to make space for people's lives.

The question here is: what can a city do? This question should be understood on multiple levels. Analyzing what a city can do in terms of planning and spatial politics entails an analysis of how citizens' capacities are regulated, how citizens are affected by planning and legislation, but also whether their capacity to affect planning and legislation is possible or not. Spatial politics and planning do not, however, always entail direct spatial control. Rather, I consider planning as a constant, immanent process being negotiated and contested. Such negotiations can be understood as diagrammatic in the sense outlined by Deleuze (1992) in *Postscript on the Societies of Control*. Here, 'societies of control' delineates control through modulations of our everyday actions and relations, that are neither directly visible nor manifest. Modulation is a form of control that does not impose violence or power directly upon individuals as is the case in spaces belonging to disciplinary societies such as prisons, schools and the military. Power is rather distributed as a force immanent to the participating bodies. Thus, in societies of control, imprisonment happens without walls or physical boundaries. The prisoner is allowed to leave the prison, since their every move is registered and controlled by a bar code (Deleuze 1992). In today's algorithmic governance such immanent forms of control are increasingly becoming the norm permeating all levels of society.

Whereas urban planning in modernity, to a large extent, was exercised as representational forms of regulation (i.e. the architectural master plan, the municipal planning in European cities, the function of infrastructure), the current forms of urbanism modulate urban encounters differently. The master plan was a modernist form of spatial governance that worked through 'molds' consisting of universal architectural forms imposed upon

urban matter or built from tabula rasa. Conversely, I argue that contemporary strategic and participatory forms of planning increasingly rely on open, flexible systems that are responsive to the movements, acts, and flows that define them. Such modulations and processual forms are composed in and between affective relationalities between agents and the intelligent and responsive systems to which people are invited to participate in open-ended processes. Such participatory forms of urban planning are no longer disciplinary and material in the sense that they relate to the architectural form alone. Architecture no longer imposes a form or a disciplinary power upon urban matter. Rather, urbanism becomes *an act of urbanization*, a cultural process of regeneration, renewal, gentrification etc. In such processes of becoming, agency is not felt as external to the acting bodies, rather the city takes place and is formed through processes of participation, both imaginary and cultural production.[6] Here I understand urbanism as generic and diagrammatic, as a plane of organization constantly organizing, distributing, relating and separating bodies. Deleuze and Guattari (1987) write, that the "plane of organization … is structural or genetic, and both at once, structure and genesis, the structural plane of formed organizations with their developments, the genetic plane of evolutionary developments with their organization" (265). This is diagrammatic in so far as it is concerned with the development of forms and the formation of subjectivity, and how formations of subjectivity support stability of judgement and construction of identity. Like any form of diagrammatic distribution of power, the current form of urbanism, and its various forms of modulation (such as participatory planning), needs to be interrogated. In particular, as will become clear in the following, the promised transparency often relies on certain values, neither neutral nor open, but often as embodied norms pertaining to the co-creating bodies.

Hence, interfacial modulation in urban planning rarely operates through a discernible power, rather, it operates through affective modulations that can be felt in situations, but have no a priori rules of conduct. Following Deleuze's critique in *Postscript on the Societies of Control* (1992), power is, in this chapter, therefore explored as immanent to the interface. Within the framework of planning, citizens can partake in participatory and emancipatory acts of self-individuation, while at the same time supporting politics of control. In other words, immanent power has a double agency: empowerment of citizens can be an immanent control

over a body and an immanent power *in* a body. Immanent control is further explained by Yuk Hui (2015) in regard to modulation: "modulation is a type of control that is characterized by creating a space for the individual, as if he or she has the freedom to tangle and to create, while their production as well their ends follow the logic of intangible forces" (75). Hence, the term 'modulation' refers to a diagrammatic agency, and explains a way of doing. So, in order to uphold a critical perspective, we must keep in mind what kind of interfacial modulations users of the city take part in. Often financial powers are at stake, when citizens partake in or become part of processes of gentrification, of real estate development, or of spatial segregation. As I will show, participatory planning relies on immanent cultural values including some people while excluding others.

The planning theorist, Jean Hillier (2011) has sharpened this diagrammatic thought in relation to planning as she suggests that the city is a plane or plan defined not by what it contains, but "rather by the forces that intersect it and the things it can do" (506). Hillier conceives of the city as a diagrammatic distribution of forces that affirmatively opens up towards what a city can do. While I support an affirmative approach to what a city can do, I also acknowledge a critical approach, since power is both potentially empowering and exercising power, diminishing what a city-as-a-community can do. In sum, we can see modulation as a diagrammatic power immanent to the city as exercised by individual bodies. The city can thus be conceived of as a diagrammatic modulation with an agency that relies on, and lives through, its participating bodies.

When defining contemporary urbanism and its spatial politics as modulations of affective encounters the city must, as a consequence, be seen as a field of relations open to the virtual. As explained above, affective modulations can both empower and diminish the power to act, and determine, what a city can do. Furthermore, it must be asked, what a city can do for what purpose or for whom? In *Expressionism in Philosophy*: *Spinoza* Deleuze (1990) writes: "we do not even know of what actions we are capable of, nor the extent of our power. How could we know this in advance" (226). The affective ethics in our actions could rarely be determined a priori, and neither could we determine beforehand the outcome of affective encounters. A body's capacity to be affected can result in a passive power of pain and suffering from other people's acts. But, as Deleuze notes, a given *passive affection* in suffering can also determine us to act. Affective powers

come from the outside, but can be acted upon through embodiments from the inside. In Deleuze's own depiction: "Every existing mode is thus inevitably affected by modes external to it, and undergoes changes that are not explained by its own nature alone" (219). As we will see in the following examples, acting upon exterior forces can transform suffering into actions.

In the following examples I will explore both the affective modulation in participatory planning, asking how citizens' bodies partake, and how the often invisible and immanent powers in interfaces might become manifest. Affective modulations will be explored on three interconnected scales: the citizen's body and embodiments (Gellerup Demolition Tour), the collective body of a neighborhood protest (the burka ban protest), and the city as an interfacial relation between bodies (the pandemic city). The guiding questions are: to what extent does affective modulation empower people, or do modulations decrease people's capacities to act, as suggested by Yuk Hui? What can a city do to its inhabitants, and what can citizens do to transform and empower neighborhoods and local communities?

THE GHETTO LAW AND THE CLAIMS OF A TRANSPARENT FACE

The 'Ghetto Package' is a law realized in 2018 as part of the Danish government's restriction of designated ghetto areas. In the Danish context, the term 'ghetto' used to refer to neighborhoods comes, from a juridical and biopolitical instrument: the "ghetto list" published by the Ministry of Transport, Building and Housing to identify socially disadvantaged neighborhoods. But, as the ghetto list identifies a ghetto according to its crime rates, its percentage of ethnic groups with non-Danish backgrounds, and its unemployment rates, it has become a highly stigmatized term with sticky affects and highly stigmatized identity for the neighborhood and its residents. The Ghetto Package law can be seen as a spatial follow-up on the ghetto list's quantified valuation and spatial control of neighborhoods, in the sense that it allows local authorities to tear down buildings in designated ghetto areas and to differentiate citizen rights, for instance, by forcing children from ethnic minorities into Danish speaking day care institutions. The ghetto law imposes an interfacial modulation of certain relations between buildings, people, aesthetics, and every day culture.

One of the ghettos on the list is Gellerup. Gellerup is a former social housing neighborhood on the outskirts of Aarhus, Denmark. It was built in the late 1960s as part of Nordic modern welfare planning. Today, Gellerup faces major urban renewal. Since the regeneration plan from 2018 it is the ambition of the municipality of Aarhus to change Gellerup from being "socially disadvantaged" to becoming an "attractive residential district" for their target groups: the creative class and middle-class families (Brabrand Boligforening 2018, 9).[7] The aim, in other words, is to get Gellerup off the ghetto list by regenerating the area in the image of (white) middle class citizens. This intention of 'doing good' can in many ways be seen in relation to how the welfare state has transformed over time: from social ideals of equal rights into a neo-liberal mode of governmentality in which citizens are invited to take part in playful and affective encounters with the more or less hidden agenda of regenerating for an exclusive target group. This politics of affect in urban planning and design is practiced in the Gellerup masterplan and regeneration plan in focusing on bringing young entrepreneurs into the neighborhood, and by supporting young middle-class citizens to move into the area. A master plan is the architectural plan (drawings, renderings etc.), whereas the regeneration is the plan for social and cultural regeneration of a neighborhood. Hence, the plans differ from one another—one is material and the other explains the socio-cultural interventions proposed. This type of regeneration can thus be seen as part of national identity politics complying with local authorities' interests in making Gellerup a site for economic growth and municipality-supported middleclass gentrification. In other words, the 'attractive residential district' can be understood as a regeneration and reconstruction into a specific national identity in which the master plan partakes in spatial politics. These politics are executed through various sorts of affective and spatial modulations aimed at the current and future potential residents respectively. This, among other things, implies rebuilding the much contested modernist social housing architecture into the aesthetics of middle class residential buildings.

I will now offer a few examples of how architecture and aesthetics follow a cultural regeneration where specific affects are valued over others: The first step of the regeneration plan was to 'open up' Gellerup towards the city center of Aarhus. This plan proposes replacing the facade of one of the massive concrete blocks with a "golden gate" which provides the citizens of Gellerup with a view to Aarhus, and vice versa (see Figure 1).

Figure 1. What can urban planning do? The golden gate in Gellerup: opening up the modernist housing block towards the city of Aarhus (3D rendering by Transform Architects).

The golden gate architecture can be seen as symbolic place-making and as an attempt to regenerate a sticky socio-cultural affect as an attempt to regenerate the sticky image constructed by politicians and media that modernist housing aesthetics equals people of color and immigrant communities (see Figure 2).

This spatial reconstruction of modernist buildings does not just tear down the much contested facade of social housing architecture, it also rebuilds it with the promise of a 'golden' gate—in the symbolic sense of economically lucrative—to the city of Aarhus. An aesthetics of a neutral, even transparent and open, face towards Aarhus promises openness, inclusion, and economic growth but is, at the same time, a construction that puts urban culture in the centre of Aarhus city as the normative ideal. Whereas this works as a place-making effort that sends a specific signal to citizens in Gellerup, and the Danish mainstream public, about openness, one might also question its actual spatial capacity to make citizens and publics (on both sides of the gate) meet.
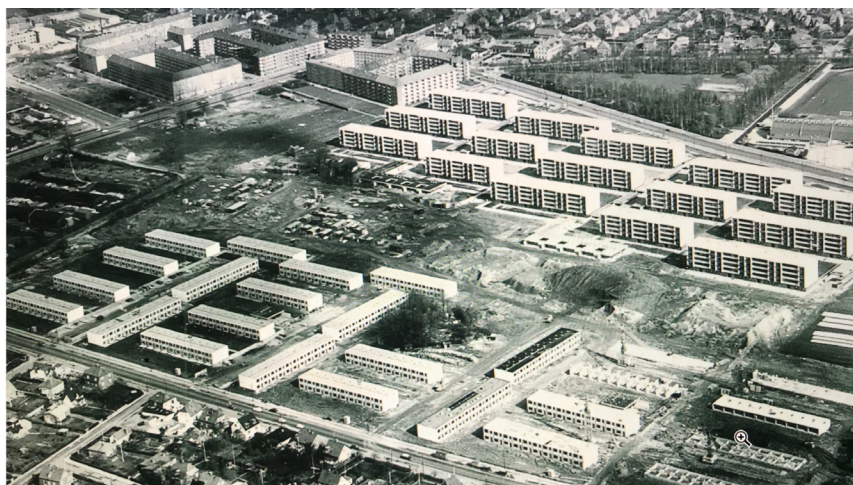
Figure 2. What can architecture do? Gellerup Housing project from 1973. Modernist social housing has in the last decades become an affective architecture sticking to designated "ghetto" areas, a ghetto discourse that again circulates in Danish media with sticky and stigmatizing images. Can architecture and design change such sticky affects by demolishing buildings, rebuilding an other face?

This constructed face of openness and mutual accessibility and transparency can also be understood in terms of deliberately breaking with some site qualities and architectures. Whereas the original architecture of modernist social housing has several open glass facades, the current residents inhabit the buildings in multiple forms, covering, for instance, the windows with textures, cloths, plants, devices, and large antennas. The Nordic modernist architecture was, in line with social democratic politics, concerned with letting in the light to generate healthier housing facilities at the outskirts of the often crowded city centers. When the Gellerup Plan was created, the idea was to build a future of openness and democratic transparency, and when the first wave of immigrant workers came to Aarhus in the beginning of the 1970s, the city was proud to welcome its new citizens to this newly built area. Today the open facades of windows have been covered by curtains, and the buildings are everywhere supplied with individual antennas bringing in signals from around the world. In other words, the spatial expressivity nowadays tells the story of a multi-cultural ethnic community that does not assimilate or conform to the aesthetics of 'openness' and transparency that is often celebrated in Danish modernist

welfare societies. However, regenerations of facades, or the implementation of new facades, in, for instance, the creative student's house, is a recurrent feature in Gellerup's regeneration plan (see Figure 3).

Figure 3. What can aesthetics do? The facades of transparency and openness in the new architecture of Gellerup, Aarhus Kollegiet. Ground-floor facades are kept in transparent glass promising to open up towards the street and other citizens.

Transparency and the construction of a new face is further informed in the cultural programme "Instant City a temporary cultural event program initiated to support the masterplan through socio-cultural events and participatory art. By "instant" it rhetorically suggests that cultural encounters can happen instantly and overnight. Art and culture become tools in a bioplitical transformation process. Other initiatives worth mentioning are the "gazelle farm" and the praised design initiative, "Taste of Gellerup," in which local citizens are being re-cast as cultural entrepreneurs producing and providing recipes and ethnic food to the general public of Aarhus (see Figures 4 and 5).

Whereas the initiatives in the instant city, to some extent, can be promising in staging different cultures of food in the neighborhood, the instant city also relies on an interfacial modulation of affect. Seen from this perspective, citizens are invited to participate in, embody and share, their cultural values only to the extent that it can be consumed as a tasty, exotic experience by outside visitors. National identity politics here become an affective biopolitics, distributed and transformed by and within the participating bodies of citizens (both 'insiders' and 'outsiders' of Gellerup).

Figure 4. What can participatory design and sharing food do? Taste of Gellerup is a food project in which local residents share recipes and food culture and potentially become creative entrepreneurs (photo by Taste of Gellerup, Alexander Muchenberger).

Figure 5. What can participatory design and sharing food do? Taste of Gellerup is a food project in which local residents share recipes and food culture and potentially become creative entrepreneurs (photo by Taste of Gellerup, Alexander Muchenberger).

The phrase "[t]he face is a politics" was written by Deleuze and Guattari in *A Thousand Plateaus* (1987, 179). Faciality relies on an underlying abstract machine, an operational hidden logic, which performatively produces politics. They explain that "it is precisely because the face depends on an abstract machine, that it does not assume a pre-existent subject or signifier, but is subjacent to them and provides the substance necessary to them" (180). Thus, in bringing the spatial aesthetics of an open and transparent face to Gellerup (then and now) it renders forth the spatial aesthetics and ethics of a vivid norm, in this case the norm of the Danish white middle class. This face is neither transparent per se, nor is it universal and neutral. It is, however, embodied in an aesthetics of modernity and democratic transparency that regenerates the face of the neighborhood in the image of white middle class citizens.

As Deleuze and Guattari (1987) state, "it is not the individuality of the face that counts but the efficacy of the ciphering it makes possible, and in what cases it makes it possible" (175). The ciphering and augmentation

of a particular kind of urban life that extracts value from certain urban encounters is also in charge of programming encounters in the forms of architectural and aesthetic processes of gentrification. The municipality's purpose with all this is to take Gellerup off the ghetto list. Whereas it augments a certain faciality it concurrently diminishes existing resident's forms of life. So, whereas the interfacial modulations of affect in the regeneration of Gellerup operates through spatial becoming, with the instant city as its temporary interface, it nonetheless has a certain white faciality masked as 'transparency' at its end-point. This encompasses a partnership between a flexible, participatory, open-ended planning and a biopolitics embodied by citizens. In inviting citizens to partake in a bioplitical and affective process of transformation, some parts of an urban culture are rendered visible, while other parts are demolished or silenced. In this case, the participatory planning relies on the participation of citizens sharing their 'tasty' culture in the instant city program (including its event-culture program). While affective and embodied participation might augment some cultural capacities amongst citizens in Gellerup, it also diminishes others. In this sense, a ciphering takes place that renders a certain representational image possible while neglecting already existing everyday cultures. This problem addresses the immanent powers at play in planning and urbanism. This is not new to urban studies. In the literature on place-making the instantaneity of temporary urban spaces often goes hand in hand with real estate investment and gentrification (see Madanipour 2018; Fabian & Samson 2017). Nonetheless, when we apply affect studies to participatory planning and place-making, all the subtle racialized modulations emerge, especially minor modulations that take place in the disguise of participatory and culturally inclusive forms of planning. Before leaving the case of Gellerup I will give another example of how affective spatial politics of this regeneration can be modulated through the affective politics of the body, drawing upon the gallery Andromeda's *Demolition Tour* in May 2018.

BEING AFFECTED—*THE DEMOLITION TOUR*

In May 2018 local resident and curator Aysha Amin, in a Gellerup based community art gallery, Andromeda, conducted a ghetto tour, specified as a 'demolition tour.' The tour disclosed the local residents' affective relations to the (at the time) nine building blocks that were to be demolished

according to the regeneration plan. The tour gathered a small crowd of curious visitors from Aarhus—designers, planners and students. Guided by Amin, the tour visited the places and buildings in Gellerup. At each stop Amin told stories related to each place, bringing multiple narratives and perspectives on Gellerup together on the walk. In underlining its multiple and competing expressions, other stories of the neighborhood were brought to life (see Figure 6).

Figure 6. What can citizen narratives do? Demolition Tour curated by community art gallery, Andromeda8220 and guided by Aysha Amin (photo by Andromeda8220).

After encountering the neighbourhood, its architecture, its residents, and the childhood memories of Aysha Amin, a decision of this kind was obviously impossible for the tour participants. Arguably, the embodied experiences of *a life*, and the felt expressivity of how specific lives and citizens suffer from ghettoization discourses and concurrent media rhetorics, made the audience relate to the social and cultural qualities in Gellerup. I experienced the *Demolition Tour* as an embodied gesture of returning the

modulations of participatory planning, guided by a citizen whose body had experienced the affects of those modulations. The tour also managed, in an affirmative way, to point out the immanent qualities of Gellerup that were not instantly 'tasty' or ready to consume. This included the stories of people, their memories, and the expressivity added to the homogeneity of the modernist architecture. These impressions were felt by the visiting public, not necessarily as comfortable or joyful affects, rather as mixed feelings. The *Demolition Tour* was an event that folded the exterior forces of the ghetto discourse and its sticky affects into felt and embodied experiences among the participating visitors. When Amin was asked why she wore a bullet proof vest, she answered "to protect my feelings." Deleuze (1988) notes that according to Spinoza, beings will be defined according to "their *capacity for being affected*, by the affections of which they are capable" (45). To me, Amin embodied such a capacity for being affected. When the various discourses imposed from the outside do not meet the expressivity of the inside, for instance the everyday feeling of belonging of citizens, an affective encounter might emerge. The affective expressions might be affirmative, but often they draw on mixed and ambiguous tonalities.

I understand the *Demolition Tour* as an affective encounter that both strategically navigated the external planning oppression of the neighborhood and directed this into felt yet ambiguous sensations that could be accessed by an outside public. The tour was an encounter between enduring a passive suffering from the outside and turning it into potential empowerment or acting against it. It is remarkable that the *Demolition Tour* was carried out in the evental aesthetics as many of the other events were in the Instant City program. But nonetheless the evental aesthetics enacted the melancholy of the past rather than celebrating the entrepreneurial future of the instant city.

The example of the Gellerup Plan, its regeneration plan and Andromeda's *Demolition Tour,* illustrate how spatial politics and planning take place through participatory and affective engagements. Hence, this regeneration should not just be seen as an architectural and aesthetic renewal—it represents concurrently a cultural and social modulation of values. Regeneration becomes, in the well-meaning intentions of neoliberal municipal planning, a form of reinvention of the image and the face of a neighborhood. Its barely concealed agenda is a social cultural transforma-

tion of Gellerup in order to make it consistent with the normative Danish culture. This idea of regeneration relies in many ways on binary thinking as performed in the spatial aesthetics of the new city-plan and in the cultural aesthetics of food and dwelling. Spatial politics in the ghetto law and in the participatory planning discourse in the Gellerup regeneration plan thus welcomes specific forms of normative participation in excluding others. Media, culture and imagery play a specific role in constructing and mobilizing this face. Even though this face promises openness and transparency its back can be rendered visible through embodied acts like the *Demolition Tour*.

Returning to what a city can do, we might say that in the ghetto law as well as in the regeneration plan planning happens as a modulation of affects manifested in how imagery, figures from the ghetto list, and the spatial aesthetics of modernist social housing, are brought together to stigmatize neighborhoods and to replace them with a new face and culture. Regeneration is both a cultural and material modulation and they are rarely discernible. This is, for instance, expressed in the regeneration of architecture in the rebuilding of the façade where national welfare norms of openness and inclusiveness claims that transparency is an universal value. Therefore, as modulations of affect come from the outside (not immanently expressed by its citizens), the Gellerup regeneration plan deterritorializes former Modernist welfare values and its social ideals, as well as redefines the ideal citizen and what constitutes a community.

Hence, the former modernist understanding of the city as an interface for cultural encounters across cultures, signs and values is replaced with a faciality of a-signifying signs (the golden gate, the open façades) that nonetheless rely on codified binary biopolitics of the yes or no: *either* the covered facade *or* the unveiled open façade, either the curtained closed concrete building *or* the golden gate to Aarhus, either unemployed people of color, *or* creative middle class citizens and entrepreneurs living the lifeforms of an instant and eventbased city. This codification of citizens happens through processes of symbolic, spatial and cultural modulation. In this regard, the *Demolition Tour* was an event that demasked the binary bioplitics by facing the affective modulations of the regeneration plan with ambiguity and from a position inside the neighborhood.

AFFECTIVE COMMONING IN THE BURKA BAN PROTEST

The same year as the ghetto law was initiated (2018), the publicly nicknamed "Burka Ban" came into effect, prohibiting people to cover their faces in public. With the intent of making facial urban encounters white and harassing Muslim people, the ban can be said to break with the urban modern ethics of the city as a space for encountering the other, or otherness. Rather, the ban points to what media scholar Møhring Reestorff (2017) has described as the national identity politics in Danish "tepid nationalism" in recent years. Also, the burka law can in many aspects be seen as a continuation of the white faciality described in relation to Gellerup and the ghetto law.

In August 2018, a counter movement to the ban was initiated in Nørrebro, Copenhagen. A protest, organized by the NGO *Women in Dialogue,* in which participants were prompted to perform civic disobedience by covering their faces.. Together with other local community groups, protestors and NGO's voiced their concern by representing the veiled women facing the fines for wearing niqabs and burkas in public space. As one of the organizers stated about wearing a niqab, "now it is a sign of protest" (Hustad 2018). From being merely an everyday way of dressing, the burka had become criminalized by law, and with the counteraction of the NGO, and for a large group of participating residents in the Nørrebro neighborhood, a neighborhood known for its multicultural diversity and community engagement, a sign of protest. In the gathering in Superkilen Park, people were wearing a plurality of masks, veils and niqabs. Later the protest proceeded to North West neighborhood forming a chain around the local police station, enacting a citizen's rights to wear whatever she prefers (See Figure 7).

In his book on *Expressionism in Philosophy*: *Spinoza*, Deleuze divides affectivity into active and passive affection, which corresponds to the capacity of a body to affect and to be affected:

> The capacity of being affected is called a power of suffering in so far as it is actually excercised by passive affection. The body's power of suffering has as its equivalent in the mind the power of imagining and of experiencing passive feelings. Let us now assume that the mode it endures, comes to exercise … its capacity of being affected by active affections. In this aspect the capacity appears as a force of power of acting. (1990, 222).

In Édouard Glissant's dialogue with Mantia Dawara (2011), he demands a citizen's right to opacity, pointing to the barbaric trait in Western societies of imposing one's own transparency on the other. We can say that the power of suffering in a Western—here specifically Danish claim of facial transparency—is exactly what the women endure with the Burka Ban. But through the protest and the commoning of wearing a mask the right to opacity is asserted.

We have already seen how the *Demolition Tour* was oscillating between the passive affections and the active power of acting. Returning to the question of what a body can do, the burka protest similarly illustrates how a collective body of citizens in Nørrebro, through affective modulations, unveils the spatial politics in the burka ban. Starting from the binary

Figure 7. What can a neighborhood do? Citizens in Nørrebro neighborhood put on multiple masks and veils in protest against the Burka Ban, and formed a chain around the local police station (Photo Michael Haldrup).

politics of the veiled and unveiled, the local community and the NGOs, made the covered face reemerge as a multitude beyond the identity politics of either the nation state or a specific ethnic community. As such the commoning across the neighborhood was against specific national identity politics (see Tampio 2009) and a reclaiming of the right to opacity.

In the burka ban protest, commoning becomes a modulation of making affective relations in a community felt. Where planning in the Gellerup case was analyzed as an interfacial modulation of affects between bodies, the burka ban protest points to how a city, or in this case a neighborhood, distributes and empowers citizens by bringing diverse bodies together in real-time situations. Here, the embodied experience of commoning in real time holds a capacity for acting otherwise. In this case it's not a question of what a singular body can do, rather, the burka ban protest shows what commoning across differences can do, as we do not know the extent of such a collective body in advance. Its capacities to affect and to be affected are realized in the situation, in its process of embodiment. In this case, the collective body forming as a multitude of masked expressions negotiated the sticky political and mediated affect of the veil or the burka to a Muslim group of citizens. Establishing for a moment a multitude of covered faces it showed another face to Danish national politics not conforming to an identical and identifiable unveiled face but rather constructing an opacity in disguise. Participating in the protest, there was a moment in which I, as a citizen, faced the urban implications of a single white faciality as it shakes the very foundations of the city as an interface for encounters. Did all participants feel the same? Unlikely, because each commoning body manifested—visually and bodily—that they did not want to conform to any single identity image governed within a public space. I understand modulation of affects in the burka ban protest as an augmentation and reinforcement of opacities of any art, a remasking of citizens rights not to conform to any singular image. The spatial politics prohibiting the burka was turned around and augmented so as to let the multiple covered faces speak. This was a cacophony of voices that could not be reduced to a single cultural identity. Embodying multiple faces from various religious and cultural contexts, the participating bodies did not conform to the either/or operative logics in the burka ban politics. Whereas the *Demolition Tour* in Gellerup enacted the expressivity of a single body, the burka ban protest can be seen as an example of what a city can do in the process

Figure 8. What can a pandemic city do? During the pandemic, cities, streets and squares were radically closed down to prevent the virus to spread. It radically changed norms in the city and the distribution of affective social and cultural encounters. Superkilen Park in Copenhagen (photo Kristine Samson).

of commoning. Here, the entire neighborhood embodied a multifaciality and expressed an urban commoning emerging from cultural differences and an embodiment of a multiple co-existent faciality.

THE NEW NORMAL OF FACE MASKS AND SOCIAL DISTANCING

The coronavirus pandemic initiates a series of events that clearly show what the first cases have hesitantly indicated: that the city is an interface for social, cultural, and affective encounters in which bodies relate in both affirmative and disruptive ways. It is also an event that deeply redefines the city as an affective interface. In the former cases we could identify the emergence of immanent qualities, for instance the empowering capacities of the lived experiences of inhabitants or the commoning of a neighborhood against racialized spatial politics. Yet, what immediately qualifies the pandemic city as an event is that all pre-existing qualities disappear. As the virus spread, the common assumptions for most urban studies and planning practices were undermined. During the first lockdown in March 2020,pandemic was no longer a place for encounters, meaning that the underlying assumption permeating this article and the former cases mentioned above become redundant—redundant as seen from the perspective of active and affirmative affections. Instead, bodily and affective encounters in the city and the interconnectedness of bodies became dominated by fear, as encounters would spread the virus. Maiello (2020), analyses the coronavirus in terms of mediation, "this pandemic confronts us with our mediality; it shows us that we are in the middle, that we play an active role in a continuous process of transformation, which develops itself in the total hybridization of levels and scales, the human and the non-human, the biological and the medialogical." This explains the evental emergence of a radical other reevaluation of urban encounters, he pandemic crisis inserts a potential deadly threat in the embodied encounter. What a city can do in this situation is to lock down. Lock down in the sense of disconnecting all the everyday encounters that define the city and this prevents affective modulation. Formerly constituent factors in the city, for instance density, mobility and constant exchange, and social and bodily encounters become prohibited so as to diminish the capacity of the body to affect and to be affected, to contaminate and to be contaminated. Therefore the virus and the following spatial politics of social distanc-

ing disconnects us from our mobility and shuts down the majority of the affective modulations operating in the city. In this sense, the pandemic city becomes an urban event radically changing the ethics of relations in the city. However, urban encounters were also renegotiated and new counter regulations emerged, for instance, the law enforcements of wearing a face mask in public transport.

The prohibition of events and social gatherings of more than 10 people in Denmark is just one example of this. The city operates as an interface for affective encounters, even in the case where affective encounters are negatively defined. As such, the pandemic city reopened questions regarding biopolitics and environmental control, as it showcased new formations between disciplinary societies and control societies in the city. At the same time, it also opened questions regarding our planetary situation and to what extent (urban) life as we know it is sustainable. Several citizens encountered nature, the commons outside Copenhagen and the friendship with animals and companion species (see Figure 9). Here the question reemerges on another scale: what can a city do on a planetary scale? Can the lack of affections from, for instance, travel, tourism, commercial interactions, actually augment and sustain the more-than-human livability and decrease the anthropocentric and urbanised damage on earth? The corona virus illuminates the question of what a body and a city can do in so far as it shows how a city as an interface of encounters can also break down, rearrange and re-emerge with different behaviors and sociospatial norms.

AN AFFIRMATIVE ETHICS OF WHAT A CITY CAN DO

What a body can do is not only to suffer passively from the affective modulation exterior to it, but to rework the suffering from its immanent relationality. This is what Braidotti (2013, 2019), among others, with reference to a Spinozist ethics, calls "affirmative ethics" (explained below). We can understand affirmative ethics as an imperative to keep experimenting with other ways of relating and experimenting with and through mediated and interfacial modulations. Braidotti (2013) explains: "Affirmative ethics is based on the praxis constructing positivity, thus propelling new social conditions and relations into being, out of pain. It actively constructs energy by transforming the negative charge of these experiences, even in intimate relationships where the dialectics of domination is at work" (227).

Figure 9. What can companion species do? During the corona virus due to the affective threat in human encounters, people found comfort in nature and interspecies encounters. The nature reservoir, Syhavnstippen south of Copenhagen became a place for encountering lamas as companion species (photo Lasse Mouritzen).

Such questions arise from the pandemic city: why would we reestablish urban relations and the painful and harmful interfacial modulations we were part of? As an interface, the pandemic city was malfunctioning, it was painful and frightening. It was not *new* according to pre-established codifications in spatial politics and planning but rather non-existent as the habitual foundation of our lives. It was no longer functioning as an interface. As such it felt like a systemic resetting of the predominant mode of production. If we can understand affirmative ethics as an experimentation or othering of the predominant order from within, the lessons from the pandemic city must be that radical change can also be imposed upon us from the outside. In the case of a pandemic crisis we are no longer discussing the point, lines and planes of the city. Instead, the pandemic might finally redirect us to a planetary scale pointing to our deep ontological relationality and interspecies interconnectedness. So why would we want to go back to normal? Events emerge where reality, as we know it, break open, and what we formerly considered transparent and neutral becomes demasked, fake or insufficient. What a pandemic city can do when it reconfigures as interface is to initiate *unprecedented* formations

of subjectivity. Events, as we have seen in this article, emerge from the felt experiences in affective encounters; as well as the affective encounter in which we are not able to relate to one another. Affirmative ethics emerge from such limitations, they can rarely be anticipated. Hence, we still do not know what a city can do.

NOTES

1. Thanks to Greg Seigworth for pointing to how affects unfold as *point, lines and planes*. While the analysis on all three is difficult, I nonetheless find it fruitful to try and make the jumps in between the point, the lines and the planes. In this article, my main interest is the plane which I relate to the diagrammatic modulations of affect. But without the point and contact zones in the bodily encounters (points) or the processes of commoning (lines), planes easily become too abstract, especially in urbanism and spatial politics. The plane as a certain mode of urban production needs encounters and processes of commoning.

2. Whilst I normally write about these processual and participatory forms of urbanism and planning from an analytical, descriptive and distanced perspective (see, for instance, Samson, 2010, *The Becoming of UrbanSspace*: From Design Object to Design Process). I will allow myself to write from a more situated and embodied position. I believe that an embodied and affective approach to the field *matters*, and that cities currently undergo such radical transformations that we need to bring bodily felt sensations into the analysis to better understand the affective politics and dynamics of cities.

3. Evental Urbanism was a subproject in *Affects, Interfaces, Events* (2015-2021). The field of study was urban activism, art in public and cultural planning, but also the role of affective media and the body in contemporary urbanism and urban design.

4. For further readings into non-representational urban theory and affect, see for instance McCormack (2014) *Refrains for Moving Bodies*, Harrison & Anderson (2016). *Taking-Place Non-Representational Theories and Geography* or Amin & Thrift (2002). *Cities: Reimagening the Urban* 2004. For research in urban planning adopting a Deleuzian-Guattarian perspective, see Jean Hillier (2007), *Stretching beyond the Horizon*, or the following (2011) "Strategic Navigation Across Multiple Planes: Towards a Deleuzean-Inspired Methodology for Strategic Spatial Planning" In: *The Town Planning Review* 82(5), pp. 503–527.

5. For a further critical discussion and problematization of the post-political see for instance Erik Swyngedouw (2011) *Designing the Post-Political City and the Insurgent Polis*, London: Bedford Press; or Margit Mayer (2013). First World Activism. *City: Analysis of urban trends, culture, theory, policy, action*, 17 (1), pp. 5-19.

6. For a further elaboration on how urban design and architecture partake in processes of becoming, see Samson 2010. For a further elaboration of the diagrammatic thought in planning, see Hillier 2007, 2011, for a further critique of participatory and cultural planning as power and control, see Fabian & Samson 2017, Madanipur 2018, Krivy (2008).

7. The general plan defines the target group and future residents like this "Families with children in the upper middle class: Migrants from the creative class with humanities and artistic higher education; Existing resourceful residents; Migrants with long or medium education; Migrants, eg. public servants or academics with children" translated from Danish: *Børnefamilier i den højere middelklasse: Tilflyttere fra den kreative klasse med humanistiske og kunstneriske videregående uddannelser; Eksisterende ressourcestærke beboere; Tilflyttere med lange eller mellemlange uddannelser; Tilflyttere, fx offentligt ansatte eller akademikere med børn.*" Available at: https://www.bbbo.dk/media/2230/bbbo-udviklingsplanen.pdf [Accessed 01 May 2020].

REFERENCES

Anderson, B. & Harrison, P. (2010). The Promise of Non-Representational Theories. In: B. Anderson & P. Harrison (2010). *Taking Place: Non-Representational Theories and Geography.* Burlington & Aldershot: Ashgate, pp. 1–36.

Amin, A. & Andromeda 8220 (2017). Community Art Gallery. [online] *Andromeda 8220.* Available at http://andromeda8220.dk/ [Accessed 01 May 2020].

Amin, A. (2019) Andromeda Demolition Tours Previous Events, Demolition Tours. [online] *Andromeda 8220.* Available at: http://andromeda8220.dk/?p=200 [Accessed 01 May 2020].

Amin, A. & Thrift, N. (2002). *Cities: Reimagening the Urban.* Cambridge: Polity Press.

Brabrand Boligforening (2018). Udviklingsplan for Gellerup og Tovesvej 2018. Liv i bydelen: Fremtidens Gellerup (Gellerup Regeneration Plan) [online]. Available at: https://www.bbbo.dk/media/2230/bbbo-udviklingsplanen.pdf [Accessed 01 May 2020].

Braidotti, R. (2013). *The Post-human.* Cambridge: Polity Press.

Braidotti, R. (2019). *Posthuman Knowledge.* New Jersey: John Wiley & Sons.

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

Deleuze, G. (1992*).* Postscript on the Societies of Control. *October* 59, pp. 3–7.

Deleuze, G. (1994) *Difference and Repetition*, Translated by P. Patton. New York: Columbia University Press.

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia.* London: University of Minnesota Press.

Deleuze, G. (1988). *Spinoza: Practical Philosophy.* San Francisco: City Lights Books.

Effekt Architects (2020). Gellerup Masterplan [online]. Available at: https://www.effekt.dk/gellerup [Accessed 01 May 2020].

Fabian, L. & Samson, K. (2016). Claiming Participation: A Comparative Analysis of DIY Urbanism in Denmark. *Journal of Urbanism* [online] 9 (2), pp. 166–184.

Førde, A. (2019). Enhancing Urban Encounters: The Transformative Powers of Creative Integration Initiatives. *Urban Planning* 4 (1), pp. 44–52.

Glissant, Édouard, Diawara, M. & Winks, C. (2011). Édouard Glissant in Conversation with Manthia Diawara. *Nka: Journal of Contemporary African Art 28*, pp. 4–19.

Hillier, J. (2007). *Stretching Beyond the Horizon: A Multiplanar Theory of the Spatial Planning and Governance.* Aldershot: Ashgate.

Hillier, J. (2011). Strategic Navigation Across Multiple Planes: Towards a Deleuzean-Inspired Methodology for Strategic Spatial Planning. *The Town Planning Review* 82 (5), pp. 503–527.

Hui, Yuk. (2011). Modulation after Control. *New Formations* 84/85, pp. 74–91.

Hustad, K. (2018). 'Now It's a Sign of Protest:' Muslim Women in Denmark Defy the Face Veil Ban [online]. *Times World.* Available at: https://time.com/5356136/denmark-burqa-ban-protest/ [Accessed 01 May 2020].

Krivý, M. (2018). Towards a Critique of Cybernetic Urbanism: The Smart City and the Society of Control. *Planning Theory* 17 (1), pp. 8–30.

Madanipour, A. (2018). Temporary Use of Space: Urban Processes Between Flexibility, Opportunity and Precarity. *Urban Studies* 55 (5), pp. 1093–1110.

Maiello, A. (2020.) Post-Media Virality. [online] *fatamorganaweb.* Available at: http://fatamorganaweb.it/post-media-virality/ [Accessed 27 March 2020].

Massumi, B. (1998). The Diagram as Technique of Existence. *Any* 23, pp. 42–47.

Mattern, S. (2019). Ether and Ore: An Archeology of Urban Intelligences. In: L. Kugan & D. Brawly, eds., *Ways of Knowing Cities.* New York: Columbia University Press, pp. 121–130.

McCormack, D. P. (2018). *Atmospheric Things: On the Allure of Elemental Envelopment.* Durham: Duke University Press.

McCormack, D. P. (2014) *Refrains for Moving Bodies: Experience and Experiment in Affective Spaces.* Durham: Duke University Press.

Reestorff, C. M. (2017) *Culture War: Affective Cultural Politics, Tepid Nationalism and Art Activism.* Bristol; Chicago: Intellect.

Munster, A. (2006). *Materializing New Media: Embodiment in Information Aesthetics.* Lebanon: Dartmouth College Press.

Pløger, J. (2016). The Evental City: Moment, Situation, Presence. *Space & Culture* 19 (3), pp. 260–274.

Samson, K. (2010). The Becoming of Urban Space: From Design Object to Design Process. In: J. Simonsen, J.O. Bærenholdt, M. Büscher & J. Damm Scheuer, eds., *Design Research: Synergies from Interdisciplinary Perspectives.* London: Routledge, pp. 172–186.

Simmel, G. (1976). *The Metropolis and Mental Life. The Sociology of Georg Simmel.* New York: Free Press.

Tampio, N. (2009). Assemblages and the Multitude: Deleuze, Hardt, Negri, and the Postmodern Left. *European Journal of Political Theory* 8 (3), pp. 383–400.

Taste á la Gellerup [online] (2020). Available at: http://smagalagellerup. dk/ [Accessed 01 May 2020].

Interfaces for Ecosophic Democracies: 'Consent not to be a Single Being'

LONE BERTELSEN

> you can't count how much we owe one another. It's not countable. It doesn't even work that way. Matter of fact, it's so radical that it probably destabilizes the very social form or idea of "one another." But, that's what Édouard Glissant is leading us towards when he talks about what it is "to consent not to be a single being" (Fred Moten in Harney & Moten 2013, 154).

> Ecosophic democracy would not give itself up to the facility of consensual agreement: it will invest itself in a dissensual metamodelization (Félix Guattari 1996, 272).

GENTLEMEN!

In *Oranges are not the Only Fruit* Jeanette Winterson writes that "if we are eighteenth-century gentlemen, drawing down the blinds as our coach jumbles over the Alps, we have to know what we are doing, pretending an order that doesn't exist, to make a security that cannot exist" (1985, 95). I am opening this chapter by way of Winterson's eighteenth-century gentlemen because their drawing down of the blinds against the unpredictable and more socially entangled qualities of life is present in much Western, social, political, and intellectual life. It is at the core of the

Figure 1. *Collective Fabulations—Propositions for Social Dreaming*, Andrew Goodman and Erin Manning, 2019. Two-sided, multiple entry-way, hand-sewn quilt with cotton batting; saffron hand-dye sleepwear, 1875–1930; antique Japanese kimono silk, Erin Manning, 2017. Courtesy of the artists.

conception of the humanist subject and at the center of the exploitation of much else for the sake of fabricating and maintaining a feeling of (false) security for this subject.

While regularly challenged by more radical art, design, and participatory democratic practices, the liberal subject—and its comforts—still too often operates as one of the main conceptual bases for both a more commercial interface design and dominant (neo)liberal constellations of democracy.[1] The two are related. For example, (neo)liberal democracy could be understood, at least in part, as a model of interaction involving numerous interfaces that attempt to draw down the blinds against the social complexity of the world and against the entangled qualities of "minor social life" (Moten in Manning 2019a, n.p.).

Both (neo)liberal democracy and the more conventional notions of the interface need to be rethought because they are mutually implicated expressions of a more fundamental modern fabrication of the Subject,

a fabrication that is ultimately oppressive. I have therefore followed eco-feminist Val Plumwood's call and place this "conceptual foundation of oppression"—which includes the drawing down of the blinds—"at the very centre" of an exploration into what qualities could shape both a more fully social interface and a more fully social democratic practice (1993, x).

A further aspect of the problems involved is that the gentlemen's insistence on their (false) sense of security participates in a positing of the world and its (non-European) 'others' in terms of what Denise Ferreira da Silva (2007) calls *affectability*. In her work on the construction of race, Ferreira da Silva describes this exploitative positing of affectability as the "condition of being subjected to both natural (in the scientific and lay sense) conditions and to others' power" (xv). Ferreira da Silva argues that this "social scientific arsenal" ultimately "reproduces or repositions the others of Europe in affectability" (170).

The gentlemen's participation in the creation of a false sense of security involves the troubling fabrication of a distancing of themselves from affectability. Following Ferreira da Silva I would argue that this fabricated distancing constructs a "separability," one which seems to render the European gentlemen un-affectable. And the gentlemen know what they are doing: they profit from positioning others in affectability and this profit provides them with a sense of both comfort and (false) security.

In sum, via such operations as the pulling down of the blinds, and the fabrication of separability, a colonial and capitalist "arsenal" has been deployed "that produces ... the [self-enclosed] subject of transparency, for whom universal reason is an interior guide, and subjects of affectability, for whom universal reason remains an exterior ruler" (Ferreira da Silva 2007, xxxix). In her "Black Feminist Poethics," Ferreira da Silva seeks to free affectability and "the Category of Blackness... from the scientific and historical ways of knowing that produced it in the first place" (2014, 81).

The gentlemen in the coach on the Alps have played their part in (re)producing such exploitative "ways of knowing." They are constructed as sovereign subjects, separated from the world and the "affected ones" (Harney 2013, 5), while "the affected" ones, together with the earth itself, become the *means* of capitalist exploitation and profit for the humanist subject of reason (Harney 2018, 97). Stefano Harney's genealogy of contemporary capitalism and logistics, and his work on the "slave world," demonstrate how the humanist subject of reason becomes "an end" for

itself, which actively participates in the construction, enforcement, and exploitation of the affectability and the collectively produced means of the affectable ones, notably in slavery (97). According to Harney, these "means are utilized for but one end: the production of profit and cispatriarchy." In turn, both profit and cispatriarchy "support and make possible this illusion of self-authored man who can declare himself an end" (100).

In other words, the fabrication of "self-authored" sovereignty (which Harney refers to as involving a "straightening" [2018, 108-110]) is also the end point of a "europhallic" production of subjectivity (Moten 2003, 203). Modern (neo)liberal democracy and much mainstream interface development, in that they too assume self-authored sovereign subjects, also serve such a europhallicism. At the heart of all this, according to Moten (2015), europhallic "modernity (the confluence of the slave trade, settler colonialism and the democratization of sovereignty through which the world is imagined, graphed and grasped) is a socioecological disaster."[2]

In this chapter it is especially the conceptual aspect of this socio-ecologically disastrous foundation of separability and oppression that informs my interest in trying to figure more transversal understandings of the production of subjectivity, social life—interfaces as part of this production—and what Guattari calls *ecosophic democratic practices*.[3] The general idea in this chapter is that these need to be practiced along the lines of more ethico-affective and trans-subjective logics (see Guattari 1995 & Ettinger 2006), rather than within the logic of the exploitation that enables the separability of Western individualism. Such trans-subjective logics are also key to refiguring the concept of the interface in ecosophic, rather than (neo)liberal and europhallic, terms.

A more ecosophic democratic logic must *not* then concern the separability of any sovereign subject of reason or conceive of an interface simply in terms of interaction between self-enclosed subjects (see Massumi 1995, 189). Rather, ecosophy should tend to the communality involved in what Fred Moten, following Édouard Glissant, terms a "consent not to be a single being" (Glissant in Harney & Moten 2013, 154). Harney & Moten write that "[w]e owe one another the exhaustion of their physical and metaphysical regime, which means blowing up the structure that is grounded in the idea of one and another" (2018, n.p.). The conceptual structure to be destroyed is a structure that, while pretending it doesn't exist, exploits the affective middle—"inseparable difference" in Ferreira da Silva's (2016) terms. It protects the likes of Winterson's European

gentlemen. As previously mentioned, it also produces a logic that consti-
tutes the very foundation upon which the notion of both (neo)liberal
democracy and the *interface* rest.[4]

With regard to the interface, but also with clear implications for think-
ing democracy, Andrew Goodman explains that the very ideas of "discrete
interfaces are problematic in that they might be seen to imply a world
inhabited by ideal, internally stable, objects [and subjects], between which
interactions occur. The interface's role, in such modes of thinking, is to
rejoin entities that are by implication discrete" (Goodman 2018, 177-18;
see also Massumi 1995). This is a problem because in such an approach
"the complexity of continued unfolding and relation to the dynamic"
ecologies and potentials of our socially entangled world "is greatly dimin-
ished" (177-78).

In the last section of this chapter I'll consider two participatory
artworks that figure the interface in a more socially entangled manner:
*Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear
Nations* (2013) by Ken and Julia Yonetani and *Collective Fabulations—Prop-
ositions for Social Dreaming* (2019) by Andrew Goodman and Erin Manning.
Both artworks recast the notion of the interface from the perspective of the
potentiality of the affective middle. From the perspective of this middle
there is no privileging of "self-protecting," enclosed subjects (Moten
2018a). The works do not construct a traditional interface between stable,
self-enclosed entities. Rather the works engage a more social becoming.
Both *Crystal Palace* and *Collective Fabulations* foster the creation of more
immanently emerging *interlacings*, to use Lone Koefoed Hansen and Jacob
Warmberg's term. Koefoed Hansen and Warmberg have coined the concept
"interlace" as an alternative to the "idea and practice of the interface,"
because the notion of the interface "is derived from the medium as a
representational surface" that "demands the overview of an autonomous
consciousness" (2005, 169): the separability of our gentlemen again!

The *interlacings* in *Crystal Palace* and *Collective Fabulation—Propositions
for Social Dreaming* are different. These interlacings are trans-subjective
(rather than intersubjective). They lace together a care for our "entangled
differences" rather than for self-sufficient autonomy (Harney & Moten
2018). Both artworks open the blinds. Yet they also acknowledge the opac-
ity of the inseparable affectability immanent to all events and encounters.
I hope to show that these works invite us to "consent not to be a single
being" and lead the way toward more general ecosophic and truly social

democratic practices. However, before turning fully to a consideration of these participatory installations, let me first bring Guattari's concept of *dissensual ecosophic democracy* into encounter with Édouard Glissant's notion of "a consent not to be a single being" (2011, 5).

Glissant is influenced by the work of Deleuze and Guattari, and it is about time that we enrich Guattari's ecosophic thought by way of Glissant (and the Black radical tradition). First, I'll briefly explore Guattari's notion of ecosophic democracy. Thereafter, I'll turn more fully to the work of Glissant, before considering the transformative sociality of the ecosophic interlacings at work in *Crystal Palace* and *Collective Fabulations—Propositions for Social Dreaming*. Ferreira da Silva, Harney, and Moten will keep us company along the way.

ECOSOPHIC CONSENT

According to Guattari all ecosophic practices must concern heterogeneous becoming and an "opening onto multiplicity" (1995, 30). There is, thus, in Guattari's notion of ecosophic democracy, little room for a liberal representative model based on transparency and consensus among a bunch of self-enclosed, supposedly rational subjects. Ecosophy does not concern itself with the *being* of these self-contained subjects. Neither does ecosophy accommodate the capital accumulation by such subjects. Indeed, for Guattari such subjects are an illusion because there "is no [separate] being already installed through temporality" (30).

I've suggested that the logic of separability concerning being that enables the humanist subject—and enables the accumulation of capital to such a subject—creates the privilege and power of Winterson's gentlemen. In doing so, it also "smashes all other modes of valorization" (Guattari 1995, 29). Guattari writes that the model involved is the "great reducer of ontological polyvocality" (1995, 29). What is called for then must resist separability—because separability can exploit the affectability of others (and the earth)—and tend to difference: "difference without separability" (Ferreira da Silva, 2016). As I read it, this implies that the more ethical moves toward ecosophic democratic practices should concern neither consensus nor dissensus between self-enclosed subjects. Instead, according to Guattari such ecosophic practices should concern a different kind of dissensus, within a "dissensual metamodelisation" (Guattari 1996, 272).

It is important here to think Guattari's understanding of dissensus together with his idea of metamodelisation. The key thing to note is that metamodelisation does not privilege any one model, certainly not that of an individual subject (Guattari 1995). Rather, *ecosophic dissensual metamodelisation* concerns practices, and those that are "more collective, more social and more political" (29). Such practices must involve a discordant and entangled *polyvocity*. And they should, I propose, foster conditions conducive to a *consent not to be a single being*. Such a consent would "call for an existential participation based on an immanence that must be endlessly" attended to (Guattari 1996, 266).

Ecosophic dissensual metamodelisation does *not* then imply dissensus as often understood in the humanist terms of a disagreement between separate, self-enclosed subjects. This more humanist understanding of dissensus too easily ends up serving and representing the rights of our European gentlemen only. Instead, ecosophic democratic practices could be thought of as resting on a "dissensual metamodelisation" that involves a prior consent to nourish the cacophony and interlaced discord of inseparable, immanent difference. Read together with Ferreira da Silva, Guattari's dissensual metamodelisation could be seen to work with the conditions of a "difference without separability," for which liberal democracy and its humanist understanding of the subject (formulated as separability) allow very little room.

In the context of the themes of this book I should perhaps stress, again, that I have gone with Koefoed Hansen and Warmberg's (2005) concept of the *interlace*, rather than the mainstream idea of the interface. The notion of the interface doesn't lend itself well to an ecosophic democratic approach, because broadly speaking the very idea of an interface is more attuned to a liberal understanding of relations of consensus or dissensus between self-enclosed, supposed sovereign subjects. An entangling interlace, on the other hand, escapes separability and lends itself well to ecosophic dissensual metamodelisation.

It is then, precisely, the kind of entangled differences suggested by Glissant's *consent not to be a single being* that are important to Guattari's thought on ecosophic democratic practices. And even when, in his last published piece—"Remaking Social Practices"—Guattari (1996) also addresses more mainstream politics in its "major" mode, this is never at the risk of losing the more minor qualities of ecosophic metamodelisation.

Such minor qualities are also key to Glissant's *Poetics of Relation*. The general emphasis throughout Glissant's work is relation, opacity, and difference, rather than identity, transparency, and unity. It is with this kind of emphasis, in a late interview "One World in Relation," that Glissant introduces the notion of a "consent not to be a single being" (2011, 5). Here Glissant, like Guattari, is interested in "the moment when one consents not to be a single being and attempts to be many beings at the same time" (5).

In this interview Glissant also makes some important observations about Western democracy as that which orients the direction of much of the world. However, the notion of direction at work in a poetics of relation is opposed to the self-serving direction of powers within the logic of separability and unity at work in the gentlemens' navigation of the world.[5] For Glissant relation does involve direction, but relation must never pull down the blinds to the complexity of the world. Thus, for him relation "is a direction which is not the direction toward unity but which remains a direction in any case" (2011, 10). Glissant notes that when it concerns navigating direction in the West, democracy "is one of the most fully realized forms that has [been] undertaken" (10). However, Glissant does *not* see Western representative democracy as "the only possibility" (10). Modern democracy has a very problematic history, particularly concerning "colonial aggressions," and Glissant stresses that "*A democratic country should not be able to be a colonialist country*" (10). Glissant urges the creation of practices that generate alternative, more relational contacts, directions and "opening[s] in [and for] the world" (10). It is interesting to note here that Guattari, in his last published piece, "Remaking Social Practices," also asks us to invent new ways of navigating direction and openings for connection. He calls for us to create a new ecosophic "compass by which to orient" ourselves (1996, 262).

Glissant's own work concerns itself to a large extent with the openings involved in a *poetics of relation* specific to the diversity of African diasporas. He is particularly concerned with "the forced diaspora imposed by the West through the slave trade (2011, 5)." He says "it seems to me that, if we don't think about that properly, we won't be able to understand what we ourselves can do, as participants in this African diaspora to help the … world to realize … its multiplicity (and to respect itself as such)" (5).

It is this kind of thinking in Glissant that has influenced Harney and Moten's writing on the experience of the terrible conditions of (the Middle Passage) from Africa to the Americas.[6] They write about the terrible price

that was paid by the enslaved Africans experiencing the capture in the hold of the slave ships (Harney & Moten 2013, 87-99; see also Harney 2018). However, Harney and Moten also suggest that something else emerged from the "hapticality" of the extreme violence of being thrown together in the hold—what emerged was a "feel" of the capacity to "consent not to be one" (2013, 97-98). They propose that here "the self [and separation] is not what comes first" (Moten 2013). In *Poetics of Relation* Glissant explains:

> Although you are alone in this suffering, you share in the unknown with others whom you have yet to know ... People who have been to the abyss live relation and clear the way for it.... For though this experience made you, original victim floating toward the sea's abysses, an exception, it became something shared and made us, the descendants, one people among others...

He continues:

> We know ourselves as part and as crowd, in an unknown that does not terrify. We cry our cry of poetry. Our boats are open, and we sail them for everyone (1997, 8-9).

In response to Glissant, Moten spells out how "middle passage opens up ... the capacity to exercise a capacity ... and that capacity is the consent not to be a single being" (2013, n.p.). For Moten this capacity produces "a particularly lovely" and fortunate "way of thinking." He stresses that what emerges is a mode "of human existence which is not predicated, in the first instance, on the belief that the self comes first" (n.p.).

Moten is also interested in how people who have *not* suffered the middle passage and all that followed, or are not descendants of people who have, can encounter "the capacity to exercise" the capacity to "consent not to be a single being." He asks the important question of what people who have participated in, "or have been administering the regime in which other selfhoods have been interdicted", can "learn from this?" (2013, n.p.).

It is this question in particular that has motivated this chapter. "The capacity ... to consent not to be a single being" certainly cannot be encountered by aiming to attain a fixed, self-enclosed subject position or by falling back on the principles of liberal representative democracy as a general and all encompassing social practice. Why not? Because this cuts out the experience of co-affectivity in terms of lived "difference without separability," and that enables the positing and exploitation of the "affected ones" (Harney 2013, 5).

In this chapter, I have wanted to emphasize that it is time for: "black social life" (Harney & Moten 2013, 18), "minor socialities" more generally (Manning 2019a), and an emphasis on practicing the ability to "consent not to be a single being." All three should more explicitly inform the takeup of Guattari's notion of dissensual ecosophic democracy. Because, according to Harney, "we need more than the European thesis to fight the European model in its fully realized form" (2013, 5)—fight the violence done by it to specific groups more than to others. And at the same time Glissant reminds us that, "we should" never "try to bring everything under the same uniform" model or the notion of the universal (2011, 7). This is the case because for Glissant the concept of the universal could be understood to involve a problematic "abstraction" from the "weave of the living," and clinging to the universal allows us to "forget [all] the small differences" interlaced in this weave (9).

It seems to me that in many ways Glissant's implicit notion of an abstraction from "the weave of the living" is in accord with Alfred North Whitehead's problematization of "the bifurcation of nature" found in much Western thought and science (Whitehead 2007, 26-48). Such a bifurcation pulls down the blinds against the "mutual immanence" (Whitehead 1938, 164) involved in living "difference without separability." It separates nature in terms of a *nature apprehending* (our European gentlemen) and *nature apprehended.* Erin Manning points out that this bifurcation of nature produces "an account of experience that separates out the human subject from the ecologies of encounter" (2016, 28-29). While at the same time it perhaps also helps create the very possibility of *the* subject. Whitehead proposes instead that human sensory perception and mentality are not separate from this world but are an immanent part of it (this is very unlike the conviction of our European gentlemen and their liberal democracy). What if we take this seriously? What if that which apprehends the world is not of a different nature to the rest of the material world? It would follow that the dominant mode of representing issues and experience as if from some other (secure, distant, and un-affectable) place collapses. What is needed, in part then, is adding life—*difference without separability*—to the abstractions involved in the creations of concepts (see Whitehead 1938). This is precisely what Glissant—as well as Manning, Harney, Moten, and others—manages to do so beautifully. Like Brian Massumi has always

done, they engage "the *thinking-feeling* of what happens" (2008, n.p.). They add (social) life to concept creation by situating it in the "feel" of inseparable difference.

It is, however, commonly assumed that reality is 'out there,' separated from us, and that when we talk about, judge, or represent certain events or people this is from a position somewhere else (from an unaffectable and *europhallic* position) not actually involved in the events themselves. However, for Whitehead, human perception is an immanent part of any event. In this affective field of events, thinking and feeling, and the actual and the virtual, become-together in actual situations.

Ferreira da Silva stresses that we must not privilege a "separability" that favours a "subject of universal reason"—our European gentlemen (2014, 82). She is critical of modern ontology and epistemology in this regard, especially of the violence done by their privileging of transparency and universal reason. Instead, she proposes a "re-imagining [of] sociality" in which difference becomes "the expression of an elementary entanglement" (2016, 65). This reimagining is important because, if we read Ferreira da Silva together with Whitehead, "the bifurcation of nature" that Whitehead attempts to overcome is also a bifurcation that in part constitutes the racialization central to modern thought and (neo) liberal democracy.

In terms of the themes of this book I would say that the concept of the interface itself partakes in upholding such a bifurcation. As mentioned, in such a bifurcation, as a kind of operation, the supposed "transparent subjectivity" that modern thought constructs is white (and unable to be affected by the world and the "affected ones" [Harney 2013, 5]). Like Glissant (and Whitehead for that matter), Ferreira da Silva therefore urges a move away from the notion of the "subject of universal reason" and the concept of the universe as such (2014, 82). She suggests that we instead develop Leibnitz' concept of the *plenum*. The plenum is co-affective—not a universe but a world of relational *difference without separability*. In the plenum there is no separate subject of universal reason or bifurcated nature. In the plenum *everything is interlaced and affects everything else* (Ferreira da Silva 2014). In Ferreira da Silva's *poethics* of *difference without seperability* we are all affectable, because ultimately "we are connected to everything else" (Ferreira da Silva in Desederi & Ferreira da Silva 2015, 4).

A *Poethics of Relation* for the *weave of the living*—for the plenum—must concern itself with opacity and difference in relation rather than transparency and likeness between that which is separate. Relational difference is key. For Glissant: "it is the living stuff of life." According to Glissant, "there's no likeness and differences; there's only differences." And it is "the rhizome of these differences," *difference without separability*, rather than self-enclosed subjects as such, that "forms the weave of the living and the canvas of culture" (2011, 19).

This weave of *inseperable difference* could, as I've argued, also be seen as important to Guattari's concept of ecosophic democracy (practiced as dissensual metamodelisation). And remember that ecosophy also emphasizes the equal importance and inseparable interlacings of the registers of social, environmental, and psychic/mental ecology in any practice (Guattari 2000).

In sum, as mentioned, Guattari is concerned with praxis and heterogenesis and he tells us to seek out and celebrate difference, dissensus, and discord, rather than a social praxis based on consensus between sovereign or like-minded subjects. He wants to compose a polyphonic "new subjective music" (1996, 267). This is important. Yet, to truly foster the creation of "the conditions" (see Manning 2016, 23) for ecosophic democratic practices capable of creating alternative openings for direction and contact in the world, and for these practices to retain ethico-political value—to really lose the europhallic anchorings of the liberalism inherent in modern representative democracy—it is useful to encounter both Glissant's "consent not to be a single being" and Whitehead's non-bifurcated nature: the plenum!

In short, if the possibility of the *consent not to be a single being* is considered as playing a constitutive part in ecosophic heterogeneous practices then the dissensus involved needs to be considered as metamodelisation of *relational difference without separability*, not as dissensus between self enclosed subjects. If we put too strong an emphasis on dissensus alone we do not necessarily fully shift the emphasis away from the transparent subject of liberal democratic practice. Producing such a shift is perhaps best done if we think Glissant's "One World in Relation" in terms of a co-affective plenum. To reiterate, in a co-affective plenum, as in affect and any "encounter-event" more generally (Ettinger 2006, 173) everything is differentially interlaced and "we are never alone" (Massumi 2015a, 6). Neither are we alone in the participatory works *Crystal Palace* and

Collective Fabulations—Propositions for Social Dreaming. These works hold us in encounter and answer the call for us to let go of "the fiction" of who (we think) we are as self-determined, enclosed subjects (Moten 2019, n.p.).

SOCIAL INTERLACINGS FOR A WORLD IN RELATION

I. *Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear Nations,* 2013

Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear Nations (2013), by Ken and Julia Yonetani, is a response to the 2011 Fukushima nuclear disaster. *Crystal Palace* "is comprised of 31 chandeliers" (Yonetani & Yonetani, n.d.). The artists explain that "antique chandelier frames have been refitted with uranium glass and UV lighting" and "once switched on, the UV bulbs cause the glass beads to glow with a haunting green. The 31 pieces signal the 31 nuclear nations of the world, and the size of each chandelier corresponds to the number of operating nuclear plants in that nation" (Yonetani & Yonetani n.d.)
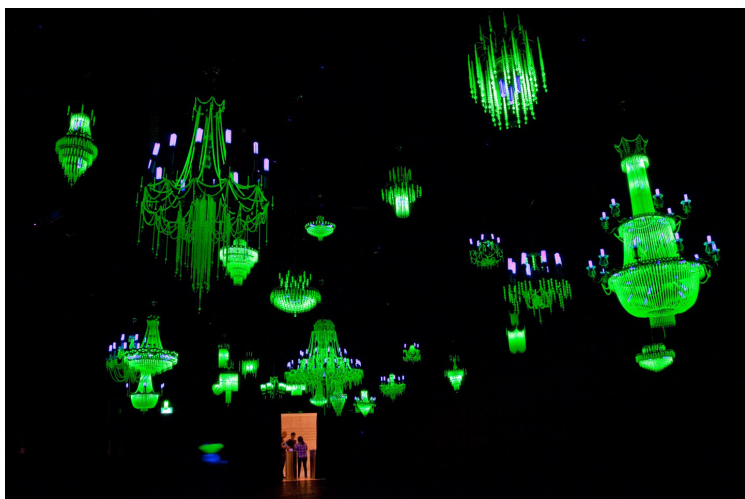

Figure 2. *Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear Nations*, Ken and Julia Yonetani, 2013. Photo by Julia Yonetani, image courtesy of Mizuma Gallery and the artists.

I experienced *Crystal Palace* when the installation was first exhibited in Sydney, before the completion of all of the 31 chandeliers. I went to the opening with my dear friend Doris McIlwain and her family. Doris had been invited to write about the work, and my own thoughts on *Crystal Palace* are influenced by McIlwain's beautiful piece, titled "Contained Fear: Ken & Julia Yonetani's uranium art" (2012). At the beginning of the article McIlwain explores the actual making of the chandeliers and the uranium glass beads in some detail:

> The transformation of the radioactive glass beads from Eastern Europe—containing up to 2% of depleted uranium—into chandeliers which glow green when illumined with UV lights evokes grandeur past. This linking across time and cultures of antique structures from garages in Portugal and Europe with contemporary nuclear by-products, is real work. Julia [Yonetani] describes the 'nightmare of re-wiring them' of 'linking the uranium glass beads together, with threads of stainless steel with nylon covering' (2012, 31).

Because the uranium in the chandeliers' glass beads is depleted, it should not pose an actual danger, but when switched on, the haunting green light of the chandeliers, while beautiful, is also quite eerie. Many at the opening of the exhibition lingered at the entrance and remained there for the duration of the event (see Figure 2).

Due to the depleted uranium in the chandeliers, the work was very effective in terms of immediating the fear of nuclear disaster and radiation more generally. McIlwain writes that "[t]he linking work of the Yonetanis is to connect across time and cultures, shedding light on a fear we should all share." She notes that "[t]here is an eternal and invisible danger with radiation" and that "if we form a nested sense of self that is trapped in a cell of present time, we lack the means for emotional investment in the future to help us to override the motivation to 'act opportunistically and myopically' that arises from temporal discounting where 'later counts for less than now'" (2012, 30-33).

For those at the opening who resisted a more myopic self-protection and braved encountering the work, the experience was powerful in terms of creating a sense of being *in the feel* with those living much closer to the disaster zone (see Figure 3). For those who entered the work fully, the beginnings of a "capacity to consent to not be a single being" emerged: uncertainty was present and a kind a "fragilization" happened (Ettinger 2009). This made perceivable just a fraction of "the feel" of uncertainty, danger and fear that must have been experienced by those much closer

to the Fukushima nuclear disaster. A concern for more than one's own self was present and with this an immanent sense of a quite differently interlaced sociality began to form. The work allowed no space for the act of positioning others in "affectability," for the sake of maintaining the security of self-enclosed subjects. Rather I would suggest that an entangled "minor sociality" emerged (Manning 2019a). The social pull of the depleted radioactive 'interfaces' formed an *interlace*, which concerned our different but entangled situations. The interface here becomes what I would term an *ecosophic interlace*.
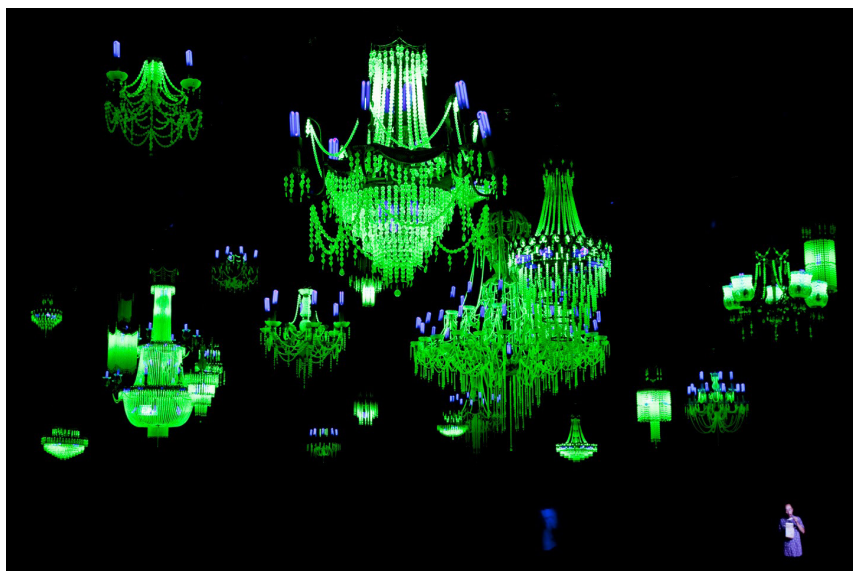

Figure 3. *Crystal Palace: The Great Exhibition of the Works of Industry of all Nuclear Nations*, **Ken and Julia Yonetani, 2013. Photo by Julia Yonetani, image courtesy of Mizuma Gallery and the artists.**

The installation as a whole worked the tissue of "the weave of the living"—the co-affective plenum. The chandeliers didn't really represent and were not signifiers of disaster, as such. Rather, the entire encounter-event rendered radiation, and thus our "difference without separability" visible. A "consent not to be one" began to emerge when encountering the work fully. The individual chandeliers comprising *Crystal Palace* became *crystals of time*. And the feeling of the situation concerning the Fukushima nuclear accident became "trans-situational," to use Massu-

mi's term (2002, 220). The work in encounter, like the production of the chandeliers themselves involved a actual linking (McIlwain 2012)—an interlacing—which made felt our one world, co-composing, in entangled relation.

In a situation of nuclear disaster and/or climate change and/or the current global pandemic, everyone is ultimately affectable. However, that is not to ignore the problematic fact that, at the moment, entire populations, or sections thereof, are again positioned in the role of affectability for the sake of protecting the *social distancing* and sense of security of "self-protecting" subjects.

This is why the kind of challenges posed by Julia and Ken Yonetani's work are necessary. Such works hold us in encounter and "open up the sense of what might yet be ... open up the sense of that which is ... profoundly needed" (Haraway in Weigel & Haraway 2019).

Crystal Palace resists the positioning of others in affectability (for the sake of self protection) and fosters practices that don't separate us but enable us to be "in *the feel of each other"* and "of the earth" (Harney 2018, 100-109), in order to better care for the world and all creatures in differentially entangled relations. In that sense the installation involves an ecosophic—reconfigured—'social' democratic practice. *Crystal Palace* works the inseparable ecologies of the social, the environmental, and the subjective/mental. Encountering the work involves an interlacing, which takes us to the non-bifurcated plenum and calls for us to live differently and to both foster and tend to a more entangled *poethics* of the world.

II. *Collective Fabulations—Propositions for Social Dreaming,* 2019

The same can be said of the *collective fabulations* created by Andrew Goodman and Erin Manning's *propositions for social dreaming.* They write:

> Dreams, we propose, are collective fabulations that expose experience to its excess ... Our project will activate speculative diagrams that map not the interiority of a dreamscape (as Freud or Jung might have us do) but *the collective plane where dreams trouble the notion of the self-enclosed subject, where "dreams elude their dreamers on every plane*" (Le Guin 2003, 14, italics original; Goodman & Manning n.d.).

Goodman and Manning's *Propositions for Social Dreaming* is a complex, networked work. Unlike *Crystal Palace*, the ecosophic interlacings in *Collective Fabulations—Propositions for Social Dreaming* include analogue sensors

and computational and algorithmic components. Yet, it would be to miss the richness of the three networked, fabric quilts to describe *Social Dreaming* simply as a high tech, interactive work.
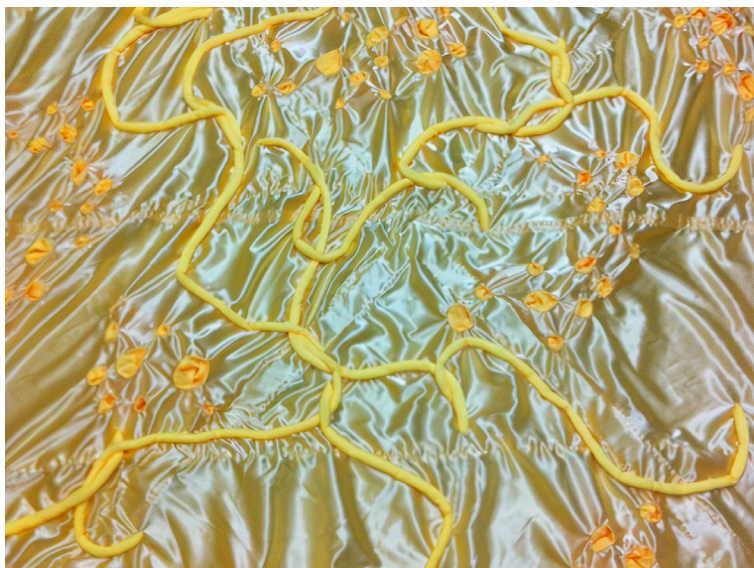

Figure 4. *Collective Fabulations—Propositions for Social Dreaming,* Andrew Goodman and Erin Manning, 2019. One-sided, hand-sewn quilt with textured apertures; machine-loomed satin, Andrew Goodman, 2018. Image courtesy of the artists.

Collective Fabulations—Propositions for Social Dreaming is inspired by Ursula K. Le Guin's (2003) short story: "The social dreaming of the Frin." Goodman and Manning tell us that on the *Frinthean plane* "dreams co-compose between the dreamers"—human and animal alike. Le Guin writes:

> To escape from the dreams of others or to have a private dream, or secret dream, the Frin must go out alone into the wilderness. And even in the wilderness, their sleep may be invaded by the strange dream visions of lions, antelope, bears, or mice (2003, 77).

Propositions for Social dreaming invites us to enter a similar plane, where dreaming and experience more generally are distributed across many bodies, human or not, and across our different "sleeping environ-

ments" (Goodman in Goodman & Manning 2019, n.p.). Goodman says that "the dreams co-compose in a kind of ecological practice" and that the "dreams will become doubly 'social': shared both between participants and between participants and the larger physical environments in which they sleep" (n.p.).

The *propositions for collective fabulation* engage three beautifully crafted—networked—quilts designed and made by the artists. The quilts lend themselves to being exhibited in a gallery or across different gallery spaces. However, at the time of the writing of this chapter the quilts are housed—for a six month period—in three homes, across two continents: Castlemaine, Australia; Montreal; and our home here in Sydney. With this collective and deeply relational project the artists ask: "[w]hat if home were less the mortar that achieves a boundary than a proposition to rethink collectivities-at-a-distance?" (Goodman & Manning n.d).

Manning suggests that *Propositions for Social Dreaming* "challenges our ideas of home" (2019b, n.p.). And Le Guin writes about the Frin that "[t]heir dreams are truly common property" (2003, 76). I would say that the ideas of home that the artists are concerned with, just like the social dreaming of the Frin, cease to be bound up with the idea of private property.

The quilts contain a lot of intricate detail and are as different as the dreamers. The yellow satin quilt made by Goodman is quite futuristic (see Figure 4). The shiny satin is covered in small, matt, pocket size orifice-like craters and long intertwined feelers—tentacles possibly. These call to mind Octavia Butler's fiction, which I know Goodman has read. It is interesting to note here that Ferreira da Silva also looks to the "female black" characters in Butler's fiction. She looks to them in order to "signal the kind of imaging of the world, announcing a Black Feminist Poethics" (Ferreira da Silva 2014, 82). This kind of poethics, she argues, calls for "the end to the world as we know it." It announces an end to the Western "narratives of science and history that sustain the transparent trajectory of the subject of universal reason [our European Gentlemen again] and ... its grip on our political imagination" (82). Ferreira da Silva writes that this kind of poethics enables us to "[w]onder about another praxis and wander in the world, with the ethical mandate of opening up other ways of knowing and doing" (82).

Propositions for Social Dreaming attempts something very similar. And like the female characters in Butler's novels, *Propositions for Social Dreaming*, like *Crystal Palace*, enables us to consider both the "incalculable" value

Figure 5. *Collective Fabulations—Propositions for Social Dreaming*, Andrew Goodman and Erin Manning, 2019. Two-sided, multiple entry-way, hand-sewn quilt with cotton batting; saffron hand-dyed sleepwear, 1875-1930; antique Japanese kimono silk, Erin Manning, 2017. Image courtesy of the artists.

(Moten 2018b; Manning 2019a) as well as the pain involved in "existing in bodies that have not been delinked from the plenum" (Ferreira da Silva 2014, 93-94). In terms of Octavia Butler's female characters they are also bodies "whose existence is marked by the determinations of capital, raciality, and heteropartriarchy" (93-94). Bodies who have not been "delinked from the plenum" escape self-enclosure but it is important to note that what is gained from this kind of "consent not to be one" cannot be separated from the pain. On the Frinthean Plane the nightmares, for example, are a part of the shared collective dreaming too. There is no self-enclosed subject, on the one hand, and subjects positioned in affectability on the other. In the shared social dreaming everything is connected and affects everything else. This implies that on the Frinthean Plane it is not possible to close the blinds to the world for the sake of creating a feeling of false security. On the Frinthean plane it is impossible to posit others in affectability for the sake of a self-protective separability.

In any event, the two quilts made by Erin Manning have a very different quality to the satin quilt. They are made of old linen and cotton "sleep and undergarments" (Manning 2019b). These garments have been hand

dyed and stitched together by the artist. They have an intimate domestic quality to them.[7] The quilt I'm living with at the moment is composed of multiple pieces of sleep and undergarments that have been saffron dyed. Manning used just one gram of saffron and one bath of dye. She tells me that saffron was "a means of exchange" and was said to have "equaled one gram of gold" (n.p.). Manning calls saffron a "fugitive dye." The last pieces of fabric dyed in the bath are the lightest in color. This is quite different to Manning's indigo quilt. Indigo is a dye with real longevity. The indigo quilt is also different in the sense that it can be "worn as a dress" (n.p.).

Despite their beauty, or possibly because of it, these quilts call to mind class difference, and domestic and slave labour (Manning 2019b). Manning, says "often quilts have been made by African American women but claimed by white people" (n.p.). In regard to this Manning is concerned

Figure 6. *Collective Fabulations—Propositions for Social Dreaming,* Andrew Goodman and Erin Manning, 2019. Two-sided, multiple entry-way, hand-sewn quilt with cotton batting; indigo hand-dyed sleepwear 1875–1930; antique Japanese kimono silk, hand-loomed silk, hand-loomed cotton, Erin Manning, 2018. Image courtesy of the artists.

for "all the stories that stay unheard." The saffron quilt is composed of so many interlaced garments and stories. This quilt in particular makes me think of the times, places, and situations where sleeping spaces are less private or where numerous children or grown-ups due to the exploitation of their *shared means*, for example, share the same bed.

Whereas the yellow satin quilt made by Goodman calls to mind Octavia Butler's *Black Feminist Poethics* of *inseparable difference*, Manning's saffron quilt made me think of Saidiya Hartman's "lovesong to the wayward." Hartman writes with the Black women who were "everyday revolutionaries," but whose stories have remained unheard. In her "lyrical homage to the minor" (Halberstam in Hartman, 2019) Hartman draws attention to their fugitive ways of practicing kinship. She shows us how "[f]lexible and elastic kinship were … a recourse of black survival, a practice that documented the mutuality and generosity of the poor" (Hartman 2019, 91).

The saffron quilt with all its interlaced garments also render visible the reality, as well as the possibility, of a much more flexible and fluid mode of creating kinship and home.

In sum, the quilts are composed of networks—ecologies—of entangled relations. Manning asks: "how is it to sleep with all these sleeps?" (2019b). Goodman and Manning invite us to find out, to live with and/or sleep under the quilts, and to also share and entangle our dreams and sleeping environments across the network. *Collective Fabulation* as a whole activates a mutual generosity.

As regards the more technical qualities of this networked work Goodman explains that there are very long "bent sensors" embedded in the individual quilts. These sensors register the different ways the quilts fold during sleep, for example, and the pressure of the bodies of people or animals (cats appear to be particularly drawn to the quilts). There are also numerous small light sensors stitched onto the quilts (see Figure 8). And Goodman tells me that overall the "quilts thrive on variation" (2020a, n.p.).

Each quilt is connected to a laptop computer and the three quilts are "connected via computers and the internet" (Goodman 2019). The quilts communicate across the network and the communication, Goodman says, is potentially registered as "subliminal sonic micro vibrations" emitted by tiny speakers in the quilts (n.p.). This, together with the saffron scent, adds to the liveliness of the quilts.

Figure 7. *Collective Fabulations— Propositions for Social Dreaming*, **Andrew Goodman and Erin Manning, 2019.**

It is crucial to note that the algorithms involved are *not* designed to capture or store any data picked up by the analogue sensors but to only "register and redistribute the rate of flow of data" (Goodman 2019, n.p.). Goodman explains that "they immanently register the intensive differentials" (2020a, np). They "ordinally sort and then gift these differentials to each other in ways that enfold their processes into self organising entanglements" (n.p.). This implies that the "rate of flow of data" can be gifted "to other streams of data" and the algorithms themselves can change very slowly over time (n.p.).

Le Guin's idea of the sociality of the dreaming being dispersed and entangled—evading private property and involving a "consent not to be one"—is similar to the sociality of the algorithmic work itself. As the title itself suggests Goodman and Manning's is a very social work and the social dreaming does not belong to human beings only. Rather, the kind of sociality produced across *Social Dreaming* incorporates socialities beyond the human.

Figure 8. *Collective Fabulations—Propositions for Social Dreaming,* **Andrew Goodman and Erin Manning, 2019. One-sided, hand-sewn quilt with textured apertures; machine-loomed satin, Andrew Goodman, 2018. Image courtesy of the artists.**

In regard to these socialities my concern has been that the more oppressive conceptualizations of (a liberal) humanism are reinforced not only in ideas and practices of liberal democracy but also in many standard understandings of the social and social interaction. This is subsequently actualized in much mainstream commercial interface design, possibly in the very concept of the interface itself.

I'm thinking here in particular of an (un)social media platform like Facebook, which enforces both an individualizing faciality and a dividualising data capture. Both sides of this serve the capitalist function of separating us. Possibly even of *"straightening" us* and of *"making us white,"* to use the words of Stefano Harney (2018, 108). This is not to say that moves of creative subversion cannot exist within such platforms. However, my concern is that "the conceptual foundation of oppression" (Plumwood 1993, x), underlying the supposed consensual and rational, but essentially separating, and now often dividualizing tendencies involved in many of the more normative interfacings, needs to be challenged. It needs challenging because otherwise it can too easily follow that well-intended moves toward promoting difference and more participatory democratic practices risk leaving the hauntings of a europhallic and white, humanist normativity intact. If these are left intact, affectability (which in the case of 'social' media platforms like Facebook now also includes data as our "lost means") is again turned towards profit, exploitation, and patriarchy. While these may no longer be working directly for the subject as such (Harney 2013) they still end up supporting the separability of our white 'gentlemen.' Indeed, there is within the contemporary capitalist and dividual fields of control—of data for example—also a push toward separability (away from our *shared communal means* and trans-subjective feel).

In order to challenge this separability, which, as just mentioned now also works at a dividualizing level, I've followed Ferreira da Silva's suggestion and engaged with practices that foster connection. I should emphasize here that, for Ferreira da Silva, it "is not so much about reconnecting" because we "are always already 'connected'" (Ferreira da Silva in Desideri & Ferreira da Silva 2016, 5). What is needed, according to Ferreira da Silva, is for us to "[r]ecall (...make actual) the (virtual) connection because we live with the illusion that we are isolated, self-enclosed—or as they say 'self-possessed' individuals" (5). But we are all affectively entangled, and it seems to me that an important ecosophic step is to practice a care for the *mutually inclusive* affectability of entangled difference (Massumi 2017, 58).

This is precisely what happens in *Propositions for Social Dreaming*—in both the creation of the quilts and the computational work itself—and I would like to again point to Stefano Harney, because he writes:

> This seems to me to be our task—to find ways where we can remain open to each other, allow our means to explore the full entanglement of our lives together and our full entanglement of this love, pain, and joy with each other in and of the earth (2018, 109).

For many of us this must involve a *remaking of social practices*—and the creation of more entangled ways of living. It is important to ensure that this move becomes as ethically responsible as possible. This is best done by tending to the field of inseparable difference. This is where social life—and dreaming—is actualized and lived. And it is in this more lively and immanent field of relation that new social practices can be invented.

Propositions for Social Dreaming and *Crystal Palace* both tend to this field of inseparable difference and move beyond europhallic and straightened conceptions of the interface, which work at keeping us apart. In encountering these works the sociality of entangled relation is felt.

Now with regard to the *ethical responsibility* for "being in the feel of each other," as already mentioned, I agree with Harney that "we need more than the European thesis to fight the European model [of separability] in its fully realized form" (2008, 177). I've therefore throughout this chapter deviated a little from the very valuable Foucaudian genealogy of knowledge, power, and the Western subject (who arguably is becoming more and more straightened). I do think that Deleuze (1995)—in following Foucault's diagnosis of power—is correct in suggesting that we have largely moved from a disciplinary society to a dividualizing society of control. And Deleuze (1995) himself and others too, have already very convincingly suggested that moves from the dividual field of control back to becoming and to the transindividual level of experience are possible (see Massumi, 2014; 2015a and 2015b).[8] Nevertheless, like Goodman and Manning, I've opted in this chapter to also look beyond the genealogy of Western man and his modulation by control toward genealogies of women's lives, Black life, and other "*minor socialities*" (Manning 2019a). If our focus is exclusively on the move from an individualizing disciplinary moulding to a dividualizing modulation (dominant modes of dividualization under late capitalism, as mentioned, also rest largely on separability) it could go unnoticed that the becomings of minor socialities—while exploited by capital, logistics, discipline, ableism, and algorithmic control—are not, and have not

been, totally captured by such major forces. In other words, minor—more *wayward*—modes of social life, while often violated or excluded, may not be totally captured by contemporary control and its dividualizing separability. This is because this kind of sociality does not, to begin with, rest on a conception of the social as constituted of relations between self-enclosed individuals (see Manning 2019). [9] As *Propositions for Social Dreaming* shows us—in the very design of the quilts and their connections—a different kind of entangled sociality emerges from a *consent not to be one*: "inseparable difference." This is rendered perceivable in the saffron quilt in particular. *A consent not to be one* emerges by way of the interlaced entanglement of all the different garment.

In short, in *Collective Fabulations* the social, and with it, relation is *not* conceived of as a constituted bond between self-protecting and enclosed individuals. Rather sociality concerns the inseparable difference and complexity of Glissant's "weave of the living." Here ethics must involve both a refusal to judge from afar and "a refusal" of the subject as an endpoint.

Harney writes that this refusal, found in "[o]ther histories, other ways of living," suggests "that not being capable of being an end in oneself, indeed ever fully being oneself" involves an incompleteness of self, and a "mutuality" "of means":

> Our ability to be in the feel of each other is historical and magical, painful and beautiful. It emerges in its strongest form—from a thousand rivers—in the nautical event, the first horrible logistics [the transatlantic slave trade] dedicated to the ends of man/Man (2018, 100-101).

According to Moten this *feel* involves a "refusal" of "being self owning" and "self sufficient" (2018a, n.p.). More generally, Moten proposes that with such a refusal comes a consent to "risk … the reality or fiction of who we are" (in our self sufficiency). Moten suggests that this undoing (for some an undoing of europhallic subjectivity) is best "experienced communally and within the context of some powerful kinds of social support" (n.p.). According to Moten (2018) it can be frightening and even dangerous to come undone alone—lose the fiction of who we think we are as self-enclosed individuals. Yet together in "entangled difference" and "incomplete sharing" it becomes possible (Harney & Moten 2018). This is precisely what is made possible by the social collectivities immediating across *Crystal Palace* and *Collective Fabulations—Propositions for social dreaming*.

In terms of *Collective Fabulations—Propositions for Social dreaming* it is key to remember that the activity registered by the analogue sensors is not stored as data anywhere, "only ever differentially registered and shared as flows of rates of activity" (Goodman 2020a, n.p.). It can therefore not be controlled by a separating contemporary dividualism. I would say that the activity of 'the data' here itself forms a communal or social support of *shared means*. Here the shared "means are enlarged, enriched, and entangled for each other" (Harney 2018, 100). *Collective Fabulations—Propositions for Social Dreaming* creates a trans-dividual collectivity of *shared entangled means*[10]—as well as of social dreaming—rather than a separating dividualism (or individualism) based on capitalist exploitation and control.

In *Collective Fabulation—Propositions for Social Dreaming,* what Goodman refers to as the "liveliness of the data" (activity) belongs to and is shared across the co-affective plenum (2020a, n.p.). It escapes control and separability and can be gifted as flow across and within the three quilt setups, across "the weave of the living." In this it escapes being posited as an affectability that is at the service of the separability of europhallic and capitalist control.

Goodman has written about the importance of thinking the algorithmic in ways that departs from europhallic, white, and neurotypical logics (Goodman 2020b; see also Manning, 2019a). This is key to understanding the workings of the algorithms in *Propositions for Social Dreaming.* We've seen how the dreamers "consent not to be a single being," and cease positioning others in an exploitative affectability. The same can be said to take place at the level of the algorithmic work and the rates of flow of activity/data. All this creates a *poethics* of social relation, at every level of the work. What is created is a truly social gift economy (Goodman 2019). This kind of communual sharing economy works transversally across the entangled registers of the social, the technical, the environmental, and the subjective/psychic.

In sum, Manning and Gooodman's proposition is to socially dream and fabulate "some kind of ethically responsible way of being in the world with other things" (Moten in Harney & Moten 2013, 108). As mentioned, this is not done well in isolation. And housing a quilt and tending to it is like living with a number of different but entangled creatures. You care for them and tend to them and their larger environments—including the computational setup as well as the quilts themselves. You do not quite know what they feel or experience and you cannot control what they get up to. But you become

sensitive to the entangled presence of other creatures and ecologies, even if these are at a distance or unknown, and very different: snow and a more severe manifestation of the Covid 19 pandemic in Montreal and extreme heat and bush fires in Australia, for example.

Collective Fabulations—Propositions for Social Dreaming creates ecosophic *interlacings*, which enable us to dream, share, and fabulate together, and to let go of the dominant Western ideas and practices that foster separability.

The work returns us to the "weave of the living" and actualizes the potentially of living "difference without separability"—even at a distance. It fosters a true sociality that doesn't separate the human from this weave. And unlike many commercial, supposed *social,* media platforms it offers an alternative to both self-enclosure and a separating and exploitative data dividualisation. It also acknowledges and values that for more than a few, separating from the *weave of the living*—from the *plenum*—was never an option.

Collective Fabulations—Propositions for Social Dreaming cannot be thought of as democratic in the liberal sense of the term.[11] *Collective Fabulations* does not do its work on the major plane of politics but it does create a minor plane of real sociality. By way of conclusion I would like to again point to Le Guin's short story. The short story is published in a collection of stories titled *Changing Planes*. Remember that, according to Ferreira da Silva, *everything affects everything else.* And this implies that collective molecular movements happening on the minor plane of *the weave of the living* participate in the *remaking of social practices* (Guattari 1996). It may even influence the major plane of Politics, because as Massumi writes:

> when macro-structures miniaturize themselves and work to usurp the ground of the micropolitical with scaled-down versions of the dominant generalities, that is fascism. When micropolitical flourishings proliferate to produce a singularity, in the sense of a macrosystemic tipping point, that's revolution (2015a, 82).

NOTES

1. See Maria Hynes for a much needed consideration of what would constitute a truly social design practice. Hynes argues "that design interventions ... must be seen to be social, rather than interventions upon the social" (2019, n.p.).

2. Moten continues to write that this "socioecological disaster ... can neither be calculated nor conceptualized as a series of personal injuries" (2015 , n.p.).

3. I'm not suggesting that we overthrow liberal democracy on the major plane of politics (see Deleuze & Guattari, 1987). And it is indeed scary what is happening to liberal democracy at the moment. However, it feels strange to pull all our efforts toward attempts at saving a practice of democracy that rests on a europhallic enlightenment model.

4. This is perhaps the reason as to why Guattari in his call for new ecosophic practices calls for a "search for new social interactivities" (1996, 267).

5. In 2009 filmmaker and cultural theorist Manthia Diawara accompanied Glissant on the cruise ship Queen Mary on an Atlantic voyage. Diawara filmed the voyage and their conversation around Glissant's anti-imperialist philosophy of relation to produce the documentary *One World in Relation* (2009). A published interview followed of the same title.

6. I want to note here that while running with the concept of "consent not to be a single being," Moten also stresses that "Glissant's notion of consent is actually in excess of his poetics of relation!" (2018, 225). And Ferreira da Silva explains that "[w]hen the term poethics first came to me, I was not seeking for a descriptor for an attitude ... but really for a praxis, as a way of existing (doing and knowing) that resonates with Glissant's view on poetics, though my intention is to do away with the 'I' and the 'Other' that he writes in 'relation'" (Ferreira da Silva in Himada and Ferreira da Silva 2016-2017,109).

7. Manning says that she is inspired by Annie Albert's textile work and she understands fabrics and garments to be "the soft architectures of our lives" (2019b, n.p.).

8. In his analysis of contemporary power operations Massumi (2015b) terms these operations: *Ontopower.* Ontopower could be understood to have taken hold of the affective middle and Massumi argues that a resistance to this mode of power cannot really be separated from its field of operation. It thus involves of a "counter-ontopower" (Massumi 2017). See also Brunner & Fritsch 2012 and Brunner & Raunig 2015. Brunner and Raunig also look to Harney and Moten.

9. Here I'm thinking in particular of the black undercommon sociality that Harney and Moten articulate so well (but also of Massumi's *Parables for the Virtual*, Ettinger's *Matrixial Metramorphois*, Ferreira da Silva's *Black Feminist Poethics*, Sadia Hartman's *Wayward Lives*, and Manning's work on neurodiversity). A conceptual or genealogical consideration of the possibilities and cares involved in the various ways of living "difference without separability" emerges in such work. Work which all concerns itself with "*a life*" and becoming that is truly social, rather than self-enclosed

(Deleuze 2005). This kind of concern has always been present in Brian Massumi's activist process philosophy (as well is in his work around affect). For a closer engagement with Massumi's earlier work, in particular, see Bertelsen 2012. I should note that, although I don't engage with Massumi's work in explicit detail here, this chapter, like my previous writing, has been informed by his work.

10. If "dividual" is still the right word to use here?

11. But that is a good thing because as Deleuze points out "[t]here's no democratic state that's not compromised to the very core by its part in generating human misery" (1995, 173). As we have seen, Moten goes further and refers to liberal democracy as playing a very active part in the creation of a "socioecological disaster" (2015, n.p.).

REFERENCES

Brunner, C. & Raunig, G. (2015). From Community to the Undercommons: Preindividual—Transindividual—Dividual—Condividual. [online] *Open! Platform for Art, Culture and the Public Domain.* Available at: https://onlineopen.org/from-community-to-the-undercommons [Accessed 01 May 2020].

Brunner, C. & Fritsch, J. (2011). Interactive Environments as Fields of Transduction. *The Fibreculture Journal* [online] 18. Available at: https://eighteen.fibreculturejournal.org/2011/10/09/fcj-124-interactive-environments-as-fields-of-transduction/ [Accessed 01 May 2020].

Deleuze, G. (1995). *Negotiations: 1972-1990.* Translated by M. Joughin. New York: Columbia University Press.

Deleuze, G. (2005). *Pure Immanence: Essays on A Life.* New York: Zone Books.

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia*, Translated by B. Massumi. Minneapolis: University of Minnesota Press.

Desideri, V. & Ferreira da Silva, D. (2015). A Conversation between Valentina Desideri and Denise Ferreida da Silva. [online] *handreadingstudio.org.* Available at: http://handreadingstudio.org/wp-content/uploads/2015/06/V-Dconversation.pdf [Accessed 01 May 2020].

Ettinger, B. L. (2006). *The Matrixial Borderspace.* Minneapolis: University of Minnesota Press.

Ettinger, B. L. (2009). Fragilization and Resistance. *Studies in The Maternal* 1 (2), pp. 1–31.

Ferreira da Silva, D. (2007). *Toward a Global Idea of Race.* Minneapolis: University of Minnesota Press.

Ferreira da Silva, D. (2014). Toward a Black Feminist Poethics: The Quest(ion) of Blackness Toward the End of the World. *Black Scholar* 44 (2), pp. 81–97.

Ferreira da Silva, D. (2016). On Difference without Separability. In: *32nd bienal de São Paulo: incerteza viva.* São Paulo: São Paulo Fundacao, pp. 57–65.

Glissant, É. (1997). *Poetics of Relation.* Translated by B. Wing. Ann Arbor: University of Michigan Press.

Glissant, É. (2011). One World in Relation: Édouard Glissant in Conversation with Manthia Diawara. Translated by C. Winks. *Nka Journal of Contemporary African Art* 28 (Spring), pp. 4–19.

Goodman, A. & Manning, E. (2019). Propositions for Social Dreaming [online]. Available at: https://www.patreon.com/3EInstitute [Accessed 01 May 2020].

Goodman, A. & Manning, E. (n.d). Collective Fabulations—Propositions for Social Dreaming, [online]. Available at: http://erinmovement.com/collective-dreaming [Accessed 01 May 2020].

Goodman, A. (2018). *Gathering Ecologies: Thinking Beyond Interactivity.* London: Open Humanities Press.

Goodman, A. (2020a). Private Correspondence. Sydney & Castlemaine, Australia.

Goodman, A. (2020b). The Secret Life of Algorithms: Speculation on Queered Futures of Neurodiverse Analgorithmic Feeling and Consciousness. *Transformations Journal* [Online] (34). Available at: http://www.transformationsjournal.org/wp-content/uploads/2020/05/Trans34_04_goodman.pdf [Accessed 01 May 2020].

Guattari, F. (1995). *Chaosmosis: An Ethico-Aesthetic Paradigm.* Translated by P. Bains & J. Pefanis. Bloomington: Indiana University Press.

Guattari, F. (1996). *The Guattari Reader.* G. Genosko ed. Oxford: Blackwell.

Guattari, F. (2000). *The Three Ecologies.* Translated by I. Pindar & P. Sutton. London & New Brunswick: Anthlone Press.

Le Guin, U.K. (2003). Changing Planes. New York: The Berkley Publishing Group.

Harney, S. (2013). Hapticality in the Undercommons, or From Operations Management to Black Ops. [online] *Cumma Papers* 9. Alto University. Available at: https://cummastudies.files.wordpress.com/2013/08/cumma-papers-9.pdf [Accessed 01 May 2020].

Harney, S. (2018). Logistics Genealogies: A Dialogue with Stefano Harney, Niccolò Cuppini & Mattia Frapporti. *Social Text 136*, 36(3), pp. 95–110.

Harney, S. & Moten F. (2013). *The Undercommons: Fugitive Planning and Black Studies.* Wivenhoe: Minor Compositions.

Harney, S. & Moten. F. (2018). Conversación Los Abajocomunes: Stefano Harney and Fred Moten in conversation on the occasion of the Spanish translation of *The Undercommons.* (In conversation with Yollotl Gómez Alvarado, Juan Pablo Anaya, Luciano Concheiro, Christina Rivera Garza and Aline Hernández.) [online] *The New Inquiry.* Available at:https://thenewinquiry.com/conversacion-los-abajocomunes/ [Accessed 01 May 2020].

Hartman, S. (2019). *Wayward Lives, Beautiful Experiments.* New York: W. W. Norton.

Himada, N. & Ferreira da Silva, D. (2016–2017). Interview with Denise Ferreira da Silva. *Counter-Signals 1: Militant Print/A Form Oriented to its Own Circulation* (Fall 2016–2017), pp. 108–113.

Hynes, M. (2019). Design Thinking, Design Activism, Design Study. *The Fibreculture Journal* [online] 30. Available at: http://thirty.fibreculturejournal.org/fcj-224-design-thinking-design-activism-design-study/ [Accessed 01 May 2020].

Koefoed Hansen, L. & Wamberg, J. (2005). Interface or Interlace? Or How Art is Mediated in Augmented Reality. In: L. Klastrup ed., *Proceedings of the Digital Arts & Culture 2005 Conference: Digital Experience: Design, Aesthetics, Practice*, pp. 169-77.

Manning, E. (2016). *The Minor Gesture.* Durham: Duke University Press.

Manning, E. (2019a). Fugitively Approximately. *The Fibreculture Journal* [online] 30. Available at: http://thirty.fibreculturejournal.org/fcj-223-fugitively-approximately/ [Accessed 01 May 2020].

Manning, E. (2019b). Private Conversation, Montreal, Canada (August 2019).

Massumi, B. (2014). *The Power at the End of the Economy.* Durham: Duke University Press.

Massumi, B. (2017) *Principles of Unrest: Activist Philosophy in the Expanded Field.* London: Open Humanities Press.

Massumi, B. (2015a). *Politics of Affect.* Cambridge: Polity Press.

Massumi, B. (2015b). *Ontopower: War, Powers, and the State of Perception.* Durham: Duke university press.

Massumi, B. (2008). The Thinking-Feeling of what Happens: A Semblance of a Conversation. *Inflexions,* [online] 1 (1). Available at: http://inflexions.org/n1_The-Thinking-Feeling-of-What-Happens-by-Brian-Massumi.pdf [Accessed 01 May 2020].

Massumi, B. (2002). *Parables for the Virtual: Movement, Affect, Sensation.* Durham: Duke University Press.

Massumi, B. (1995). Interface and Active Space: Human Machine Design. *Sixth International Symposium on Electronic Art.* Montreal, Canada. pp. 188–192.

McIlwain, D. (2012). Contained Fear: Living in Geological Time—Ken & Julia Yonetani's Uranium Art. *Artlink* 32 (4), pp. 30-33.

Moten, F. (2003). *In the Break: The Aesthetics of the Black Radical Tradition.* Minneapolis: University of Minnesota Press.

Moten, F. (2013). The Touring Machine: Flesh Thought Inside Out pt. 5 [online]. Available at: https://www.youtube.com/watch?v=sr_OgI-41vg [Accessed 01 May 2020].

Moten, F. (2015). Blackness and Poetry. [online] *The Volta: Evening will Come* 55. Available at: http://www.thevolta.org/ewc-mainpage55.html [Accessed 01 May 2020].

Moten, F. (2018a) Revolution as Preservation: And Interview with Fred Moten [online] *Being Human Podcast.* Available at: https://soundcloud.com/being-human-pgh/revolution-as-preservation-an-interview-with-fred-moten

Moten, F. (2018b). *Stolen Life.* Durham: Duke University Press.

Plumwood, V. (1993). *Feminism and the Mastery of Nature.* London & New York: Routledge.

Weigel, M. & Haraway, D. (2019). Feminist Cyborg Scholar Donna Haraway: 'The Disorder of our Era isn't necessary.' [online] *The Guardian.* Available at: https://www.theguardian.com/world/2019/jun/20/donna-haraway-interview-cyborg-manifesto-post-truth [Accessed 01 May 2020].

Whitehead, A. N. (1938). *Modes of Thought.* New York: Free Press.

Whitehead, A. N. (2007) *The Concept of Nature*, New York: Cosimo, Inc.

Winterson, J. (1985). *Oranges are not the only Fruit.* London: Vintage Publishing.

Yonetani K. & Yonetani, J. (n.d). [online]. Available at: http://kenandjuliayonetani.com/en/works/crystalpalace/ [Accessed 01 May 2020].

popfab*, *Inflexions* 11, 2019.
https://www.inflexions.org

Infrafacing

ERIN MANNING & BRIAN MASSUMI

Questions for Erin Manning and Brian Massumi sent by e-mail from Jonas Fritsch, Gregory Seigworth, Bodil Marie Stavning Thomsen.

Q: In this interview we're interested in speculations on how interfaces activate or intensify affects and how or if interface-affects might eventuate change—or indeed respond to ideas of becoming related to artistic creation. We'd like to begin this interview by asking about how questions of 'the interface' first presented themselves with the start-up of your online journal *Inflexions*. Then we wonder how these lessons from *Inflexions* have fed into your recent work and contributions to the research project Immediation: Media, Art, Theory. In what ways could these undertakings of yours be seen as alternate paths in the practice of a kind of 'immanent resistance' to ideas about 'immediacy' and 'real-time'—and, indeed, a response to the type of control society prevalent in today's globalized societies?

A: When we started *Inflexions*, our journal, in 2008, the issue of the interface was central (inflexions.org). A leading question for us was how to shift the conditions of the mediating entryways facilitated by the increasingly dogmatic use of web interfaces to 'display' content. At that point, there were very few (if any) examples of online journals that didn't seek to replicate the form of the print journal: most existing online journals looked like print journals in terms both of form and content. Our aim was to open this up not only by adding artistic work (sound, images, video) but more emphatically by asking how the conceptual motor of the work (philosoph-

ical, political, aesthetic) might shift the conditions of reading. To achieve this, Leslie Plumb and then Matisse ApSimon Megans, have worked very closely with the 'content' of the journal to build digital affordances that amplify the resonances of the work to facilitate a certain transversality of the work and the web as medium.

Each issue has taken a year or so to make because the coding of the journal is not seen as separate from the gathering of so-called 'content.' As the journal has come into itself, practices for exploring what we think of as the 'force' of form have shifted to the point where now there is no moment in the unfolding of an issue that is not collaborative across the digital and analog, not directly engaged in the how of a work's evolving into and across a different medium. This took several years, as so much of our training with regards publishing involves keeping the form and content on two different levels. This more typical approach to internet-based journals means that the 'web designer' is rarely conceived of as a participant in the process. Their job is to background the digital so that the 'content' of the issue makes its way to the forefront. A typical reader expects the 'text' to be easily available, downloadable, the web serving as a proxy. We really wanted to challenge that. We wanted to explore what other forms of reading were available thanks to the medium of the web, and of the internet more broadly.

This approach could only work if we dispelled the notion that what a web design does is produce an 'interface.' For years Leslie Plumb challenged this vocabulary, emphasizing the work of transduction that occurs when one field is brought into relation with another. This meant thinking about things like the horizon (how does the typical web interface reinforce notions of perspective and posture?), of drop-down menus (what presuppositions about content do we set in place when we direct the reader this way?), of the grid (what is suggested when we accept that the readable portion of a text fits into a pre-composed frame? what might escape the frame?), of the dominance of the visual (what is presupposed when the engagement is packaged for the reader such that the final form is given through a click? what kinds of participatory processes might be invented to challenge that?) etc. With this approach, there is no longer a clear separation between content and form, and we similarly refuse the separation between 'coder' and 'artist' and 'philosopher.' The work of reading, viewing, listening, the work of 'entering,' can no longer be separated from how reading/viewing/listening can be made to work differently. Instead of an

interface understood as a mediating surface, we propose conduits, affordances, openings that spark deviations, detours, movements of thought and feeling.

It's a change of perspective. You could look at a traditional medium like the printed word as a medium, with the surface of the page as the interface. But reading only occurs when you look *past* the words, and directly enter a space of abstract movement that carries you along. You don't connect to the surface, the surface dissolves, through the words, into an event-space. It becomes a threshold of direct entry into that abstract space, into which your experience is absorbed, rather than a thing that is interposed between two concrete spaces, the body and the technical system, that remain distinct. Putting it in those terms, however, gives too much credence to the opposition between the abstract and the concrete. Even in print reading, the bodily is intensely engaged and activated. The meanings of the words are inseparable from flitting proprioceptive sensations of movement and rhythm, diaphanous seeings, brushes of touch—experiences that are barely there, unacted-out, unseparated from each other, but all the more real, all the more compelling, for coming together in that richly suggestive way. It is a way that betokens a *more* of experience, and beckons it to continue. All of this is bodily. It is the mode of concreteness of the entry into the abstract event-space of reading. What the digital can offer is a multi-modal threshold, and a different rhythm. The work of *Inflexions* seeks to bring words, sounds, and images together, and vary their rhythm of appearing and relaying, recognizing that the rhythm is not just that of the eye, but also of the hand. The aim is to foreground the way thresholding carries multiple dimensions, multiple rhythms moving across the field of 'reading'—transversal modalities of absorption into the abstract-concrete event-space, diverse angles and approaches, twists and turns. This is not to say the digital is better. It is different: a different composition of experience's dimensions intensely unacting-out—or, in-acting. Because if you look at this way—as being absorbed into an abstract space of experience that is otherwise concrete—you have moved through the surface of the screen into another space. It's like the screen is doubled by another surface, upon which a roil of concrete experience, barely, suggestively, diaphanously, varyingly there, is abstractly inscribed. This is the surface of affect. It is like an infra-surface, immanent to situation, on a different plane — an infraface. That is where it's actually happening. Not 'on' the technological surface as a physical object, and not 'in' the body as receiver

of signals, not in the technological system as apparatus, but immanent to their ensemble, expressing their powers of producing effects, events, event-effects or effective events, in concert.

The technological apparatus is, of course, a key element in conditioning the infraface. In the early years of *Inflexions*, our productions were animated with Flash. This allowed for a particular kind of nonlinear exploration which became a lot more difficult (but also very interesting) with HTML5. Some of what was achieved with the formal capabilities of Flash has transferred to the 'how' of the entry and moving-through. Recent iterations lure the reader/viewer/listener into exploring ways of making the work work for their ways. A vast array of modes of entry are embedded, inviting them to create their own rhythms, in ways that we could not pre-program or anticipate. This welcomes neurodiverse techniques for composing—something still too rare in a world too often stridently neurotypical in its orientation. The kind of infrafacing *Inflexions* proposes suggests a nonlinear movement of surfacing, the opening screen already a tunneling into reading's multiplicity, a conduit that facilitates different comings-to-expression, facilitating modes of entry that might otherwise stay backgrounded. This approach is aligned to "immediation," a concept we have been collectively working to define (see the two volume book entitled *Immediation* recently released at Open Humanities Press).

We give the web example since the interface is often defined using digital vocabulary, but this discussion could easily be extended to thresholds more broadly. In a recent interview, Erin Manning and Halbe Kuipers (2019) discuss thresholds in a similar way: https://www.onlineopen.org/download.php?id=587. The threshold as we understand it is never a neutral mediator from one space to another. The threshold is an active intervenor in experience, a co-composer. As such, it is urgent that we understand how thresholds are carried and what is assumed in their crossing. One way to think of the importance of the threshold as infrafacing is through the complex discussion of how to create safe/r spaces in the academy. Working, as SenseLab does, extensively with the question of neurodiversity—asking how worlds can be crafted to challenge the systemic neurotypicality that frames and polices knowledge and bodies—the issue of accommodation is an urgent one. How to create infrasurfacings of emergent collective composition? How to attune not only to what is actually reverberating but also what moves infrasensorially, infrathinly, unseparated-out in a way that intensifies and multiplies potential?

Alison Kafer speaks to this challenge in her 2016 text *Un/Safe Disclosures: Scenes on Disability and Trauma.* In a complex intervention that aims to recognize the importance of the social model of disability *and* to make space for discussions of pain and trauma in disability studies (issues that are often backgrounded in discussions of how ableism renders bodies disabled in a systemic operation that excludes difference), she asks how we might address traumatic experiences without resorting to a too-simplistic account of categorization of triggers. For isn't the very definition of trauma (especially PTSD) the impossibility of mapping the trigger in advance? You could think of a list of trigger warnings in a fairly traditional way as a kind of interface—a mediating apparatus. But what if you looked at the issues infrafacially instead?

In her article, Kafer talks about a BDSM information event organized by an LGBTQ organization during her graduate years. The gathering's aim was specifically to discuss modes of consent and to sensitize the audience to ways of navigating the complex territory of sexual experience, especially for those who might have suffered sexual trauma. Close attention was paid to survivors of sexual abuse and many attempts were made to make sure any such people in the audience took care of themselves. What wasn't addressed (how could it be?!) was the possibility that one of the facilitator's caps would act as a powerful trigger for Kafer, a survivor of a terrible fire. The cap had "arson" written on it in capital letters. She writes:

> I am grateful for their awareness of and frankness about the pervasiveness of rape and sexual assault; grateful, too, for their acknowledgement of the effects of gender-based assault and harassment. And if that person had chosen to wear a different hat that night, I probably would have found nothing lacking in their presentation. But he did not, and that fact leads me to questions about the narrowness of their definitions of trauma. They assumed that some of the workshop participants might have histories of sexual trauma, but there was nothing about racial trauma (which is noteworthy, given the discourse of master/slave in some BDSM practices), or medical trauma (again noteworthy, given the common use of medicalized paraphernalia), or other "everyday" trauma. Is sexual trauma the only trauma relevant in or to feminist and queer spaces? Or is disclosure of queer desire the only disclosure pertinent to such spaces? The ARSON hat, for me, required an entirely different, and entirely less sexy, disclosure: flashbacks, panic attacks, anxiety.

Infrafacing allows for composings across thresholds that take to heart the fact that the question of how things register can never be fully choreographed in advance: it cannot be mediated. Attention to thresholds can do this work, though. What if in the infrafacing an attention to emergent

conditions of a given environment are crafted? Can participation be made operational across many different strata? What if there were consistent attention to architectural affordances that make entering and exiting possible and take seriously the weight of entry on some bodies (racialized, disabled, neurodiverse?). The interface of teaching suggests that the working document—the syllabus—acts as the motivator of entry and exit, but the syllabus can only do a bit of that work, poised as it is in a hierarchical relationship to students. Much more attention needs to be paid to all the constituent thresholds of the encounter: what modes of study are welcomed? how is learning valued? is attention paid to what the crossing of the threshold costs certain bodies? are there ways of entering that don't privilege neurotypical modes of attention? is learning at a distance possible? This kind of infrafacing makes learning a collective endeavour, not mediated but *immediating,* inviting participation in drawing the limits of study. A class that takes this form is no longer mediated by the frontality and hierarchy of the standard pedagogy. It emerges in the ongoing negotiation of multiple forms of participation.

Our interests in issues raised by the question of the interface extend to a rethinking of multiple aspects of what we think of as co-composing in the worlds we work—which is to say, to pedagogy as a whole. And beyond pedagogy, to the research environment it takes place within. And beyond, that, to the ways of living and working and creating together that surround and perfuse the educational institution as a whole. The recently published two-volume collective work, *Immediation*, edited by Anna Munster, Erin Manning, and Bodil Marie Stavning Thomsen, brings together a wide range of essays growing from the collaborations of the Immediations project that explore the issues from many angles (http://www.openhumanitiespress. org/books/titles/immediation/). Looking beyond the *Immediations* project, for the past three years we have been working together to get an alternative platform for study going. It will be autonomous from the university but still linked into it in some ways, embedded in the everyday but composing abstract-concrete event-spaces of life living infrafacial to it. This is what we're calling the 3 Ecologies Institute (http://senselab.ca/wp2/3-ecologies/3-ecologies-institute/).

Q: If Deleuze and Guattari's chapter on faciality in *A Thousand Plateaus* is about a certain 'capture' of the body-nature relation in perception and affect in the Western world, colored by Christianity and activated in colonialism and science, could we think of interfaciality as another

kind of capture in which immanence is at stake, resulting in new states of perception and forms of 'ontopower'? And what would it mean to affirm the world's potential today—and maybe even activate the infraface as an alternate way of affirming affective encounters as political forces? We have still not seen artistic interventions into the operations or forms of utterance of the interface—or have we?

A: In answer to the previous question, we were talking about how the immediation of experience—the infraface—opens onto an abstract surface—an event-space of potential that can be intensifying of powers to think and to feel. This is a space of real, bodily dynamism, but at a level of interfusion where dimensions of experience are activated in relation to one another, but un-acted-out—in-acting their difference, without separability (as Denise Ferreira da Silva might say) This is what Brian calls "bare activity": the dimension of co-incipiency of what, to take effect more broadly in the world, has to separate out into lines of process following different paths. Any engagement that addresses this level is an ontopower: a power to capacitate, to potentialize, and at its most potent, to bring to be. An ontopower activates powers of existence that are like embryonic forms of life. Under certain conditions, these germs of process can mature. The over-determined roil of incipience can ripen and relay into determinate unfoldings. This movement of potential taking determinate expression is transductive: it can move into other fields, implicating other apparatuses, and domains of bodily activity. In a word, the potential can actualize. A barely-there being-in-becoming has made its mark. Its movement has left a wake: it has had carry-on effects.

This actualizing expression of potential is always limitative. Bare activity is overfull, over-determined. It has to shake down, to fold out into actual shape. In *Architectures for the Unforeseen* (2019), Brian develops the notion of the abstract-(concrete) surface of affect in relation to certain digital artistic and design practices (specifically Greg Lynn's mobilization of virtual forces of formation in his topological design in architecture, and Rafael Lozano-Hemmer's "relational architecture" practice of large-scale digital urban-art intervention). He suggests that there is a proto-politics to staying with the roil, or contriving to return there, so that the limitative unfoldings don't become restrictive and take over, colonizing potential. This is proto-political, because instead of maturing into a determinate political path, it tends the embryology of differencings, prolonging the engagement with potential into a thickening variety of in-active paths.

For this kind of proto-politics to work, certain modes of actualization that channel the expression of potential down restrictively normative paths have to be strategically disabled. If this is not done, ontopower turns vicious. The power to bring to be, in a movement of becoming, turns into an enhanced recolonization, bringing more of the same, only potentially worse, because it hijacks forms of life in their very emergence. In this, ontopower is far more virulent than biopower, which is a power over life. The power to bring to be is an order of magnitude beyond any power over what already is.

One of the reasons we are so mistrustful of the term interface is that among the most potent of restrictive ontopowers is the face: the overlay of the infraface by the Face. This is a humanizing power turning the power-to-be into the power of the personal—paradoxically, by collective means. For there is no Face without the face-to-face. Faciality, as Deleuze and Guattari call it, is an impersonal machine to limitatively personalize potential. Face-to-face: isn't that what the very word 'interface' invokes? The implications are enormous. The model of faciality, according to Deleuze and Guattari, is the White Man's face: the "average adult-white-heterosexual-European-male speaking a standard language" (105). The "Major." Whiteness personified.

Can we talk about the interface without talking about racism and colonialism? And not just as an unfortunate content that gets spread through it, but as engrained in the etymology of the word, integral as to the genealogy of the concept, as infecting the practices associated with it with an ontopower of the Facially limitative kind, building-in tendencies toward Whiteness?

Erin's piece, "Waltzing the Limit" in *Always More Than One* (2012) addresses the politics of faciality. The film *Waltz with Bashir* is a fascinating place to stage a conversation about the affective image of the face because, unusually, it refuse to frame the face as an affective condition of the encounter until the very end when the film turns to the one image which will retroactively frame the horror of political genocide: the face of the Palestinian. Continuing her earlier work on the face in Canadian cinema, this piece explores what else can be foregrounded when the camera refuses to make the (White Man's) face the interface of civilization.

Faciality, as Deleuze and Guattari articulate it in *A Thousand Plateaus* (1987) is, as your questions suggest, a vital exploration of the mediating power of whiteness in the scopic regime, from landscape paint-

ing to cinema and beyond. Whiteness is here the operator of legibility, and the White Man's face—the territorialization of whiteness onto the earth as regimen of ultimate registerability—is not only the superimposition of colonial operations onto the body, but onto the earth itself. It is an onto-power of genocidal, ecologically destructive, force that haunts all dreams of appearing otherwise.

Deleuze and Guattari (1987) write: "Faces are not basically individual; they define zones of frequency or probability, delimit a field that neutralizes in advance any expressions or connections unamenable to the appropriate significations" (168). The face is the operation through which perceptibility becomes facialized, which is to say, valued. The face is the mark of discernment of presentability itself. That's why the White Man's face can't so easily be reduced to *a* white person. A white person carries an a priori valuation, but the face must every time be produced. It is not a representation: it is a systemic operation. As Deleuze and Guattari emphasize: "The face itself is redundancy" (168). Across the redundancy, in the expression of its frequency, in its collective stretch, whiteness makes a claim on existence.

But as always with Deleuze and Guattari, there's more to the story than this nightmare. Other modes of transduction are possible that begin with the transindividuality of experience and move from there. In this transduction, what is produced is a different kind of subjectivity—a subjectivity unsubordinated to the face, a minor sociality activated in the schizz of experience folding on itself, resonating with the overfullness of bare activity. Expression lives here, in the detouring of experience from its capture, in the excess of the face (-to-face).

The impersonality of minor sociality is also ontopowerful, in that it does its work immanently to the event, sideways, in relation to forces not yet captured by the contours of what already stands in as face. It is a fugitive counter-ontopower: "If the face is a politics, dismantling the face is also a politics involving real becomings, an entire becoming-clandestine" (Deleuze & Guattari 1987, 188). The becoming-clandestine is the operation through which the twists and turns of the process itself is foregrounded, turning away from the face, or turning the face away from its overcoding, from the overlay of mediating mechanisms upon the infraface, away from what effects and protects the channeling into whiteness and backgrounds its overfullness with relational potential, even as it draws on it limitatively. Away from the forms of interactivity and interpersonality that

the paradigm of the interFace implies and fosters. For the face-to-face of whiteness thrives on the inter-. The inter- is its operator. Mediation is its (pale) passion.

Q: We would also like to discuss the question of 'interaction' in relation to the (affective) interface as well: especially as understood within the field of interaction design. When and how does it make sense to talk about interaction (or interaction design) in a time where the affective and relation seem like better terms for unfolding the processual dynamics and infrafacial foldings? With your reconception of interface as infraface, what happens to interaction? In what ways do we need to re-think interaction? For instance, Gilbert Simondon introduces the concept of transduction— but still retains a reconfigured notion of interaction, or, we might turn to Daniel Stern, who also uses as a motor in his work moment-by-moment interaction sequences to account for larger mobilizations. Is there a still place for interaction with infrafaciality or should we go somewhere else?

A: There is definitely a role for interface design, provided it problematizes its own name, and processes the implications of the distinction between interaction and relation. Interaction works with the presupposition that the poles of engagement are fully-formed, whereas relation is invested in the quality of the field itself and what the coming into encounter makes possible in terms of qualitative transformation. Daniel Stern is a great place to look. His concept of vitality affect takes what most people would think of as the paragon of interpersonal interaction, the carer-neonate encounter, and gives an account that relationalizes it. He talks about how the apparently imitative back-and-forth of vocalizations and gestures is not really a back-and-forth, and not really imitative. The carer and the infant are engaged in a relational interplay where one action cannot be reduced or even directly compared to the other. For instance, what might be interpreted as call and response is typically being played out in different experiential registers, a gesture greeting a sounding. It's really a play of point-counterpoint, he says. There is a certain entrainment where the infant's and carer's actions are carried by the momentum of the play. They entrain each other in a rhythm that does not reproduce one or the other's movement but emerges as a relational third. Infant and carer participate in the same event, from different angles, moving into the interplay of what is co-composed. This dynamic is often mistaken for a simple sequence. In fact, in the entrainment of the co-composition producing itself, the next move is echoing the last in its own manner, and pre-echoing the next. It

is a situation of what Erin calls "preacceleration" in *Relationscapes* (2012). What this means is that the successive plays are modulating each other's formation, from within their arising. They exert an immanent formative influence that is reciprocal. This is relation: the formative in-each-other-ness of actions that reciprocally modulate, so that the terms are the product of the relation, more than the relation is the product of pregiven terms interacting. Relation and interaction are really two very different species (far too often mistaken for the other). Interaction implies an exteriority of actions to each other, across the boundary of the screen, or whatever apparatus is attributed a mediating function. Relation is the activation of the in-between as a field of resonance that modulates rather than mediating. It is an immediation. It occurs in the immediacy of a co-composition. Interaction *presupposes* preconstituted terms (the infant, the carer, each on its own side, acting in its assigned role, according to its own devices). Relation *produces* its terms (an infant-carer speciation where what both bodies can do and how they be is qualitatively altered by what passes between them). Although interaction is often thought as a togetherness, it is actually separative. That is the very meaning of "inter-": that it separates out, and that neutralizes the formative activity of the in-between. To view the infant-carer relation as interactive, and the call and response as sequential, is to assimilate the co-produced movement as stimulus-response. Stimulus-response doesn't get under the skin creatively. It triggers already-known routines. It reproduces more than it produces. If a setup is designed in such a way to foreground the inter (-facial), it forcibly backgrounds the infra-. It is in the infra- that the relationality resides.

The infra- of relation is what Simondon calls the "preindividual." The preindividual is the condition of individuation. The preindividual is a field of tendencies in germ, buds of unfoldings to come, of rhythms in seed, that exceed given form, because they play out in modulations of form. Individuation is teeming with preindividual tendencies that are like minor inflections vying to come to expression and take-form. They keep individuation qualitatively open at the formative level, making it what we just called a "speciation": individuation is always collective, a co-becoming. In the infant-carer example, what individuates is fundamentally the relation itself, spinning off variations on 'carer' and 'infant' born from the manner of their coming together. The reciprocal determination of the carer's and the infant's lines of action and bodily capacities must therefore never be substracted, treated as separate. Similarly, the rhythm

must never be treated as a synchronous line. The playing out of the relation in an individuation, as you suggest in your question, is transductive. In the carer-infant example, the sounds heard and gestures seen on both sides are an emergent expressions. In the relation, rhythm is in-between. It is neither properly visual nor aural. It is amodal: it is in both equally, but differentially, in point-counterpoint. The amodal is that which is in no particular exteroceptive sense (involving sense channels registering external impingements on the body). It can be expressed in any sense, but is not contained in any of them (it is most closely allied to the interoceptive senses of proprioception and kineathesia). The amodal, considered in itself, is abstract, in a most efficacious way. Its field is the infrafacial force-field of emergence in-forming any and all other domains.

The question, not only for digital art and media, but for all creative activity, is how to access that dimension of forming experience that impels collective individuation. How do we perceive what is no sensory mode *in itself*? How do we influence it, if we, as terms of relation, are more its product, in correlation with others, than the producers of it? How do we cure ourselves of our inculcated sense that experience is 'ours,' that experience belongs to the 'subject,' that form is already constituted and simply interacts with other forms? How do we foster relation?

Just how far-ranging these questions are is shown by Stern's work in his book *The Present Moment* (2004), which your question alludes to. In it, Stern sets forth a kind of methodology for the archeology of the present moment (William James's labile "specious present," lasting from eight to twenty seconds or so: the atom of our experience). He shows how incredibly full, complicated, and hyperdifferentiated the present moment is. We normally only retain certain peaks that stand out from it, a bit like landmarks that have impressed themselves in the form of easily accessible conscious memories. We also retain a more or less vague affective tonality marking the quality of the experience of that present moment. But it is possible to excavate the moment (he suggests very specific tools for doing this). When we do, we realize that the moment was so full as to be effectively infinite. Its dynamic contour, its rhythm or vitality affect, is composed of any number of subrhythms. Its global affective tonality is composed of any number of under-affects. Events within events, even when nothing much is happening. Ingredient elements are not combined part to part, in extrinsic relation, like bricks assembled to form an edifice. They are not inter-. They are infra-. Each of their actions are in each other.

They resonate. They reciprocally modulate. They do not combine, so much as fuse, and not into an edifice but into a complex, internally differentiated flow, composing an atom of life experience with more or less vague and variable boundaries: an open whole. These compositional infra-elements of the moment—of the very time of our life—are not lost. With technique, they can be made to peak, brought to conscious expression, and committed to explicit, episodic memory. But when they don't—which is the usual situation—they are not nothing because of that. They will have effectively in-formed what has registered, and live on through that, in flow-on effects. They also live on with unregistered, or barely registering, subterranean efficacity, as somewhat-experiences that have not yet had their day. A later experience might bring a sub-affect to the fore, so that it displaces the already-registered affective tonality, and as a consequence alters the formal memory and how we subsequently relate to that moment. They are not just flotsam and jetsam of experience. They are a reservoir of would-be and could-be changes in experience. Potentials for more. They are everyday experience's infraface.

The questions about interface, which we've counter-answered with questions about infraface, overspill the digital into everyday life. They extend to such fundamental questions as how we bide our time, what constitutes our every present moment, and what potentials reside there. What does this mean for digital design? What kinds of new crossings-over and cross-currents might it be possible to orchestrate between digital systems and the off-line world—given the transductive (which is to say, fundamentally analogue) nature of the life process that runs through both? How do we influence it, if we, as terms of relation, are more its product, in correlation with others, than the producers of it? How do we cure ourselves of our inculcated sense that experience is 'ours,' that experience belongs to the 'subject,' that form is already constituted? For this is what interaction teaches us: that the terms are decided. Interaction takes the field for granted, turning all attention to the terms of the interaction, the subject and the object, the human and the machine. From that standpoint, mediation becomes a necessity. But amodality is immediating. It moves in the between of qualitative fields of feeling to activate transductions of sense. The carer's voicing in the interplay with the infant's movement produces a thirdness that becomes the motor for the ensuing rhythm, modulating how it unfolds. The abstract dance is formative of the relation, which itself becomes the conduit for new variations on the terms in relation.

In our work on the anarchival project we call the 3E Process Seed Bank—an altereconomic proposition for other modes of valuation—these questions have been at the forefront (the alterecomic aspect of the project is discussed in detail here: http://senselab.ca/wp2/3e-process-seed-bank/interview/). What we have found through our longstanding explorations of immediation is that infrafacing must remain a verb: to do the work of activating the polyvocality of the field of relation, the field itself must be kept in play. This means that we not only have to create the conditions for an active infrafacing in the digital design, we have to practice immediation in our approach to all the fields of relation that populate our lives. We have to be attuned to what elements compose their formative in-betweens—including surfaces conventionally marked as mediating—and what modes of expression spin off from them.

To practice immediation is to become sensitive to the ways in which we have become habituated to mediating surfaces that promise to lead us where we need to go. It is to become aware of all that is presupposed in that act of mediation, and to recognize the compositional force of all that is lost when relation is overcoded by the mediating impulse. In the design of the 3E Process Seed Bank, this has led us to be less concerned with creating a platform in itself than creating a variety of entryways into modalities of web-life interplay. This has proven necessary because code in and of itself remains limited to a particular array, its protocols always oriented by certain relatively predetermined sets of operations. By playing with the relational interplay of offline and online activities, something else begins to emerge that allows the digital to participate in the composition in ways it might not otherwise be capable of. An example of this is the work we call "composing" at SenseLab. In the early explorations of the 3E Process Seed Bank, our main concern was with the threshold: how might we activate the kind of thresholds discussed above for a digital environment? How might we make the entryway do the kind of work we have experimented with at SenseLab, when the reigning digital protocols individualize users' access and subject it to disciplinary control (user agreements, password protections, etc.)? Might there be a way to multiply the coming into encounter in a digital environment without making that multiplication simply the interactive sum of its individual parts? Is there a way to activate that excess described above, that more-than-the-sum of its parts that is relation? Can the digital screen be contrived to operate as a catalyzer of infrafacial rhythms?

Strictly speaking the answer is no. In and of itself, the digital, with its sequential processing, tree structures, and classification shema, cannot spark the kind of excess that a ray of light on a piece of fabric produces in an offline space. It cannot produce the kind of lure that ray might be for a cat, or a human, who simply can't keep themselves from lying on the patch of orange on the ground. But it can compose with tendencies generated in the offline space to activate modes singular to the digital that might reverberate with similar qualities. Or, even better, it might be capable of bringing certain qualities of experience into overlap in a way that resingularizes an offline experience, thereby producing more appetite for offline play. This catalyzing of relation cannot be accomplished *on* a platform in itself. But it may be possible *through* a platform. The screen might potentially be contrived to operate as a threshold in a transductive process moving through it, between offline experiences. What would happen on the screen wouldn't be just be permutations on already-formed operations. The screen also would have to populated with preindividual tendencies that resonate with the offline preindividual fields it thresholds—code events that transform the stimulus-response of interfacial interaction into an in-each-otherness of operations suggesting emergent rhythms that might modulate the actions of the user, but more importantly, might invite a counterpoint in actions offline.

The most available model for the in-each-otherness of digital code operations is the glitch. A glitch is interruptive, an interference—but an interference is a kind of resonation. A glitch is a point of undecideability where potential lines of unfolding overlap and vie with one another, without one in particular being able to follow through on its routine. The glitch interrupts routine. Creative glitching is one of the things the 3E Process Seed Bank has been experimenting with, along with play with error messages. But the infrafacializing of the interface doesn't have to be interruptive. There are ways, for example, of creating positive overlaps between the categories to which habitual online operations are normally assigned that create relational resonances. For example, with the entryway, we have been inflecting the authentication routine to organize itself around the model of gift-giving, mixing the category of legitimation and authentication that the digital entry is conventionally designed to fall into with that of hospitality. This gives a singular quality to the action of entering. It is still somewhat colored by the habitual connotations of being legitimized, in the sense of bearing a certain responsibility toward the

system and toward others, simply by virtue of being a way of recognized by the system and gaining access to it. But the responsibility is de-individualized. The dominant tone is generosity and conviviality. This modulates the posture with which one enters, enabling further modulation once they're online—which primes for different ways of relaying back offline. Creative overlaps and unexpected phasings among text, image, and sound are also ways of preindividualizing the digital field that the 3E Process Seed has extensively experimented with (the journal *Inflexions* is where these experimentations are most publically presented).

To explore the potential of online-offline transduction, the practice of 'composing' was born. Since few of us were capable of doing the actual digital coding, the SenseLab physical space became a site for us to experiment with materials to build qualitatively different thresholds and entryways.

SenseLab SpaZe December 2019. Photo by Leslie Plumb.

This work then became a field of operative exploration for the coding. Over more than three years, an ongoing practice of attuning to emergent qualities of relation in the space has taken place, working with materials that for the most part remain the same. The aim of the work is not to build an architecture, or an installation—though that is often the effect. The aim is to attune to material affordances, to become attuned to overlooked qualities, to explore how shapes can affect each other, to practice an engagement with an emergent architecture that *sites* differently—a study in how found ingredients can take on a catalytic function for relation. Things becoming field-factors rather than the things they normally are, with their habitual uses and functions. A chair might levitate toward the ceiling and remain suspended there, creating an awkward depth to the space that inflects our sense of perspective, in turn modulating our movements through the space. Tunnels and underspaces might appear, allowing anxious bodies a refuge, and encouraging non-frontal modes of engagement that expand the point-counterpoint potentials of voicing and gesture. Corners may sprout in the middle of the space in the vicinity of an upturned table, troubling our well-trained habits of siting ourselves in generic spaces. Sails of fabric might softly differentiate the space into a continuous variation of spatial sinuosities, troubling traditional perspective. Markings on the floor might suggest virtual differentiations of space that lure a mode of occupation, in the way a square of tape on the floor will lure a cat into a virtual box.

This is demanding and careful work. Often the first tendency is to "do" something in the space, but that returns to individual decision and an instrumental relation to things. The richness comes of the second or third tendency. At a certain moment, it is the emergent environment that moves you, that tunes a movement toward a field of relation. The action of the environment is now in you, as much as you are in the environment: environmental in-each-otherness, preindividualizing the body/surround separation. This takes time. We often find ourselves staying late, composing differently as the light changes, finding that a shape will emerge on its own in a time that exceeds our own determination. Once a shape has composed itself, something has revealed itself: a process has actualized. This process feeds the digital work both in terms of the shape/quality/colour/atmosphere/threshold created and in terms of rhythm or duration. The temptation is always to dwell here, to settle in the shape composed. But invariably it collapses. What felt so dynamic becomes a form, and we

find ourselves going back to the 'doing,' the shaping and being shaped as if they were separable, falling to either side of a subject-object divide. We then have to reattune, and it may be necessary to decompose before we can get back to it.

The 3E Process Seed Bank proposes a similar engagement with composition in the digital. The offline experimentation is practiced as a prototyping of catalyzing strategies and fielding relation. The idea is that analogues for them might be found in digital operations. This transport of modes of fielding relation between online and offline experimentations strengthens their transductive connection. The relaying among the fields of the exploring body, screen operations, and the surrounds fuse them into a larger field. They are reciprocaly infrafaced. So instead of just a simple interface, what we are proposing is a compound infrafacing. To facilitate this, we have devised many techniques: creatures of code we call processual operators (POTs) will be deployed that impersonalize the engagement with the digital strata, along the glitch-and-overlay lines explained earlier (http://senselab.ca/wp2/processual-operator-thingies/). What we call self-organizing propositions (SOPs) function as formative-rhythm channelers, transducing deliberative governance (with its inevitably disciplinary and normative functioning) into emergent decision-making following a self-organizing cadence (http://senselab.ca/wp2/3e-process-seed-bank-further-possibilities-for-smart-contracts/). The work is of course ongoing. These are really demanding propositions, in no small part because they challenge the interactive presuppositions embedded in digital interface design, going all the way down to the lowest levels of code. But our collective exploration at SenseLab over more than a decade has led us to have a strong appetite for other ways of thresholding, fielding, and moving (with) the relation, and we have learned through many exciting encounters with other collectives that we are not alone in the desire to explore this—which amounts to inventing other forms of valuing experience collectively.

As SenseLab moves toward the 3Ecologies Institute (http://senselab.ca/wp2/3-ecologies/3-ecologies-institute/#missionstatement), we take the question of infrafacing into an expanded field of living and learning, beyond the confines of the university. Moving toward other ways of living and learning without the mediating gesture we are accustomed to means valuing experience differently. It means refraining from making the Human—which is to say, Whiteness (as discussed earlier)—the be-all and end-all of experience. It means becoming attuned to the more-than

that courses through 'us'—or more precisely, through the compound in-between of our things and technologies, bodies and surrounds, that spins us off into new variations on ourselves. It means becoming alert to what formatively exceeds us, including those infrathin modes of preindividual life that we presently unperceive—but which may return to feed new speciations. Most of all, it means refusing to neutralize experience by formatting the encounter in advance.

REFERENCES

Deleuze, G. & Guattari, F. (1987). *A Thousand Plateaus: Schizophrenia and Capitalism.* Translated by B. Massumi. Minneapolis: University of Minnesota Press.

Kafer, A. (2016). Un/Safe Disclosures: Scenes of Disability and Trauma. *Journal of Literary & Cultural Disability Studies* 10 (1), pp. 1–20.

Kuipers, H. & Manning, E. (2019). How the Minor Moves Us: Across Thresholds, Socialities, and Techniques: A Conversation with Erin Manning. [online] *Onlineopen.org.* Available at: https://www.onlineopen.org/download.php?id=587 [Accessed 01 May 2020].

Manning, E., Munster, A. & Thomsen, B.M.S., eds. (2019). *Immediation I.* London: Open Humanities Press.

Manning, E., Munster, A. & Thomsen, B.M.S., eds. (2019). (2019). *Immediation II.* London: Open Humanities Press.

Manning. E. (2012)*. Relationscapes: Movement, Art, Philosophy.* Boston: MIT Press.

Manning, E. (2012). *Always More Than One: Individuation's Dance*. Durham: Duke University Press.

Massumi, B. (2019). *Architectures for the Unforeseen: Essays in the Occurrent Arts.* Minneapolis: University of Minnesota Press.

Stern, D. N. (2004). *The Present Moment in Psychotherapy and Everyday Life.* New York & London: W.W. Norton & Company.

Todoroff, M. & Manning, E. & Massumi, B. (2018). Interview with Erin Manning and Brian Massumi: 3E Process Seed Bank. [online] *SenseLab.* Available at: http://senselab.ca/wp2/3e-process-seed-bank/interview/ [Accessed 01 May 2020].

3Ecologies Institute (n.d.). Mission Statement. [online] *SenseLab.* Available at: http://senselab.ca/wp2/3-ecologies/3-ecologies-institute/#missionstatement [Accessed 01 May 2020].

3Ecologies Institute (n.d.). 3E Process Seed Bank Further Possibilities for Smart Contracts. [online] *SenseLab.* Available at: http://senselab.ca/wp2/3e-process-seed-bank-further-possibilities-for-smart-contracts/ [Accessed 01 May 2020].

3Ecologies Institute (n.d.). Processual Operator Thingies. [online] *SenseLab.* Available at: http://senselab.ca/wp2/processual-operator-thingies/ [Accessed 01 May 2020].

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This book engages with how affective encounters are shaped and conditioned by interfacial events. Together, the chapters explore the implications of this on a micro-perceptual and macro-relational level through an experimental middling of approaches and examples. While broadly departing from a Spinozist and Deleuzian theoretical foundation, the book weaves together a compelling mix of conceptual and empirical trajectories. Always attuned to the implications, modulations and tonalities arising in the readings through art, journalism, bodies, an/archives, data and design, *Affects, Interfaces, Events* allows for a truly transdisciplinary resonance driven by theory, technology and practice.

If the study of affect follows the question "What can a body do?", then this collection offers a followup question that is both necessary and productive: "what can an interface do?" In the essays included within this collection show, interfaces do a lot. Events and bodies are themselves conditioned by and condition the interfaces (digital but also otherwise) that we encounter in any given event on any given scale.

—**CASEY BOYLE**
Author of *Rhetoric as a Posthuman Practice*

Ranging across diverse terrain, these essays each reveal generative and creative thinking-feeling with the key concepts as they cluster together, overlap and veer away from one another. Accessible yet illuminating, *Affects, Interfaces, Events* offers compelling interventions that will interest both newcomers to affect studies and scholars already steeped in the field.

—**MICHAEL RICHARDSON**
Author of *Gestures of Testimony*

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Cover: *Collective Fabulations: Propositions for Social Dreaming* (detail), Erin Manning & Andrew Goodman, 2017–2018. Courtesy of the artists.