Digital Cultures: Knowledge / Culture / Technology

International Conference // Leuphana University of Lüneburg // September 19-22, 2018, Lüneburg, Germany // Initiated by Armin Beverungen & Ned Rossiter

This conference brings together research concerned with studying digital cultures and the ways that digital media technologies transform contemporary culture, society and economy. While a Silicon Valley mindset prevails over the design and production of the devices, practices and institutions that mark digital cultures, they are at the same time continually rebuilt, hacked and broken within a proliferation of sites across the globe. The conference is dedicated to investigating these changes, operations and tensions.

Call for Papers

The advent and ubiquity of digital media technologies precipitate a profound transformation of the spheres of knowledge and circuits of culture. Simultaneously, the background operation of digital systems in routines of daily life increasingly obscures the materiality and meaning of technologically induced change. Computational architectures of algorithmic governance prevail across a vast and differentiated range of institutional settings and organizational practices. Car assembly plants, warehousing, shipping ports, sensor cities, agriculture, government agencies, university campuses. These are just some of the infrastructural sites overseen by software operations designed to extract value, coordinate practices and manage populations in real-time. While Silicon Valley holds dominant sway over the design and production of the artefacts, practices and institutions that mark digital cultures, the architectures and infrastructures of its operations are continually rebuilt, hacked, broken and maintained within a proliferation of sites across the globe.

To analytically grasp the emerging transformations requires media and cultural studies to inquire into the epochal changes taking place with the proliferation of digital media technologies. While in many ways the digital turn has long been in process, its cultural features and effects are far from even or comprehensively known. Research needs to attend to the infrastructural and environmental registrations of the digital. Critical historiographies attend to the world-making capacities of digital cultures, situating the massive diversity of practices within specific technical systems, geocultural dynamics and geopolitical forces. At the same time the contemporaneity of digital cultures invites new methods that draw on digital media technologies as tools, and, more importantly, that engage the intersection between media technologies, cultural practices and institutional settings. New organizational forms in digital economies, new forms of association and sociality, and new subjectivizations generated from changing human-machine configurations are among the primary manifestations of the digital that challenge disciplinary capacities in terms of method. The empirics of the digital, in other words, signals a transversality at the level of disciplinarity, methods and knowledge production.

This conference brings together research concerned with studying digital cultures and the ways that digital media technologies transform contemporary culture, society and economy. The hosts specifically encourage approaches to digital cultures emerging from media and cultural theory, and transnational currents of communications, media and science and technology studies. We also explicitly invite researchers from digital humanities, digital anthropology, digital sociology, gender studies, postcolonial studies, urban studies, architecture, organization studies, environmental studies, geography and computer science to engage in this endeavor to develop a critical humanities and cultural studies alert to the operations, materialities and politics of digital cultures.

The conference will address and invites contributions to the following key themes which characterize the technological future-present:

Historiographies of Digital Cultures

- Environmental Media, Media Ecologies and the Technosphere
- Platforms, Commons and Organization
- Biohacking, Quantification and Data Subjectivities
- Digital Publics, Movements and Populisms
- Contemporary Futures and Anticipatory Modelling

Submissions of individual contributions or plenaries (3-4 speakers/discussants) are invited addressing each or a cross-section of the themes, which will be complemented by a series of keynote speakers and three spotlight panels with invited speakers addressing key debates within and between these themes.

The extended deadline for submissions is 15 April 2018.

INTERNATIONAL CONFERENCE

DIGITAL CULTURES:
Knowledge | Culture | Technology

Lüneburg, 19-22 September 2018

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Digital Cultures: Knowledge / Culture / Technology

Conference Program and Book of Abstracts
Leuphana University Lüneburg

19-22 September 2018

Co-hosted by the Centre for Digital Cultures, Leuphana University Lüneburg, and the Institute for Culture and Society, Western Sydney University, as part of the Knowledge / Culture Conference Series.

In collaboration with:

Department of Media Studies, University of Siegen
Berlin Institute for Empirical Research in Integration and Migration, Humboldt University of Berlin
ephemera: theory & politics in organization
Meson Press

The conference is partly funded by the „Niedersächsisches Vorab" program of the Ministry for Science and Culture of Lower Saxony and the Volkswagen Foundation.

Hosts

LEUPHANA
CENTRE FOR DIGITAL CULTURES

WESTERN SYDNEY UNIVERSITY
Institute for Culture and Society

Funders

VolkswagenStiftung

Niedersächsisches Ministerium für Wissenschaft und Kultur

In cooperation with

UNIVERSITÄT SIEGEN

BIM Berliner Institut für empirische Integrations- und Migrationsforschung

ephemera
theory & politics in organization

meson press

INTERNATIONAL CONFERENCE

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#KCI8

WELCOME

Research and writing on digital conditions is so hugely diverse and varied that no discipline can claim a monopoly of knowledge. In organizing the international conference *Digital Cultures: Knowledge / Culture / Technology* we have been mindful of the limits of disciplinarity while also alert to existing and emergent lines of inquiry. The days we spend together in Lüneburg in September will, we hope, register a moment in which the ensemble of participants signal a certain state of play and distinct style and mode of analysis within the motley field of digital media and cultural studies.

The conference, held in Lüneburg, has developed over the last eighteen months with organizing teams working across Lüneburg, Sydney, and elsewhere. It builds on and deepens a longstanding relation of around seven years between Leuphana University's *Centre for Digital Cultures* (CDC) and Western Sydney University's *Institute for Culture and Society* (ICS). Where the CDC is concerned with developing a research profile and network focused on how digital cultures emerge in the interplay between digital media and global culture, ICS researches transformations in knowledge, culture, and society in a globalizing digital age. Both research agendas meet in the double title of the conference. In Lüneburg, the conference follows on from two previous international conferences on *The Terms of Media*, organized by the CDC in collaboration with Brown University and held in Lüneburg (2015) and Providence (2015) respectively, and focused on exploring the conditions of digital media and the terms we invoke to make sense of digital cultures. *Digital Cultures: Knowledge / Culture / Technology* now takes place as part of a series of *Knowledge / Culture* international conferences, initiated by ICS in 2011 with *Knowledge / Culture / Social Change* and continued with conferences on *Economy* (Sydney, 2014), *Globalization, Modernity, and Urban Change* (Hanoi), and *Ecologies* (Santiago, 2017). Next year will see a sixth and seventh instalment of the conference series, with *Knowledge / Culture / Sustainability* taking place in Ferrara, Italy followed by *Knowledge / Culture / Climate* (Rio de Janeiro, 2019). We encourage you all to consider submitting proposals to these events as well.

Each conference in the series frames a pressing issue, salient theme, or prevailing condition in ways attentive to the contours of knowledge and dynamics of culture. Because the focal point of the conference series has been common to many disciplines, earlier events have attracted researchers from a range of fields, including cultural studies, geography, anthropology, political theory, gender studies, and media and communications. This year the conference name departs from the convention of the *Knowledge / Culture* series to date, foregrounding Digital Cultures as the condition and phenomena around which knowledge and

culture gather more broadly in conjunction with technology. Digital Cultures denote an emerging research field which starts from the premise that cultures are already thoroughly marked by the ubiquity of digital media technologies, with wide-ranging consequences for experiencing, thinking about, and intervening in knowledge, culture, and society and requiring a transdisciplinary effort of research and analysis. In the call for papers we invited contributions from fields mentioned above, along with postcolonial studies, architecture and urban studies, science and technology studies, digital humanities, digital sociology, environmental studies, computer science, and organization studies. The disciplinary breadth is consistent with the interests of CDC and ICS and, we think, indicative of the expansive research into digital cultures.

Connecting to the six organizing themes of the conference – Histories, Environment, Economies, Subjectivities, Collectivities, and Futures – we received 177 individual paper proposals along with 16 submissions for curated panels, 12 of which are scheduled into the program. The individual paper presentations, organized into themed concurrent sessions, and the curated panels are complemented by keynotes and spotlight panels, which in our view demonstrate some of the most exciting and urgent research on key concerns and topics in digital cultures. With approximately 275 registrations, the conference will mark a significant event in the field. We are particularly pleased that so many emerging researchers submitted proposals and consider this a positive signal for research in the field of digital culture and society. Many of these proposals come from PhD students who participate in the Lüneburg Summer School for Digital Cultures, which precedes the conference and provides graduates and early career researchers with advanced training in the study of media, their theory, aesthetics, and history, with a focus this year on the historiographies of digital cultures.

Digital Cultures: Knowledge / Culture / Technology will host in Lüneburg academics, practitioners, artists, and activists from many walks of life and disciplinary backgrounds. Participants are gathering from more than 100 institutions and 30 countries to critically interrogate the historical, prevailing, and future conditions of digital cultures.

Conference Initiators:

Armin Beverungen (University of Siegen / CDC) and Ned Rossiter (ICS).

Conference Steering Committee:

Centre for Digital Cultures, Leuphana University Lüneburg: Armin Beverungen, Timon Beyes, Manuela Bojadžijev, Lisa Conrad, Mathias Denecke, Randi Heinrichs, Laura Hille, Claus Pias, Sebastian Vehlken, and Daniela Wentz.

Institute for Culture and Society, Western Sydney University: Ilia Antenucci, Helen Barcham, Philippa Collin, Gay Hawkins, Tsvetelina Hristova, Liam Magee, Brett Neilson, Ned Rossiter, and Teresa Swist.

In collaboration with:

The Department of Media Studies, University of Siegen; Berlin Institute for Empirical Research in Integration and Migration (BIM), Humboldt University of Berlin; ephemera: theory & politics in organization; and Meson Press.

The conference has been made possible through funds from the Centre for Digital Cultures, Leuphana University, and the Institute for Culture and Society, Western Sydney University. The conference is partly funded by the „Niedersächsisches Vorab“ program of the Ministry for Science and Culture of Lower Saxony and the Volkswagen Foundation.

CONFERENCE THEME

The advent and ubiquity of digital media technologies precipitate a profound transformation of the spheres of knowledge and circuits of culture. Simultaneously, the background operation of digital systems in routines of daily life increasingly obscures the materiality and meaning of technologically induced change. Computational architectures of algorithmic governance prevail across a vast and differentiated range of institutional settings and organizational practices. Car assembly plants, warehousing, shipping ports, sensor cities, agriculture, government agencies, university campuses. These are just some of the infrastructural sites overseen by software operations designed to extract value, coordinate practices and manage populations in real-time. While Silicon Valley ideology prevails over the design and production of the artefacts, practices and institutions that mark digital cultures, the architectures and infrastructures of its operations are continually rebuilt, hacked, broken and maintained within a proliferation of sites across the globe. Meanwhile the China tech industry is booming with investement and R+D in machine learning and artificial intelligence.

To analytically grasp the emerging transformations requires media and cultural studies to inquire into the epochal changes taking place with the proliferation of digital media technologies. While in many ways the digital turn has long been in process, its cultural features and effects are far from even or comprehensively known. Research needs to attend to the infrastructural and environmental registrations of the digital. Critical historiographies, for instance, can investigate the world-making capacities of digital cultures, situating the massive diversity of practices within specific technical systems, geocultural dynamics and geopolitical forces. At the same time the contemporaneity of digital cultures invites experimental methods that draw on digital media technologies as tools, and, more importantly, that engage the intersection between media technologies, cultural practices and institutional settings. New organizational forms in digital economies, new forms of association and sociality, and new subjectivizations generated from changing human-machine configurations are among the primary manifestations of the digital that challenge disciplinary capacities in terms of method. The empirics of the digital, in other words, signals a transversality at the level of disciplinarity, methods and knowledge production.

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invite researchers from digital humanities, digital anthropology, digital sociology, gender studies, postcolonial studies, urban studies, architecture, organization studies, environmental studies, geography and computer science to engage in this endeavor to develop a critical humanities and cultural studies alert to the operations, materialities and politics of digital cultures.

Historiographies of Digital Cultures

To suggest that we now live in digital cultures, characterized by the ubiquity of digital media technologies and their influence on almost every form of life and experience, is always already an epochal argument, raising fundamental questions regarding their historicity. At the same time, this implicitness of digital technologies, as well as the breathlessness of many attempts to describe their newness and nowness, often makes it difficult to understand the historical specificity of digital cultures. Yet as an ongoing and open process neither is termination of the digital predictable nor is its advent once and for all determinable. The dating and genesis of digital cultures are therefore historiographical problems that require careful methodological consideration. How can we grasp the historicity of digital cultures and what kind of media genealogies can we trace? If all media technologies rewrite their prehistory, how do digital media technologies prefigure the parameters of the history of digital cultures? And how do they alter the knowledge and practice of (digital) history?

Environmental Media, Media Ecologies and the Technosphere

With the ubiquity of digital media technologies come media theories that understand them in their infrastructural, environmental and ecological registers. Terms such as ecology and environment are often used interchangeably to denote networked technological agencies, planetary concerns and intricate entanglements of humans and technology. While ecological thought has entered media and cultural studies in these ways, and media technologies have entered ecological thought, often a concern for what used to be called nature or the environment is eschewed in visions of technospheric futures. What is at stake in comprehending digital cultures in terms of (media) ecology? What kinds of methods are required to study not singular media but digital media technologies which saturate our surrounds? What forms of (techno)politics are called for when these media are imbued with the computational and sensory capacities of artificial intelligence

and data capture? How can different approaches to digital media and ecology be brought into conversation in ways that signal a concern for what used to be called nature?

Platforms, Commons and Organization

As corporations extract wealth from productive activities and operations through infrastructural systems, venture capital amasses in Silicon Valley and Shenzhen, fuelling a technological imaginary which leads to an extensive proliferation of platforms of capture and extraction. While some argue that the corporate organization stands in conflict with network logics, putting its future in jeopardy, the platform offers itself as an organizational logic and vehicle by which capital can sustain itself and extract wealth from networked valorization. Meanwhile, a panoply of counter-organizations and movements draw on the subversive capacities of digital media technologies to propose alternative political economies, for example around the commons. Will platform capitalism be the economic base on which digital cultures operate and degenerate? How will the automation of environments and the rise of forms of algorithmic governance transform labour and its mobilities, management and organization? And what alternative organizational forms with different cultures do digital media technologies enable? What are the methodological challenges of studying the effects of digital media on political economies?

Biohacking, Quantification and Data Subjectivities

A growing interest in organic bodies, bodily functions and synthetic biology can not only be registered in the life sciences. In self-built biohacking labs at universities, hacklabs and fablabs, entrepreneurs, bioengineers and hobbyists are tinkering with the human body, while many of us are self-tracking and get tracked with everyday smart devices, interpreting data and drawing them into habits and practices. Questions abound concerning trans- and posthuman futures envisioned here, as much as machine learning and artificial intelligence force a redefinition of basic human capacities such as cognition and sensing. Current research often focuses on hacker collectives and DIY-biologists, the figure of the cyborg, or on everyday practices of quantification and tracking, yet rarely inquires into the epistemological relationships of technology and the human, which are also at play in robotics. Can we trace the production of new subjectivities and selves? What kind of data politics, attuned to questions of race, gender and class, can respond

to the datafication of the human and the measurement of populations, and what happens to key cultural techniques such as anonymity?

Digital Publics, Movements and Populisms

A crucial effect of digital cultures is the shift of the modes and imaginations of the public, as well as the organization of social movements. We are facing a second structural transformation of the public sphere, whose impacts have been acutely perceptible in recent times. Consider, for example, the electoral triumph and governmental style of Donald Trump, Brexit, or various populisms on the rise worldwide. What does it mean when heads of state no longer communicate primarily via government declarations, press conferences, newspaper interviews, but via social media? What are the implications of government opponents organizing via social media, both in short term protests and long term movements, and in diffuse organizational forms, e.g. Anonymous? In the meantime, the modern order of nations, borders and citizenship is challenged by a media technologically enabled extrastatecraft, as well as new forms of mobility and an intensification of migration. Which notion of the public emerges when traditional institutions, processes and rituals of the political tend to be substituted by a far more fluid and ramified media technological system?

Contemporary Futures and Anticipatory Modelling

Notwithstanding current tendencies of political regression, the twenty-first century is, by all means, captivated by futures. This finds its expression in growing concerns with climate change, energy scarcity, security, migration or economic investments and collapses. Where contemporary digital cultures are marked by historical futures and their imaginaries, for example those conceived by cybernetics, developments such as machine learning and artificial intelligence underpin the technologies and imaginaries of contemporary futures. Meanwhile, large-scale computer simulations and models, big data repositories (e.g. generated by distributed sensor networks or extracted from social media activities) or prototype high-tech sites such as smart cities yield innovative modes of calculation, quantification and visualization of multiple socio-political, economic and environmental futures. How do these media technologies produce different futures? How do modes of calculation, quantification, but also of speculation intertwine in these technologies? How do they contribute to contemporary cultures of resilience or preemption? And last not least: who employs them to

envision what kinds of futures – and how does this shape our imaginaries of the future and concepts of property, respectively?

VENUE

LEUPHANA CENTRAL BUILDING.

The conference will take place at **Central Building** of Leuphana University.
A few concurrent sessions will take place in the **adjacent building number 12**.

Central Building of Leuphana University. Image credit: Schüco International.

The Central Building of Leuphana University is an architectural milestone towards a campus, which will be setting new standards for the future. It offers space for research, teaching, student work, and academic and cultural exchange. The Libeskind auditorium with up to 1100 seats is an essential component of the building. Its significance, however, reaches far beyond. The Central Building is exemplary for a critical reflection of the campus history, for Leuphana's educational idea, and scientific aspiration.

Architecture

Daniel Libeskind's architecture intends to create places for encounters, reflection, and discourse. While his architectural philosophy is free of superficial symbolism, it uses a multitude of references and associations. His projects are always optimistic because they seize the opportunity to help shape a better, more democratic future. Inevitably, this is linked to the question of a shared past. The designs by Daniel Libeskind, above all the Jewish Museum in Berlin, offer a plethora of possibilities to reflect about where we want to go together and where we come from. A temporal dimension is ever-present in his architecture, and particularly evident in the Leuphana Central Building. Its aesthetics deliberately contrast with the barracks architecture of the Leuphana campus. There is no superficial mediation between that which is past and that which is future oriented. People who animate the place must be the agents of mediation. In this sense, architecture is not only a building, but also a cultural medium for history and historic narrative as much as for inspiration. To challenge the past and evoke memories, the Leuphana Central Building stands across the axis of the campus, which once comprised a barracks. Thus, viewed from Uelzener Straße, it juts out from the flight of the barracks, bearing witness to what the future holds: realization of the vision of a small town university contributing to an open society. The new Central Building is an essential prerequisite towards a different future.

History

The irritations that the new Central Building might cause are definitely intended. The building is an architectural intervention into the university campus as much as into the cultural memory of the Lüneburg region. The Leuphana campus formerly was a barracks, which had been constructed through 1935 and 1936 in the course of the general military build-up. The transformation from military site to university was performed in the early 1990s; it places a historical responsibility both on Leuphana University and the City of Lüneburg to deal with German history. Both the city of Lüneburg and the Scharnhorst barracks were closely linked to National Socialism. Hitler and Himmler were no strangers to the Lüneburg region. Hitler's celebrated speech at the MTV sports ground on 20 July 1932 was only one of many in Lower Saxony. And Himmler poisoned himself on 23 May 1945 in Lüneburg, Uelzener Straße 31a, opposite the officers'
casino of the Scharnhorst barracks after interrogation. The Allied Forces had seized him close by. However, the historical significance of the involvement of

this barracks in Nazi war crimes is particularly evident because of its connection with the ID (Infantry Division) 110. The architectural heritage of Leuphana University thus does not only signify uniformity, hierarchy, and obedience but also annihilation. Therefore it was important for the new Central Building to not transform, conceal, or replace the barracks architecture, but to emphasize its repellent austerity and lack of character. The higher the level of contrast and irritation is, the more critical engagement with architectural heritage and, generally, German history.

More information:

https://www.leuphana.de/en/university/campus/central-building.html.

PRACTICAL INFORMATION

TRAVEL.

BY PLANE. The nearest airports to Lüneburg are located in Hamburg (70 km), Hannover (120 km), and Bremen (150 km). All three airports can easily be reached by public transport: In Hamburg, urban trains (S-Bahn) run between Hamburg airport and the main train station every 10 minutes; the ride takes 25 minutes. In Hannover, urban trains (S-Bahn) run between Hannover airport and the main train station every 30 minutes; the ride takes about 20 minutes. In Bremen, the tram line 6 leaves for the main train station every 10 minutes.

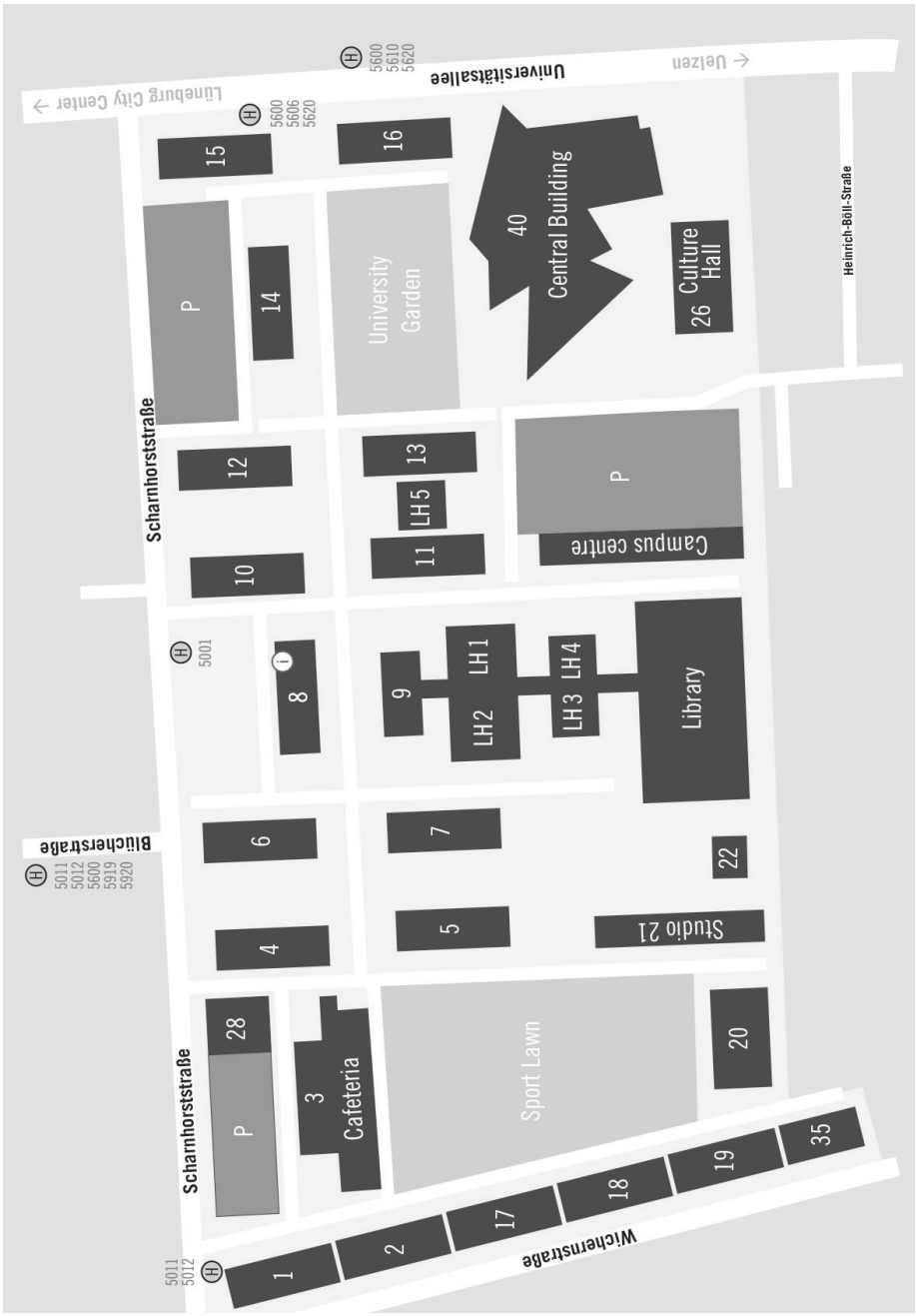
BY TRAIN. Lüneburg is within the commuter zone for the Hamburg rapid transit system (HVV). You can travel to Lüneburg from Hamburg every half hour and from Hannover once an hour. To take the train from Hamburg to Lüneburg all you need is a train ticket, which you purchase at the station.

BY BUS. Departing from the Lüneburg train station, two different buses travel to the Scharnhorststraße campus. They each leave every 20 minutes, every 30 minutes after 6 pm, and stop at 8.30 pm. You can take either **bus 5011** (towards *Rettmer/Häcklingen*) or **bus 5012** (towards *Bockelsberg*). Busses can also be caught in the town centre, at **Am Sande.** You need to get off the bus at the **Blücherstraße** stop. You can pay for bus tickets in cash on the bus. In addition, there are taxis waiting in front of the train station; a ride to **Campus Universitätsallee** costs approx. 8-10 euros.

BY CAR. If your are travelling from the South by car, take the federal highway 7 Hannover-Hamburg. Take the Soltau exit and then state highway 209 to Lüneburg, then follow the road signs to the university campus. Approaching from the North, you should take federal highway A 39 and than exit at Lüneburg-Häcklingen, then follow the road signs to the university campus. Please obey the parking regulations on campus. Please park only in official designated parking locations. Illegally parked cars will be towed.

BY BIKE. The best way to get around Lüneburg is by bicycle, especially when the weather is good! There are a lot of rental bikes in town, and you need to register with *www.stadtradlueneburg.de* to use them (or use your DeutscheBahn bike account).

CAMPUS MAP.


Lüneburg City Center →
Universitätsallee
→ Uelzen
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Heinrich-Böll-Straße
Scharnhorststraße
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Wichernstraße
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Campus centre
Library
Studio 21
Sport Lawn
Cafeteria
University Garden
Central Building
Culture Hall
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REGISTRATION.

The registration desk will be in the foyer at the Central Building. The registration desk will be open from 3 pm on Wednesday, 19 September and remain so for the duration of the conference.

CATERING.

Catering during coffee and lunch breaks will be provided in the Central Building and is included in the conference registration. There will also be a food truck outside the Central Building during lunch hours on Thursday and Friday. The conference dinner will take place at 7.30 on Friday, 21 September at the Cafeteria towards the west end of the Universitätsallee Campus – you must have registered to attend in order to take part. For all meals, there will be vegetarian options. For all other dietary requirements, please contact the registration desk as soon as you arrive.

INTERNET ACCESS.

You will be able to use eduroam to access wifi-internet during the conference. If you do not have an eduroam account, please contact the registration desk for guest access to the university network.

GUIDELINES FOR PRESENTERS.

Conference Rooms. The concurrent sessions take place in the Central Building and the adjacent building 12.

Room numbers in the **Central Building** commence with **C 40**, room numbers in **building 12** commence with **C 12**. All rooms will be signposted.

Format of Concurrent Sessions. Each concurrent session includes three papers (or some instances two) and goes for 90 minutes. Each presenter will have a maximum of 15-20 minutes to leave 10-15 minutes for discussion of the contribution. Discussion is very important and we encourage all sessions to allow enough time. Chairs and presenters are free to decide whether to discuss papers individually or leave time for a joint discussion at the end of the session.

AV Equipment. All rooms are equipped with a computer, a data-projector, screen and speakers (if needed). We strongly suggest that the participants bring their USB devices with their presentations and load their presentations onto the computer before sessions are due to commence. Technical assistance will be available on site to assist with uploading of presentations and other possible demands related to AV equipment – please contact the registration desk if you require assistance.

Printing. You can print at the VarioPaper shop on campus (open Wednesday to Friday 09.30 am to 06.15 pm). In urgent cases, please get in touch with staff at the registration desk. For those of you staying in hotels, there may also be printing facilities available in their business centres.

SHORT PROGRAM OVERVIEW

Wednesday, 19 September

from 03.00 pm	Registration
05.30 pm - 07.00 pm	Spotlight Panel I
07.00 pm - 08.30 pm	Welcome Reception and Book Launches

Thursday, 20 September

10.00 am - 11.30 am	Concurrent Sessions I
11.30 am - 12.00 pm	Coffee Break
12.00 pm - 01.00 pm	Keynote I
01.00 pm - 02.30 pm	Lunch Break
02.30 pm - 04.00 pm	Concurrent Sessions II
04.00 pm - 04.30 pm	Coffee Break
04.30 pm - 06.00 pm	Spotlight Panel II

Friday, 21 September

10.00 am - 11.30 am	Concurrent Sessions III
11.30 am - 12.00 pm	Coffee Break
12.00 pm - 01.00 pm	Keynote II
01.00 pm - 02.30 pm	Lunch Break
02.30 pm - 04.00 pm	Concurrent Sessions IV
04.00 pm - 04.30 pm	Coffee Break
04.30 pm - 06.00 pm	Concurrent Sessions V
06.15 pm - 07.15 pm	Keynote / Artist Talk
07.30 pm	Conference Dinner

Saturday, 22 September

10.00 am - 11.30 am	Concurrent Sessions VI
11.30 am - 12.00 pm	Coffee Break
12.00 pm - 01.30 pm	Spotlight Panel III
01.30 pm - 02.30 pm	Lunch Break
02.30 pm - 04.00 pm	Concurrent Sessions VII
04.00 pm - 05.00 pm	Closing Panel

DETAILED PROGRAM OVERVIEW

Thursday, 20 September | 10 am - 11.30 am | Concurrent Sessions I

1a) Culture of Sharing in the Competitive Digital

Room: C 12.001 Chair: Linda Doyle

Once the culture of sharing is prevalent, the secret to sharing the unshareable will be unlocked: is that an altruistic advertisement or a statement of fact? After sharing the questions, this panel will engage in collaborative quest for answers. We recognise the importance of culture on shaping our behavior. Therefore, through the lenses of the culture of sharing, the panelists will address the technical, economic, regulatory and political aspects of the Competitive Digital from their own perspectives, research efforts and experiences.

Curated panel with contributions by Elma Avdic, Rachel O'Dwyer, Jessica Foley, Harun Šiljak, and Linda Doyle.

1b) Artifical Intelligences: Deception, Administration, Simulation

Room: C 12.006 Chair: Sebastian Vehlken

Administration 2.0
Oliver Leistert

Technology and the Future of Humanity
Felipe Arocena

1c) Gaming the City

Room: C 40.147 Chair: Migle Bareikyte

Digital Games and the Smart City
Dale Leorke

The architectural continuum
Constantinos Miltiadis

1d) Digital Labour, Taylorism, Reproduction

Room: C 12.105 Chair: Tsvetelina Hristova

Media-Technological Conditions of Process Management 1911/2011
Eva-Maria Nyckel

Crowdwork, Social Reproduction and Shifting Geographies of Digital Labour
Moritz Altenried, Mira Wallis

Problematizing Workplace in the Digital Age
Daria Voyloshnikova

1e) Digital Labour, Taylorism, Reproduction

Room: C 40.108 Chair: Randi Heinrichs

Indeterminate Self
Youjia Lu

Exo-Individualization. Thinking Digital Subjectivity from Simondon's Notion of Individuation and Associated Milieu
Alejandra López Gabrielidis

Digital Media and the Abstraction of Knowledge … and of Social Life in General
Paul James

1f) Approaching Digital Cultures: Archeologies, Agencies, Becomings

Room: C 40.146 Chair: Timon Beyes

The Toronto School and the Pre-History of the Digital Condition
Hart Cohen, Michael Darroch

Agency in Digital Cultures
Tanja Carstensen

Digital Media Consumption, Cephalopod Digestion, and Becoming
Liam Voice

1g) Cultural Memory, Archives, Digitization

Room: C 40.165 Chair: Teresa Swist

Sharing and Caring: Colonial Archives and Ethics of Digitization
Daniela Agostinho, Katrine Dirckinck-Holmfeld

Digital Transformation of Mediated Memory. Cultural Knowledge about the Past in Digitized Public Spheres
Vivien Sommer

Just Another Black Box? Museum Objects on Pinterest
Bodil Axelsson

1h) Dataveillance

Room: C 12.108 Chair: Ilia Antenucci

The Aesthetics of the Digital Eye: The Surveillance Topos in Modern Literature
Joana Fonseca

Anticipation by Data? Socio-Material Entanglements in Datafied Efforts to See, Know and Govern Futures
Mikkel Flyverbom

Subjectification through Data and the Politics of an "Outside"
Tobias Matzner

1i) Truth, Fake News and Deception in Social Media

Room: C 12.013 Chair: Brett Neilson

All the President's GIFs: Non-Linear Relationships between State, Corporate Domains, Private Spaces, and Social Media Platforms
Olga Galicka

Bullshit's Birthplace: How 4chan/pol/ Created #Pizzagate
Marc Tuters

Acclamation, Social Media and the Manifestation of Truth
Mitchell Dean

Thursday, 20 September | 2.30 pm - 4 pm | Concurrent Sessions II

2a) Technopolitical Modes of Operation in Digital Infrastructures, Urban Activism and Design

Room: C 12.001 Chair: Christoph Brunner

The panel investigates the transformative potential of technology within alternative and collective technopolitical practices. In times of planetary-scale computational infrastructures, power structures transcend many boundaries and need to be analysed in and through their modes of operation. Critical alternative media practices therefore are not opposed to but entangled with these infrastructures and power relations, always facing the risk of being reappropriated and involved or becoming a new driving force of acceleration.

Curated panel with contributions by Christoph Brunner, Merle Ibach, Konstanze Scheidt, and Johannes Bruder.

2b) Scaling the Future

Room: C 12.006 Chair: Janneke Adema

This panel presents five short interventions around the concept of scale as employed and performed through a range of current techno-cultural practices. We will explore: (1) the philosophical import of the notion of scaling and how the schizoanalytical discourse specifically has been challenging some of its basics assumptions; (2) the way in which the collective agency of social entities transforms the technosphere; (3) the consequences of large-scale reorganisations of corporate bureaucratic procedures as they become embedded in code systems; (4) the potential of scholar-led publishing projects to imagine new relationalities for knowledge production; and (5) rebuilding our academic system and the politics of valuation from the bottom-up around the hyperlink.

Curated panel with contributions by Valeria Graziano, Tomislav Medak, Janneke Adema, Marcell Mars and Jurij Smrke.

2c) Design, Publics, Media

Room: C 12.105 Chair: Claus Pias

From ORAKEL to Computer-Democracy: The Planning of Digital Participation in West Germany during the Early Seventies
Eva Schauerte

Public Service Media and the Re-articulation of Remits in the Digital Environment: A Comparative Resilience Management Framework Approach
James Meese, Christian Herzog

Postdigital Materiality: German Industrial Design, Openness and Participation
Annika Frye

2d) Digitizations: Music, Poetry, Photo

Room: C 40.165 Chair: Randi Heinrichs

Metaphors and Narratives of Digitization in Music Culture and Technology Design
Andreas Möllenkamp

"The Writing is in the Mix" – The Ecology of Remix in Digital Poetry
Liliana Vasques

In the Age of Post-Photography How Long Is a Photograph?
Carol Breen

2e) Temporalities and Infrastructures of Algorithmic Capitalism

Room: C 12.013 Chair: Luke Munn

The Infrastructures and Temporalities of Artificial Neuronal Networks
Andreas Sudmann

Convolutions of Capital: Share Trading Technologies From the Ticker Tape to the Neural Network
Liam Magee

From Recovery to Resilience: Temporalities of Security in the Data Centre Industry
Alexander Taylor

2f) Citizens, Data, Subjectivity

Room: C 40.108 Chair: Ilia Antenucci

Measuring Liveability through Indicators: The Politics of the Dutch "Leefbaarometer"
Alexander Smit, Gerwin van Schie

The Politics of Mediation: Subjectivity, Value and Power in the Digital Grid of Aadhaar
Tsvetelina Hristova

Data Saturation as a Response to Data Saturation
Cristina Cochior

2g) Curation: Museums, Heritage, Festivals

Room: C 40.146 Chair: Andreas Broeckmann

Methods and Media Ecology: Curating Digital Museum Objects on Search Engines
Sheenagh Pietrobruno

Technospheric Curation: Heritage and Art Collection Digitizations in Global Computational Infrastructures
Fiona Cameron

Festivals, Participation and Post-Digital Curatorship Experiences
Desiree Vidal Juncal

2h) Digital Detritus, Wastelands, Recycling

Room: C 12.111 Chair: Lisa Conrad

House of Memories: Digital Detritus and the E-Waste Dwelling
Eva Nesselroth-Woyzbun

Data Wastelands
Nanna Bonde Thylstrup

Refurbishing Opacity: Data and Logistics in E-waste Recycling
Rolien Hoyng

2i) Histories of Computing

Room: C 12.108 Chair: Mathias Denecke

History and Aesthetics of Progress Indicators as a Cultural Practice
Mary Shnayien, Felix Raczkowski

The "Rule of Thumb" from Taylor to Turing. A Conceptual Shift Indicating the Transformations Induced by Digital Technologies
Thomas Nyckel

Having it Both Ways: Larry Wall, Perl, and the Technology and Culture of the Early Web
Michael Stevenson

Friday, 21 September | 10 am - 11.30 am | Concurrent Sessions III

3a) Trans-Formation Design in Digital Cultures

Room: C 12.001 Chair: Irina Kaldrack

The panel discusses the relationship between research in futures and digital cultures in the context of transformation, sustainability and anthropocene. The four short inputs analyze briefly different forms of design and of the probabilization of preferable futures. Which forms of predicting and modulating futures are aimed at what form of anti-contingency?

Curated panel with contributions by Rolf F. Nohr, Wolfgang Jonas, Saskia Herbert, and Irina Kaldrack.

3b) Terms of Dismedia. Disability, Media and the Production of Subjectivities

Room: C 40.146 Chair: Jan Müggenburg

Thinking in "terms of dismedia" means to inquire into the multiple entanglements

of disability and media culture producing (or preventing from) accessibility and participation, establishing processes of normativity and normalisation or, with the growing mediatizing of services, senses, economic infrastructures and environments, creating alternative, active and smart biodigital subjectivities.

Curated panel with contributions by Jan Müggenburg, Beate Ochsner, Markus Spöhrer, and Robert Stock.

3c) Labor: Cognitive, Collaborative, Creative

Room: C 12.006 Chair: Lisa Conrad

The Calm after the (Brain) Storm: Imaginaries of Planetary-Scale Computation and Cognitive Labor, ca. 2018
Johannes Bruder

Habitats of Disruption: Co-Working in a Digital Culture
Danielle Wyatt, Dale Leorke

Creative Labour in China's Digital Economy: Wechat, Big Data and Digital Infrastructure
Jian Lin

3d) Finance, Money, Apps

Room: C 12.105 Chair: Liam Magee

FitBit is a Bank: Developing Research Methods for the Intersection of Money and Platform Studies
Rachel O'Dwyer

The Media Ecological Niche: An Approach to App Studies
Nathaniel Tkacz, Michael Dieter

Post-Monetary Economy and Digital Culture
Jens Schröter

3e) Spatiality: Capture, Grid, Potholes

Room: C 40.165 Chair: Tsvetelina Hristova

Location and Territory – On Capturing Mobile Media
Florian Sprenger

Geographies of Futurity: Of Potholes as Data Points
Noopur Raval

3f) Activating Futures: Networks, Identity, Activism

Room: C 12.013 Chair: Sebastian Vehlken

The Dark Side of the Networks: Syria and the Future of the New Millennium Networked Warfare
Donatella Della Ratta

Dalit goes Online: The Construction of Identity and Social Space
Dhyan Singh

Open Sourcing Open Source Intelligence: Data, Activism, and Alternative Epistemologies
Lonneke van der Velden, Jeff Deutch

3g) Digital Archives, Data, Sources

Room: C 12.108 Chair: Brett Neilson

The 'Long' Institutionalization of Big Data: A Historiographical Intervention in Current Research on Institutions Shaping Data Practices
Niels Kerssens

The Positivist Pitfall
Moritz Feichtinger

The Integrated Information Management and the Records Continuum Model
Paulo Batista

3h) The Face

Room: C 40.147 Chair: Paula Bialski

On the Face of It, Carla Gannis
Charlotte Kent

Faces as Identity Tokens
Vera Tollmann, Boaz Levin

3i) Wearables: Immediacy, Trust, Vulnerability

Room: C 40.108 Chair: Laura Hille

The Ultimate Medium: The Politics of Immediacy in Neuro-Surveillant Wearables
Aleena Chia

Trust in the Device
Aleksandra Przegalinska

Know Thyself Through Numb3rs: Data Regimes, Gender Politics and Economies of Vulnerability
Helen Barcham

Friday, 21 September | 2.30 pm - 4 pm | Concurrent Sessions IV

4a) Mediatechnicity. Notes on a Concept Between Technosphere and Digital Cultures

Room: C 12.001 Chair: Dawid Kasprowicz

"Being affected by movement" and "being bodily moved" represent the two central figures of mediatechnicity. The artificial recentering of the human into the world of mediatechnicity marks this, as we argue, anthropological paradox that is constitutive for the knowledge of our selves in digital cultures. Concepts like the technosphere, which try to overcome the problem by a relationalism between planetary, technical and human agencies oversee the artificial recentering of man through media. But to render the phenomenological limits of man means also – in a classical-philosophical and Kantian way – to determine what man can know and is able to ask.

Curated panel with contributions by Bernd Bösel, Gabriele Gramelsberger, Jonathan Harth, Dawid Kasprowicz, and Martina Leeker.

4b) Datafication, Mediation, Creation: Approaches to Algorithmic Sources of Data-Re-Mediation and Re-Creation

Room: C 12.006 Chair: Hart Cohen

The transformative power of social media platforms such as Facebook and Twitter have been recently tempered by scandals related to the usurpation of privacy in the politicisation of data by Cambridge Analytica. Whether in the context of personal medical data, consumption, or political choice the capacity for the use and manipulation personal data can be mobilised and leveraged within high stakes social and political contexts. This panel looks at strategies where data has been re-mediated for political purposes, collective creation and personal re-possession and re-articulation of the self.

Curated panel with contributions by Teresa Swist, Navin Doloswala and Reisa Levine.

4c) Gamification, Governance, Labor

Room: C 40.108 Chair: Jian Lin

The Uber Game: Exploring the User / Algorithm Relationship through new Computational Methods
James Allen-Robertson

Gamification of Fear: Using Game Technologies to Capture Attention in the Midst of Uncertainty
Sebastian Gomez

Distracting Engagements and Bearability
Renyi Hong

4d) Against Platforms: Ecologies, Mythologies, Literacies

Room: C 40.146 Chair: Mathias Denecke

Media Ecologies versus Environmental Media: The Ethico-Aesthetic Paradigm in Digital Cultures against the Neutral Techno-Politics of Media Infrastructuralism
Alberto Micali

Platforms as Mythological Machines: Post-Capitalism, End of Work and Digital Democracy
Maurilio Pirone

The Suspension of Media Literacy and Platform Plunder
Martin Roth

4e) Activism, Solidarity, Citizen Journalism

Room: C 12.105 Chair: Boukje Cnossen

Digitalization of Citizen Journalism: The Case of Turkey's Dokuz8 Citizen News Network
Bora Ataman, Barış Çoban

Call for (Inter)Action: The Construction of Solidarity in Interactive Practices
Nicole Braida

On Power Structures and Vigilantes in the Digital Age: A Cybernetic Approach to Wikileaks' and Anonymous' Operations
Jullio Guevara

4f) Algorithms, Subjects, Personalization

Room: C 12.013 Chair: Brett Neilson

Algorithm Subjectivities: How Machine Learning Algorithms and Artificial Networks tacitly Maintain, Perpetuate, and Legitimize Infrastructures of Inequality
Kathy Tian

Subjectivities of Search
Renée Ridgway

Opening the Black Box: Challenging Algorithms
Julia Velkova, Anne Kaun

4g) Communities and Trust

Room: C 12.108 Chair: Paula Bialski

Can You Trust a Stranger?: Predictive Analytics and the Future of Trust
Evelyn Wan

The Impact of CMC on Geographically Remote Cultural Communities and Diaspora
Hatana El-Jarn

Sharing Economy in Russia. Sociological Analysis of Emerging Communities
Mayya Shmidt

4h) Migration, Borders, Archives

Room: C 40.165 Chair: Manuela Bojadžijev

Intimate Digital Places and Collectivities of New Migrants from Turkey
Özlem Savas

Digital Migration Infrastructure and Migrant Ecologies: The Example of Hong Kong
Saskia Witteborn

Media Matter: Rethinking Borders and Archives in the Context of the Digital
Holger Pötzsch

4i) Veganism and Dao

Room: C 40.147 Chair: Helen Barcham

Which Way is Vegan? Navigating Patterns of Content Creation from Online Recipe Data
Gesa Biermann, Yuki Asano

Understanding Media Ecologies through Daoist Though
Mujie Lin

Friday, 21 September | 4.30 pm - 6 pm | Concurrent Sessions V

5a) The Self In-formation: Structured Selves and Algorithmic Bodies

Room: C 12.001 Chair: Luke Munn

Visions of the frictionless futures offered by the posthuman abound, and yet these overlook the quieter, more fundamental forces reshaping subjectivities

today. Permeated and pummelled by information, the 'difference that makes a difference' has too made us different. How might we unravel these recalibrations of self which are typically immanent to private corporations and proprietary code-worlds? How can we trace the production of new subjectivities? This panel brings together three artist-researchers who approach this question from different angles.

Curated panel with contributions by Francis Hunger, Winnie Soon, and Luke Munn.

5b) Smart Cities: Data, Risk, Brains

Room: C 12.006 Chair: Tsvetelina Hristova

Shifting Paradigms in the More-Than-Urban City. From Data as Information to Data as Tension
Carola Moujan

Immanent Surveillance: Living with Unpredictability and Environmentalization of Media
Chamee Yang

Neuroecologies of the Mediated City
Nashin Mahtani

5c) Gamers and Gaming

Room: C 12.105 Chair: Sebastian Gomez

What Moves Non-Player Characters?
Alex Anikina

The Conscious Malleability of Gamer Habitus/Hexis
Feng Zhu

Video Games for Earthly Survival: Gaming in the Post-Anthropocene
Paolo Ruffino

5d) Against Platforms: Innovation, Strike, Justice

Room: C 40.146 Chair: Moritz Altenried

Historiography of Digital User Innovation: The Case of Machinima
Thomas Veigl

Striking Home: The Struggle to Regulate Short-Term Rentals in San Francisco
Karolina Mikołajewska-Zając

Transforming the Logic of Transaction or Enacting the New Economic Subject? – The Realities, Possibilities and Meanings of Informal Restorative Justice
Statements Regarding Piracy on the Steam Store Review Page
David Whitecross

5e) Animation and Data in Science

Room: C 12.013 Chair: Liam Magee

Informatic Animation
Joel McKim

Big Data in Archaeology – A Transformative Novel Approach?
Jens Crueger

5f) Biopolitics, Cybernetics, Algorithmic Governance

Room: C 40.108 Chair: Laura Hille

Authors, Entrepreneurs and the Biopolitics of Data Extractivism
Martin Fredriksson

From the Cold War to Cambridge Analytica: A Postcolonial Reading of Digital-Logistical Organisation
Megan Archer

The Camp as Labo(u)ratory
Ariana Dongus

5g) Mapping and Visualizations

Room: C 12.108 Chair: Daniela Wentz

Picturing Invisible Places
Nicole Sansone

Media Ecologies and Urban Wildlife
Marcus Owens

5h) Post-Human Archives

Room: C 40.165 Chair: Fiona Cameron

The Complexity of 'Being' in Data Storytelling
Julia Scott-Stevenson

Posthuman Curating: Curating Data and Control through Affect
Magdalena Tyzlik-Carver

From Here You Can Sense The Sea: A Paper Archive Sojourner's Notes to Black Digital Humanities
Nadine Chambers

Saturday, 21 September | 10 am - 11.30 am | Concurrent Sessions VI

6a) Programmed Subjectivities: Gender, Code, Performance

Room: C 40.108 Chair: Helen Thornham

Algorave presents itself as a community that is open and accessible to all. Live coding as performance could be read as a queering not only of space and place but also of traditional and long-running conceptual separations of the mind and the body. Drawing on expert interviews, ethnographies, web analytics and critical analysis of code, this panel explores the sociotechnical promises of Algorave, framed within a feminist perspective and set against the lived experiences of live coders.

Curated panel with contributions by Joanne Armitage, Shelly Knotts, and Helen Thornham.

6b) Thermostats at Scale: Digital Management of Bodies, Weather, and Climate

Room: C 40.146 Chair: Orit Halpern

Daily control and self-regulation of temperature are increasingly rendered 'smart' through clothing, urban planning, and climate modeling. Focusing on three registers of the human body, the weather, and the climate, all three papers examine, historicize, and problematize the biopolitical imaginary of self-regulating ecosystems and populations through the intertwined logics of compression, prediction, and resilience.

Curated panel with contributions by Brent Lin, Yuriko Furuhata, Thomas Pringle, and Clemens Apprich.

6c) Pedagogies: Teaching, Programming, Design

Room: C 40.147 Chair: Götz Bachmann

Configuring the Teacher as Data User: Algorithms and Statistical Uncertainty in National Testing
Helene Ratner, Bjaerke Andersen

Programming Futures
Felix Gerloff

Digitality, Design and Subjectivation: Towards an Exploration of Digital Materialities in Aesthetic Practices
Benjamin Jörissen

6d) Sensory Environments: Smartness, Performance, Unconscious

Room: C 40.154 Chair: Ilia Antenucci

A Diary of the 'SMART' Home.
Delfina Fantini van Ditmar

Bodies Feeling and Sensing within OptiTrack Motion Capture System
Agustina Andreoletti

How Machines See the World: Understanding How Machine Vision Affects Our Way of Perceiving, Thinking and Designing the World
Carloalberti Treccani

6e) Cinematic Surveillance

Room: C 40.153 Chair: Daniela Wentz

'Unseeing' Surveillance: Nonvision, Ordinariness, and Police Infrastructures
Devin Wangert

Machinic Sensibility of the Lens Flare
Nicolas Oxen

Under Surface of Digital Images: A Cultural Approach to Digital Objects
Aylish Wood

6f) Facebook: Likes, Emojis, Brands

Room: C 40.255 Chair: Helen Barcham

Facebook's Secretaries. Digital Infrastructures of Non-Discursive Communication
Niklas Barth

Cat Face with Tears of Joy
Derek Woods

Virtual Surrealism: Investigating the Brandscape of Facebook Spaces
Timo Kaerlein, Christian Köhler

6g) Speaking with Machines

Room: C 40.254 Chair: Jian Lin

Why do We Want to Speak with Machines?
Jenni Fadranski

The Un-Machine: Machinic Subjectivity in the World of Human-Robot Interactions
Angelina Chamuah

Radiophonic Imaginings of Silent Speech
Emma McCormick-Goodhart

6h) Speculative Futures: Video and Audio

Room: C 40.165 Chair: Robert Rapoport

Social Media vs Social Order and Social Media as Social Order
Dishanka Gogoi

Reclaiming the Ocean: Mobile Signal as Sovereignty and Speculative Videation
Weixian Pan

Speculative Futures: Transience and Obstinacy of Memory and History
Martin Pogacar

Saturday, 21 September | 2.30 pm - 4 pm | Concurrent Sessions VII

7a) Screening the Viral Fever: Affective and Augmentative Responses in India

Room: C 40.255 Chair: Sagorika Singha

This panel probes into the appropriation of digital infrastructures in a colloquial context responsible for transforming the contemporary culture, society and economy in India. In order to do that, it acknowledges the constant interaction between traditional media and social media in making a phenomenon viral. By considering the aura around a morbid game, the wide distribution of disturbing images from small towns, and film industry's obsession with manufacturing virality for film promotions, the panel seeks to question and understand the inherent seductive appeal in such viral objects.

Curated panel with contributions by Ishani Dey, Sagorika Singha, and Akriti Rastogi.

7b) Smart Cities: Governance, Data, Citizenship

Room: C 40.146 Chair: Mathias Denecke

The Machinic City: Future Visions of Digitally Mediated Citizenship
Marcos Dias

Contingency and Necessity in the Governance of Digital Cities
Ilia Antenucci

Limits to Urban Complexity: Big Data or Data-Behaviorism?
Maros Krivy

7c) Affections and Immersions

Room: C 40.153 Chair: Fiona Cameron

Theorizing and Quantifying the Phenomenon of Immersion in Virtual Environments (VR)
Maja Gutman, Vwani Roychowdhury

Embodiment and the Networked Assemblage in Digital Culture
Nancy Mauro-Flude

Machine Learning, Emotion Analytics, and Responsive Architecture
Jeremiah Lasquety-Reyes

7d) Bodies in Data: Health, Fitness, Ableism

Room: C 40.254 Chair: Helen Barcham

Health Imaginaries: Learning with Maladies, Remedies, and Commodities
Teresa Swist

Framing the Self-Tracking Subject and the Data Ecologies It Inhabits
Imge Ozcan

User Bodies: Representation between Ableism and Disability Aesthetics
Vendela Grundell

7e) Digital Photography and Film

Room: C 40.154 Chair: Daniela Wentz

Politics of Immateriality
Lisa Andergassen

The Paranoiac-Critical Method of Reflectance Transformation Imaging
Bernd Behr

The Ethics of Automated Video Feeds: Narrating Computer Vision
Robert Rapoport

7f) Drones, Decisions, Sensors

Room: C 40.108 Chair: Laura Hille

Staying with the Trouble. Understanding the Political Implications of Drone Warfare with Carl Schmitt
Martin Doll

Connect, Capture, Calibrate: Media Environments for the 'Sensor-Self'
Sebastian Scholz

7g) Scholarly Publishing

Room: C 40.152 Chair: Marcell Mars

Networking Knowledge: Repositories, Platform Publishing, and Research-Creation Scholarship
Corina MacDonald

From Knowledge as a Private Good to Knowledge as a Common Good: The Political Economy of Open-Access Publishing
Gareth Johnson, Andreas Wittel

7h) Violences of the Sharing Economy

Room: C 40.147 Chair: Liam Magee

Society 4.0: An Essay on the Modernity Failure, Sharing Economy and Neoliberal Fog
Carlos Henrique Freitas

Cyber-Rape. A Philosophical Inquiry on Computer-Mediated Violence
Francesco Striano

ABSTRACTS

KEYNOTES

Thursday, 20 September, 12 pm - 1 pm
Room: C 40 Auditorium
Chair: Ilia Antenucci

Jennifer Gabrys | Planetary Media and the Becoming Environmental of Computation

In current imaginings of environmental sensing, technology companies frequently put forward a vision of the Earth as brimming with sensors, where numerous environmental processes and activities will be monitored for optimized performance and responsiveness. Tens of billion if not hundreds of billion of sensors are proposed to be deployed in order to ensure earthly systems run more smoothly. At multiple levels, sensors are presented as a solution to the problem of the planet in crisis, from monitoring global systems to enabling citizens to become more effective sensors and participating nodes in these systems. In this presentation, I take up considerations about an automated planet and its environments by addressing the rise of ubiquitous environmental computing, often in order to address environmental problems and make the planet more sustainable. I develop the notion of the becoming environmental of computation in order to analyze the distinct environments, subjects, technologies, politics, and processes that materialize through the development, use, installation, and operation of environmental sensing technologies. Through investigating the becoming environmental of computation, I discuss the sensorization of environments, as well as the ways in which involvement with environments is in-formed through sensing devices, whether through automated infrastructures or citizen-sensing practices.

Jennifer Gabrys is Professor in Sociology at Goldsmiths, University of London. She is Principal Investigator on Citizen Sense and AirKit, both funded by the European Research Council. She is author of *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (2016) and *Digital Rubbish: A Natural History of Electronics* (2011), and co-editor of *Accumulation: The Material Politics of Plastic* (2013). Her work can be found at citizensense.net and jennifergabrys.net.

Ilia Antenucci is completing her PhD at the Institute for Culture and Society, Western Sydney University. Her research focuses on the role of security discourses and practices in the making of 'smart' cities and the production of digital space.

Friday, 21 September, 12 pm - 1 pm
Room: C 40 Auditorium
Chair: Randi Heinrichs

Wendy Hui Kyong Chun | Digital "Cultures": Social Media Petri Dishes and Model Organisms

Digital media creates cultures in all senses of the word culture. To culture is to cultivate – to create agricultural plots and plants; to grow microorganisms in petri dishes. This talk explores how social media encloses its users to create model organisms and species. In particular, it draws out the connections between contemporary digital cultures, eugenics, and racial segregation.

Wendy Hui Kyong Chun is Simon Fraser University's Canada 150 Research Chair in New Media in SFU School of Communication. She has studied both Systems Design Engineering and English Literature, which she combines and mutates in her current work on digital media. She is author of *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* (MIT, 2006), *Programmed Visions: Software and Memory* (MIT, 2011), and *Updating to Remain the Same: Habitual New Media* (MIT, 2016).

Randi Heinrichs is currently working on her dissertation about a conception of algorithmic anonymity at Leuphana University Lüneburg, Germany, where she is affiliated with the Digital Cultures Research Lab. Her doctoral research project, "(Re)Programming Regimes of Anonymity in Digital Culture", examines the negotiations of anonymity at the intersections of technology, practices, and regulations.

Friday, 21 September, 6.15 pm - 7.15 pm
Room: C 40 Auditorium
Chair: Timon Beyes

Simon Denny | From Blockchain Future States to the Founder's Paradox | Artist Talk

Simon Denny will give an illustrated guide through recent artworks. His talk focuses on projects that unpack the political and financial ambitions of prominent blockchain company founders and the intersection of conservative Silicon Valley actors like Peter Thiel with financial deregulation and the colonial past in New Zealand.

Simon Denny is a contemporary artist from New Zealand now living in Berlin. His sculptures and installations result from extensive research into the practices and aesthetics of technology products and the companies developing and marketing them. Denny had solo exhibitions at MOMA PS1 and Serpentine Gallery. In 2015 he represented New Zealand at the Venice Biennale.

Timon Beyes is Professor of Sociology of Organisation and Culture at Leuphana University Lüneburg and Copenhagen Business School, and a Director of the Centre for Digital Cultures.

SPOTLIGHT PANELS

Wednesday, 19 September, 5.30 pm - 7 pm
Room: C 40 Auditorium
Chair: Claus Pias

What are Digital Cultures?

The term 'digital cultures' denotes a research field which builds on the premise that culture today is already thoroughly marked by the ubiquity of digital media technologies, which are often invisible and largely taken for granted. The historiography of digital cultures is up for grabs as much as the term 'digital' itself is contested, with its presumed opposite 'analog' hardly able to situate contemporary developments in their nuance and variation. In this opening panel, our contributors seek to explore some key features of contemporary digital cultures in terms of the new imaginary of post-digital crowds, the new institutions digital cultures may require, and the planetary crises that continuously confront digital cultures.

Ravi Sundaram | A New-New crowd?

Contemporary digital infrastructures are widely seen as re-assembling older models of the public and political speech. Political contingency is now shaped by systems of curation and protocol; it is increasingly clear that we need to revisit the idea of the collective as a coda of the political. Twentieth century liberal social theory saw the crowd as a suspension of the political (Arendt), or producing a discharge (Canetti). In this presentation I want to discuss the post-digital crowd as a political imaginary, a threat, and a potential.

Felix Stalder | Adding Weight to Digital Culture

Cultures are collectively negotiated ways of understanding, and acting in, the world. Speaking of digital cultures means paying special attention to the technological dimensions shaping these ways of being. On a very abstract level, one can identify a number of features of the structure of contemporary culture and in my recent work, I focused on three of them: *referentiality* (how meaning is created out of a chaotic info-sphere), *communality* (how meaning is extended, stabilized and turned into agency), and *algorithmicity* (how automated processes are pre-organzing the world before humans can understand them). This puts an enormous amount of pressure on existing social institutions, to the point where

we see them breaking all around us. Thinking about digital cultures today, in my view, needs to focus on how to create new institutions that are not endlessly malleable, but make use of the resistant affordances of the material, including the human body, to rethink and extend, democracy on a denser, more connected and hotter planet.

Orit Halpern | The Planetary Test

In 1943 the architect Richard Neutra was commissioned to redesign the infrastructure for the island of Puerto Rico as part of the American war effort. He called his experiment in design "a planetary test". Neutra went on to be among the most prominent of global architects to propagate cybernetic principles as a solution to the future of human habitation in the face of technical and environmental change. Neutra's "planetary test" has become a global infrastructure of 'smart' test-bed zones and infrastructures, a global network of computational infrastructures, that colonize space and life and manage the future through constant swapping, deriving, and testing that allow high risk design practices. This talk will trace several case study histories of "planetary tests", examining the relationship between smart cities and design, the emergence of ecology and resilience planning, and derivative pricing instruments and the reinsurance industry. Digital Cultures as Planetary Tests.

Ravi Sundaram is a Professor at the Centre for the Study of Developing Societies (CSDS), Delhi. In 2000 he founded the well-known Sarai programme at the CSDS along with Ravi Vasudevan and the Raqs Media Collective. Since then, Sarai grew to become one of India's best-known experimental and critical research sites on media, spanning local and global sites. Sundaram is the author of *Pirate Modernity: Delhi's Media Urbanism* (2009) and *No Limits: Media Studies from India* (Delhi, 2013).

Felix Stalder is a media and cultural theorist and professor for Digital Culture and Network Theory at the Zürich University of the Arts, a senior researcher at the World Information Institute in Vienna, and a moderator of the international digital culture mailing list <nettime>. Active in the field since the mid-90s, he has published extensively on digital network cultures, focusing on the intersection of cultural, political, and technological dynamics, in particular on new modes of commons-based production, control society, copyright, and transformation of subjectivity. Among his recent publications are *Digital Solidarity* (*Digitale Solidarität*, 2013/2014) and *The Digital Condition* (*Kultur der Digitalität*, 2016/2018). You can find out more at felix.openflows.com.

Orit Halpern is an Associate Professor in the Department of Sociology and Anthropology at Concordia University. Her work bridges the histories of science, computing, and cybernetics with design and art practice. She is also the director of the Speculative Life Research Cluster, a laboratory situated at the intersection of the environmental sciences, architecture and design, and computational media. You can find out more at: www.orithalpern.net, www.speculativelife.com and www.planetaryfutures.net.

Claus Pias is Professor for Media Theory and Media History at the Institute for Culture and Aesthetics of Digital Media and a Director of the Centre for Digital Cultures at Leuphana University Lüneburg.

Thursday, 20 September, 4.30 pm - 6 pm
Room: C 40 Auditorium
Chair: Manuela Bojadžijev

Race, Migration and the Politics of Prediction

Processes of digitization produce and reconfigure heterogenous human mobility practices across the globe, which are increasingly flexible, differentiated, and temporalized. The possibility of tracking, tracing, and allocating human's mobilities also seems to bring about a newly developing form of citizenship, produced by the surveillance state and the "consumer society", whose primary mode of operation is control through identification and categorization, that impacts the rights someone has or is entrenched of. If digitization is deeply entangled in the hegemonic social constructions of differences of species, gender, race, and also those of class, how are we to conceive of social constructions that are inbuilt within and into the developments of these technologies?

Kara Keeling | The UnAccountable Bartleby

This paper is a meditation on the continuing relevance of reading Herman Melville's 1853 novella *Bartleby the Scrivener*. It focuses on what Melville's novella offers to ongoing efforts to theorize and respond to and within societies of control and the digital regimes through which they are governed, with particular attention to what the novella says about the possibilities and pitfalls of investments in opacity, incommensurability, radical refusal, and risk.

Nanna Heidenreich | Projection, Prediction, Prognosis – Narratives of Climate Change and Migration

At the end of March 2018, the World Bank published its report on climate migration ("Groundswell"). It presents geodeterministic spatializations of migration, just as geodeterminism generally determines large parts of the migration debate related to climate change (according to Sybille Bauriedl in her blog "Klimadebatte"). Terms such as environmental migration, climate flight, etc. have been as controversial as they are increasingly common. Part of this negotiation are media formatting (e.g. the TV film *The March* by David Wheatley, GB 1990), which stage, state, and forecast climate change, statistics, and other ways of accounting in conjunction with flight and migration in the form of various narratives of im/probabilities, including scripted reality and weather forecasts.

Stephan Scheel | PINning down Migrants? Managing Migration through Traceability, Subverting Control through Opacity

Based on fieldwork at migrant reception centers in Germany and Greece, this paper studies authorities' attempts to turn hitherto unknown migrants into knowable, re-identifiable, and thus governable and deportable subjects. The establishment of migrants' traceability is accomplished through the allocation of personal identification numbers (PINs) and the use of biometric identifiers. Subsequently, the paper discusses some practices that some migrants deploy to defy and subvert these attempts to render them traceable. These practices aim to produce ambiguity, polyvalence and multiplicity. With the work of Édouard Glissant these practices can therefore be understood as enactments of the right to opacity.

Kara Keeling is Associate Professor of Cinema and Media Studies at the University of Chicago. Keeling is author of *The Witch's Flight: The Cinematic, the Black Femme, and the Image of Common Sense* (Duke University Press, 2007). A second monograph, *Queer Times, Black Futures*, will be published in the spring of 2019 by New York University Press.

Nanna Heidenreich is a media/cultural studies scholar and curator. She is currently professor for Digital Narratives – Theory at the ifs internationale filmschule köln. From 2009 to 2017 she was curator for the Berlinale program "Forum Expanded" and from 2015 to 2017 she worked as a researcher and curator for the Haus der Kulturen der Welt (hkw); projects include "Now is the Time of Monsters", "What Comes after Nations?"

and "Soundtracks". Her work – in publications, curatorial projects, and political interventions – focuses on migration, visual culture, postcolonial media theory, art and activism, queer theory, and 'other' cinema. She lives in Berlin. You can find out more at: Nannaheidenreich.net.

Stephan Scheel is currently working as a Post-doctoral Researcher at the Department of Science Technology and Policy Studies of the University of Twente in Enschede (Netherlands). Stephan's research interests lie at the intersection of border, migration, critical security, and science and technology studies. His present research focuses in particular on biometric borders and the related datafication of migration management practices. Stephan's first book *Autonomy of Migration? Appropriating Mobility within Biometric Border Regimes* is about to be published by Routledge.

Manuela Bojadžijev is professor for Globalised Cultures at Leuphana University Lüneburg and vice-director of the Berlin Institute of Integration and Migration Research at Humboldt University in Berlin. She specializes on migration and racism in Europe, and on cultural analyses and theory. Her research focuses currently on issues of the changing conjunctures of racism in Europe as well as on mobile labor and logistics in a digitized economy.

Saturday, 22 September, 12 pm - 1.30 pm
Room: C 40 Auditorium
Chair: Luke Munn

Algorithmic Anxieties

From the "delighters" built into Alexa to the Facebook user as the "master we serve", algorithms are driven by our desires. And yet algorithms also exploit a "vulnerability in human psychology", as one tech founder admitted, preying on our social needs, intensifying our fear of missing out, and heightening our sense of being watched. In short, algorithms operate through anxious pleasure. Here freedom and constraint co-exist, mass-surveillance is helped by voluntary exposure, and systemic conditions seem strangely self-inflicted. From digital self-determination to the tracking of migrants and the asymmetric death of privacy, this panel explores these conditions from diverse perspectives.

Lorena Jaume-Palasí | Standardized Behavior and Automatized Public Good

Algorithmic systems do not know individuals. They are mathematical formulas expressing ideas of the social; of how individuals behave and can be ordered to fine granular collectives. Algorithms are the automatization and standardization of procedures. As a result, they impose an infrastructural layer into the automatized process. This infrastructural dimension creates new forms of datafied societal goods in sectors that escaped imagination until recently. With this, social media becomes social infrastructure, and search platforms a form of information infrastructure. Is automatization eroding individuality? Are public goods only possible and operationable with algorithmic systems?

Martina Tazzioli | Debit Cards, Refugee Subjectivities and Data Circuits: The Antinomies Between Autonomy and Freedom in the Greek Migration Laboratory

This presentation focuses on the financialisation of refugee humanitarianism in Greece, bringing attention to the *Cash Assistance Programme*, the first EU-funded project that delivers a monthly support on debit cards inside hotspots and refugee camps. Three aspects are explored: the peculiar political technologies of government that it enforces, the specific effects of subjectivation produced, and finally data circulation activities – what I call the circuits of financial humanitarianism. Far from generating financial inclusion, these techniques should be situated among measures for regaining control over unruly movements. The talk concludes by examining the antinomies between freedom and autonomy that the practices and discourses on "refugee digitalities" are predicated upon.

Konrad Becker | Hybrid Theatres of Dominance: Cultural Intelligence for Algorithmic Regimes

Boundaries between humans and machines blur into complex assemblages of biological agents, communicating objects, technical protocols, and automated decision-making. In a biosphere increasingly subject to digital processes, algorithmic systems shrouded in 'rational' logic determine the coordinates of individual reality. Classification exploits the asymmetric death of privacy for fragmented stratification in digital control regimes. Networked technologies of the imagination colonize the future. Are algorithmic machineries the prayer mills of desire engineering? What operational spaces of human agency remain?

Lorena Jaume-Palasí is founder of AlgorithmWatch, a non-profit evaluating algorithmic and automatization processes. Her work focuses on philosophy of law and ethics of automatization and digitization. Lorena has been appointed by the EU Commission as a member of the High Level Expert Group on Artificial Intelligence. 2018 she was elected by the Cotec Foundation as a member of its 100 experts for social change and innovation for her work on automatization and ethics. Lorena is a Bucerius Fellow and has co-authored several books on Internet Governance. She lectures and writes regularly on privacy, discrimination, the public sphere and the common good.

Martina Tazzioli is Lecturer in Geography at Swansea University and Visiting Lecturer in Forced Migration at City University of London. She is the author of *Spaces of Governmentality: Autonomous Migration and the Arab Uprisings* (2014), co-author with Glenda Garelli of *Tunisia as a Revolutionized Space of Migration* (2016), and co-editor of *Foucault and the History of Our Present* (2015). She is co-founder of the journal *Materialifoucaultian*.

Konrad Becker is an author, researcher and producer, and a co-founder of world-information.net and "Public Netbase" (1994-2006). Since the late 70s he engaged in numerous publications with the socio-cultural and political implications of information technologies. He initiated and realized many projects, networks, international conferences, and exhibitions at the interface of culture and technology.

Luke Munn uses the body and code, objects and performances to activate relationships and responses. His projects have featured in the Kunsten Museum of Modern Art, the Centre de Cultura Contemporània de Barcelona, Fold Gallery London, Causey Contemporary Brooklyn, and the Istanbul Contemporary Art Museum, with commissions from Aotearoa Digital Arts, and TERMINAL. He is a Studio Supervisor at Whitecliffe College of Art & Design and a current PhD Candidate at the Institute for Culture and Society, Western Sydney University.

Saturday, 22 September, 4 pm - 5 pm
Room: C 40 Auditorium
Chair: Brett Neilson

Closing Panel

Lisa Gotto and Nathaniel Tkacz will provide some summary and projective reflections on the conference and open up the general discussion.

Lisa Gotto is Professor for Media and Game Studies at Cologne Game Lab, Cologne University of Applied Sciences. She co-founded and co-edits (together with Prof. Dr. Gundolf S. Freyermuth) the book series *Bild und Bit. Studien zur digitalen Medienkultur* ("Studies in Digital Media Culture", Bielefeld: transcript). She is also member of the editorial board of Journal of Gaming and Virtual Worlds (Bristol: Intellect Ltd.). Lisa Gotto's main research interests are in media history and media theory, film studies, and digital media culture.

Nathaniel Tkacz is a Reader at the Centre for Interdisciplinary Methodologies at the Universty of Warwick. His work investigates the political, economic and organizational dimensions of technology, with a specific focus on networked and digital forms. This has led him to analyse notions of political openness in web-based communities, the practice of "mass collaboration", experimental economic platforms, software forking, trolling, and emerging forms of governance in network cultures, among other things. His current work is on 1) the rise of "dashboard interfaces" and 2) the relationship between media and economy.

Brett Neilson is Research Professor at the Institute for Culture and Society, Western Sydney University. Drawing on cultural and social theory as well as on empirical and archival information, his research has derived original and provocative means for rethinking the significance of globalization for a wide range of contemporary problems and predicaments, including the circulation of popular culture, the proliferation of borders, the ascendancy of global financial markets, the pressures of population ageing, and the growing heterogeneity of labour. His next book, *The Politics of Operations: Excavating Contemporary Capitalism* (with Sandro Mezzadra), is forthcoming from Duke University Press.

CURATED PANELS

Thursday, 20 September, 10 am - 11.30 am
Room: C 12.001
Chair: Linda Doyle

Culture of Sharing in the Competitive Digital

The Unshareables. The sharing discourse is gaining traction for a while now: enabled by the internet, the network of the networks and all the technologies that circle around it like satellites. The credo of the internauts is information sharing and they brought it from their makers and hackers community, i.e. from the makers culture. The women and men sharing information, knowledge, ideas, and code made this sharing culture prevalent and acceptable to a wide audience of passive users of their maker economy. When the sharing culture was taken to the market, sharing apartments and cars became a common activity in the emerging sharing economy realm. And yet, there is the forbidden fruit we still fail to share, some of it being in the very foundation of the magical networks that enable us to share in the first place. The infrastructure of the internet and mobile providers and the spectrum they use remains unshared.

The Example of Spectrum. In the shadow of very visible resources depleting, an invisible resource has been crying wolf for a century. Caught in the pipes of the providers, internet, and mobile gatekeepers, radio spectrum is the resource upon which the entire digital world is based on. The billions of us and the billions of devices we have take the toll on the spectrum: just like humanity's ecological footprint exceeds the size of the planet, so does our wireless one. Waging wars for water is a common futurist trope, but how are we going to go about spectrum wars? Attempts to spur innovation in spectrum face everyday setbacks, pushed back by the short term interests of the big players: the future of spectrum has been cancelled. It's not just the spectrum, it's turtles all the way down: territory coverage in wireless, rural broadband, spectrum crunch. Even the information flow, the bloodline of the internet changes its nature when it comes to the one running around the infrastructure and resources. It is secretive, unshareable and nothing like the information the internet celebrates. Is it because it is in the pipes, not on the platforms? Is everything running through the pipes in the internet groundwork destined to remain unshareable?

Questioning Everything and More. Why don't we share the nuts and bolts? Is it because it's not ours to share, but something big corporations should take care of?

Is it because there's no financial incentive? Or simply because the mastodons need to learn how to share? Once the culture of sharing is prevalent, the secret to sharing the unshareable will be unlocked: is that an altruistic advertisement or a statement of fact? After sharing the questions, this panel will engage in collaborative quest for answers. We recognise the importance of culture on shaping our behavior. Therefore, through the lenses of the culture of sharing, the panelists will address the technical, economic, regulatory, and political aspects of the Competitive Digital from their own perspectives, research efforts, and experiences.

THE PANEL

Elma, how do we build the culture of sharing? Elma will introduce the tools for thinking about the culture of sharing and describe the setting of the competitive digital where the sharing culture needs to be built, unpacking the theme of the panel discussion. The history of spectrum is a history of resisting the physics: and not in a nice way. This is something we'll hear more about, the burden of legacy and misunderstandings, stretching from the spectrum itself to more general regulation in the groundwork of our digital world.

Rachel, what can data and algorithms teach us? Data is the driver of the new economy today and that opens new directions in both, business and governance. Should all data be free, should it be public unless made private and where do we draw the line between public and private data when it comes to the digital culture? We will discuss data sharing policies of today and what they may look like in the future. Rachel will unpack these questions and bring her perspective on algorithmic governance, open data, and blockchain policies to address the challenges of data sharing.

Jess, what can people teach us? Are we predestined to share? Jessica will unpack this question and offer answers from her perspective on what can we learn about creating this new culture from the very interaction between artistic and scientific research so that we can start building a better digital future of our connected world. How personalized the culture of sharing in the competitive digital needs to be? Is it an illusion to think about the human-centric culture of sharing in which big corporations should scale down to? Personification of the enterprises is the common phenomena we are observing.

Harun, what can machines teach us? What will happen if we don't share and is the extreme sharing of the resources the only way for the future? Harun will unpack this question and offer an answer from an engineering perspective to discuss the technical limits on sharing, how much can we share, is the technology ready for it, and what are the alternatives? Finally, is the technology, in an anthropomorphic view, selfish, or altruistic?

Linda Doyle is the catalyst of the discussion and aims to bring all four perspectives together and show us what we can learn from each other in the collaborative effort that the challenge of building the culture of sharing for the digital future imposes on us.

Curated panel with contributions by Elma Avdic, Rachel O'Dwyer, Jessica Foley, Harun Siljak and Linda Doyle (all at CONNECT, Research Centre for Future Networks and Communications, Trinity College Dublin).

Thursday, 20 September, 2.30 pm - 4 pm
Room: C 12.001
Chair: Christoph Brunner

Technopolitical Modes of Operation in Digital Infrastructures, Urban Activism and Design

The proposed panel investigates the transformative potential of technology within alternative and collective technopolitical practices. In times of planetary-scale computational infrastructures, power structures transcend many boundaries and need to be analysed in and through their modes of operation. Critical alternative media practices therefore are not opposed to but entangled with these infrastructures and power relations, always facing the risk of being reappropriated and involved or becoming a new driving force of acceleration. It is an urging task then to search for possibilities of technopolitical intervention that enable a different form of critique, decoupled from its subjective and anthropological conception. This requires a closer look at the media environments, the procedural and performative modes of operation and the infrastructural and organizational conditions of possibility. The aim of this panel is to discuss where and how "new forms of alliances" and therefore new forms of (techno-)collectivity resisting neoliberal capture can be found.

For the analysis of contemporary modes of operation and their potentials for alternative forms of resistance an interlacing of heterogeneous approaches figures crucial. Along specific case studies the panellists will deploy approaches ranging from sociologies of infrastructures, media activism, urban countercultures and hegemony, and critical design. The focus will lie on infrastructures of resistance pointing at structural, organizational-technological, and procedural modulations

of digital cultures. Rather than considering critique an antagonistic practice 'against' forms of domination, the practices at stake emphasize what might be called "participatory critique". Such a critique conceives of participation not as a mere form of inclusion or exclusion, of those empowered to critique and those deprived of it, but rather asks, how to compose platforms, infrastructures, institutions, and collectives capable of inserting critique as an immanent structural element. Such a critique occurs not only through a specific and individual involvement in political processes but emphasizes the need for considering the technological, aesthetic, and material as well as procedural conditions and (enabling) constraints to develop, sustain, and transform technopolitical practices.

A set of three 15-minute presentations will be followed by a 45-minute open conversation, facilitated by Johannes Bruder as invited discussant, allowing for a workshop-style panel engaging in a more collective form of inquiry, foregrounding the need to develop forms participatory critique against the infrastructural and algorithmic as well as sensuous captures of contemporary digital cultures. The collaboration of the Critical Media Lab at the Institute of Experimental Design and Media Cultures (IXDM) in Basel and the Institute for Philosophy and Sciences of Art at Leuphana University Lüneburg brings together artistic/design research and activist practices with philosophy and media studies, thus relating different fields in order to develop new forms of participatory critique.

THE PANEL

Christoph Brunner (Leuphana University) will focus on the genesis and practice of the international alternative media centre FC/MC during the G20 Summit 2017 in Hamburg. The FC/MC was a broad initiative held by different local and translocal activist networks, hosted at the stadium of St. Pauli with the aim to provide a social and professional environment for alternative media during the summit. As part of a broad infrastructure of resistance the FC/MC was a singular experiment concerned with disrupting dominant media narratives of protest and resistance. Despite the infrastructural and technological inventions, the centre functioned as a social and creative space for the generation of social care and an alternative aesthetic commons constitutive of a more sensuous re-evaluation of what counterpublics might mean.

Merle Ibach (IXDM) will discuss collective processes that are organized and managed preferentially online. With the open source movement the concept of commons within digital infrastructures became increasingly important and thus the concept of open design/open source hardware. Collectives that are self-organized as decentralized networks

are mainly challenged by processes of evaluating problems, finding consensus and the collective development of solutions. For that participants make use of technical protocols and create temporary forms of organization and management such as prototypes, tutorials, and platforms for tagged file structures. These socio-technical practices often reflect postmodern paradigms with the intention to infiltrate traditional social systems. The gap between the intended use of those tools for an open structured organisation and the actual effect on the community will be pointed out through aesthetic research practices.

Konstanze Scheidt (Leuphana University) will focus on artistic and activist practices in Berlin as an example of a city where a lively scene of alternative practices is confronted with the increasing neoliberal organisation of city politics and where the stabilising effect of critique becomes clearly visible. Following the development of transmediale, an international Berlin-based festival for art and digital culture, it will connect the discourse on urban transformation due to the impact of globalized infrastructures with the discourse of aesthetic forms of activism and the question of a critical potential that counts in the danger of symbolic appropriation, institutionalization, and representation dynamics. The festival itself has its origins in the countercultural scene of media activists in the 80s and is now an established state-funded event. By highlighting different steps of this organizational transformation and confronting them with current artistic activist approaches within the city, the above-mentioned dynamics can be extrapolated to ask for the possibility to become a technocollective.

Thursday, 20 September, 2.30 pm - 4 pm
Room: C 12.006
Chair: Janneke Adema

Scaling the Future

This panel presents five short interventions around the concept of scale as employed and performed through a range of current techno-cultural practices. The conversation aims to show how various critical alternative conceptions of scaling can contribute to shaping alternative practices and identifying sites of struggle. We will explore: (1) the philosophical import of the notion of scaling and how the schizoanalytical discourse specifically has been challenging some of its basics assumptions; (2) the way in which the collective agency of social entities transforms the technosphere; (3) the consequences of large-scale reorganisations

of corporate bureaucratic procedures as they become embedded in code systems; (4) the potential of scholar-led publishing projects to imagine new relationalities for knowledge production; and (5) rebuilding our academic system and the politics of valuation from the bottom-up around the hyperlink.

THE PANEL

Valeria Graziano (Coventry University):
Mutations Through the Middle: Schizoanalysis as Counterlogistics

In this short intervention, I would like to rummage into the conceptual toolbox of schizoanalysis for disassembling the concept of scale as one of the recurrent preoccupations framing our current technopolitical horizon. The notion of scale is understood geometrically, spatially, and politically as a ratio of linear dimensionality used for the classification of sizes and the ordering of entities, and in this sense this notion is being mobilized within several crucial conversations, from the scalability of technological networks to accommodate for increased usership to the economies implicated in the "scaling-up" of startups; from the seemingly intractable scales of the "natural monopolies" of digital data, to the recent critiques of the "unidirectional scalarity" of logistics. The schizoanalytical discourse, with its refusal of an Euclidean understanding of scale and its experimentation with different ways of diagramming the molar/molecular relation, can offer some effective tools for revisiting the philosophical and pragmatic uses of this notion as a tool of orientation and valuation.

Tomislav Medak (Coventry University):
Scale and Structure: Planetary Technology and Sited Agency

I will explore the seeming paradox between the global technosphere and the institutionally localised efforts to transition the technosphere away from fossil fuels. The nub of this paradox was articulated by Peter Haff, who suggested that the technosphere's scale upends collective agency. Current decarbonization efforts seem to prove his point: renewables are struggling to maintain their share in the global energy supply (>5%). Yet Haff ignores the role of social entities in the co-evolution of biosphere, technosphere and socio-cultural sphere and the structuring effect of social property relations on that co-evolution. I will contend that effects of scale are downstream from structure and that technological scaling is socially catalyzed. The knowledge infrastructures that have helped us grasp the planetary climate change can also help us transform the existing socio-metabolic processes. Yet, with the capitalist social structure remaining the same, scaling will remain an economic power law subordinating plural socio-metabolic concreteness to the abstract dynamic of accumulation.

Janneke Adema (Coventry University):
Scaling Small; Or How to Imagine New Relationalities for Knowledge Production

Imaginaries for future modes of OA knowledge production are controlled through demands for 'scalability' and 'sustainability', which are seen as preconditions for scholarly communication models and practices to succeed, to be efficient, but also to receive funding for publishing projects or infrastructure development. The scalability of open models is perceived as essential to compete in a landscape dominated by a handful of major corporate players. This paper argues that discourses of scalability and sustainability invoke the wrong frame for understanding the stakes and dynamics of scholarly communications, which is much more of a volatile endeavour than a stable one. Instead, taking the example of the Radical Open Access Collective, it puts forward a narrative that emphasizes a bottom-up perspective, focusing on publishing projects build around local and micro-scales, on discussions around the kind of scholarly communication system we want, and on setting up cultures of resilience and solidarity in the face of technological, institutional and funding volatility.

Marcell Mars (Coventry University):
The Scale: To Allocate or To Share

Computer science's efforts to establish itself as a scientific discipline materialized only once it established its own principle unit of analysis: the algorithm, which became the focus of formal education. Industry however wanted programmers that could help them optimize their business process, manage their workforce. Industry's ambition was to scale and algorithms weren't perceived as something programmers should spend their time on mastering. Starting from a comparison of Google's and Amazon's cloud infrastructures, I'll present a historical trajectory of what is required for today's distributed computing infrastructures, aka "cloud computing", to be successfully developed and deployed, from time sharing (and virtual machines), over personal computing, to Google's map/reduce algorithm and Amazon's service-oriented architecture, to the introduction of namespaces/isolations in the Linux kernel. Current cloud computing infrastructure is mainly the result of managerial attempts to manage business processes and make labour replaceable. Yet the success of Amazon's cloud platform proofs that in the history of computing 'boring' software writing (bureaucracy) often beats exciting (algorithms).

Jurij Smrke (Coventry University):
#Lessons Learned About Scaling Up While Programming an Academic

I am programming an academic. Her name is Linq Bwilder. She exists to analyse texts containing academic references and enrich them in various ways by increasing: the number

of (hyper)links connecting to and from said texts; their diversity (in other languages); their accessibility (unpaywalled); their accuracy (directly to cited text); and directionality (two-way links). Linq Bwilder and I have been speculating about how to make a difference in the ways we, as academics, (algorithmically) govern ourselves (evaluate academic research), by creating a future service capable of executing our own, critically imbued, background operations. As outsiders, far removed from Silly Con Valley, our mission is to break, hack and rebuild our academic system from the bottom-up around the hyperlink, one of the focal objects of contemporary practices of valuation. This paper will highlight the value of plurality (of means and scales) for political activity, of hypocrisy and parasitism as tactics to scale-up, and of scaling down our politics first to intervene at the level of grey media.

Friday, 21 September, 10 am - 11.30 am
Room: C 12.001
Chair: Irina Kaldrack

Trans-Formation Design in Digital Cultures

The panel discusses the relationship between research in futures and digital cultures in the context of transformation, sustainability and anthropocene. The four short inputs analyze briefly different forms of design and of the probabilization of preferable futures. Which forms of predicting and modulating futures are aimed at what form of anti-contingency?

THE PANEL

Rolf F. Nohr (Braunschweig University of Art):
"At best we live in a world of uncertain future. The aim of science has always been towards lessening this uncertainty." Business Simulations in the 1960s and the War against Uncertainness

The 'prediction of future' is more or less only a closure of the future driven by the continuation of the present in the forecast. The promise of big data and predicitve analytics is prediction and the elimination of contingency. But forecasting often enough means to extend the current present into the future. The paper will show – by the example of business simulations of the 1950s to 1970s – how an ensemble of technologies and discoursives practices tried to predict and immobilize future. But the outcome of these projects where more or less contrary: The (uncertain) future imploded into a kind of

"feedbacked present" in which tendencies are intensified or subdued. Future was hedged and immobilized.

Wolfgang Jonas (Braunschweig University of Art):
Happily Muddling Through

It is one of the scientific myths, adopted from the "hard" sciences, that the future is predictable. Future states of trivial machines might be predictable, but socio-techno-cultural systems are non-trivial machines, which are irreversible in time. They proceed evolutionary; explanations can only be delivered post-hoc. Even the most comprehensive data resources and the most intelligent algorithms will not be able to produce a Laplacean Demon. Abraham Lincoln is said to have said that "the best way to predict the future is to create it." So we depend on the design way: we create options, futures on stock, in order not to be taken by surprise too much. And "we" choose what "we" prefer. Which is both disappointing and promising at the same time (see for example Cambridge Analytica, Facebook, and the Trump campaign).

Saskia Hebert (Braunschweig University of Art):
Designing Probe-Ability: Time Machines and other Useful Vehicles

To design generally means "to change existing situations into preferable ones" (Herbert A. Simon). Of course such a statement encourages various discussions, strong disagreement or even fierce dispute: Not only has to be asked what would be "preferable" (why, when and for whom), but even what is actually "existing". Design delivers powerful tools not only to analyze, but also to create, depict and develop alternative, different, maybe even sustainable futures. The "Probe-Ability" in question goes beyond just extending the present and includes projections and processes, probes and prototypes in time, space and society. Design (as a discipline) can deliver 'aisthetic', sense-able narratives, simulations or environments that might lead do different perceptions, predictions and formations of being-in-the-world – for now and for the future. In order to discuss this hypothesis, some project examples of the master programme "Transformation Design" at HBK Braunschweig will be presented.

Irina Kaldrack (Braunschweig University of Art):
Limited Futures and its Media

Following up the different presentations in this panel, this response discusses the modes and media of limited futures. Utopian as well as dystopian designs of future(s) often claim global validity. Against the background of the contingency – and thus unpredictability – of future(s), the question is: What are appropriate modes and media of non-hegemonial visions for futures?

Friday, 21 September, 10 am - 11.30 am
Room: C 40.146
Chair: Jan Müggenburg

Terms of Dismedia: Disability, Media, and the Production of Subjectivities

By introducing the term of "dismediation", Mara Mills and Jonathan Sterne underline the co-constitution of Disability and Media. Instead of analyzing representations of disability in media, they thus propose to take a closer look on the operations, the practices, the history and the institutions at the intersections of Disabiliy and Media Studies in order to describe the far-reaching effects and transformations in the spheres of knowledge and culture. Under this perspective our panel does neither consider media as a tool to repair a disabled condition nor as a simple "narrative prosthesis" (David Mitchell/Sharon Snyder). Thinking in "terms of dismedia" means to inquire into the multiple entanglements of disability and media culture producing (or preventing from) accessibility and participation, establishing processes of normativity and normalization, or, with the growing mediatizing of services, senses, economic infrastructures, and environments, creating alternative, active and smart biodigital subjectivities. We are going to discuss four specific "dismedial" constellations. Our thesis is that for people with "disabilities" DIY is not a freely selectable special path, but a basic prerequisite for participation in everyday life.

THE PANEL

Jan Müggenburg (Leuphana University) will delve into the history of "alternative mice" and contrast them with the two-axis mouse as the de facto standard interface of the personal computer in the 1980s. While this standard interface requires constant movement of the hand, wrist and arm to operate, it poses many problems for people with disabilities and can prevent them from participating in digital cultures. Alternative Mice comprise a range of devices (mouth sticks, head wands, trackballs, joysticks, track pads, switches, etc.) that are designed in consideration of specific motor, sensual and cognitive impairments. Remarkably, Douglas Engelbart, the inventor of the computer mouse, and his team at the Stanford Research Institute experimented with a variety of pointing devices, including interfaces that could be controlled with the foot, knee or head. As Jan is going to argue, these forgotten alternatives reappeared as deviations and DIY-solutions among "alternative" computer users with "disabilities".

In her talk **Beate Ochsner (University of Konstanz)** will examine the constructions of digital hearing subjects at the interconnections between media and disability studies and propose a critical overview of actual hearing technologies: Nowadays, ears seem to be an increasingly popular place for wearable digital technology and, as a consequence, a highly intriguing market. Thereby, full connectivity to all technological devices needed in a modern life (i.e. speech translator, fitness coach, music listening device, biometric (self-) monitoring technics, etc.) is to be a top priority. An always smarter hearing technology thus adapts what formerly was known as restorative hearing aid into fashionable livestyle assistants which, while promoting a new hearing heterogeneity, at the same time, answers to the growing demands of our contemporary meritocracy. In her talk Beate is going to focus on the following questions: In what way hearing and/or sensing abilities/capacities have to be redefined considering the increasing fusion of digital hearing solutions for deaf, hard of hearing as well as hitherto called "normal" hearers? What kind of digital hearing subjectivities will be produced by the mutual participatory shaping of users, hearing technology, producers and practices or habits? How to describe the slow merging of different hearing subjectivities into normatively self-monitoring, active listeners?

Markus Spöhrer (University of Konstanz) will focus on the digital audio game *Audiodoom* – a sound only game that originally was designed as a way of making video games accessible for blind children. Audiodoom, Markus is going to argue, can be considered a 3D audio virtual reality system that gameplay-wise mainly relies on enhanced 3D sound and tactile stimuli. The game demands from the players to navigate through a maze, an audio space that is created by specific "interactive auditory cues" (e.g. echoes, footstep or opening doors sounds) or spatialized sound respectively. In order to reach the goal of the game – finding a way through the labyrinth – the players are supposed to use their ears and an ultrasonic joystick only, since the game does not provide any visual information. On the one hand Markus is going to discuss how the sociotechnical configuration of this "gaming dispositive" enables a specific way of "playing with sound" and produce a distinctive configuration of the senses and on the other hand the "disabling" or "challenging" implications of such an audio only game for "sighted" people, which in the course of playing the game are configured as "blind players".

In his talk **Robert Stock (University of Konstanz)** is going to look at the advent of mobile EEG devices (Emotiv, Muse, Neurosky) as a decisive moment in recent developments of digital cultures that highlight gamification, personalization and the transformation of medical into lifestyle objects. He is going to argue that it is necessary to reframe the EEG and its history in a context of consumer culture, entertainment, music and sonification. He will look at projects like Alvin Lucier's "Music for Solo Performer"

(1965), the DECONCERT by Steven Mann and others (2007) or the "Mood Mixer" (Mullen/Gracie). In these settings, brain activities and respective bodies are interwoven with and translated by assemblages operating on a DIY basis. Other projects are linked to rehabilitation: The "Mindtunes Project" (2013) sponsored by Smirnoff calibrates the Emotiv Epoc+ Headset, laptops, music programs, DJ Fresh and people with motor impairments (*tetrapleagia*). Thus, Neuro-Sounds destabilize a clear-cut distinction between different-abled and abled bodies. As such, they constitute an emerging field of auditory experimentation, where the intersection of medical research, digital cultures, and DIY approaches can be explored.

Friday, 21 September, 2.30 pm - 4 pm
Room: C 12.001
Chair: Dawid Kasprowicz

Mediatechnicity: Notes on a Concept Between Technosphere and Digital Cultures

The concept of the technosphere had a wide impact in human geography, media arts, culture, and media studies in the last ten years. Departing from the holistic idea of intermingling technological, natural and planetary forces, the technosphere embraces a state of ontologically heterogeneous and overlaying agencies on the one hand, and large autonomous technologies on the other (water and energy systems, information systems etc.). A crucial element for the technosphere is the relation of sensible media and human perception as a sense-making condition for man in the world. However, in its holistic approach, the concept of the technosphere does not refer to the basic media-anthropological problem about the knowledge of man. Man, who has been defined as the eccentric species throughout the twentieth century (Helmuth Plessner, Bernard Stiegler), is today artificially recentered by machine operations beyond his consciousness and algorithms de- and reconstructing his imagination of a self. However, instead of taking again the planetary and long-duree-perspective of the technosphere, we would like to suggest a new term for this anthropological paradox situation of a self-world-relation basically constituted by machines: mediatechnicity.

Following German media theorist Friedrich Kittler, the most important aspect of media is its temporality (*Eigenzeit*). Media has replaced the astronomical

time with the mechanical clock and the natural life cycles with engineered ones (especially in the case of monitoring and structuring life cycles). Moreover, cultural constructions like historiography have changed immensely through the daily usage of archives and databases. Thus, media is still bound to human senses in transforming mechanical movement into symbol- and signal-based communication. Moving images on cinema screens for example have to be projected with the speed of 24 Hertz to avoid flickering effects for the human eye. Today, however, technicity does not serve anymore to create media primarily for the human senses but for hyperfluid media operating beyond our consciousness and our awareness. The investments into server farms, research projects on algorithms and broadband technologies constitute the new postanthropocentric culture of mediatechnicity. This development of an automatization and acceleration of sensible media (driven by a capitalistic innovation industry) creates the fundament for the diffuse feeling of being decentered as a human in a technosphere regulated by mediatechnicity.

We argue that with this media historical shift to mediatechnicity, two new phenomena appear in the relation of human and machines who are crucial for the social processes of subjectivation, collectivization, and identification in digital cultures: on the one hand, there is a widening of a cognitive gap between machines and humans. We are more and more affected by the movement of signals and data beyond our awareness. This phenomenon of "being affected by movement" through sensual media is a result of the microtemporal agencies between machines (Mark Hansen), the opaque structures of databanks and file-transfers as well as the institutionalization of controlling tech companies ruled by capitalistic interests and detached from the grasp of national law.

On the other hand, our bodily-media-couplings have increased and become a daily routine. Carrying, reading and putting away our smartphones does not mean anymore to be deconnected from the world of mediatechnicity. Magnetometers, accelerometers and gyroscopes are mass-produced and highly-sensitive components of today's media. Hence, we are confronted with a completely new tension of our bodily self-understanding. Our media experience of – mostly – screen-body-couplings are superimposed today by a digital body-culture, with experiences made with our (tracking-)apps and the multiple variations of our traced data that will rest beyond our knowledge. This phenomenon of "being bodily moved", as we call it, marks the second crucial aspect of mediatechnicity. Whether diet programs or digital health apps for monitoring, we co-constitute the parallel world of mediatechnicity through an algorithmic proximity. This proximity may become even more intimate with the rise of personalized social

(ro)bots or virtual assistants. The practices involved with this kind of technicity – so it seems – aim at overcoming the gap between human and non-human agency. Hence, this algorithmic proximity is not a merely technical process. It is deeply entangled with social practices as well as its relations to a data-ontologically driven rest of our beings.

"Being affected by movement" and "being bodily moved" represent both the central figures of mediatechnicity. The artificial recentering of the human into the world of mediatechnicity marks this, as we argue, anthropological paradox that is constitutive for the knowledge of our selves in digital cultures. While man continues to overcome himself physically and mentally – as we see through the ongoing discourse on "human enhancement" – he takes in new positions in the world through the delegation of sensitivity and thinking to algorithmic machines. Concepts like the technosphere, who try to overcome the problem by a relationalism between planetary, technical and human agencies oversee the artificial recentering of man through media. But to render the phenomenological limits of man means also – in a classical-philosophical and Kantian way – to determine what man can know and is able to ask. Therefore, we have to tackle the anthropological paradox posed by our condition of mediatechnicity.

Curated panel with contributions by Bernd Bösel (University of Potsdam), Gabriele Gramelsberger (RWTH University Aachen), Jonathan Harth (University of Witten/Herdecke), Dawid Kasprowicz (RWTH University Aachen) and Martina Leeker (Leuphana University Lüneburg).

Friday, 21 September, 2.30 pm - 4 pm
Room: C 12.006
Chair: Hart Cohen

Datafication, Mediation, Creation: Approaches to Algorithmic Sources of Data-Re-Mediation and Re-Creation

The transformative power of social media platforms such as Facebook and Twitter has been recently tempered by scandals related to the usurpation of privacy in the politicization of data by Cambridge Analytica. Whether in the context of personal medical data, consumption, or political choice the capacity for the use and manipulation personal data can be mobilised and leveraged within high stakes social and political contexts. The sources of digital footprints are multiple – fitbits, credit cards/loyalty cards, and social and other media, for example language use is a frequent source of profiles for political and other kinds of personal identity. The lack of transparency around the identity of data-brokers and the technical means to capture data is a condition of the contemporary challenges to privacy. In the context of the creative industries, data mediates how movies end, and how characters are developed to the colour of the star's dress. Data mediates how individual artists and creators, YouTubers, and podcasters analyze their markets and tailor messages to their followers. Undoubtedly the digital technologies are also potentially tools of critical intervention in the scenes where the digital forms of surveillance and manipulation occur. This panel looks at strategies where data has been re-mediated for political purposes, collective creation, and personal re-possession and re-articulation of the self.

THE PANEL

Teresa Swist (Western Sydney University):
Poet Bot, or Nobel Laureate? The Sensing and Censoring of Public Sentiment

Poetry, or poiesis, is viewed as the fundamental bringing-forth of art, techne, making. The public opinion, or sentiment, of how poets are regarded often rests upon claims of aesthetic validity. But how is such validity sensed and censored? My presentation focuses on two poets, their sources of inspiration, and public reception: a robot poet, and a human poet. Xiaoice, a social chatbot with tens of millions of fans in China, created an anthology of poems published in 2017. What enabled the poet bot to do this was a machine-learning algorithm sourced from an archive of poems and images. Liu Xiaobo, a Chinese poet and

activist, was awarded the Nobel Peace Prize in 2010. Liu Xiaobo played a pivotal role in the Tiananmen Square pro-democracy protests, was detained for his efforts – and would go on to compose a memorial poem each year, sourced from his unfolding recollection of the event. While these sources are markedly different, what connects these two is the sensing of public sentiment, from outrage to praise, alongside the censoring of content. I use these examples to explore the evolution of "variations of validity". In this phrase, "variations" speaks to the ways in which a range of articulations are made salient with technologies, populations, corporations, and institutions. While "validity" speaks to how particular sentiments are legitimized – or delegitimized – for personal, social, economic or political reasons. I test these gradations of sense and censoring against Heidegger's critical question "What are poets for?": and what it might mean now to "be a poet in a destitute time".

Navin Doloswala (Western Sydney University):
Deep Weird Creativity: Humanity and Autonomous Agents in the Deepfakes World

Is creativity human anymore? How do we understand the process of creativity? The paper explores the interaction between autonomous agents, machine learning and artificial intelligence, and human actors within the context of creativity. In particular, the affordances of deep learning and machine learning within creative contexts and the examples of deepfakes. Deepfakes is the 2017/2018 practice of using machine learning processes and image repositories to transpose the faces of film stars onto the performances of porn stars. Deepfakes index a creative expression of human and machinic agents in combination, which in the past would have required teams or groups of digital image specialists to achieve. In contrast the earliest 2017 deep fakes were the actions of a single individual. The paper and associated creative works challenge notions of creativity being a wholly human endeavour. The contemporaneity of digital cultures invites new methods that draw on digital media technologies as tools. Engaging with and harnessing these tools enables new pathways of creative expression that extend across a spectrum of human creative endeavours.

Reisa Levine (Dawson College):
The Bridge to Big Data

Moment Factory is amongst the most celebrated live experience creators working on the international scene. One of their recent projects is the massive, data-driven light installation running across Montreal's Jacques Cartier bridge. The nightly light show is activated by real-time social media activity and smart city data and, according to the creative vision, represents the active, live, pulse of the city. In celebration of the life of Leonard Cohen, the creative designers at Dailytouslesjours honoured him with a special

project. The artists aggregate numerous music sharing and streaming services to collect instances of all the people in the world listening to Cohen's Hallelujah at any moment. Through their live collection of data, they re-purpose the information to create a new interpretation of this iconic tune. In both of these installations, user data is the vital element driving the artistic expression. With new regulations coming in to restrict how data can be used, will independent artists, creators and start-ups have the same access to data as they do currently? Through selected sound clips from interviews with artists, coders, and creators, this paper/podcast will argue that we shouldn't have to choose between open data and a basic sense of integrity to our privacy. With data flowing freely we can all see where the trends lie, and can publicly analyse and re-purpose data for creative endeavours and a more positive digital life.

Friday, 21 September, 4.30 pm - 6 pm
Room: C 12.001
Chair: Luke Munn

The Self In-formation: Structured Selves and Algorithmic Bodies

Visions of the frictionless futures offered by the posthuman abound, and yet these overlook the quieter, more fundamental forces reshaping subjectivities today. Permeated and pummelled by information, the "difference that makes a difference" has too made us different. Of course, for capital productive difference is profitable difference, and here the subject offers a new terrain for economic excavation – sliced into "masses, samples, data, markets" (Deleuze) or put in-formation as the machine readable (Krajewski). Inscribed as data, subjectivities are violently skewed – aspects deemed productive balloon in scale and detail, while the unproductive is impoverished or excised. The result is a lopsided figure oscillating between the imaginary and the illusionary. But to dismiss these as poor, passive models would be to underestimate their force. Instead, as Fisher noted, these "representations" become operational within the world, feeding back on bodies and identities until their presence is imperceptible – their differences disappearing into indifference. How might we unravel these recalibrations of self which are typically immanent to private corporations and proprietary code-worlds? How can we trace the production of new subjectivities? This panel brings together three artist-researchers who approach this question from different angles.

For **Francis Hunger (Bauhaus University Weimar)**, new subjectivities can be traced back to the structuring of data within the relational database, which emerged from managerial techniques concerning the individual. Based on his ongoing research, Hunger traces a genealogy of informational inscription back to Pacioli's introduction of the "double entry" bookkeeping system into Europe and the usage of tables in modern societies. Hunger's notion of "transactional data" foregrounds how information capture is never simply a one-way plunder taking place between the powerful and the powerless, but rather depends on collaborative subjects who package and share their activities. From navigation to water use, every recorded act contributes to a massive production of epistemic value. Coupled with this theoretical analysis are social and artistic interventions. "Database Dérive" consists of walks through a city, locating the infrastructures and interfaces of databases and conducting informal conversations about their collection practices. Database subjectivities are both partial and pointed – intent on leveraging a particular subset of the self. Thus for Hunger, research into database systems begins with addressing the query and its institutional context, which represents the shaping of an informatory request as a dividual practice.

Winnie Soon (Aarhus University) suggests that new subjectivities can be traced by examining the circulation and reproduction of search images. Soon's artistic methodology looks into "culture machines" as mechanisms that pattern technical-political relations. "Unerasable Images" is a collection of screenshots taken over a year with the Chinese characters "六四" as the Google Image keyword search. This keyword is equivalent to 6 and 4, referring to the student-led Tiananmen Square Protest of 1989 around June 4 in Beijing. The collected screenshots are formatted as a video sequence and reappropriated to remove all the results except "Lego Tank Man", a lego image uploaded on a Chinese web portal in 2013. Although quickly censored on all online platforms in China, after four years this image is still searchable and occasionally appears on the first few rows of image search. Soon traces and documents this "unerasable image" in order to examine how search engines are considered as cultural machines, producing cultural objects, operational and algorithmic processes through a geopolitics of data circulation, internet censorship, image (re)production and the infrastructure of grid presentation. Following Finn, how can we take the culture machine itself as the object of study? How we can examine the invisible algorithms and machines that generate visible effects? What kind of political subject does such a culture machine produce?

Luke Munn (Western Sydney University) concludes by asserting that new subjectivities can be traced to algorithmic operations, mechanisms that exert force over everyday situations. Drawing on case studies from his dissertation, he examines how Amazon's smart assistant "Alexa" leverages subjectivity itself as a kind of technology, one

that can only comprehend when spoken to in particular ways. To use Alexa, the subject must "turn to face" the algorithmic, mirroring the expected logics with a corresponding subjectivity. Through an adjustment of tongue, memory and tone, subjectivity is successfully structured to fit Alexa and the economic imperatives of the smart home. A recent artwork, "Monitor", explores how this subject appears from a different perspective. Recently police in Arkansas issued a warrant for Amazon Alexa data in connection with a suspected homicide. Simulating a desktop, the artwork uses smart home notifications to extrapolate from the evening's events: a few friends, a few drinks, a floating body. What kind of subjectivity emerges (or is inferred) from this "data narrative"? By infiltrating into the interior of the home, the algorithmic also permeates into conversations and social relations – an immanent mode of power that recalibrates the everyday.

Subjects appear to emerge almost organically from histories, cultures, and the everyday. Yet tracing their production reveals the antagonisms underpinning these operations: fragmented forces attempting to spin-up their own particular versions of the self. The success of these technical conditions depends on how quickly they disappear into the new normal. In this way, digital culture derives its power not from spectacle, but from immanence – and this new imperceptibility requires an equally imaginative set of new research methods.

Saturday, 22 September, 10 am - 11.30 am
Room: C 40.108
Chair: Helen Thornham

Programmed Subjectivities: Gender, Code, Performance

Algorave presents itself as a community that is open and accessible to all. Live coding as performance could be read as a queering not only of space and place but also of traditional and long-running conceptual separations of the mind and the body. The environments used for Algorave are free and open source, supporting notions of creative remixing, accessibility and community. Languages such as TidalCycles, FoxDot and ixi lang are known for being terse, intuitive and 'simple'. These are not spaces of hard masculine code, but supportive and creative spaces, in which coders talk about being "encouraged" and "welcomed". The performative elements of live coding are open, mutating; they are spaces of becoming, where

failure is embodied, technological and frequent. The body writes and performs code, reacts and generates in a seemingly symbiotic relationship between human and technology. This is an open-ended performance, where ontology, routine, repetition, and practice supersede knowledge: where living code is more important than knowing it.

Drawing on expert interviews, ethnographies, web analytics, and critical analysis of code, this panel explores the sociotechnical promises of Algorave, framed within a feminist perspective and set against the lived experiences of live coders. We argue that the languages of TidalCycles, FoxDot, and ixi lang are overlayered with the more complex environment of Supercollider – the audio programming environment used as a real-time audio server by most of the live coders. This creates a number of silences and inequalities in the code and algorithms. In terms of the performative elements too, even as live coding as a practice utilizes high-level functions to create complex and unpredictable creative results, ongoing issues around documentation, accessing knowledge, and installing programmes is reconfiguring these spaces in familiar and gendered ways. Finally, Algorave promises an ease of engaging with programming, but this does not necessarily translate as computational literacy, and the overwhelming feeling named by women coders is that of "imposter syndrome".

Through our panel, the discursive, technical and conceptual promises of Algorave are juxtaposed with the practices of live coding in order to interrogate the notion subjectivitites on a number of levels. We will performatively and ontologically present live coding through an interactive and critical space: we plan to live code, exploring with the notion of liveness and embodied performance, and in so doing think about the relationship between gender, subjectivity, and epistemology. These performances will be framed by our critical research and empirical findings.

The panel will mesh together traditional presentations with Algorave performances and live coding. We will work towards developing mini esoteric coding languages during the panel in response to the critical issues around gender and subjectivity.

Curated panel with contributions by Joanne Armitage (University of Leeds), Shelly Knotts (Monash University), and Helen Thornham (University of Leeds).

Saturday, 22 September, 10 am - 11.30 am
Room: C 40.146
Chair: Orit Halpern

Thermostats at Scale: Digital Management of Bodies, Weather, and Climate

Daily control and self-regulation of temperature are increasingly rendered 'smart' through clothing, urban planning, and climate modeling. Focusing on three registers of the human body, the weather, and the climate, this panel collectively approaches the primary theme of "Environmental Media, Media Ecologies and The Technosphere", and individually addresses the subthemes of "Biohacking, Quantification and Data Subjectivities" and "Contemporary Futures and Anticipatory Modeling". All three papers examine, historicize, and problematize the biopolitical imaginary of self-regulating ecosystems and populations through the intertwined logics of compression, prediction, and resilience.

Brent Lin's (McGill University) paper, entitled "Swarm Synthesis: Techwear, Smart Cities, and Urban Compression", explores how the biopolitical control of urban populations proposed by smart cities and infrastructure operates at the level of the human body. Techwear, a contemporary trend in clothing that combines proprietary textiles technology and hyper-functional design forms the core aesthetic behind the avant-garde divisions of multinational sportswear makers like Adidas and Nike, as well as the equally multinational sub-brands of casualwear maker Uniqlo. Techwear is a form of futurist practice that proposes to format human populations – to ready them for capture into data populations – via the operation of compression. This operation renders techwear-clad population of urban bodies into a swarm intelligence. To historicize this formatting of human populations into data populations via the mediation of synthetic fabric that optimally regulates the movement and temperature of the wearer, Lin turns to a material history of rayon and nylon textiles from which techwear is made. Tracing this history back to nineteenth century European developments in biology and chemistry, Lin analyzes the epistemological implication of organic synthesis, first performed by German chemist Friedrich Wöhler, which enabled the creation of organic compounds from inorganic raw materials, and the eventual invention of rayon and nylon. In the context of nineteenth century debates over vitalism and mechanism in biology, this technique of organic synthesis opened up the organic as a category amenable to mechanized (re)production, now materialized in techwear. Techwear thus understood holds a media archaeological

lens over the bodies that move through smart cities. As smart cities increasingly turn to solar and wind power, weather forecasting becomes essential for the daily operation of their energy infrastructure. As an ecosystem onto itself, a smart city is at a higher risk for unpredictable glitches in the system, if one component of the system breaks down. From IBM's Weather Company to Schneider Electric's "Weather for Smart Cities", weather data-driven service providers frame constant monitoring, forecasting, alerting, and controlling of meteorological activities above and inside smart cities as vital to the smooth operation of smart cities.

Yuriko Furuhata's (McGill University) paper, entitled "Weatherproof Cities of the Future", traces the infrastructural affinity between weather forecasting and smart cities back to Cold War networks of American and Japanese meteorologists engaging in numerical weather prediction at the Institute of Advanced Study and Japanese "Metabolist" architects who envisioned cities as self-regulating ecosystems with metabolic pathways. Historians of science have uncovered the institutional nexus between the developments of numerical weather prediction and computing centered around the work of John von Neumann. Yet we know very little about their transpacific connections to the transformation of Japanese meteorology and computing, which played a key role in advancing these fields.

Following Joseph Masco's argument that "the Cold War nuclear project enabled a new vision of the planet as an integrated biosphere", **Thomas Pringle's (Brown University)** paper, "Ecosystem, c. 1984: Modelling and Resilience from Nuclear Winter to Climate Change" takes up this problematic of predicting, managing, and controlling the future to the planetary scale of climate change. Pringle revisits nuclear history alongside digital media epistemology in order to better understand how the technical knowledge of climate change inherited nuclear anxiety within the perspective of Earth as a self-regulating ecosystem. The Atomic Energy Commission's development of the supercomputers later used to model climate change is well known. Yet, what is less known is how the understanding of the ecological effects of nuclear war installed an ideological lineage of civic-defense within crisis-adaptation policies termed "resilience" that strategically span potential responses to the "unthinkable" outcomes of continued living in either a radioactive wasteland or a climate system ravaged by industrial capitalism. In order to highlight this lineage, Pringle zeros in on the crucial year of 1984. This was the year when Carl Sagan and Paul Ehrlich's popular book *The Cold and the Dark* was published; famed nuclear aftermath futurologist Herman Kahn published policy for Ronald Reagan; and Texan oil magnate Ed Bass began the Biosphere 2 project – a self-regulating energetically-open and materially-enclosed cybernetic ecosystem designed to produce patents for survival in future hostile environments. Both climate change and nuclear winter, Pringle

argues, rely on understanding the biosphere as a computable and probabilistic self-regulating system.

Orit Halpern (Concordia University), whose research on smart cities and resilience forms a common ground among panelists, will chair the panel. **Clemens Apprich (Leuphana University)**, whose research on smart cities and artificial intelligence are echoed in the papers, will serve as a discussant to the panel.

Saturday, 22 September, 2.30 pm - 4 pm
Room: C 40.255
Chair: Sagorika Singha

Screening the Viral Fever: Affective and Augmentative Responses in India

This panel probes into the appropriation of digital infrastructures in a colloquial context responsible for transforming the contemporary culture, society, and economy in India. In order to do that, it acknowledges the constant interaction between traditional media and social media in making a phenomenon viral. By considering the aura around a morbid game, the wide distribution of disturbing images from small towns, and film industry's obsession with manufacturing virality for film promotions, the panel seeks to question and understand the inherent seductive appeal in such viral objects. With social media as the backdrop of our daily banal dealings, we are trying to identify the templates through which virality has been observed in the Indian setting. In doing so, we also attempt to outline a few existing echo chambers within this space.

THE PANEL

Ishani Dey (Jawaharlal Nehru University):
Swimming with Whales: A Media Genealogy of the Blue Whale Challenge in India

The 50-day suicide game, the Blue Whale Challenge (BWC), became a global sensation when deaths attributed to the challenge started flooding news reports in 2016. The challenge functioned on the simple premise of completing one task a day, ultimately leading up to the final task of committing suicide. Each task would be meted out only when proof of the completion of the previous task was provided. These proofs, usually in

the form of still photographs or videos, while acting as macabre trophies for the challenge, also surrogated as forensic evidence of deaths attributed to the game. Given the indexical drive of the challenge which found feature in journalistic reports, news media globally has been held responsible for generating virality for the internet phenomenon. Granted the vulnerable Indian context, with its already high rate of youth suicides, it topped the statistics of Google searches for the phrase "Blue Whale Challenge download". While the Indian state at first sought to contain the viral pathogen, at having failed to transcribe its digital nature it eventually sought to erase all traces of the challenge, attempting to censor its very presence in the country. However, the BWC survived the censoring of its public life and reports of deaths related to the challenge continue to seep into news reports two years since its global unveiling. Through this case study of the BWC in news media coverage in India I will attempt to transcribe the narrative of the viral phenomenon by focusing on the way the interface of the challenge mutates in the Indian geopolitical context. I will demonstrate how the discourse generated by news, with its own journalistic lens substituting for the microscopic vision of the forensic expert, creates a paradigm that comes to define what qualifies as a Blue Whale crime. Not only does such an exercise ignore the challenge's ability to mutate, but it poses threatening juridical implications for investigations related to deaths attributed to the game. These cases remain suspended, with the accused made invisible in keeping with the center's agenda for silencing that which it deems unspeakable.

Sagorika Singha (Jawaharlal Nehru University):

News from Nowhere: Reading Viral Content from Small Towns

This paper investigates the social network structure which enables media content associated with small towns in India to go viral in mainstream media. By following such media content and news (infallibly accompanied by images), I examine how "visible conversations", enabled by the cross-platform reach of social media, channelise heightened participation in this emerging form of social transactions. The geographical seclusion of the places involved and emotional charges in such stories stimulate circulation in this dynamic environment. The paper will focus on recent viral news/media content originating from the state of Assam, India, during the past year, including the viral photographs of a high school teacher in intimate poses with a minor student. The increase in such viral content originating from the geographic territory of Assam, usually considered to be remote and disjointed from the mainstream, coincides with the proliferation of mobile data in the region in the form of 4G cellular network services. This paper, by employing web aesthetics, studies the commonalities in such content which aid their potential to become viral and analyses the habits of sharing which such content elicits. The content

will be trailed by studying secondary sources such as newspapers and other published reports, and also by analysing comments that such stories have garnered on social media platforms such as Facebook and Twitter. This exercise will help identify the social network structures that enable such content to spread among the contemporary mobile society. The paper acknowledges that in the virality of such content, there is an assessment of predictability that plays out. There are specific markers, visual and otherwise, provoking political, emotional or historical biases, which result in certain stories becoming virally popular, while the remoteness of the region, together with its political history, makes such stories potent. In social media, however, the tangible circumstances leading to the viral images, generate no curiosity; the stories arise out of the blue and disappear as quickly as they become viral. The social media driven transactions are motivated not by the events themselves but by the accompanying images – both real and constructed.

Akriti Rastogi (Jawaharlal Nehru University):
Manufacturing Virality: Film Promotions in the Age of Design Thinking

This paper aims at understanding the construct of virality in film promotions using design thinking as a framework. Design thinking is a creative methodology deployed by corporates (here, the contemporary Hindi film production companies) involving constant market research and anthropological analysis to pre-empt the commercial (and utilitarian) success of products. With the introduction of social media platforms as one of the primary sites for sharing film trailers and other similar assemblages, virality becomes an important tool of outreach to audiences. Crafting such an assemblage is reliant on the attention span of the user, thus, from a trailer with a duration of under three minutes, the internet-based artefact is shorter and crisper like motion posters, thirty-second long mini trails, boomerangs, and other looped gifs and videos. For the construction of a viral online phenomenon, pre-production to post production processes then become a series of events that serve as sites for social media stories. These posts are loaded with hashtags that unlock the trending list trail on web-based platforms. The formal networks and cliques of mainstream industry personnel deploy informal tools and means such as bots to generate over a million views in the first few hours of the promotional video launch on YouTube. Several PR consultancies and media management firms such as Media Net, Raindrop Media, Spice PR and Marching Ants, are involved in crafting a publicity budget that serves social and offline media strategy to saturate the media space with conversations about an upcoming film. The main aim here is the creation of a viral phenomenon with a presence beyond the limits of the identified target audience. Using the case study of recent mainstream commercial Hindi films, the central role of promotional planning through social media is evident. Acknowledging the diverse needs of the users across platforms,

these publicity artefacts are tailored to ensure the visibility across demographics and platforms. Design thinking, therefore, utilises a pre-emptive planning – which seems to be the preferred way in which industry professionals orchestrate virality, and generate conversation about their stardom and films.

INDIVIDUAL PAPERS

Session 1g

Daniela Agostinho | University of Copenhagen
Katrine Dirckinck-Holmfeld | The Royal Danish Academy of Fine Art

Sharing and Caring: Colonial Archives and Ethics of Digitization

Digitization has become both an imperative and a challenge across various fields of social life. This is the case of cultural institutions, such as archives, museums and libraries, which are increasingly digitising and making the records of European colonialism available in digital spaces. Underlying these projects is often a notion of access to information as inherently beneficial and socially desirable. While this imperative of openness is significantly transforming cultural heritage, it also generates cultural, political and aesthetic effects that have yet to be charted. When colonial records move into digital regimes of visibility and circulation, the violent symbolic and material effects enacted by colonial archives upon represented subjects can potentially be replicated. These digitisation processes thus pose new questions about the structure and possibilities of the archive that juxtapose cultural issues such as ethics of representation with technological problematics such as information infrastructures. At stake in these digitization processes is how race continues to be constituted in digital times, which demands a critical rethinking of digital archives premised on an ethics of care. Questions of care have long been at the centre of feminist debates in science and technology studies that draw attention to the invisible, gendered and racialized work of care and maintenance of technological infrastructures that usually goes unnoticed. Importantly, these debates have problematized the notion of care as something that is not inherently good, but also violent and fraught with structural inequality and social invisibility. At the same time, discussions within the field of archival science and digital humanities have been calling for the need to take into consideration the ethical implications of digital access to historical archives. This paper will bridge and expand these debates to explore the potential of an ethics of care to transform our relation to the colonial archive in times of digitization. This requires us to pay attention to the political effects of technological infrastructures, from servers that hold the digital files to the interfaces used to display them, as well as to the subjects implicated in and affected by the digital access and display to colonial records. Finally, the paper asks whether the notion of care can contribute to a "decolonial healing" of the archive. This reinterpretation of the etymological roots of curating (curating = caring = healing) will be explored in order to imagine a

reparative relation to the archives that takes into account the digital afterlife of colonialism, at at a time when the turn to datafied processes of inscription creates new practices of racialized capture and control.

Session 4c

James Allen-Robertson | University of Essex

The Uber Game: Exploring the User/Algorithm Relationship through New Computational Methods

The algorithmic oversight, optimization and evaluation of worker performance is an increasing reality in many economic sectors. For those working within the growing economic sector known as the 'gig' or 'on-demand' economy, these algorithmic processes sit at the heart of their working day. Previous research drawing on interview and forum data has suggested an inequity of power between the operators of an algorithmic management system, and those working under it. This inequity arises through a lack of transparency around the rules that govern their work, and a lack of options for workers to influence those rules in response to the realities of their everyday work. This paper explores the algorithm/worker relationship through the application of custom built data scraping and text analysis tools to a sample of 28.458 threads from a major international Uber drivers forum. Through a mix of quantitative text mining and semantic clustering techniques alongside more traditional computationally aided qualitative coding, the paper argues that whilst gig economy workers are governed by algorithmic systems, that same system facilitates resistance. By necessitating some form of user interaction and the provision of sufficient feedback, algorithmic management apps allow workers to collaboratively develop strategies of 'rule discovery' to continuously update their intuitions about the often-hidden rules governing their everyday activity. This paper draws upon ongoing work within the social sciences on algorithmic power, but also draws on recent work in game studies to explore the relationship between an individual user and an algorithmic construct. This comparison has become increasingly viable due to a growing body of work that approaches games as systems of interacting mechanisms or rules. In gaming, the full extent of the rules is not necessarily apparent to the player, but must instead be discovered through interaction with the system via the mechanisms of interaction made available to them, and the resulting responses through the given interface. Good game design will strategically reveal some of these rules to the player over time through their interactions. The method used to generate the

data and analysis also provides an example of how computational text analysis, data visualization and neural network models can be applied in the social sciences for the analysis of large bodies of text. The project utilizes Python to develop a range of custom made scraping and analytical tools utilizing techniques such as Google's 'Word2Vec' shallow neural network algorithm as well as more common clustering, dimensionality reduction and text mining techniques found in Data Science. Used in tandem with more traditional computer-aided qualitative doing of text, these techniques can offer a range of opportunities for handling and analyzing large bodies of text for social science research.

Session 1d

Moritz Altenried | Leuphana Universität Lüneburg
Mira Wallis | Leuphana Universität Lüneburg

Crowdwork, Social Reproduction and Shifting Geographies of Digital Labour

This paper discusses labour on digital platforms in respect to questions of the labour process, gender and emerging international geographies of digital labour. The focus lies on crowdsourced labour, performed predominantly from home and mediated by crowdwork platforms such as Amazon's Mechanical Turk. These platforms coordinate and organise the labour of a globally-distributed workforce, while their algorithmic architecture allows for a tight and automated control of the labour process, resulting in a hyper-flexible and scalable on-demand workforce which can be integrated into complex software architectures. Workers can access such platforms from their homes, internet cafés and even their mobile phones. As a result, crowdwork taps into labour pools hitherto almost inaccessible to wage labour. One important group are women shouldering care responsibilities who now can work on crowdwork platforms while performing domestic labour. Crowdwork allows, for example, taking care of relatives and simultaneously becoming or remaining a wage labourer – especially in contexts that lack public health – and childcare or a public pension system. This opens questions concerning the gendered division of labour and its transformation by digital platforms in the context of the crisis of social reproduction. As many platforms can be accessed from almost everywhere, they have a global digital workforce. On the one hand, countries like India and the Philippines as long-term destinations of digital outsourcing have also become hot-spots for crowdwork supplied predominantly by Western firms, opening questions of "virtual migration" (A. Aneesh). While

this type of online-labour might replace certain forms of physical mobility, it facilitates a digital form of migration that makes workers subject to legal and cultural frameworks of other countries. On the other hand, the extension of mobile internet infrastructure in the Global South in recent years also translates into access to a massive new pool of potential digital workers. This has fostered a number of experiments seeking to tap into this labour resource via crowdwork, such as selling internet or mobile phone credit in exchange for micro-labour targeting explicitly people from rural areas, for example in Africa. On the base of completed and ongoing research projects, the paper discusses crowdwork as a crucial example of how digital technology profoundly transforms the world of labour concerning questions such as flexibility and precarity as well as the gendered division of labour and emerging geographies of digital labour.

Session 7e

Lisa Andergassen | Potsdam University

Politics of Immateriality

We apparently live in the time of digital disrupture. A notion born out of the merging of mathematical "objectivity", the equalization of computers and brains and utopian dreams of equality and user-agency, as well as dystopian visions of control loss, AI on the lose and the disappearing of a haptical perceivable world. The grounds for these promises/threats were formed shortly after the second world war, when the interdisciplinary project "cybernetics" set out to distinguish two ontological states: the analog and the digital. This division gave way for a particular discourse about the material and the immaterial, which is pitting the dumpy, stubborn materiality of the analog, against the airy, flexible immateriality of the digital. A division, whose counterparts were later attributed with oppositional notions like the old and the new, the irrational and the rational, body and mind, hardware and software, as well as the real and the "mediated". In due course the real and the analog were rendered into almost interchangeable notions, reducing the endlessly rich state of being to a set of characteristics, and preparing its possible incorporation into the digital dispositive, or as Michael Meyer has put it: "What is real, is analog, is digitizable". Once transformed, the relation with reality of the "what" has changed. These contiguities had a particularly strong impact on photography theory, since the notion of a direct (causal) relationship of the depicting medium with the depicted object (and therefore mediating the real) falls within photography's remit. So much so that the characteristic closely tied to the

photographic truth claim has become a distinguishing term of its own right: The index – in terms of a trace left behind by the photographed object on a material surface – serves as the distinguishing feature, which not only divides the history of photography in pre- and post-digital, but helped cementing the analog-digital-divide itself. In my proposed talk I will address the discourse about photography's truth claim, in order to shed light on the politics of immateriality, which have formed our understanding of the digital disrupture today. I will do so, not by focusing on singular phenomenona, but by following a line of argument, which has its origins in early cybernetic (then still rather vague) definitions and was reinterpreted by and incorporated in photography theory. In other words: I will describe the photographic truth claim (or lack thereof) as a marker of the asserted gap between the analog and the digital. By looking at this specific correlation I will tackle a general tendency to naturalize ontological implementations, so as to contribute to a critical reading of the historicity of the digital.

Session 6d

Agustina Andreoletti | Academy of Media Arts Cologne

Bodies Feeling and Sensing within OptiTrack Motion Capture System

How do the intrinsic characteristics of a motion capture system (software and hardware) produce affect? How do the limits of the system define the identity of that technology? How could those limitations be explored to develop a bond between human and avatar? In this case, I am using the OptiTrack motion capture system, which employs markers as indicators for 3D position and orientation; the software default avatar is summoned as a host, as a (male gendered) body to inhabit. This is a way to reflect on (dis)continuity, (dis)orientation, (dis)jointedness of the bodies. The female dancers and the avatars are invited to participate in a performance of body-space-time (re)configuring, they affect and actualize each other. After each iteration, the human body and avatar update their relationship and influence future interactions. Performativity allows us to tell one body from another, or one kind of body from another. The individuals are determined in the intra-actions, rather than preexisting them, producing patterns of difference. Observation of those patterns gives hints about the nature of sensing mechanisms and responses and the diffractive process that comes into being. A diffractive method of accounting for participation involves being aware of what kind of difference is produced by performing. The agents involved in the process are

differently affected. It triggers different effects when entering different bodies due to their materiality, agency, and environment. Virtualisation could be conceived as a diffractive apparatus, in which the actual body becomes entangled and produces specific (movement) patterns. Such entanglements affect all the entities participating in the phenomenon. The relation connecting the human and the virtual bodies challenges the notion of agency as self-contained and autonomous. Continuously being influenced by each other, the "contamination" between bodies affects not only the human subject and her (gendered) materialization, but it interpellates the singularities of the virtual species and the politics behind his production. In this way, the creative intelligence is necessarily a collective matter.

This paper accompanies the work (in progress) "VIRTUALLY PHYSICAL: Choreography for two dancers, two avatars and motion capture OptiTrack", developed together with Yana Novotorova & Charlotte Triebus. Visual documentation here: http://www.agustinaandreoletti.com/portfolio/virtually-physical/.

Session 5c

Alex Anikina | Goldsmiths, University of London

What Moves Non-Player Characters?

In video games, especially in the mainstream role-playing warfare games, the non-player characters (NPC) controlled by computer are designed to seem like independently acting agents – in other words, to provide a realistic illusion of subjectivity. In the terminology of Hollywood film-making, whose pipeline the game industry partially inherited, they would be extras, a crowd on the set. However, NPC stops being a simple design feature when human players who appear as bots by mechanically "farming" in-game currency are abused by other players, or when a human operator is disguised as a NPC. These enactments belong to a system of power relations, a larger socio-economical network in which everything within the game is hierarchically tied to the user experience, and in which the user experience itself is quantified, collected and analysed in order to generate profit. As such, the image of the NPC is symptomatic of a blurring of the human agency within techno-mediations of subjectivity. On the alternative side of the human/nonhuman imaginary, in the contemporary digital culture one can easily encounter online chats where customer service is provided by human operators, yet is made to look like it is done by a perfectly friendly (read: uncannily android-like) chatbot – with pre-programmed answers and

formulas of politeness, friendly avatar pictures and names sounding Western even when the human behind is not. What does it mean to be non-player in a world built for players? This paper will critically address the figurations of non-human subjectivity (in semi-autonomous entities such as NPC), their corporate use as human 'masks' and the implications for the contemporary algorithmic visual culture. For this, the paper will also draw on other media genealogies where non-hierarchical concepts of mediation between the participants are constructed and the agency of the human player is reduced – from artificial life software to game engine media art and independent games (such as David O'Reilly's *The Mountain or Everything Game*).

Session 7b

Ilia Antenucci | Western Sydney University

Contingency and Necessity in the Governance of Digital Cities

The history of modern and post-modern politics can be read through the tension between necessity – the foundations of political order and the law – and contingency – conflicts, disasters, individual freedoms and collective struggles. These unsolved contradictions have always shaped the organisation and government of spaces, from nation states to cities. Today, practices of algorithmic modelling, preemptive security and anticipatory governance offer new material and angles to rethink the relations between contingency, necessity and politics. Smart city projects around the world attempt to create a fully computable urban space, where contingencies – natural disasters, pollution, illegal activities, crime – are anticipated via extensive data sourcing, algorithmic modelling and risk profiling. In this sense, smart technologies are presented as a new universal, supposedly capable to calculate, mediate in advance, and ultimately neutralize any possible factor of disruption. In a way, smart cities are envisioned as self-governed territories, where the efficiency of automated processes takes over the disorder of politics. Drawing on examples from the making of smart cities in New Town Kolkata and Cape Town, this paper explores the relations between monitoring, modelling and decision in the governance of urban digitalisation. It argues that, despite corporate and technocratic fantasies of a de-politicized and self-governed urban environment, smart cities are deeply political spaces, where the implementation of technologies is permeated by situated conflicts; where the promise of a smooth, interoperable space breaks down in the proliferation of borders; and where anticipatory models of the future turn into targeted governance in the present.

Session 5f

Megan Archer | University of Brighton

From the Cold War to Cambridge Analytica: A Postcolonial Reading of Digital-Logistical Organisation

This paper argues for a postcolonial historiography of the present digital moment, centering the enduring effects of colonialism and persistent configurations of imperial power as they surface in the digital-logistical contemporary. In this paper I will unpick the conceptual, technological and geo-political threads that link early Cold War social science to the recent scandal surrounding Cambridge Analytica. Building on arguments made in my PhD thesis at large, I aim to sketch a history of the present that charts the afterlives of colonial practices and transformations in imperial power as they occurred in the period of formal decolonisation, and, in turn, how they persist in practices of logistical organization and digital surveillance. Drawing on a cybernetic-anthropological experiment conducted at Vicos in Peru circa 1951, and working with Mitchell and Mezzadra and Neilson respectively, this paper seeks to highlight these colonial and imperial afterlives (and their mutations) in two ways. Firstly, as an ongoing process of representation and replication that attempts to universalize, standardize and render the world legible and hence, governable. Secondly, and corollary to this, in the systematic capture and extraction of data and its (again, attempted) transformation into workable knowledge about a population from without. This paper is thus an insistence that we excavate the colonial historicity of current digital-logistical formations, arguing that interrogating them in this view affords attention to the ways in which practices, techniques and modes of power transform and endure across (not so) radically different technologies and moments.

Session 1b

Felipe Arocena | University of the Republic, Uruguay

Technology and the Future of Humanity

"The sun is lost, and the Earth, and no man's wit / Can well direct him where to look for it." With these verses from "An Anatomy of the World", English poet John Donne (1572-1631) expressed the Renaissance feeling in the West. It had been near one century since Nicolaus Copernicus (1473-1543) had put the cosmos upside down proving that it was the Sun which was still and the Earth the one that orbited around it. Almost simultaneously, Christopher Columbus (1451-1506)

refuted the idea that the Earth had an end, affirmed its roundness and discovered America for the Europeans. The cosmos and the world were not anymore what they had been and Europeans entered in complete disorientation. We may feel such an intense disconcerting experience if contemporary Sweden philosopher Nick Bostrom's speculations are correct. He has put forward two hypotheses. ("¿Are you living in a computer simulation?", published in Philosophical Quarterly in 2001 and Superintelligence printed by Oxford in 2014). The first one proposes that all life on Earth could be a simulation. Indeed, a simulated reality created by a more powerful civilization with enormous computational capacity. The second hypothesis is the emerging of a superintelligent system on Earth that will dominate homo sapiens, like sapiens dominated primates. The superiority between this superintelligence and the one of sapiens could be as far as the one between sapiens and, let's say, aunts. It is true, both sound as science fiction, but it was no different when Copernicus and Columbus's ideas emerged. We will analyze both possibilities.

Session 4e

Bora Ataman | Doğuş University, Istanbul
Barış Çoban | Doğuş University, Istanbul

Digitalization of Citizen Journalism: The Case of Turkey's Dokuz8 Citizen News Network

Culture as a definition is a series of values, expectations, expressions and artefacts shared within a community. Therefore, it includes both the creation processes within its continuity and the artefacts that are created as a result of these processes. On the other hand, digital culture means these creational processes and artefacts are transformed into separate bits formed of 1s and 0s. In this respect, the digitalization of information and communication technologies since the second half of the last century can be deemed as the constitutive power of today's media-saturated social context, without disregarding the mutually determining relationship of technology and culture. This digitally mediated everyday life, where personal experiences and face-to-face relations relatively weaken, enhances ways of thinking and doing shaped by technology. At this point, we need to reply more specific questions. What characteristics do these technologies have that will help us create a digital culture? What are these new ways of thinking and doing options mentioned? In this study, we will scrutinize a citizen journalism platform, named Dokuz8 Citizen News Network that strives to survive despite

the deteriorating democracy and freedom of expression in Turkey. We draw on new media, alternative media and new social movements theories as well as refer to concepts such as alternative/activist new media, networked social movements and activist citizen journalism. The effects of digitalization on alternative media culture will be researched through content analysis and in-depth interviews with individuals who have different functions and positions within this citizen news network. To what extent does characteristics of digital culture such as "pre-programming and creativity, fragmentation, re-assembly: collage, user-generation, acceleration, visualization, quantification" (van Dijk, 2012: 211) have on the organizational structure, journalistic practices and news stories of Dokuz8 will be critically analysed. In the end, the main objective of this study is to develop a critical insight into the achievements and challenges of the digitalization with respect to citizen journalism as well as what promises for the future of alternative journalism are still alive in hyper-digitalized network societies.

Session 1g

Bodil Axelsson | Linköping University

Just Another Black Box? Museum Objects on Pinterest

This paper concerns the transformation of knowledge and circuits for museum objects with special reference to their circulation on the content curation site Pinterest. For many years, un-displayed museum objects seemed to be black boxed in storehouses and catalogues, only available to museum curators. Digitization, open collection management systems, public heritage portals such as Europeana and its national equivalents, Creative Commons licenses, and the use of platforms such as Facebook, Flickr, Wikipedia, and Wikimedia Commons aim to open up the boxes. Democratic in intent, these initiatives also pave the way for the entering of public knowledge and goods into a "platform economy" (van Dijck/Poell 2015) or a "global informational capitalism" (Arvidson/Colleoni 2012) in which curatorial decisions are made not on the grounds of disciplinary knowledge and pedagogy, but rather on user's engagement with black boxed human-machine configurations. With Viking jewellery as primary data, this paper unpacks the black box of the content curation site Pinterest, a platform powered by billions of images provided by billions of users, administered by an algorithm machine, and motivated by a business model. Taking its starting point in Rob Kitchin's proposition that algorithms are contingent, performative, and embedded in socio-technical assemblages, it suggests a multimethod approach.

First, engineering blogs and conference papers are read to detail the general outline of the platform's adoption of computer vision technology and the constant recreation of algorithms for filtering, ranking, blending and pruning to perfect personalized recommendations for each of the platform's user. The engineering blogs, conference papers as well as promotional material is also read to understand how the platform's business model translates into an algorithm machine and suggested usage. Finally, the general outline of the platform's algorithmic machine, its knowledge of Viking jewellery and business model are juxtaposed to users' narratives on choices, motivations, tactics of engagement and concerns.

Session 3i

Helen Barcham | Western Sydney University

Know Thyself through Numb3rs: Data Regimes, Gender Politics and Economies of Vulnerability

This paper explores a new and empirically under-researched vignette of self-help culture – self-tracking apps and wearable technologies. It draws on in-depth interviews with Australian women who engage in self-tracking practices to explore phenomenological aspects of these practices. It argues that while the "stuff" (Lomborg/Frandsen 2016: 1015) being tracked by women are often considered to be a "quotidien" (Prince 2014) part of the management of everyday life, these practices are, nevertheless, entangled into a "process of confluent spheres, meanings and actions" (Pilgaard 2012: 31), and thus encroaching influentially into women's ethical self-making. More broadly, this paper gives phenomenological attention to the ways in which women encounter and experience the social power that underpins self-tracking apps and wearable technologies, and explores how these gendered data regimes mobilise women's sense of self and the world.

Session 6f

Niklas Barth | LMU München

Facebook's Secretaries: Digital Infrastructures of Non-Discursive Communication

It has been observed numerous times that Facebook's business model takes advantage of the emergence of sociality and subjectivity. It also has often been observed how the back end archiving of information leads to a problematic control over private data. What has been noticed less frequently is how this logic of the archive, of

archiving communications, produces specific (un-)desired front end effects and triggers a "secretary culture" (Siegert/Vogl 2003). This paper will therefore analyze Facebook's specific media infrastructure and especially the practices of handling the like button. I will present some typical themes and motives that popped up in interviews and online ethnographies that were conducted in a DFG-funded project interested in practices of "Privacy and Publicness on Social Networking Sites" (Barth/Stempfhuber 2017). Complementing critical views that analyze these practices of liking as instances of a culture of insubstantial communication, the data hints at the discovery of a media ecology that is characterized by secretary work. While users are busy registering, taking stock, filing, administering and organizing contact lists, commentaries, photos, and likes, a contemporary technique of secretary self-management and self-accounting comes into view. In this respect it is interesting to turn to an observation that has been made by numerous authors in the Digital Humanities. This observation notes, in the twenty-first century, a replacement of the hegemonic model of narration by the model of the database. In this model, the users' "stores" get enumerated and itemized in the lists of the network – but there is no consistent (hi)story that is being narrated anymore. What my data suggests, however, is that users more often do not expect or demand consistent stories of narrative closure: 'Meaning' is here much more organized than it is interpreted. The figure of the secretary is therefore raising fundamental questions regarding the historiography of digital infrastructures as well as regarding the idea of communication the users are drilling within this media ecology. Communicative expectations, here, are not following the frames of bourgeois dialogue or participative cooperation between users. These secretarial practices are not concerned with the deciphering of content, but with registering and administrating of communication. Against the critical view that "algorithms have to be (re-)translated into narration", within the media ecology of Facebook there are also instances in which practices emerge that are non-discursive ways of coming to terms with contingency of a digital society.

Session 3g

Paulo Batista | University of Évora

The Integrated Information Management and the Records Continuum Model

The "documentary explosion", which occurred after Second World War, operated a rupture in the Archive, with the distinction of record managers/records

management and archivists/archives. However, from the 1980s onwards, in Québec, where the archivists have made great progress, attempts are made to disrupt this tendency by considering the entire documentary cycle from current to definitive information. In this dynamic, Carol Couture and Jean-Yves Rousseau are indispensable for the understanding of the three age theory, for the definition of archival as an integrated discipline and for a structural understanding of archives within the scope of this theory. These authors publish in 1994 Les Fondements de la Discipline Archivistique, where they present a new interpretation of Theodore Schellenberg's three age theory. They claim attention to the fact that the three phases of archival documents are not separate but, on the contrary, integrated. Therefore, according to these same authors, the three stages can even be understood in a segmented way, but only so long as it is possible to guarantee the union between them. The great innovation of this proposal, relative to that presented by Schellenberg, is precisely the criticism of the division and isolation between the three ages of archival documents. In this way, archival proposed by Couture/Rousseau integrates all the phases of the life cycle of the documents, in a continuous logic of the archival tasks, from its production until the diffusion, as opposed to its separation in two different areas, a sterile terminological discussion, as advocated by traditional archives and document management. Nevertheless, I consider that the proposal that best portrays the lack of ruptures in the integrated management of information, placing the files in the post-custodial, informational and scientific paradigm, is the model called records continuum. It is a proposal of the Australian archival of the 90s of the twentieth century, a period of great evolution of information and communication technologies and the appearance of new media, forcing the redefinition of the object of study of Information Science. I can conclude that the records continuum is very close to the integrated management model of Couture/Rousseau, perfecting it and supplanting it in its systemic dynamics and continuity between archives. In fact, records continuum means, literally, continuous management, contemplating the files from the producer service to the definitive archive. In this sense, I understand that when we talk about watertight areas – current, intermediate and definitive – this happens more in theory than in practice, there is in fact no separation between them, let alone from the point of view of the value of documents. It follows that the traditional antagonism between information with probative value and information with historical value ceases to be posed, since this information is simultaneously the same.

Session 7e

Bernd Behr | University of the Arts London

The Paranoiac-Critical Method of Reflectance Transformation Imaging

This performative lecture addresses Reflectance Transformation Imaging (RTI), an open source computational photographic process that is part of a portfolio of 3D scanning applications that are transforming methodologies in archaeology and heritage conservation for its ability to interactively re-light artefacts within a virtual hemisphere of illumination and extrude a virtual topology that is hyper-legible in space-time. Tracing a speculative genealogy from its contemporary application in facial recognition via Bertrand Tavernier's 1980 science fiction film *La Mort en Direct* and a return of the death mask through digital extrusion, the talk locates a progenitor of RTI in Surrealist photography and the fugitive facialities of Salvador Dali's Paranoiac-Critical Method. As emerging imaging technologies such as RTI are seen to open novel ways of extracting latent data from historical artefacts, reassembling objects of study in a new (virtual) light, collateral opportunities provided by these technologies to reenter archival still and moving image recordings inadvertently recalibrate their spatio-temporal ground and destabilise their indexical reading through an excessive production of new traces and signs. If methodologies can be seen to play a significant role in constructing their objects of study, then emerging computational imaging operations such as RTI have their own subjectivities to disclose: In performing a media archaeology of this digital process, the talk proposes that we not only narrate the subjects of our study but the very tools of investigation themselves.

Session 4i

Gesa Biermann | Ludwig-Maximilians-University, Munich
Yuki Asano | Oxford University

Which Way is Vegan? Navigating Patterns of Content Creation from Online Recipe Data

Human activity is the main driver of environmental change in our current era, the Anthropocene. Agriculture and food production represent a large portion of environmental burdens, currently contributing over 25 % of global greenhouse gas emissions. Pressure from food production is likely to increase in the future due to the combined effect of population growth and a shift towards more animal

protein. While most efforts to close the food gap focus on increasing production, by either expanding agricultural land or increasing crop yields, the issue can – and should, given the magnitude of the challenge – be simultaneously addressed from the consumption side. Drawing on social practice theories, food consumption is seen as a routine behavior comprised of skills, meanings, and materials that may change over time. Digital technologies are increasingly not only supporting our daily lives, but also shaping patterns of habitual practice. In the case of food consumption, digital technologies are causing a convergence of the private and public spheres: social media platforms, such as Instagram, Twitter, Facebook, food blogs, and recipe websites allow the public a glimpse of what is cooked and eaten at home. The stronger convergence of individual factors influencing food choices (e.g. attitudes, skills), with social (e.g. norms, role models), and physical (e.g. access, availability) environments, opens up new arenas for the evolution of more sustainable food practices. Until now, research situated at the intersection of social media and food has focused on either health aspects, trends and consumer preferences, gender differences in cooking or improving machine learning models. Analysing big data from social media activities with regards to sustainability topics generally, and the environmental impact of the food system more specifically, is still in its infancy. It is unclear, how ongoing food trends, user preferences, and patterns of content creation, in relation to environmental sustainability, are reflected in social media. The presented research aims to close this gap, by evaluating trends – with a focus on proxies for environmental sustainability – of a large dataset of over 240.000 recipes from the most frequently visited German recipe website. A complex network approach is used to develop a highly informative 'recipe atlas' to reveal the latent structure of the data and author behaviours. The atlas reveals significantly higher cooking times – and therefore increased environmental pressure – for meat-heavy recipe clusters. We further find user-driven tendencies towards veganism that are even stronger than the growing offline trends. Overall this project advances the knowledge on the evolution of food practices, highlighting recipes as exploratory spaces for the co-creation of what we should eat, in a future sustainable food system.

Session 4e

Nicole Braida | University of Frankfurt / University of Mainz

Call for (Inter)Action: The Construction of Solidarity in Interactive Practices

In 2015 the interactive filmmaker Chris Milk announced in a Ted Talk the invention of the "empathy machine". There he presented his latest VR project (a collaboration between UNHCR and *The New York Times*), that focused on the daily life of a Syrian girl in a refugee camp. Such "media for change", as some scholars and producers refer to, are not something new, but this definition emphasizes their focus on the plurality of media forms that engage in the humanitarian dialogue. But what is the "change" they claim for? Might "interactivity" be misunderstood as action? In some examples of what Chouliaraki calls "post-humanitarian" communication the viewing of the distant sufferer has turned, starting from the 70s, into a self-referential act. This "ironic spectatorship", claims Chouliaraki, is a symptom of a more general historical shift in the communication of solidarity. This contribution aims at discussing, through different examples of interactive non-fiction practices on the web, the ambivalent outcomes of what is usually termed as a media for social impact or "media for change". The use of participatory affordances and other computational features offer the user to choose the path, to engage on different degrees, to contribute to the story or to experience exile on first hand and empathize with the vulnerable other. But is the promise of action real or an illusion? Is this transformation rather a symptom of the 'instrumentalization' of solidarity in the global humanitarian market? The paper will address these questions and try to understand this critical ambiguity, providing an interdisciplinary approach that aims to shed light on their different computational features.

Session 2d

Carol Breen | Coventry University

In the Age of Post-Photography, How long is a Photograph?

There are many different definitions of post-photography, Shapley claims that while the body of photography can be absorbed in a post-media colossus, its soul is not so easily subsumed. Moreiras argues post-photography is a marriage between image, technology and internet while Carmerotti speaks of a new photograph, the hyperimage, which goes beyond the pure realm of photography.

Others claim post-photography is not a style or a historical movement but a rerouting of visual culture, a new relationship with images. Photography and film are often understood as opposites when it comes to their respective medium's temporality. I would like to revisit this notion given the new forms of micro-temporalities that have arisen post-internet. Do these new conditions require us to re-consider certain ontological qualities? This video essay sets up interactions between my practice-as-research *Litter Rhythms* and theories about length and stasis in post-photography. *Litter Rhythms* is an evolving accumulation of remakes. Using recordings of live video feedback loops as the source material, I continue to create many versions of this footage, reworking it using a variety of methods. I re-photograph and re-order these documents, export, multiply, layer, frame and re-import, using apps, and misusing image driven social spaces.

Session 3c

Johannes Bruder | FHNW Academy of Art and Design

The Calm after the (Brain) Storm: Imaginaries of Planetary-Scale Computation and Cognitive Labor, ca. 2018

My paper discusses models of cognitive labor emerging from contemporary designs of 'intelligent' infrastructure. I argue that what we are witnessing is a shift from collective deliberation – as exemplified by the creativity technique of brain storming – to individual and internal processing – as in: mind wandering – that establishes common, algorithmic ground in between psychic and media technological systems. While infrastructure is thus becoming intelligent, human intelligence appears increasingly introverted and infrastructural. In a time where cities are about to become smart, logistics are governed by algorithms, and forests turn experimental, infrastructure is gradually moving out of the shadows that modernity had cast on it. Corporate re-development and a flurry of intellectual activity around the proposed geological epoch of the Anthropocene provide infrastructural imaginaries that differ considerably from the seemingly concrete realities of warehouses and highways. Intelligent infrastructure appears as mindful when we touch upon its always observing and sensing 'skin' that wears us to augment itself rather than providing a passive grid to the movements of goods and people. While scholars and artists engaged with the Anthropocene hope to shape this vast sensing machine to their own ends and curate new, post-human ways of sensing a damaged planet, the stakeholders of smartness have placed their bets on improving the creative capacities of their always monitoring infrastructure

by modeling the algorithms of human creativity *in silico*. Researchers of Google's DeepMind division, for instance, revived the idea to program information processing algorithms deeply rooted in – global northern – cognitive (neuro) science to make better use of data emerging from smart environments and develop new understandings of human cognition. Sitting in between psychologies of creativity, the neuroscience of day-dreaming, and data science, these algorithms provide us with a model of creative cognition that scales from brains of cognitive laborers to planetary-scale computation infrastructure. My paper zooms in on the emerging entanglement between wandering minds and mindful infrastructure to critically engage with blueprints of cognitive labor in augmented environments of the future.

Session 2g

Fiona Cameron | University of Western Sydney

Technospheric Curation: Heritage and Art Collection Digitizations in Global Computational Infrastructures

Millions of images (digitizations) of heritage collections (natural, cultural history collections and art works) inhabit, reproduce and circulate on the internet. These images are generated through local institutional or national digitization programs; launched through collection databases via queries; shared through social media and more recently through Google Cultural Institutes' global digitization initiative. With technological development and change; the expansion of the digital economy; new types of digital platforms and media types such as Twitter, Pinterest; video games, mobile applications; the messiness of global computational infrastructures; the rise of automation and algorithmic governance; different types of mobile devices; the development of automations, cloud computing, the World Wide Web; the destructive forces of media waste; the mining of rare earth minerals; the advent of climate change and the Technosphere, the digital heritage enterprise are drawn into vast, deeper and more complex ecologies of life itself. Strikingly an ever expanding range of coordinates and subjects enter the field of the things we call digitizations. In this presentation I theorize digitizations, users and acts of curating more deeply as new types of complex ecological compositions and events within global computational infrastructures. Here digitizations and their coordinates are embedded, extended and distributed interpenetrating human and non-human life itself from deep time through the geological and material substrates in which the raw minerals used in the making of hardware

are embedded to the exploitative labour practices, global supply chains from which they are made and remade. Further to this, museum collections and their digitizations are no longer solely national, geographically located or human centred, rather they cross multiple national territories and are subject to machinic jurisdictions. To analytically grasp all these things, I develop the notion of the digitization as non-identical, sprawling, unruly ecologies and curating and the curatorial as ecological processes of radical interconnectivity and interoperability made actionable by the multifarious affordances of its thingness. Here curatorial agency as a concept that denotes acting in the world in contemporary art practice takes on a different meaning as the affects afforded by the conation of ecological (social, biological, cultural, technical) forces as emerging compositional alliances and as a different type of eco-cognition and politics. To illustrate this, I draw on a series of curatorial events: the controversy over the 300 movie and the Allah ring in the Viking collection at the Swedish History Museum, Stockholm and the Ubra and the Thob (Palestinian wedding dress) from the Museum of Applied Arts and Sciences (Sydney).

Session 1f

Tanja Carstensen | LMU Munich / University of Hohenheim

Agency in Digital Cultures

Without doubt, digital technologies are currently part of greater transformations of society. A range of relevant analyses focusses on different anticipated, predominantly negative effects: the intensification of economic and political power relations, the establishment of new regimes of surveillance, neoliberal self-disclosure and (self-)exploitation, quantification and discipline as well as discrimination and manipulation. Reasons cited for these negative scenarios are the power of Facebook, Google, and other internet giants; the scope of platforms, bots, and algorithms which increasingly shape, direct and evaluate human actions; self-tracking apps which lead us to a new stage of self-monitoring and self-control; as well as the rise of artificial intelligence and robotics which question ideas of humanity. Furthermore, digital technologies are ubiquitous and thereby often invisible, producing data continuously and unnoticeable. Many of these prognoses assume the loss of human autonomy and sovereignty. At least, these transformations evoke new demands and new forms of subjectivation. While the mentioned approaches address important issues, however it would be inappropriate to consider the dissemination and use of digital technologies

only a practice of subjection under these new regimes and demands. Neglected in these are perspectives asking for individuals' own strategies and how individuals contribute to and shape digital culture. Using data from a number of empirical projects on the use of digital technologies at work, in everyday life, and for political activism, I would like to further develop a concept of agency in digital cultures. My interviews and observations show a variety of practices which reveal different obstinate or resistant adoptions of new technologies. Alongside a range of productive usages which strategically try to meet the requirements of digital technologies, we can observe different ways of personally evading digital demands. Furthermore, it becomes obvious that the technologies are often reason for struggles, modifications and negotiations. Referring to different concepts of human agency in theories of STS, gender studies and digital sociology I would like to discuss the question of how agency in digital cultures can be conceptualized. The contribution would like to develop a perspective on digital transformations, focusing on the room to maneuver within the process of digitalization. How do individuals contribute to digital transformations, how do they negotiate technological and social changes, and in how far do they become obstinate, passionate, stressed, dismissive, or resistant actors of digital cultures?

Session 5h

Nadine Chambers | Independent Researcher, Canada, Jamaica and UK

From Here You Can Sense The Sea: A Paper Archive Sojourner's Notes to Black Digital Humanities

This chapter serves as a meditation on significant technicalities noted in the process of travelling through archives in Jamaica and England tracking the documentation of human struggle over of a specific area of land from the 1600s into the present. My approach is grounded in my self-definition: inheritor of post-independence knowledge systems and witness to the creation of the Digital Library of the Caribbean as a transatlantic traveller privileged to have time and access to paper/material and digitized archival records. With these points as guides, the chapter will tackle the question of neo-colonial scholarship by thinking about archives as related to the Caribbean. The reader will be invited to think through the power, ethics and labour of archive creation by conjuring a sense of the Archive as a built house reconstituted. Yet this labour to reconstruct all or part of the house in other (analogue or digital) locations is often an unspoken part of the making of knowledge repositories with huge consequences regarding records left behind or

kept by colonizers at the point of administrative departure from the Caribbean in the 1960s. If the old non-digitized archives fall into dust; are ravaged by hurricane floods or razed by fire – what is to be done if new formations of storage of historical records are vulnerable to issues of digital gatekeeping? Are they even more fallible to power outages, system migrations and server failures than a dusty reading room? Serious attention to the material archives may be engendered by considering the issue of errata in digital records of the analogue and the enclosure of digital records through access-for-profit. It is impossible to ignore the infrastructure-of-location that effectively loses material and limits access to community researchers and 'everyday people'. Finally, the chapter aims to point out the normative space occupied by errors, often encountered while doing research on topics that are 'just mentioned' or are peripheral to the white gaze that makes up the imperial archive. What constitutes the ten percent of migration error or loss within a colonial entity such as a large European repository may constitute the total information collapse for a small island community struggling to decolonize through direct access to those very colonial records. Every day is an opportunity for Black Digital Humanities to begin a new conversation – not with other Digital Humanities projects – but with the material of older scholarship that has never gotten its due. Inspired by questions of the entrapment of colonial cartography; can we launch return missions to restore and re-catalogue the analogue archives as we rewrite history for our futures imagined without overwhelm or seduction by the information slam created in the age of Google and big data?

Session 6g

Angelina Chamuah | Delhi School of Economics, University of Delhi

The UN-MACHINE: Machinic Subjectivity in the World of Human-Robot Interactions

To speak of a machinic subjectivity is to argue against the traditional models of understanding the subject and its relationship to the world. Within the social sciences, the recent turn to new materialisms and debates on object-oriented ontology seeks to destabilize the received knowledge of imagining a subject. Who is a subject? When and how? At the same time, the term 'machinic' has also taken on a new meaning, as a distinct opposition to both the natural and the artificial. I evoke the question of machinic subjectivity, across three registers/relationships of the human, the robot and the performative space in between them. This paper locates itself at the intersection of robot design architectures and different modes

of robotic agency. The successful emergence of socially intelligent robots, with the capacity for learning, and 'autonomous' interaction with human interlocutors raises for us the issue of machinic selves. Who speaks when the robot says "I, you, me"? Or alternatively, when it directs its gaze at you, follows you around or directs your attention to another object in the room? How are machinic selves being imagined by those who design and interact with cognitive robots? It is argued that the subsumption style architecture and neo-modularity in robot construction, leads to the triangulation and overlapping of the categories of the self, the other and the object in the case of human-robot interactions (HRI). Further, the design architectures of robotic entities relies on the scientific knowledge of extant intelligent systems such as human and animal biology, neurophysiology and psychology. Here I question the possibility that the technologies of robot creation which seek to approximate the mental and physiological aptitudes of the human and the discursive regimes within which they are located renders the idea of the human itself as a form of technology. Third, by provoking the question, "do cognitive robots have subjectivity?" from a sociological and performative vantage point, I explore the formation of a new field of social relations between humans and machines, which do not adhere to Cartesian dualisms of the mind/body, subject/object. To speak of machinic selves is not mere anthropomorphising – of projecting too much of ourselves into these very life-like entities, nor does it rely on theoretical sleights of hand, reordering old categories (like the subject) to fit a new context (robotics). It is the context, which defines the concept in this particular instance. Through an exploration of robotic speech, gesture and narrative within the milieu of HRI and the design architecture of robots – be it in the form of a robotic AI, which keeps a public diary or through a robotic pet that learns to modify its behaviour in response to it's owner's, this paper seeks to articulate the processes through which the embodied alterity of a 'robot-self' is performed.

Session 3i

Aleena Chia | University of Jyväskylä

The Ultimate Medium: The Politics of Immediacy in Neuro-Surveillant Wearables

In 2014, engineers and entrepreneurs began meeting up in San Francisco to explore how electroencephalography (EEG) headsets could combine with virtual reality and immersive media to stimulate altered mental states. They imagined the mind

as the ultimate medium for purposeful dreams, flow states, positive emotions, and New Age revelations about the self, unconscious, and nature of experience. They called these practices "consciousness hacking" and referred to research, financing, design, and promotion of these wearables as a movement. As brain-computer interfaces infiltrate consumer electronics, familiar promises of big data analytics to reveal hidden patterns in public behaviour and sentiment are being extended to private cognition. How do consciousness hackers imagine the emergence and apotheosis of this erasure of mediation through neuro-technologies? How can analytic and artistic engagement with this enduring fantasy of communicative immediacy in its most invasive form resist the economic, regulatory, and cultural demands of surveillance capitalism? Instead of demystification, this research co-constructs the political and poetic by expressing the form and feeling of people's techno-spiritual beliefs beyond its referential content. Instead of myths, the neuro-technological quest for immediacy is a futuristic yet ancient 'necessary fiction' that provides a window into the worldview of engineers and entrepreneurs designing devices through which we think, feel, live, and work. This project combines media archaeology and qualitative textual analysis of crowdfunding campaigns of EEG wearables promoted by consciousness hackers. Interrogating the material archaeologies and techno-spiritual genealogies of this ancient yet futuristic desire for communicative immediacy elucidates what media theorist Friedrich Kittler calls proto-metaphors for understanding the self and the world. This can help researchers, practitioners, and users redirect neuro-surveillant media ecologies toward more democratic values. This project demonstrates the value of critical inquiry into contemporary technoscience, its models and mechanisms for the human sensorium, and its metaphors that we live by.

Session 2f

Cristina Cochior | Creative Coding Utrecht

Data Saturation as a Response to Data Saturation

In recent years, open data has become a buzzword for many city council representatives, as the potential catalyst for change. However the change that is most often referred to is an innovation-friendly economic growth for the private sector, and less so the social change which is implied by expressions that we often hear around this subject, such as 'citizen engagement'. In his 2014 paper, "Towards a Genealogy of Open Data", Jonathan Gray talks about the metaphor of "government as platform", where governments take on the role of

the provider of raw data that can then be transformed by the private sector into innovative applications. However, by placing the further development in the hands of non-governmental entities who have a clear economic incentive to sell a product, the empowering potential for civil actants is diminished. Very often the process of opening up data is reduced to uploading a few hundred datasets on an internet portal, without providing a context, and without assuring any kind of insight into how it was generated. Complex as the current state of open data may be, it still provides some transparency into what is being collected. But the question remains, in the age of smart cities, what is the potential of data that is not seamless, that refuses to be captured or categorised? This paper argues that using drama as a means of instilling affective relations back into datasets can be a way of addressing areas of conflict productively. Data dramatisation is a term coined by the speculative architect and artist Liam Young and further theorized by artist Memo Akten. The conditions of Data Dramatization, according to Atken, are especially interesting. He posits that in order to "dramatize data, you must first understand it". He proposes an interesting case of science-fiction that is focused on the present, not the future, or where the current developments in technology inspire fiction stories, rather than the other way around. Although data dramatisation as defined by Atken attempts to resituate discarded knowledge, it also implies that the act of aestheticisation only happens at the level of the artist's intervention. The aesthetical rhetorics used in the production of the data and in its visualisation is presumed to be neutral. I propose to refer to data saturation as an alternative term. In photography, saturation refers to the degree of difference from the grayscale. Informed by Matthew Fuller's concept of gray media, data saturation refers to a selective emphasis in the process of data formation. Similarly to data dramatisation, it seeks to provoke an empathetic or emotive response in its audience, but it does not restrict on using fictional or non-fictional methods as it believes that there is enough drama that these technologies provoke already that can be brought to the forefront. Can data saturation be used as a means of making data legible for citizens and to stimulate their involvement by proposing new imaginaries?

Session 1f

Hart Cohen | Western Sydney University
Micahel Darroch | University of Windsor

The Toronto School and the Pre-History of the Digital Condition

This paper analyses theorists who group around ideas related to digital mediation, digital media memory and the digital interface. From medium theorists, such as Innis, McLuhan and Carpenter, the moment in the intellectual history of communications represented by the Toronto School's interest in "understanding media" provides a comprehensive account of media as "civilizational bias", "extensibility", and as "acoustic space" in which a new sensorium is proposed for the twentieth century. These thinkers portend a digital world which is post-national or "globital" (bit+ global). Arising out of medium theory, the intellectual development of media archaeology emerges with a transformed idea of media in a in a post-mass media age where dominated by screen worlds, the interface takes command. Edmund Carpenter whose engagement with both archaeology and media within the innovative journal *Explorations* (1953-59) is less well known than McLuhan. But it is Carpenter who best provides an early articulation of media anthropology in advance of the contemporary articulation of media. His research and methods using new media to engage with archaeological and contemporary studies of Western and Indigenous cultures made singular contributions to cross-disciplinary media, communication, and cultural studies. Carpenter's media experiments and anthropological research have had a strong but understated impact on media and visual cultural studies made popular through McLuhan's brand of media ecology. In a broader context, his work offers a window into the networks of interdisciplinary influences that produced many of the insights about media that are now used to interpret mediated and networked cultures. The paper will take up points of contact between the Toronto School, related thinkers and the emergence of media archaeology in the context of German media theory's re-calibration of media thinking in the twentieth century. We submit that the roots of contemporary digital communications discourses can be traced to formative concepts in twentieth century media and communications thought associated with the dynamic thought experiments of Toronto School and in particular the work of Edmund Carpenter.

Session 5e

Jens Crueger | Digital-Historiker.de

Big Data in Archaeology: A Transformative Novel Approach?

Although archaeologists have lots of experience in multidisciplinary research collaboration and in adopting digital methods, a datafication of the discipline has not yet happened. Nevertheless one can assume that in the near future Big Data will be disrupting the archaeological epistemology, since by now the focus is set on regional and culture specific questions, whereas Big Data will allow much more far-reaching research questions. By this, the Big Data technology will undoubtedly introduce a novel archaeological approach, whose characteristic is "to use a lot of data; to accept messiness; to move from causation to correlation" (Gattiglia 2015: 113). By this, the archaeological practice, theories and paradigms might be radically transformed. On the other hand one has to be well aware that archaeological theories, methods and practice are strongly influenced by general concepts and paradigms which are perpetuated over a long time by archaeological schools. From the historical lessons we've learned in the past century, new methods and tools introduced to archaeology do not necessarily mean a shift of these scientific paradigms. The neopositivist culture-historical approach, which dominates in Central European archaeologies, is still nearly as unquestioned as it was a hundred years ago. One has to admit, that this approach "perpetuated within the discipline without much regard for and impact of changes to epistemological approaches outside it" as Karl recently argued (Karl 2017: 93). How will this old approach, focusing on accurate descriptions of archaeological material, go along with the messy Big Data approach? How will our idea of the past be affected by this future shift of paradigms? Will Big Data produce a more global perspective of the past?

Session 1i

Mitchell Dean | Copenhagen Business School

Acclamation, Social Media and the Manifestation of Truth

This paper builds upon previous work that has sought to understand social media in contemporary liberal and democratic politics through the concept of "acclamation", a central element in both religious and political liturgy. Acclamation is a specific public "mode of veridiction" (to use Michel Foucault's term) or "truth-

telling", akin to prayer, hymns, oaths, pledges and vows. It has oral and gestural elements, such as tripartite chants and the raising of hands or waving of flags, that accomplishes the democratic (or, if you like, "populist") identification of the ruled and ruler, of citizen and nation. I have argued that acclamation is a practice that forms democratic publics, whether as the direct presence of the "people" in public assembly (emerging from the Greek and Christian *ekklēsiae*), or as the "public opinion" (Walter Lippmann) of the mass media of the twentieth century and the liberal-democratic public sphere, or today as what I have termed the more volatile and evanescent "public mood" decipherable through countless social media postings, "likes", and so forth. This line of thinking is fruitful in understanding the links between the simple, individual act of "liking" and cornerstone events such as the 2016 presidential election in the United States, Brexit, and recent public controversies over the use of Facebook data by Cambridge Analytica. Here I focus on how approaching acclamation as a mode of veridiction displaces the analytical terrain from the opposition of truth and "untruth", real and "fake news", to different modes of the manifestation of truth. The current paper shifts the focus to the wider aspects of public service (*leitourgia*) that is called liturgy and what Nicholas Heron has called "liturgical power". Liturgical power distributes and apportions sovereignty in a vicarious and "economic" form that can only be enacted but never possessed. Liturgical power opens the "fan" between sovereignty and government (Roberto Esposito). Today, social media occupies that space in contemporary liberal democracies. It at once performs a theological-political function of the enactment of glorification and an economic-theological one that establishes the circuit that converts the accumulation of accumulation into the accumulation of capital. While users of social media are formal equals, the pastoral relation of shepherd and flock is everywhere attested.

Session 3f

Donatella Della Ratta | John Cabot University

The Dark Side of the Networks: Syria and the Future of the New Millennium Networked Warfare

This talk argues that the Syrian conflict, started in 2011 as a grassroots uprising and later degenerated into a bloody proxy war with no end in sight, presents with a new pattern of warfare – the new millennium networked warfare – where violence and visibility are dramatically intertwined. Syria is the first fully-developed networked battleground where the technological infrastructure supporting networked

practices of uploading, sharing and remixing, together with the human network of individuals engaged in those very practices, have become mutually implicated in the production and reproduction of violence. Here the entanglement of visual regimes of representation and modes of media production, with warfare and modes of destruction, has prospered on the participatory dimension of networked communication technologies, bringing to the surface the dark side of peer-production, sharing economies, remixing cultures. This participatory dimension is built on a network of subjects constituted, at the same time, by the anonymous, grassroots users celebrated by convergence and remix cultures, yet also by the political and armed subjectivities active in the civil war; probably overlapping, and both generating and exchanging content in the form of paid, unpaid, or underpaid digital labor. The talk proposes a theoretical reflection on contemporary warfare that draws on the empirical case of Syria, and on the complex human network of media and meaning makers – each of them producing a personalized 'me' version of the events mirroring a fragmented network of divided, armed and violent subjectivities that makes up the infrastructure of the country's current conflict. As media production accelerates, with more remixes, more platforms, more accumulation of layers, more 'me' versions of the events, in a seemingly endless mode of data circulation; so war also accelerates and degenerates, involving more actors and interests (at a local, regional, and global level), expanding in the time continuum, apparently with no end in sight. Permanent acceleration of media mirrors permanent acceleration of warfare, and vice versa. It proposes to think of a new mode of warfare and a new mode of visibility, both based on a mutual 'neverendingness', as the conflict evolves along a multi-layered time continuum that seems unlimited, and its space dimension explodes and expands in a way that mimics networked processes. Syria does no longer exist as a coherent geographical entity, as at the time of writing the regime controls only certain areas, while rebel factions oversee pockets of territory across the country, as well as the Kurdish YPG. Furthermore, Syria's space-continuum expands also in the virtual, global-embracing entity of ISIS backed caliphate, which might find a material existence in a given territory – as it previously happened with Raqqa –, yet regardless of its alleged physical elimination continues to survive alive and well in the networked environment.

Session 7b

Marcos Dias | Maynooth University

The Machinic City: Future Visions of Digitally Mediated Citizenship

This paper addresses the relationship between contemporary future models of the digitally mediated city and citizenship agency and participation. The efficiency and predictability sought by the concept of the smart city can be traced back to earlier visions of the city-as-a-machine, from modernist urban planning in the early twentieth century to the aspirations of the post-World War II cybernetics movement. The city-as-a-machine vision was complemented by the ideal of the rational citizen as a key constituent of metropolitan life and of the concept of hybrid human-machine forms envisioned by twentieth century avant-garde art movements (such as Futurism and Russian Constructivism). These ideals have been propagated and supported in the contemporary digitally mediated city by the potential of ubiquitous communication technologies distributed across the urban fabric acting as intermediaries between the smart city's mechanisms of control and citizens. However, in an era of extreme competition for natural resources, human talent, economic power and global prestige, the smart city model is also driven by economic and sustainability premises. As national and local governments enthusiastically embrace the smart city formulas proposed by multinational technology companies such as IBM and CISCO and combine them with local initiatives of smart citizenship, the role and the agency of the citizen as a hybrid human-machine (or posthuman) is less clear and often downplayed or pre-empted. I propose an alternative framework for envisioning the future of citizenship in the digitally mediated city that interprets the city as a collective of machines of different efficiencies and purposes, defined as the machinic city. This framework interprets the machine as a performative actant subject to failure that is assembled with other machines through distributed agency. Such machines are abstract and material, human and non-human, assembled dynamically and holding value in potentia. While outlining these machines, I place particular emphasis on the importance of the aesthetic machine as a performative agent that enables reflection on our participation in the city and relation with other citizens. Towards this aim, I argue that the aesthetic machine is not an autonomous actant pitted against the city-as-machine model, but rather an assemblage that traverses the other machines identified as part of the city, triggering a dialogical process where mediated urban life is assembled and subject to ongoing negotiation. Such

a process, I argue, must be supported by a critical analysis of participation defined through the mutual relations between the agency of citizens, technological apparatus and several other machines. To illustrate my arguments, I present examples of participatory art interventions in and about the city, discussing their social and spatial outcomes and their ability to enable reflection on future citizenship in the digitally mediated city.

Session 7f

Martin Doll | Heinrich-Heine-Universität Düsseldorf

Staying with the Trouble: Understanding the Political Implications of Drone Warfare with Carl Schmitt

In my presentation I will talk about drone warfare in terms of its infrastructural and decidedly political dimension. Donna Haraway's motto "Staying with the Trouble" helps us avoid romanticizing relational thinking. Assemblages and entanglements between humans and technology have also been involved "in the history of control and the correspondent rationality of power" (Hörl). In part to avoid this involvement, Haraway moderates the theory of assemblages: "Nothing is connected to everything; everything is connected to something." For my talk, following Haraway, I will analyze the drone wars as a particular set of "connections", an ensemble of heterogeneous moments. My aim is to understand the specific intertwinedness between places, times, technologies, and human beings in drone warfare. On the last item: human beings and the political community, we need to ask again: what is the status of the political decision? What is the status of the political decision in the frame of action between data surveillance and signature strikes, especially in the course of their increasing automation? In order to ask this question, I will refer to "the toxic and nevertheless indispensable Carl Schmitt" (Latour). Schmitt explains "The Concept of the Political" with the specific distinctions between friend and enemy, which also lead him to the distinction between warfare and international police work (basically a mode of intervention "hors-la-loi"). By analyzing drone warfare in terms of its (media) ecology, through Schmitt's concepts from the realm of international law, it is possible to reassess the (un)political implications of drone wars understood as high-tech "everywhere wars" (Gregory) without a prior declaration of war. In order to exemplify the new "political" that emerges in these assemblages, I will refer to the depiction of drone warfare in the movie *Good Kill* (2014). Seen from a media ecological perspective the film not only shows the entanglement between humans

and technology, but also the operability and agency of a complex assemblage of different media (practices), including film, video, TV and sensor technology, not to mention data mining and pattern recognition. I'll end with a short reflection on the political aftermath of the possible future operability of unmanned aerial vehicles (UAV), built as "fully autonomous intelligent systems" (the marketing copy of the unmanned "Taranis" currently being developed in the UK).

Session 5f

Ariana Dongus | Hochschule für Gestaltung Karlsruhe

The Camp as Labo(u)ratory

This paper is part of my PhD project. It investigates the specific characteristics of camps, more precisely of refugee camps, as places fulfilling a unique function. The camp is conceptualised regarding its utilisation as a biopolitical laboratory for the testing of experimental technologies (biometrics) and its availability to provide labour force in the form of biometric data-work. Biometrics are understood as an aspect of algorithmic governance, a historically young dispositif which acts by the indirect steering and control of human and non-human actors through computational norms. The refugee camp is emblematic in the sense that it is a product of deregulation in the twenty-first century: The UNHCR, an institution acting locally, transnationally and globally, decides on the life (and death) of millions of people, sometimes forcing them to enter one of their camps. In 2016, 65.6 millions were fleeing, according to UNHCR. How they live and are treated in the camps shows how the UN organises, administers and commercialises unwanted people. In the logic of "something must be done" political, medical and policing tests are conducted. Historically, new technologies and experiments were always tested and carried out on minorities or on groups seen as inferior. Camps are usually political-juridical grey areas, characterised by their extra-territoriality and the regime of exception and marginalisation. There are multiple continuities and connections between the politics of biometrics today and former pseudo-scientific methods of measurement, like Galton's fingerprints or the Fowler family's phrenology. This paper proposes to illustrate this colonial continuation of identification strategies as way of creating (surplus) value. Whilst in the global north new technologies are tested in a legally defined laboratory situation before market maturity, the refugee camp is the laboratory and the refugees are its live test objects. This is why this paper proposes to investigate how refugees of the global peripheries become experimental, precarious populations in huge

"Labcamps" where statistic, algorithmic and biometric technologies choreograph their performance and extract value. The body of the refugee is digitised: her identity becomes an algorithmic pattern that remains unique throughout her entire life. Her eyes can be scanned remotely. They are a data source. The modus of its mining is compulsory since receiving food, relief aid and, increasingly cash-based assistances as well, is mandatorily paired with biometric registration. Next to the aspect of the refugee body as a test object with a colonial history, the issue I want to tackle is the question of identity-work or data-work. How is she performing a relatively new form of work, informal, unpaid and precarious in the sense of "Immaterial Labour" (Lazzarato) in which her data-hybrid body plays a fundamental role?

Session 4g

Hatana El-Jarn | Leeds Trinity University

The Impact of CMC on Geographically Remote Cultural Communities and Diaspora

The past decade has witnessed a proliferation of computer-mediated communication (CMC), most notably in the contexts of social interaction and relationships. Individuals can extend the boundaries associated with traditional forms of communication and remotely connect with strangers or preserve existing relationships. For example, CMC creates opportunities for linking Diaspora with friends and kin abroad, accordingly "friction of distance" overcome through the use of technology. The literature demonstrates the need for further investigation into Diaspora communities use of CMC to augment our understanding; are they using CMC to maintain their interpersonal relationships; and is the information (intimate, trivial) exchanged any different from those being exchanged face-to-face. Specifically, this research is interested in how CMC is utilised for geographically remote intimate and personal relationships. Principally, the objectives being to explore the types of information exchanged, choice of technology, and if this differs depending on the type of relationships. Participants were selected from the Pashtun Diaspora living in the UK, with contacts based on the tribal-belt in Pakistan. Data was collected using a diary over four months to record daily communication episodes. We found the context of the conversations documented to be of a geographically remote cultural society. The cultural context and overarching tribal law strongly influenced the content of the exchanges; the laws possess a cultural message, peculiar to the ethnic participants

in the diary study. A discernible preference for the phone for maintaining their intimate relationships was demonstrated, being the closest medium to face-to-face interaction. Concomitant with the phone were the verbal cues and the two way synchronicity of the conversations that include intimate exchanges. For the diaspora, the phone is the first option when face-to-face is not possible. Privacy and tribal codes of conduct constrained communication content for some in the Pashtun community; a prevailing sense of formality and obligation towards others in the communication and momentous cultural considerations; culture dictates when CMC is used. Condolences or congratulations would be delivered using the phone, following a strict protocol of giving and receiving. In small villages, it can be surmised that many individuals would be kin related, due to the lack of social mobility and transport, consequently unsurprisingly these relationships would form the strongest ties. The upshot of the study is individuals interacting with CMC may be restricted in a tribal society governed by strict customs, whilst a disparate social structure will employ wider use of the technology. Thus, technology can be utilised given the social context within which it is used. Viewing the technology as a culture in its own right, stripped of all social context can create a barrier to acceptance and utilisation by some remote communities.

Session 6g

Jenny Fadranski | Technische Universität Berlin

Why Do We Want to Speak with Machines?

Talking machines have long been a fantasy of the scientists who attempted their creation, and of film directors whose science fiction imagined them. We live in a time of swiftly developing artificial intelligence and are surrounded by all kinds of synthetic voices that serve a variety of human needs. It is likely that this technological status quo is developing in the direction of increased verbal communication between humans and intelligent machines, as it is an intuitive way of interacting with computers. But talking to your computer is fundamentally different than using keyboard, mouse or touchpad. It is just so much closer to what constitutes us: our own voice. The analysis of science fiction films presents different scenarios of interactions with machine voices. I will focus on how the films 2001: *A Space Odyssey* (1968), *Her* (2013), and *Ex Machina* (2015) imagine verbal communication between speaking machines and human characters. I will start my investigation with the chapter "Multiplication of Voices", in which I expound a brief history of how artificial voices came into being. The second part,

"The Role of Voice in Human Machine Interaction", begins with a theoretical classification of voice. On this basis I argue that the voice constitutes a tie between machine and human. I will then turn to the analysis of the designated science fiction films. The superior speaking machine HAL in *2001: A Space Odyssey* displays a powerful computer that uses his voice to establish a dictatorship. The loving and caring speaking machine Samantha in *Her* serves the protagonist as a loyal companion. Their unfolding love relationship shows that the machine voice becomes a love object. The manipulative speaking machine Ava in *Ex Machina* is supposed to be tested for her level of consciousness but instead manipulates the interrogator by seducing him. In the third part, "Fragments of a Philosophy of Machine Voice", I suggest two hypotheses: (1) the machine voice as a performance of the technological power humanity subordinates itself to. I will show that the machine voice introduces a new era of machine, considering Thomas Brandstetters historical analysis of machine as slave and machine as servant. I argue that the speaking machine at least the kind displayed in the science fiction films is not a servant anymore. The second hypothesis is: (2) the machine voice needs to be considered in the context of the formation of the subject as such. Based on Mariana Schütt's analysis of the theory of interpellation in the writings of Althusser, Dolar, Žižek and Butler I will argue that the power of the speaking machine to hail the subject puts it in a position of power that the individual has to obey to in order to become a subject. There is still, though, the possibility of disobedience, which I will discuss regarding the relationship between human and machine voice. I will close with Žižek's idea of the voice as phantasma, and if that can be applied to the machine voice.

Session 6d

Delfina Fantini van Ditmar | Syracuse University

A Diary of the 'SMART' Home

The twenty-first century digital revolution is generating a new historical trajectory in architecture affecting how we experience and understand space. Through an analysis of the ecology of 'SMART' gadgets embedded in the home, the paper will investigate the socio-political influence of Silicon Valley's data-driven processes in architecture. The 'SMART' age with ruling parameters originated for industrial applications promises to make our lifes better, smarter, more efficient and sustainable. In response to the rapid growth and accelerating commercialisation of the Internet of Things (IoT), the study will problematize the ambiguities

of technology, interrogate assumptions and evidence a series of controversies around the apparent neutrality of its 'SMARTNESS'. By questioning and critically analysing the process of data extraction from our domestic space, the paper will examine: Which are the socio-spatial effects of having algorithmic principles mediating our relation with our homes? Which are the socio-political implications? What is missing in this quantitative approach?

Session 3g

Moritz Feichtinger | Universität Bern

The Positivist Pitfall

The presentation will discuss three aspects of a possible approach towards the historiography of the digital age and digital cultures: I will argue that the primacy of textual sources finally has to be overcome in order to research and write histories of digital cultures. Virtualization and virtuality cannot be analyzed satisfyingly by reviewing its emergence in the form of code and software alone. Objects, material culture and artefacts produced in the context and for the purpose of virtualization have to be integrated in any attempt to historicize digital cultures. Obviously, this represents a fundamental change in the conception and techniques of historiographical source-criticism. To discuss provenience and authenticity of digital-born sources requires novel skills methodologies, of which an understanding and analysis of the historic hardware and environments must be an integral part. Most attempts to write the histories of computer-use and the digital era often contain teleological tendencies and focus primarily on the western world. However, science and technology studies have recently elaborated innovative ways to analyze and narrate the histories of technological development, which seem to offer useful perspectives for the historiography of digital cultures. We could, for example, focus on failed or vanished techniques and applications, instead of those still predominant today. In addition, "digital illiteracy" might become a productive field of inquiry and a way to challenge the notion of an universal and unrestricted access to information and technology in the digital age. In the same vein, the different pace in the establishment of digital infrastructure and training in a global perspective has to be scrutinized. Similarly, non-western pathways and developments need to be addressed in historiographies of digital cultures, as much as the global division of labor related to the digital era and its local effects have to be analyzed. Despite the widespread appeal to overcome the nation-state in historiography, national archives as important

manifestations and representations of national sovereignty are still conceived to be the main institutions for selection and preservation of historical sources by the mainstream of academic historiography. Apparently, multinational corporations and associations of individuals across national borders are equally important or even more important stakeholders than states in the history of the digital era. Additionally, national and transnational governmental organizations have not yet adapted their practices of archiving to the possibilities and requirements of the digital age. As it has been demonstrated in various contexts, the digitization of correspondences has decreased the rate of documents and material released for public access. As a consequence, professional historians and archivists as well as the wider public have to fundamentally rethink and discuss the politics of the archive.

Session 1h

Mikkel Flyverbom | Copenhagen Business School

Anticipation by Data? Socio-Material Entanglements in Datafied Efforts to See, Know and Govern Futures

Data analytics and automated forms of pattern recognition are presented as the new frontier of prediction and forecasting. Data enthusiasts and big tech companies are busy rolling out data-driven approaches to security and police work, human resource management and other forms of governance in organizational settings. The goal is more accurate, more proactive, and more objective methods for the anticipation of developments on the horizon – the opportunity to deal effectively with the future in the now. This paper sets out to challenge such assumptions about digital data and algorithms as a direct path to anticipation through conceptual and empirical exploration. First, it unpacks conceptually the complex work and technological and social forces that go into such datafied forms of knowledge production. On this backdrop, the paper examines the make-up and operations of a data-driven, algorithmic tool developed by Google with the aim of anticipating and preempting radicalization in digital spaces, and shows the complex entanglements between resources and forms of knowledge production involved. The paper articulates how attempts to make social problems visible and governable through data and algorithmic sorting involve complex forms of labor and socio-material entanglements that deserve more attention. To understand how futures are produced and steered through data and algorithms, we need to return to fundamental questions about how social worlds are made seeable,

knowable and governable through situated processes of knowledge production. The paper contributes to emergent research on how digital transformations and processes of datafication condition and relate to contemporary attempts to frame and govern societal challenges and opportunities.

Session 1h

Joana Fonseca | University of Coimbra

The Aesthetics of the Digital Eye: The Surveillance Topos in Modern Literature

Imaginary futures involving the topic of technological evolution tend to express a dystopic environment. If we think about the main operations of dystopian literature, they usually express ideas of future societies under a series of control and surveillance mechanisms. When we cross the two main fields of literature and surveillance studies, we see that there are many aspects in which one reflects the other: and the process happens in both senses, in fact. If it is often literature that absorbs its inspiration in reality itself, there are cases where fiction has inspired reality, technologically speaking. The main focus of my contribution to this conference will be on these literary materialities of vision, of the scopic eye, which have grown and resurfaced in the reality of the social media we inhabit now. Thus, as reality has revealed new and improved surveillance devices, the latest literary output has also re-adjusted its way of referring to Big Brother's eye. It is not about human spies who follow their victims, or cameras hidden in a pen pocket, or over CCTV. The smartphone, the internet, and their social media environments have contributed to a new kind of ubiquitous surveillance that works and expresses itself in other ways.If we think of Foucault and his theorizing of the Bentham Panopticon, applying this scheme of pyramidal surveillance to many social institutions, such as prisons, schools, hospitals, etc., and trying to draw a parallel with our reality, we will not be able to identify who is watching us. As it has become ubiquitous, surveillance comes from many different sides and acts in many different ways, working no longer as a triangle of vision, but in a rhizomatic way. In fact, post-Snowden and Assange, and post-Snowden's comments on Facebook, accusing it of being a surveillance company, it is easier to understand that we, those who give our data for free, are being watched by many eyes disguised. This means that the expression of literary surveillance has also shifted from the eye of Big Brother, or similar, to a kind of surveillance that is not of the governmental but of the corporate type. This new gaze does not

necessarily wants images of me, it wants all my data, the one I give with a happy face, thinking I'm using a new and nice form of communication. What the latest literary and fictional dystopian production has been showing is precisely this update in the surveillance apparatus. As we live in an increasingly watched world, not just the big corporations want my data, it's the friend of my Facebook friend that I need social approval from, an Instagram follow, more views in my stories. That is what is coming up not just in literary and movie pieces such as *The Circle* or in famous TV shows like *Black Mirror*. And the greatest secret to all the success that these stories show lie precisely in that thin, almost invisible line separating fiction from reality.

Session 5f

Martin Fredriksson | Linköping University

Authors, Entrepreneurs and the Biopolitics of Data Extractivism

In "Society Must Be Defended" from 1975, Michel Foucault used the term "Biopolitics" to discuss how the forms of governmentality changed with the emergence of the modern state. He describes a gradual shift from controlling individual subjects, through the use of force, to manipulating whole populations, through gathering information to monitor, predict and influence collective behavior: "Where discipline is the technology deployed to make individuals behave […] biopolitics is deployed to manage populations". Today we see a society where technology offers unparalleled opportunities to monitor, predict and control human behavior at a larger scale than ever. We also see how information about human behavior is increasingly useful and valuable, not only for states but also for corporation. This form of data mining and aggregation of big data has sometimes been discussed in terms of biopolitics. Julie E. Cohen, for instance, describes the emergence of a "biopolitical public domain" where the technology and the laws that govern the internet create user data as a valuable resource that can be used to predict and manipulate the habits of large populations, both as citizens and as consumers. Furthermore, Cohen points out that technology and law constitute this data as raw material: as a resource that can be extracted, processed and owned by someone else than the person from whom it originates. When user data is extracted it thus not only becomes valuable property, but it becomes the property of the extractor rather than the source. This recalls James Boyle's conclusion from his 1997 book *Shamans, Software and Spleens*, where he argues that the distinction between sources and manipulators of information plays the same role in "a society

where one group compiles, modifies, redesigns, and commodifies information gleaned in part from the genes, consumption patterns, and culture of the rest of the population", as the wagelabour nexus played for the industrial economy. Data mining thus stands out as the latest example of how capitalism thrives on the extraction of new exploitable resources: an extraction that essentially relies on an individualization of creativity and privatization of information commons. In a copyright context the author has been the main tool to ensure private control and ownership of culture and information. Today we see how the image of the entrepreneur tends to play a similar role in many forms of extractive processes. This paper asks how extractivism is enacted through the ideology of authorship and entrepreneurship. It thus contextualizes the biopolitics of big data against the background of extractivism and analyses how constructions of authorship and entrepreneurship are employed as extractive technologies in a digital economy.

Session 7h

Carlos Henrique Freitas | Universidade Federal de Uberlandia

Society 4.0: An Essay on the Modernity Failure, Sharing Economy and Neoliberal Fog

The development and adoption of new communication and information technologies have offered new ways of consumption, delivery of services and products, access to capital and means of production, business organization and labour relations. New concepts such as produsage and prosumption and user-generated content may seem to offer consumers a new role in wealth generation, as if the means of production were now closer to them. However, such innovations have taken place in a changing world, often associated to the notions of liquid modernity, postmodernity or hypermodernity. This paper attempts to consider the sharing economy concept related to new forms of person-to-person transactions, social media interactions and software applications, often been hailed as a third way to our unsettled times. In doing so, it analyses the social, economic and political context and the uncertain times in which such innovations take place, from a wider social and political perspective. The objective is to interpret them in the light of the work by thinkers such as Michel Foucault, Zygmunt Bauman, and Gary S. Becker, intending to highlight how neoliberal discourses may be associated with the notion of sharing economy and identify some of its potential limitations. It will argue that despite apparent benefits sharing economy practices

may bring to society, it is still short of capacity to replace the collective actions, the universal discourses and the public spaces that modernity has failed to guarantee.

Session 2c

Annika Frye | Muthesius Kunsthochschule Kiel

Postdigital Materiality: German Industrial Design, Openness and Participation

In September 2012, the first Istanbul Design Biennial openend. Under the label "Adhocracy", it brought together new methods of production. The show featured, for instance, a ceramic 3D-printer developed by Belgian design duo Claire Warnier and Dries Verbruggen. They were showing a process of printing and design where singular shapes were developed using generative design. Besides the very particular formal aesthetic of the printed products in the exhibition, the show also used the idea of participatory production and design. Regarding the process of design of the RepRap-machines, we could observe a 'real' process of open design. Here, a significant group of individuals came together to produce things beyond serial production using strategies of participation and sampling as described by Felix Stalder in *Kultur der Digitalität*. Everyone could be a designer. "In the Shifting World of Product Design, the User Now Has a Voice", noted design journalist Alice Rawsthorn in *The New York Times*. Hobbyists from the next generation using digital production processes would establish a decentralized, democratic and local mode of making their own singular products. Here, the curators of the Adhocracy exhibition were referring to an utopian idea from the environmental movement of the 1970s. In this context, Charles Jencks and Nathan Silver had established the term "Adhocism" as a term for bricolage, making and early versions of open source-design (see Jencks/Silver 1972: *Adhocism. The Case for Improvisation*). At the same time, Silicon Valley entrepreneurs saw opportunities in the new production techniques. Their focus was not on participation as they were seeking new, "disruptive" business areas. *Wired* editor-in-chief Chris Anderson acted as leader of the so-called 'maker movement' and companies such as Makerbot or BigRep started to turn the idea of DIY-3-Printing and Open Source Projects such as RepRap into business models. Now, more than five years after the hype around making and printing, it is unclear if we can really describe this as a revolution. Although, at a first glance, strategies of postdigitality seem to form an antithesis to classical industrial design, the maker movement is not so different from 'official' processes of design. At German electronics company Braun usually known for its

minimalist style and functionalism, for instance, strategies of postdigital design were used to develop unseen shapes of high geometric complexity, sampling and postmodern design has influenced the design language of Braun. Making, bricolage and participation are part of the Braun-process.In my contribution to the *Digital Cultures Conference* at Leuphana, I would like to contribute material I have been collecting in the Braun Archive and in the 3D-printing scene since 2015. It is the base of a project on postdigital design and materiality I am pursuing at Muthesius.

Session 1i

Olga Galicka | Goethe University

All the President's GIFs: Non-Linear Relationships between State, Corporate Domains, Private Spaces, and Social Media Platforms

In the last decade Vladimir Putin has become a symbolic figure for Russia's aggressive expansionism and the Russian cultural identity itself. His widespread social media representation with countless GIFs, memes and viral videos depicts his persona on a national as well as global scale. These images emerge and evolve through the unique interplay of official nation-state media outlets and social media circulation. By studying these interactions one can gain a local understanding of Russia's socio-economic infrastructures and their interactions with media and society. Scholars have already started discussing how both Barack Obama and Donald Trump have used social media to attract voters and media interest during and after their campaigns. However, less attention has been paid to the use of presidential images in non-western digital cultures. Yet by looking at other local examples the discussion on the use of these images can only gain new outlooks and depth. The example of Vladimir Putin depicts forcefully the ideological and institutional interplays of personality-driven images with different agents. Putin's image can promote political interests of the state and at the same time be used commercially as in a case of a fitness studio advertising itself with the image of Putin's trained upper body. Popular news aggregators such as "Meduza" on the other hand generate meme-material from Putin's images. What are the private and vernacular uses of the image on social media platforms? And how is the nation-state's representational logic turned around by grassroots movements? My paper addresses the question of ideological and institutional interactions between the official visual representation of Vladimir Putin and its circulation on various

social media platforms. I argue that not even in a controlled state such as Russia can there be a clear-cut divide between these entities. The images always remain in a particular state of interaction with official media outlets and evolve into new formats, reconfigurations of visual and political debates, or even commercial opportunities. I will consider Vladimir Putin's images as configurations of national representations and analyse their circulation and what is inscribed into them on a vernacular level. An analysis of these levels is essential to understand the mechanisms at work when talking about the political impact of visual platforms. By shedding light on the circulation practices and the infrastructure of codified national images across media outlets such as official governmental websites, social media platforms or nation-state TV, different actors behind the images' distribution and their agencies will become apparent. The images' itineraries show the structures they are embedded in, how we perceive them, interact with them, and also appropriate them from a western perspective.

Session 6c

Felix Gerloff | Academy of Art and Design Basel FHNW

Programming Futures

Individual skills to tackle challenges of work and life by practical or conceptual digital means are increasingly being promoted in public, non-governmental, or commercial initiatives and curricula under the terms of 'computational thinking' or 'coding literacy'. A central argument of these endeavors is a supposed increasing need for programmers and software engineers in the job markets of the future as well as a generalized necessity of dealing with digital environments through programming. Many of these initiatives aim at introducing kids to programming – some even focusing on children in kindergarten. In this presentation, I want to discuss how programming kids to program is programming the future – on the basis of some examples of specific epistemologies that are distributed through the respective learning materials. This will not only include contemporary examples but also genealogies of coding pedagogies reaching back to the works of Seymour Papert and Alan Kay. Investigating this angle, it is striking how certain qualities of educational programming systems like *Logo*, *Squeak*, or *Scratch* resemble traits of innovations in professional programming language research that sometimes also aims at incorporating more visual elements or converging with human languages. Following this hypothesis, the talk will conclude with trending futures of programming – one of them unsurprisingly being the *Smalltalk* language/

environment that Alan Kay most prominently was involved with. Drawing these threads together, a scenario of programming futures will emerge that poses questions as to how our contemporary societies want to shape those futures in a broad dialogue beyond Computer Science and Pedagogy. This talk is an output of my ongoing PhD project on programming epistemologies. Methodologically I combine fieldwork with historical-theoretical work and practice-based explorations.

Session 6h

Dishanka Gogoi | Jawaharlal Nehru University

Social Media vs Social Order and Social Media as Social Order

Tim Highfield states in his book *Social Media And Everyday Politics* (2016) that: "We socially mediate our lives." This mediation further leads to the creation of social media or fulfills the purpose of the existence of social media. Taking modern society as a vantage point, but not confining to one kind of definition of 'modern society', this paper wants to look at 'social media' as an extension of social order which is born inside the existing social order, and 'social media' as creating opportunities or carrying the potential to go beyond the existing social order by both countering and reinforcing the original social order. To unearth and analyze this statement, this paper will deal with the specific case of a singer called Arup Jyoti Barua of Assam, India by analyzing his use of social media – Facebook and YouTube – for his social and political activities. This paper will also deal with some online music listening database applications as an agent of altering some everyday social activities. This paper will discuss how YouTube and Facebook are giving a space or platform for an artist like Arup Jyoti Barua to express his ideology and his stand as a singer and artist-activist. At the same time, these social media are altering the expression and form of activism as well. This paper will further discuss how YouTube and other websites like Gaana, Saavn, SoundCloud, Wink, etc. are generating a space which is giving a social or behavioral turn in the act of listening music, especially in Assam. These social media are also transforming the act of listening music from a social act to a personal act.

Session 4c

Sebastian Gomez | Leuphana Universität Lüneburg

Gamification of Fear: Using Game Technologies to Capture Attention in the Midst of Uncertainty

This presentation is concerned with the role of the gamification process in the consolidation of the algorithmic, cognitive and affective characteristics of contemporary capitalism. The hypothesis at work here is that game elements in digital technologies create, maintain, and reinforce a flow of live user data throughout production networks, feeding off an atmosphere of uncertainty, indeterminacy, and the possibility of failure. By attuning to the affective and cognitive dimensions of fear and insecurity amid uncertainty, the procedural mechanisms devised in computer games are capable of directing and capturing human attention. The algorithmic mechanisms at play in the simulations that are used to predict and preempt potential economic and political profit in the age of big data operate in the realm of probability distributions. In an atmosphere of uncertainty that rules everything from chaotic human behavior to the 'principles of indetermination' of 'philosophical thought and digitality' (Luciana Parisi), I propose an analysis of computer game strategies as a contribution to the understanding of production in a neoliberal setting that requires the control of economic and political activity while paradoxically opening itself to the unpredictability of complexity in human society, the climate, the economy, and so on. In particular, within an economic model based on the automated extraction and analysis of quantified data, a special consideration must be given to the mechanisms used to entice and direct human action towards the digital interfaces and sensors capable of acquiring and quantifying these movements. Video game design has the experience of using the threat of failure and the fear of uncertainty as an attention mechanism, profiting on the libidinal economy emerging from the confrontation to fear in the progression and immersion to gameplay. These strategies, procedurally engraved in computer simulations, reflect on a space of possibilities that allows the materialization of techniques of attention control in digital technologies at different scales of social reality. The threat-fear complex, understood here as a bio- and ontopolitical process, is engraved into mechanisms of software control allowing uncertainty and insecurity to be an integral productive force for the contemporary economy. An analysis of a sample of horror video games might hold the key to understand the mechanisms at play securing attention to the (gameplay) event despite and because of the presence

of – in- and off-game – uncertainty. A secondary analysis links horror games, through an understanding of the fear of uncertainty as a procedural mechanism simulated throughout digital networks, with the algorithmic governance strategies described by materialist philosophies.

Session 7d

Vendela Grundell | Stockholm University

User Bodies
Representation between Ableism and Disability Aesthetics

This paper – uniquely combining art history, disability studies and critical media theory – analyzes ableism in digital mediation by focusing on visually impaired photographers who digitally produce and display their work. Here, their images feature as tactical interventions: glitching, queering, and cripping a network of normative systems. User bodies are as invisible in their ubiquity as the systems that situate them. Users are everywhere, yet their individual bodies are collectively defined against an able-bodied ideal within digital discourses marketed as accessible to everybody. Constructions of a normal usage build on constructions of a normal user – and vice versa. Universal claims thus betray a discursive formation in which everybody is not every body. Such normality remains unattainable while prescribed as a standard for optimization in neoliberal society. Since a user body is inextricable from signifiers of normality across the life-world, it becomes a site where negotiations about normality are played out and performed in relation to a system. To fail the prescribed body, all it takes is an eye slightly out of focus. Representations of user bodies – especially their 'selves' – hold a tactical potential when they empower individuals to expose a system by acting out of line. As the system is embodied in those who perform its rules, the rules are made visible in the bodies of both photographers and photographs. Visually impaired photographers align with the ableist system that makes their photographs possible yet misalign by articulating a non-normative use and user. Their practices become tactical as they point to the kinship of glitching as a critique of technical protocols, queering as a critique of gender scripts, and cripping as a critique of compulsive able-bodiedness. Like protocols and scripts, ableist norms correct the disabling moment of a glitch – technical and social. In turn, images created with visual impairment unsettle this correction and expose brokenness as equally ubiquitous as the ideal unbroken. As both systems and individuals fail to optimize, they share a brokenness that shapes processes of being and becoming.

Any user fails to cleanly repeat their script, their protocol. Impaired users call out both dependence and disruption by embodying the system and its contingent vulnerability – that cannot be countered by excluding every vulnerable body: every body. This paper contributes to the Subjectivities theme with a focus on bodies in digital practices. A user situated as disabled connects to the trans- and post-human for instance by manifesting cyborgification and glitchability. Interweaving glitch and crip articulates identity processes where dis/ability factor into intersectional perspectives. The paper also ties in with Historiographies, since technologies that constitute and mediate user bodies are rooted in a nineteenth century context that produced the first model of disability: the medical model, still lingering.

Session 4e

Jullio Guevara | HfK Bremen

On Power Structures and Vigilantes in the Digital Age: A Cybernetic Approach to Wikileaks' and Anonymous'

A fifteen year old boy in the capital city of El Salvador sits in his room and presses "IMMA CHARGING MAH LAZER" on his new acquired DoS software to take down an IP address that he chose from the list that he got from the Anonymous El Salvador Forum. The attack starts and he watches how a bunch of numbers go up in his screen. After a few refreshes, the IP address is down. A few weeks back, he had been spreading flyers trying to recruit more people to join the attack, was caught by a security guard and given a warning. Behind his screen in his room however, nobody was stopping him. This action was not remotely legal. Neither I nor the other members of the group had authorization to shut down an US government website. Why did this group of people (myself included) decide to take action against this bills? At that time, my mother had given me a flowchart concept to make this kind of decisions, to ensure that I only do what I think is right, trusting the values she had taught me. It was dictated by three simple questions: "¿Puedo? ¿Quiero? ¿Debo?", which translates to: "Can I? Do I want to? Should I?". Without knowing, my mother had given me the key to understanding how actors behave in a socio-cultural political context when confronted with adversities. The individuals and groups conforming power structures decide to get involved as active actors of change within the system fueled by two important factors that are used to channel their power: an ideology and a goal. From young boys illegally giving out flyers, to catholic blind crime-fighters, all the way

through cape crusaders, international hacktivists and whistleblowers. Individuals and collectives with a high moral ideology will reveal against authority and their current socio-cultural political system. They will try to use any source of power that they have to mold the system to their own image, to fit their ideology. They will pursue their goal, regardless of it being peace, justice or a selfish delusional vision. This entities will become vigilantes. Thanks to the shifts in power provided by the digital age, new groups and power structures will keep rising to try to take a place among the most powerful parts of the cybernetic system that is our global village, defeating states, society and even other subversive and unlawful power structures. To try to answer Juvenal's old question, "who watches the watchmen?'": The watchmen are watched by other watchmen. Sometimes with opposing views or even so slightly different. Power structures keep other power structures in check, sometimes democratically through the members of the system, sometimes by the use of their superior power. At the end of the line, however, the system regulates itself, society is cybernetic. It is all just a matter of some member within the system answering positively the questions that my mother taught me years ago "Can I? Do I want to? Should I?"

Session 7c

Maja Gutman | University of California, Los Angeles
Vwani Roychowdhury | University of California, Los Angeles

Theorizing and Quantifying the Phenomenon of Immersion in Virtual Environments (VR)

The emergence of digital media fueled by information technology has had a significant impact on the individual and the postmodern society as a whole. A distinctive feature of digital media is the pivotal role of the user, where media and individuals define and create each other, together forming a symbiotic and complex ecosystem. Nowhere is this seamless melding of the individual and media (or environment) more apparent than in the emerging fields of Virtual Reality (VR) and Brain-Computer Interface (BCI). A growing body of research indicates that a human subject is capable of distributing her attention across the Virtual Reality Environment (VRE) and that the experience of 'being present' or 'immersed' can be more intense than the corresponding experience in the physical world. This phenomenon of immersion inherent to VRE has the potential to reshape an individual more than any other media, and VR technology has already shown transformative promise in a number of fields, including medical and

psychological treatment, gaming, and education. However, despite the fact that the disruptive technology of VR has already found numerous applications, there is currently no standard or commonly agreed measurement of immersion. The fundamental thesis of this paper is that the effect of VRE and related immersive technologies can be successfully studied only via a transdisciplinary approach that combines qualitative theoretical models – widely discussed in media studies, phenomenology and psychology – with quantitative data-driven empirical models based on Big Data and modern advances in Artificial Intelligence, Machine Learning, and computational models. From the perspective of media studies, the central philosophical theme of subjectivity has long dealt with the exact same topic of individual embedded in a complex and self-organized society. For example, certain findings of psychoanalytical theory propose an idea of subject "in process", and postmodern theories suggest that the subject does not form an arborescent structure, but – alternatively – a rhizomatic structure, an assemblage that appropriately corresponds to the concept of the internet network. Thus, philosophical theories, independently and prophetically, have for long suggested that the boundaries between the subject and the environment are permeable. This convergence enables one to borrow and adapt established theories, such as embodied cognition and body schema theory to develop qualitative theories of individuals of such immersive media. The information technology era, however, provides another unprecedented opportunity that makes the digital media studies field truly transdisciplinary: the promise of quantification. Media theories are being converted into the empirical study of measuring user's activity that can now be observed, measured and verified with data-driven analysis and mathematical modeling. Moreover, today with incorporation of AI tools, these qualitative concepts can be even refined.

Session 4c

Renyj Hong | National University of Singapore

Distracting Engagements and Bearability

This paper makes an argument about bearability: the capacity of media processes to enable possibilities of endurance for subjects. I enter this topic through the gamification movement, a community which utilizes a humanitarian imagination to justify how familiar gaming tropes may be used to transform the experience of banal, mind-numbing work. The variegated subjects of 'bad work' considered by the movement – Target cashiers, assembly line workers, McDonald's and

Starbucks servers, and call center workers – jointly take the shape of the bored subject, a subject who is unable to achieve the good life because of an absence of passion. Gamification presents this problem not as individual but institutional: these workers may have a good attitude, but their devalued labor lands them into institutional configurations that saps at their motivation to do better. Given the opportunity for correction through gamified software systems that claim to make work more enjoyable, gamification thus presents itself as resolving a longstanding injustice. Resisting the temptation to dismiss gamification as a corporate ruse, I argue instead that the movement describes a larger trend of enterprise software processes, apparent not only in gamified software, but also in the designs of platforms like Mechanical Turk and Uber geo-locative systems. These processes seek to induce capacities for endurance, what I call "distracting engagements". I make this argument by first engaging in a historiography of Mihály Csíkszentmihályi's theory of flow. Flow is an influential theory in game design; its meaning of deep concentration is lauded for the capacity to enhance enjoyment and productivity. However, the origins of the theory reveal a more complicated politics. According to Csíkszentmihályi, flow was inspired by the survivors of the Second World War, often prisoners of war who were able to control their thought processes and transform the horrifying reality of their circumstances into psychic experiences of flow. This point, repeatedly emphasized in his books and TED talks, highlights the subterranean thread lying behind a celebrated psychological state: flow is also about self-erasure, a means to remain untraumatized in the worst situations. The suspension of self-identity in flow, what Csíkszentmihályi describes as the "loss of self-consciousness", relates to the ways unthought and media processes are increasingly used to govern the lowest rung of information workers in the New Economy. Flow ensures the productivity of workers while guaranteeing endurance; the distracting mechanisms of nudges, points, bell rings, and vibrations, draw workers into labor while suspending them from the banality and boredom of it, allowing for an increased capacity of bearability. In this way, workers remain 'engaged' – expressing their energies in a role-based performance in an idealized manner, as defined by management theorist William Kahn – while being distracted.

Session 2h

Rolien Hoyng | The Chinese University of Hong Kong

Refurbishing Opacity: Data and Logistics in E-Waste Recycling

This paper looks at the recycling of electronic waste across formal and informal circuits, drawing on research in Hong Kong and Shenzhen as well as the analysis of logistical media. It explores a nexus of openness/opacity and data/materiality in order to conceptualize recycling in terms of material potential and regimes of visibility that position both users and producers. The formal sector combines openness articulated as corporate transparency with black-boxing technological materiality. In the reverse logistics industry, 'waste' should be understood in terms of potential rather than essence. Logistical data and software are tasked with not just tracking materials but also predicting where and when they yield most value. Data about recycling resurface in reports of "green" corporations in the form of information and infographics. Yet such corporate transparency exists alongside the black-boxing of technological hardware, which users have no right to repair. Meanwhile, considering that brands constitute interactive platforms that enable and organize prosumerist relations of interaction, here these encompass users' labor of recycling and consuming through take-bake programs, which instigate new venues for profit. The informal sector combines opacity of its practices with openness pertaining to technological materiality. In this context, no or partial data and chance encounters – prompted by unregistered rhythms as well as interrupted movements – play important roles. Though corporate logos and transparency reports are absent, hardware does not remain black-boxed but is open to more varied engagements including piracy and refurbishment that works its way around planned obsolescence. Users act as producers when they salvage materials at street markets. Across the formal and the informal sectors, in recycling "waste always returns" (Jennifer Gabrys) in the form of valueless and hazardous remainders and polluting effects. The paradox is that repurposing waste requires circulation, yet this (and ensuing material transformations) may escape strict oversight and too often transgresses laws and "green" norms. More, recycling industries trigger the ungovernable through a business strategy that mimics, if not intersects with, informal tactics, connecting logistics to salvage capitalism. Yet, next to environmental risk, opacity also supports informal practices of repair and recycling that undermine planned obsolescence. The question is how waste activism could intervene. Waste activism typically deploys tracking and mapping techniques in order to expose the lack of control over waste, while using the

force field of the brand to hold big corporations responsible. However, this paper asks: How should waste activism appreciate partial opacity as well as provoke distributed responsiveness? How could data be deployed in order to re-organize material potential, regimes of visibility, and positions of users and producers?

Session 2f

Tsvetelina Hristova | Western Sydney University

The Politics of Mediation: Subjectivity, Value and Power in the Digital Grid of Aadhaar

In the last two years the vision of India's PM Modi for Digital India has received a significant boost from two major initiatives of the government – the push for cashless transactions and the ubiquitous adoption of the unique identification (UID) Aadhaar. This UID has been linked to the politics of social welfare, as well as the transformation and digitalisation of the economy and the tension between liquidity and capture in the flows of data, value, and subjects. The case of Aadhaar shows the complexities and the stakes in politicising the issue of mediation in the uneasy convergence between technologies of governance and digital technologies. The digitalisation of political subjectivity in Aadhaar rests upon an acute problematisation of the question of mediation. In this, it links to both theories of social organisation and political representation, as well as to the politics of data representation, organisation, and (re)production. I examine the principles laid out in the design of Aadhaar through the role of the medium and mediation in shaping political praxes, as well as their relation to the problem of value production, circulation, and distribution within the grid formed by the architecture of Digital India.

Session 1e

Paul James | Western Sydney University

Digital Media and the Abstraction of Knowledge … and of Social Life in General

What happens to knowledge when the dominant mode of communication is disembodied? Technologies always mediate relations to others and to nature – science is built upon abstracting technologies from the telescope to the Hadron Collider – but what happens when such technologies not only multiple but become our dominant means of object multiplication – and our dominant

mediator of ways of relating to both social others and the world around us? This paper argues that the global-historical process of mediation from writing, script and print to digital media can be understood as a process of abstraction, layered in contradiction. In relation to knowledge it abstracts the dominant modalities of how we know things and fractures the different ways of knowing – sensory experience (*feeling*); practical consciousness (*pragmatics*); reflective consciousness (*reflection*); reflexive knowing (*reflexivity*) – into separated fields of activity. In relation to social life in general, it fractures social life at more embodied levels of interchange, and reintegrates them at a more abstracted disembodied level that allows data mining of an unprecedented kind. Older media of communication – oral to print – of course remain foundational to being in the world (that is, to the extent that we remain human). Ironically, they still ground the reproductive and communicative aspirations of most digitalized media, even as that media reconstitutes the frame of how we live aurally and visually. However, without a reflexive understanding of (and response to) the many processes of abstraction, digital mediation threatens to fracture, objectify and commodify both knowledge and social life in general.

Session 6c

Benjamin Jörissen | University of Erlangen-Nuremberg

Digitality, Design and Subjectivation: Towards an Exploration of Digital Materialities in Aesthetic Practices

With digital technologies, an aesthetic and epistemic actor of a new and different kind appeared, driven by a powerful "automatic, but non-reflexive mode of thinking" (Luciana Parisi). Within the digital design processes that produce configurations of algorithms and interfaces, knowledge arises as machinic implicit knowledge, redefining the power-knowledge which modernity had conceptualized as the human, productive subject. At the same time, digitality increasingly conquers materialities. Being material to begin with, the intersection and intertwinement of symbolical and material realms through digital designs extends from mere hardware and interfaces to material and social spaces on a macro level, to nano surfaces and materials on a micro level (outperforming all human senses), it emulates and surrogates physical, mechanical, electrical and electronical materialities, and vice versa, material things begin to become mere, planned-obsolescent materializations of platonic digital *disegni*. We thus are surrounded by hybrid digital-material things of certain, and powerful implicit knowledge. At

the intersection of cultural, anthropological, social, ergonomical, psychological, economical and last but not least educational knowledge, material-digital designs act as an instance that performatively delineates and shapes subjects as 'user-subjects', turning a theoretical power/knowledge into a practical principle at the level of profane everyday practice. How would hybrid digital-material designs, as epistemic and aesthetic actors, relate to aesthetic practices and subjects, and (how) could these performative processes be made visible by qualitative in-depth empirical research? With reference to several recent research projects on aesthetics and digitality, e.g. the project "Musical Interface-Designs – Augmented Creativity and Connectivity" funded by the German Federal Ministry of Education and Research, the talk explores this question with exemplary regard to hybrid digital-material sonic/musical things. It presents research designs that try to get a grip on the bodily-material modes of relation to digital things, reflects upon the question of possible visibilizations and the invisibilities of digital issues and processes, and finally presents actual research outcomes on the basis of structural analyses of hybrid digital-material designs.

Session 6f

Timo Kaerlein | University of Siegen
Christian Köhler | Paderborn University

Virtual Surrealism: Investigating the Brandscape of Facebook Spaces

The ubiquity of digital media is not limited to an infrastructural dimension, but also pertains to users being embedded in virtual environments constituted by media. Facebook Spaces, the social media company's ambitious foray into the emerging social virtual reality (VR) sector, represents a prime example for this development. As Facebook Spaces constitutes an image environment, all possible interaction schemes have to be mapped from the flat surface of a web browser or smartphone screen onto avatars moving and interacting in virtual space. We describe this as an attempt at "brandscaping" (Lev Manovich), i.e. a translation of the social media site into a virtual architecture with specific spatial and social affordances. Whereas sociality in VR (e.g. in VRChat) is generally fraught with wildly heterogeneous avatars, settings and environments, the "brandscape" of Facebook Spaces can be understood as an attempt to control this diversity by reducing it to the format of a dinner party with family and friends. Whereas media theory has emphasized the study of infrastructures in recent years, we would like

to make a methodological proposition on how to study the embeddedness of subjects in virtual environments. To this purpose, we understand the interface mise-en-scène of Facebook Spaces as a dispositif or apparatus as it is described in the works of Jean-Louis Baudry, i.e. as a spatial arrangement that regulates the behavior of participants and favors specific psychic dispositions. We will explore the strategies employed by the designers of Facebook Spaces to establish control over this virtual space, first of all the virtual table that acts as the central interface element. One major finding of our interface analysis amounts to the observation that the apparatus of Facebook Spaces, contrary to the prevalent rhetorics of presence and immersion generally associated with VR, creates a strong impression of unreality by decontextualizing images and ignoring referential links to any materiality outside the apparatus. The ensuing scenario can best be captured using the encompassing term virtual surrealism which denotes that in Facebook's vision of social VR, the old dichotomies of actual and virtual, real and imagined, perception and action that structured major debates in the VR discourse of the 1990s seem to have irretrievably collapsed. This also has implications for the subject positions produced by the apparatus of Facebook Spaces: Given a scenario of mixed unreality, a tendency towards moral indifference vis-à-vis the meaning of images can be observed and criticized.

Session 3h

Charlotte Kent | Montclair State University

On the Face of It, Carla Gannis

In 2012, the artist Carla Gannis accepted selfies taken by her social media followers and individually repainted them through both analog and digital means to hide the identity in those images from facial recognition software. She chose to make the 'painting' decisions over allowing algorithmic changes in the belief that her choices, both random and intentional, would better overcome the technology. With advances in that software, she is now revisiting the project to see if her work continues to hide the identity. In addition, in 2016 she produced "The Selfie Drawings", a series of 52 images imaginatively interpreting herself; the project became a book, which then also granted audiences each week in 2017 a new rendition of an image available to be seen through an augmented reality app. These intentional alterations play with the notions of self-portraiture of which Gannis is aware having an MFA in painting that she received before pursuing an MFA in digital art. Selfie culture is derided as narcissistic and self-promotional,

while also providing quantities of data that contribute to notions about certain subject groups. Such groupings have disturbing implications, particularly around race and ethnicity, as many artists and scientists have shown. The EU has started to address digital data collection in general with the General Data Protection Regulation (GDPR) which aims to give control of personal data back to individuals. In the United States, no such regulations seem to be forthcoming. This paper is part of my larger book project *Heroic Narcissism in the Face of a Data Double*, which examines contemporary artists who explore our attitudes, desires, and worries about our identities in this new age of data. In this paper, I will present Gannis' work in the context of current data culture in the US, discuss notions of selfies through the lens of Deleuze on the face/head, and conclude by addressing why selfie culture may be a pained cry for individual recognition to a data driven world.

Session 3g

Niels Kerssens | Utrecht University

The 'Long' Institutionalization of Big Data: A Historiographical Intervention in Current Research on Institutions Shaping Data Practices

Critical attention for the role of algorithmic institutions that set conditions on data-driven decision-making practices is fast growing. Other critical studies increasingly highlight the social and cultural institutions – values, norms, rules, beliefs, and taken-for-granted assumptions – shaping data practices, and their role in the integration of these practices into everyday, organizational and social life. To supplement research on institutions shaping Big Data practices, this paper presents three guidelines for a historiographical intervention (possibly to be transferred to other digital culture debates) that depart from three 'blindspots' in current research.First, due to a largely empirical agenda, current research demarcates its problem space within a relatively short timespan that roughly starts with post-millennium data-driven computing. This narrow focus on the last two decades neatly aligns with a popular perception of the Big Data phenomenon as a spontaneous turnover that has apparently turned the world upside down from out of nowhere, thereby automatically cancelling out the idea of a history associated with Big Data. Following in the spirit of scholars that have called for historicizing Big Data, I propose instead to understand and study contemporary data practices as part and parcel of a much longer history of 'data processing' that can at least

be traced back to the integration of computing and business in the 1950s, 1960s and 1970s. Secondly, the main focus of current research is on how institutions exercise organizational power, which tells little about how institutions are created, altered, and reproduced. Therefore, I argue for the importance of approaching the institutionalization of data practices historically, as a dynamic and (still) ongoing process of the production and reproduction of institutions. Thirdly, attention in current research is either directed to technological or socio-cultural modes of governance, whilst little attention is paid to the interaction between these actors. Then, the model I propose focuses on the historical institutionalization of data practices as the co-evolution of technological institutions and socio-cultural institutions in a dynamic tension. These historiographical guidelines will be demonstrated by detailing the development of data-driven knowledge production and decision-making in the American business world during the heyday of data processing in the 1970s, and how the organization of these data practices developed through a dynamic tension between the organizational affordances of new data technologies (Database Management systems and the relational database model) and developing values, norms, beliefs and assumptions associated with a data-centric mindset.

Session 7b

Maros Krivy | University of Cambridge / Estonian Academy of Arts

Limits to Urban Complexity: Big Data or Data-Behaviorism?

This paper maps into the genealogy of complexity science within the field of urban planning. It studies the would-be 'science of cities', asking how the notion of city as a non-equlibrium, selforganizing system was made into a governing rationality. The case of UCL Bartlett's Centre for Advanced Spatial Analysis (CASA), and the work of its founding director Michael Batty, are investigated in detail. I situate the history of Batty's CASA, founded in 1995, within a panoply of intellectual strands and institutional nodes, spanning half a century and several continents. Drawing on Isabelle Stengers's distinction between complexity as a critique of system science, and complexity science, the paper develops her critique of the "fresco of cosmic complexification" in relation to the neo-positivist complexity urban science. The critical account of this science must grapple with Big Data infrastructures but also the notion of the city as datum: a sheer factuality, undoing the epistemology-ontology distinction, and dispensing with representation. For complexity urban science planning organizes selforganization. It is effectively

an 'environmental' type of late neoliberal politics, epitomizing what Antoinette Rouvroy described as data-behaviorism. It invokes a distinct temporality, where the past is 'without a history' and future is unpredictable. The notion of unpredictability prefigures an anticipatory relation to future by forecasting, and a preemptive governmentality: the future is the optimized present. What kinds of power relations undergird complexity urban science? The paper situates complexity urban science popuarizatoin within Third Way neoliberalism emerging out of the geopolitical turmoil of the 1990s. Selforganization, in a distinct prism of Batty's CASA, is hardly a form of democratic participation. It eclipses the possibility of a political event, making what is a principle of what should be. Urban complexity science is effectively a cover for publicly sponsored gentrification, obfuscating social, political and historical aspects to 'urban data'.

Session 7c

Jeremiah Lasquety-Reyes | Universität Hamburg

Machine Learning, Emotion Analytics, and Responsive Aesthetics

Given the great strides in machine learning and emotion analytics in recent years, it is reasonable to predict that machines will soon be able to read human emotions with an impressive degree of accuracy, perhaps in some cases even better than human beings. Advances have already come on multiple fronts: facial interpretation, voice and text analysis, and physiological sensing. The next wave of phones, laptops, and wearable devices are expected to possess various emotion sensing capabilities. This will only continue to increase the large volume of data useful for emotion analysis and the possibilities of human-machine interaction. This paper explores the possibilities opened up by machine learning and emotion analytics on the one hand and responsive design and aesthetics on the other. First, I trace a brief history of emotion analytics beginning with Rosalind Picard's 1995 paper, "Affective Computing", to her co-founding of *Affectiva*, a company that detects emotion through facial features, and *Empatica*, a company which makes sensors that detect and analyze physiological changes involved in emotions. This brief history is supplemented with recent breakthroughs in emotion analysis through text, speech, and other factors. In the second part, I introduce the notion of responsive aesthetics by building on Nicholas Negroponte's idea of a "responsive architecture". Responsive architecture is commonly defined as a type of architecture that has the ability to alter its form in response to changing conditions,

mostly physical or environmental. However, responsive aesthetics should respond not just to physical and environmental factors but to the psychological states of human beings.The final part, therefore, considers how architects, designers, and artists might incorporate machine learning, emotion analytics and responsive aesthetics in their work. One may create emotionally responsive buildings, rooms, and artistic installations that react to human beings' emotions or target a specific emotional disposition. Factors that can influence emotions include lighting, colors, specific visuals, music, temperature, humidity, and scents. More drastic adaptations could include the rearrangement and replacement of furniture inside a room or the use of organic matter. Machine learning can enable a responsive building, room, or installation to keep fine-tuning and expanding its emotional repertoire by constantly testing different stimuli and arrangements for specific individuals or users. Novelty, experimentation, and flexibility can be hallmarks of such a responsive aesthetics.

Session 1b

Oliver Leistert | Leuphana Universität Lüneburg

Administration 2.0

Now that the blockchain hype has passed, we begin to see which governing functions these technologies are capable of and what they are about to conquer, such as settlement layers in interbanking. In my talk I want to point at their administrative capacities and some real implementations of blockchain technologies and their modulation of control. I argue that blockchains go hand in hand with the dissemination of networking into more and more devices and that the necessity to control physical networked objects, such as cars, with an internet layer of values and assets automatically in order to establish a digital administration. Looking at some recent patent applications and reports from R&D departments will provide a more concrete picture about the scope and type of administration that blockchains are pushing. In a second step, I will sketch some theoretical arguments about the recalibration of power formations that digital cultures and economies contribute to.

Session 1c

Dale Leorke | The University of Tampere

Digital Games and the Smart City

As numerous scholars have pointed out, the 'smart city' model posits a vision of the near-future city as seamless, responsive, and adaptable to the challenges of urban life and infrastructural management. It involves the rollout of commercial, proprietary technologies such as sensors and monitors embedded in the city's environment and infrastructure. They provide real-time data for government workers, entrepreneurs, and citizens to develop tools and apps that improve the city's management through AI platforms, machine learning tools, and 'command and control' dashboard interfaces. Digital games and playful behaviour have been put forward by some theorists and commentators as possible counterpoints to this instrumental, efficiency-driven vision of the city. The 'Playable City' initiative – originating in Bristol and since spreading to seven other cities across five continents – funds playful interventions that involve "re-using city infrastructure and re-appropriating smart city technologies to create connections" (https://www.playablecity.com/vision/) between citizens. Meanwhile, Eric Gordon, director of the Engagement Lab at Emerson College, Boston, argues for "meaningful inefficiencies" to be accommodated within smart city models, allowing for the emergence of unexpected, unpredictable, and playful behaviour beyond their algorithmic control. Other cities – from Melbourne and Singapore to Copenhagen – have experimented with games, festivals, and playful events that utilise or reappropriate urban data and smart infrastructure. In this paper I examine the role of games and play within the smart city. I begin by outlining how digital games have both become assimilated within smart city policies – through city authorities' investment in game development and startups, civic games, and gamification tools – and mobilised as a counter to it. I argue that these reflect broader rhetorical tensions over the actions of digital game players as simultaneously oppositional and a form of instrumental labour within the digital era. I then lay the groundwork for an approach to examining play and games within the smart city that takes into account these contradictions and ambiguities. Drawing on an analysis of the smart city literature to date, I argue for a deeper engagement with the policies and practices that support digital game development within cities.

Session 4i

Mujie Li | University of Sussex

Understanding Media Ecologies through Daoist Thought

Environmentality, with the incorporation of power of affecting in digital and computational cultures, is a means of problematic governing in that they produce an ecological rationality of capital, in which ecological power involves an inductive logic of effects without primary causes. Under such a circumstance, the conceptualization of general ecology offers us some insights of exploring possible ways of going beyond environmentality. Relationality and abstraction are two of them. Relationality and abstraction can be considered as new dimensions of ecologization of media, a new processuality calling upon a new ecology of mediation, relation, subjectivity and experience in technological process. Because of this changing paradigm, it needs a redefinition of relationality and abstraction and to enquire with their related elements in media ecologies. In order to do so, the traditional Chinese school of thought Daoism is introduced. The position of the Dao between the physical and the metaphysical makes it possible to think about media between the embedded and the relational, between the actual and the virtual. This positioning of media corresponds to Gilles Deleuze's ethics of being alive, through which media can be conceived as ethical forms of being alive. By mobilizing such a claim, the terms in Daoist thought, such as *Dao* (the Way), *wu-wei* (unattached action), and *rou* (softness), give possible illustrations on understanding the characteristics of today's media ecologies and going beyond the limit of environmentality. The presentation wishes to contribute to a new understanding of media ecologies in digital and computational cultures, as well as explore an approach to digital cultures that enables us to re-read the classic and eastern theories.

Session 3c

Jian Lin | Western Sydney University

Creative Labour in China's Digital Economy: Wechat, Big Data and Digital Infrastructure

Studies on creative labour often concern working conditions that are characterized by precarity and flexibility under the disguise of freedom and what Lloyd calls a neo-bohemian ethics. In its complex relations to capital, market and state, creative labour subsumes not only people, but also various objects: workstations,

devices, technologies, etc., together constituting the infrastructure of the creative industries. With the rise of digital technologies and algorithmic governance, digital hardware and software, social media platforms and data centres have now become the digital infrastructure of the creative economy: organising and enabling creative labour and producing creative subjectivities through the digital, algorithmic machines. In particular China has leapfrogged into the digital age, new technologies indeed pervade everyday life at each level, ranging from WeChat pay to the emergence of start up businesses and the constant launching of new apps. How does the digital infrastructure in China function in the everyday practice of creative labour? What forms of political and affective relationships are enabled between this infrastructure and the creative workers? In other words, what kind of creative subjectivities do the digital, algorithmic machines produce? And how does such subjectification relate to state power and its governance of culture and creativity? How does it operate differently from cases in 'the West', and where can we trace similarities? This paper explores these questions by analysing three cases: art photography and the use of the digital camera, freelance journalism on WeChat, and filmmaking business and data processing. In doing so, this paper studies the digital infrastructure of creative labour in the context of contemporary China, where culture and creativity are often perceived as instruments for social control and soft power. The aim is to examine the role of the digital infrastructure in the governance of creative labour and the new possibility it opens up for the agency and resistance of creative subjects.

Session 1e

Youjia Lu | University of Melbourne

Indeterminate Self

The notions of 'Self' and 'Freedom' often appear to be enigmatic and puzzling. Does a person possess a notion of his/her Self in order to be free or a person becomes free as a result of not being possessed by a notion of his/her Self? Being free seems to necessitate a Self that is not determined by its subjectivity; that is, an indeterminate Self. This research explores how to evoke an immediate experience of the indeterminate Self through digital video art practice. It closely examines the notion of indeterminacy in visual perception, quantum superposition, the medium of video art and psychoanalytical/metaphysical conceptions of the Self. Correspondingly, an artistic method emerges through my ongoing video experiments, which explores the disruption in perception/reception of a video

self-portrait. I named the method 'Super(im)position' – a video editing technique involved with a rapid intercutting between two video tracks resulting in an optical illusion as if the two videos coexist in a superimposition. Conceptually, Super(im) position proposes a new type of vision to 'see' the Self in a superposition of coexisting actuality and virtuality. With its capacity to digitally manipulate time, to create illusory superimposed images, and to induce strobe effect in projection space, Super(im)position tests three hypothetical circumstances: 1) shifting perception of time, 2) superimposed altered state of consciousness, 3) flick-induced hallucination, in which the Self becomes indeterminate through the digital video medium. By testing the three hypotheses, Super(im)position highlights a paradox between pursuing an open-ended Self and sustaining a definite subjectivity, which further questions what it means to exist as an indeterminate Self.

Session 1e

Alejandra López Gabrielidis | University of Barcelone and University of Rennes 2

Exo-Individualization: Thinking Digital Subjectivity from Simondon's Notion of Individuation and Associated Milieu

The aim of this paper is to ask about the ontogenesis of digital subjectivity. Instead of taking for granted the fact that there is such a thing as a 'digital subjectivity' we would like to suggest these questions: what does it mean that subjectivity is becoming digital? And how could we describe this becoming? According to Simondon individuation is never a given fact, it is always an action, an operation, an unfolding and a modulation of the being. Individuation implies a de-phasing, that is, the being complete where there are no phases (what he calls the preindividual reality) enters into a process of phases of structuration. But why does this happen? Is it a spontaneous unfolding of the being that opens this process of phase shifting individuation? Far from being a smooth flourishing, the process of individuation is always preceded by a state of tension. Individuation comes always as a resolution of a problem of tension and incompatibility of orders of magnitude. When the instability caused by different dimensions or orders of magnitude between which there is no possible communication leads to the emergence of communication pathways, the energy enters a phase of individuation and thus becomes meta-stable. This gives rise not only to the individual but to the transductive couple: individual and associated milieu. However ontogenesis does not only emerge out of a preindividual reality, it can also unfold from an ongoing individuation. This is the case of subjectivity that emerges out of a vital

individuation. According to Simondon, subjectivity is not a proper "individuation" but a process of psychic individualization and transindividuation, a new layer that needs a vital individuation as a support. In this phase the psychic and somatic functions are differentiated but coupled in a transductive energetic field: the "I" is the individual and the body its associated milieu. In this paper we will argue that the tensions provoked by datification in our daily life can be read as the sign of a new phase of psycho-technical individualization. The internet and the proliferation of digital objects connect us with new scales and magnitude orders that are not always compatible with the limits of the body. The vastness and virtual infinity of the data-environments to which they connect us is producing a tension within our psychic associated milieu that claims a new resolution, that is to say, a new process of individuation. Exo-individualization is a notion that aims to describe the process by which subjectivity is coupled with digital objects as a second associated milieu, that is to say, as a second body. Understanding digital subjectivity in this way can give us the basis from which to address the somato-objectual and transindividual schemes that we need to produce so that these technologies, rather than acting as dissociative milieus and dis-individuating agents, give rise to a new psycho-technical phase of subjectivity.

Session 7g

Corina MacDonald | Concordia University

Networking Knowledge: Repositories, Platform Publishing, and Research-Creation Scholarship

The emergence of research-creation as a category of humanities scholarship in Canada is part of a growing critical discourse around alternate methodologies of scholarly research with a creative outcome. Research-creation projects emphasize the processes of making/creating/collaborating/relating as primary sites of knowledge production, questioning academic conventions of knowledge representation in print cultures. Outcomes take many forms so far unfamiliar to scholarly publishing, such as visual art, film, event, database, or performance, and these will diverge considerably between scholars, departments and institutions. As a result, much of the knowledge produced in research-creation projects does not circulate and find a place within formal scholarly communication networks and is not preserved for future scholarship. Many scholars turn to online platforms to disseminate their work, and this paper is part of a larger project to explore how research-creation scholarship is circulated via these platforms. This paper will

analyze a specific mode of platform dissemination: the repository. Considering the repository as a model of dissemination in various guises (institutional, commercial, thematic or specialized) it will ask 1) how the use of these platforms implicates scholarship within network-oriented models of engagement/visibility, valorization and enclosure that are discontinuous if not radically different from those of scholarly communication, 2) how platforms interpolate traditional modes of scholarly publishing, and 3) how research-creation may resist these modes of extraction, by making knowledge less easy to parse, sometimes at the expense of scholars whose work is not easily categorized or evaluated. This inquiry will take into account not only the uneven relations of platform capitalism to forms of multimodal knowledge production, but also the wider context of the changing academic labour conditions in which it is situated.

Session 2e

Liam Magee | Western Sydney University

Convolutions of Capital: Share Trading Technologies from the Ticker Tape to the Neural Network

In the 1860s, the telegraph and the ticker tape together automated transmission of stock prices from exchanges to broker houses, and as Hochfelder has argued, helped democratise access to financial markets through so-called 'bucket shops'. Ever since, exchanges, brokers and traders have sought to harness technological developments to the yoke of speculation. Today's fintech – online brokers, technical analysts, algorithmic trading, social media analytics and robo-advisors – assemble in dizzying and disconcerting forms. Neural networks, perhaps the most influential computational advance of the 2010s, are now deployed by hedge funds to replicate successful trading techniques. Unlike speech recognition or image classification, market neural networks generate disturbances in the data they learn from. Unsurprisingly, the detection of algorithmic trading patterns has itself become a machine learning research problem. This variation of what Luhmann, following early cybernetics, termed "second order observation" produces an epistemology of finance that is both automatic and agonistic. Locked into an evolutionary struggle, trading algorithms seem to be converging toward maximally efficient optima, an effect that may reduce rather than exacerbate market volatility. Good algorithms are reverse engineered and replicated across networks, making their advantage minimal and temporary. Minimising arbitrage means our superannuation and insurance funds – labour's collateral in

many advanced economies – might be spared the heightened periodicity that characterised twentieth and early twenty-first century crises. Yet in political terms, such 'machine-machine ecologies' concentrate financial power with the owners of computational infrastructure: data sets, graphical processing units, bandwidth and energy access. With the critical exception of Chinese technology firms, such concentration has so far been largely immune to calls for state regulation or public ownership. The political economy of algorithmic capitalism seems set then to perpetuate and reproduce faithfully earlier phases of capitalist accumulation. In reviewing the historical trajectory of trading technologies, I speculate whether the case of autonomous financial speculation may yet foreshadow a crisis for the beneficiaries of managerial and cognitive capitalism. If, as algorithmic trading seems now to illustrate, human labour in many fields is becoming hopelessly outclassed and thus nullified with respect to its internal dynamics of differentiation, claims for merit-based compensation – experience, entrepreneurialism, industriousness, intellect – appear to dissolve. Without its moral support, success in an era of algorithmic capitalism reverts to aleatory circumstance of inheritance and identity. Alternatively, algorithmic performance might be seen to argue the case for radical reform of markets and other competitive institutions.

Session 5b

Nashin Mahtani | PetaBencana.id / anexact office

Neuroecologies of the Mediated City

Humans alone sculpt the environments that sculpt their brains. The ubiquitous penetration of digital technologies in urban environments has not only transformed sociocultural and geopolitical dynamics, but as technique for attention capture, increasingly drawn on neuroecological research, it has also rewired the neural circuitries through which we perceive and act on our environments. As the interface becomes an urban force in its own right – structuring new spatial and temporal contingencies, altering subjectivities, and shifting urban programmatic contiguities – the capacity of digital registers to affect urban transactions drives an increasingly competitive race to capture attention on digital platforms. When the production of knowledge and the authorship of our environments are effectively placed in a handful of corporations vested in the mass modulation of attention, we must ask if our attention is being directed to the areas that are meaningful to our lived experiences, especially if we want to concentrate on addressing those concerns most pertinent to our societies. If cognitive processes demonstrate the

capacity to be molded by apparatuses of attention capture, philosopher Catherine Malabou argues that the plasticity of our brains also offer capacities for revolt: "To talk about the plasticity of the brain means to see in it not only as the creator and receiver of form but also an agency of disobedience to every constituted form, a refusal to submit to a model". The plasticity of both neural and platform circuitries thereby invites opportunities for creative rearrangements in the interplay of biological, technological, and sociocultural infrastructures. Drawing on the design, research, and development of open source platforms in Indonesia by *anexact office* and *PetaBencana.id*, the paper will explore transversal modes of design practices that reorganize platform logics for mutual aid. By repurposing the platforms that attempt to program a behavioralist mode of economic submission, our practice works to reorganize patterns of attention to foster the emergence of collective modes of enunciation; re-directing attention to the city's most pertinent needs through a choreographed interplay of interlaced physical, digital, and neurological registers. Conceived as a live demo of the platform, a documentary screening, and a lecture-performance, the presentation will draw on practical, academic, and activist trajectories to convey the postdisciplinary promiscuity of thought and design that has allowed our work to unfold as a software service freely available to over 60 million residents. How might a manipulation of current platform logics tip the scales on the asymmetries of information dissemination and knowledge production? How might new forms of transversal research and design support alternative approaches to co-authorships of the city by coordinating the collective space-time of our urban environments into shared forms of attention, collaboration, and care?

Session 1h

Tobias Matzner | Universität Paderborn

Subjectification through Data and the Politics of an 'Outside'

Data make subjects. Subjectification involving data has been analyzed in many strands of media and cultural studies. For example, Foucault described the birth of the human sciences based on the technologies of recording, comparing and operationalizing data in prisons and hospitals. Deleuze's concept of the "data double" and following theories like Amoore's "data derivative" have shown the role data plays in the constitution of subjects beyond centralized normalizing apparatuses. Self-tracking and self-quantification have made data a relevant factor of technologies of the self and led to the spreading of a data-based ontology of

the body from the medical sector into gyms and dining rooms. The talk will survey several political and critical accounts of such entanglements of data with subjectivity. It will show that many of these critical accounts in media studies, but also related fields like surveillance studies and media law focus on an 'outside' of data-based subjectivities. They engage either a subject which data cannot fully grasp or represent, or in a more constructive fashion, they discuss subjectivities which are an alternative to data-based forms of subjectification. In these theories, such alternatives are alternatives precisely because they do not involve data in becoming a subject or in intersubjective recognition. The talk will introduce a performative concept of data, inspired by the work of Wendy Chun and Judith Butler. This concept will be used to show that engaging an 'outside' of data politically has two problems. First, it runs the risk of framing the creation of such an outside as an individual task, which makes the increasing necessity to become a data subject – to make oneself machine readable – a problem of individual complicity. This necessity, however, is shown to be a part of subjectivities that exceed the narrow realm of data-based forms of subjectification like surveillance mechanisms or social media. This leads to the second problem. The politics of an outside harbors the potential to conceive every data-based form of subjectivity as somehow flawed. It thus runs the risk of paternalistically demeaning subjectivities and activities that many people enjoy or endorse. In conclusion, the talk will suggest an alternative of finding politically salient distinctions within or among data-based subjectivities rather than looking for outsides. It will use the entanglement of advertising and surveillance as two different forms of subjectification as example.

Session 7c

Nancy Mauro-Flude | National University Singapore

Embodiment and the Networked Assemblage in Digital Culture

This presentation critically explores the drives, forms and structures of visceral systems and networked assemblages. The routine embodied exchange in which our selves participate in daily life, is a continuous ideokinetic exchange, as we engage with the world through our proprioceptive facilities. With the proliferation of networks these gestures are being captured and transmitted by the computational devices many of us hold close. Application of deep machine learning algorithms acquire user profiles to model emotional states, neuromarketing nudges us to serving the ends of others. But what is the depth of pervasive consumer behaviour strategies? How are these physically inscribed, how far do these intentions go into

the body? Digital optics, HCI design, and the shaping of the digital unconscious found in VR/AR toolkits (previously delegated to highly controlled psychology experiments) have made inroads into marketing, apparatusses nudge and push us to sever all links with the evidence of our senses. Such leveraged affordances in cognitive and non-cognitive assemblages discussed by Katherine Hayles, along with the theories of cybernetic-existentialism posited by Steve Dixon are examined and extended upon. It is precisely these unresolved gaps (and non-prescriptive but performative slippages highlighted by theorists, artists and technologists) where the prominence of these are defined. Through case studies of experimental art and performances engaging in networked assemblages, artisanal data, creation of subjective datasets for artistic purposes, the proprioception of 'the user' is described and reimagined. Such transmissions include the repelling, mutating leaks, noise, digital obfuscation and other strategies of endurance, that lend themselves to embodied listening, are examined as artisanal products of adhoc networked assemblages.

Session 6g

Emma McCormick-Goodhart | Independent

Radiophonic Imaginings of Silent Speech

"We move within a set of phonographic anticipations [...] sent and sending on frequencies that Marx tunes to accidentally." – Fred Moten

"She had heard so little coherent human speech for the past three years, she was no longer certain how well she recognized it, no longer certain of the degree of her own impairment." – Octavia Butler

What if so-called 'disabled' bodies prove, in fact, to be better adapted than those perfectly 'abled' to evolving paradigms of nascent techno-sensory realities, both augmented and not – better equipped to attune to, and to biohack into, their milieus? This paper sets out by invoking Octavia Butler's early short story, *Speech Sounds* (1983), as a prescient parable of Fred Moten's concept of "phonographic anticipation", elaborated in his *In the Break: The Aesthetics of the Black Radical Tradition*, wherein commodities, nominally mute in Marx's conception, begin to speak against his injunction that they never will. In *Speech Sounds*, Butler generates a world in which its inhabitants have, to varying extents, lost the capacity to hear, speak verbally and write due to an unnamed illness – yet they develop

methods to communicate through prostheses, which I formulate as "object-oriented oralities", in spite of shared physiological impossibility. By casting the ability spectrum wide, Butler thinks with 'disability' by imagining conditions of impairment to actually facilitate modes of invention. At a conference at MIT in 1998, Butler – self-described as having a "radiophonic imagination" – wondered aloud about a future "when computers [...] can be addressed verbally, can be spoken to, whether it is still necessary for people to be able to read and write." Bearing Butler's provocation in mind, the second part of this paper continues to think with disability as a means to speculate upon material futures of audition and vocality, exploring the extent to which digitality troubles or endangers expressions of literacy by rendering them unnecessary. The paper frames silent speech technologies and brain-computer interfaces, as well as the advent of neural prostheses more broadly, as instantiations of the potentials of sonic culture, which Steve Goodman locates at the interstices of sound, vibration and "physiologically inaudible" – a field that he terms "unsound", and one which extends the notion of hearing well beyond that of audition. But what will such technologies do (or undo) for the field of vocal culture – do new models of digital ventriloquy effectively impair spoken expression even as they enable its transcription? Will we become mute as neural prostheses begin to hear and speak for us, like digital vocal tracts? Is the future of speech soundless?

Session 5e

Joel McKim | Birkbeck, University of London

Informatic Animation

Digital visualization technologies have recently expanded the field of animation well beyond the traditional domains of either children's entertainment or avant-garde cinema. As a primary means of representing computational information, digital animation has moved from aesthetic, cultural and entertainment contexts into the sphere of knowledge production and visual argumentation. As a rhetorical tool, a data visualization technique and a means of information exchange, animation is now employed in such diverse disciplines as life sciences, engineering and law. Within these various technical fields of application, digital animation is often a method of making visible phenomena and temporal processes that would otherwise be unrepresentable. Protein modellers, for example, produce digital animations of nano-scale molecular structures invisible to human sight; scientists employ digital animations to visualize climate simulations involving complex

variables and extended time scales; and forensic animations are mobilized within the courtroom as evidentiary re-enactments of past events. These emerging moving image forms animate digital information, bringing computational data into the realm of human understanding and discussion. Informatic animations – animations that convey informational content – are complex visual objects that play multiple roles in processes of knowledge production and dissemination. They at times occupy the position of 'technical images', functioning as productive agents within epistemic processes, rather than merely being illustrative representations. As visual tools and materials employed within the activity of scientific discovery and validation, informatic animations can be interpreted as an emergent form of 'cultural technique'. They are, in other words, both anchored to particular digital technologies (including software applications and new forms of image capture technology) and dependent on visual conventions, formats of information presentation, and habits of seeing. Viewed from an 'operative' or 'operational' perspective, these digital images present a visual language and form of interface that allows computational data and symbols to be worked with and manipulated within the lab or design studio at the level of coding, modelling and simulation. This paper will both introduce a concept of informatic animation and explore its implications for contemporary knowledge production, visualization and scientific prediction. It will focus on the specific fields of life science and climate science, offering examples of digital animation and simulation techniques being deployed within these two fields of research.

Session 2c

James Meese | University of Technology Sydney
Christian Herzog | Erasmus University Rotterdam

Public Service Media and the Re-Articulation of Remits in the Digital Environment: A Comparative Resilience Management Framework Approach

Public Service Media (PSM) face a series of unique challenges in the ongoing transition to a converged media environment. In addition to dealing with similar issues to commercial organisations such as responding to changing audience consumption patterns and making use of new distribution methods, they must maintain their (legislated) commitment to public value and universality, all while dealing with an unstable funding environment. This combination of significant sectorial change and limited funding has seen public service media

engage in a series of innovative programming decisions and internal restructures, including removing tradition broadcasting silos, working to game algorithmic distribution systems, and engaging in a variety of digitally enhanced audience engagement strategies. Subsequently, while the foundational goals of public service media have not changed, they are enacted in a fundamentally different way. This paper outlines the early stages of a comparative research project that examines how Australian and German PSM organisations have responded to the changing media environment outlined above. Adopting a resilience management framework, we are particularly interested in how the PSM remit can effectively transition to a digital environment and how these new ways of conducting PSM interact with existing legislative and regulatory requirements. We begin with an overview of recent developments within the Australian Broadcasting Corporation, Consortium of Public-Law Broadcasting Institutions of the Federal Republic of Germany (ARD) and Second German Television (ZDF) and discuss how these organisations are currently enacting their legislated remit online. We then go on to analyse how each organisation has framed these changes and in doing so, contributed to a broader re-articulation of the role and function of contemporary PSM organisations. Finally, we critically analyse this reframing by focusing on the relationship between social media platforms and PSM and examine how these intermediaries can both contribute to and harm the broader goals of PSM.

Session 4d

Alberto Micali | University of Lincoln; John Cabot University

Media Ecologies versus Environmental Media: The Ethico-Aesthetic Paradigm in Digital Cultures against the Neutral Techno-Politics of Media Infrastructuralism

In the last decades, novel conceptualisations and approaches to media as ecology or environment flourished within academic discourses. Very often, environmental and ecological positions have been aligned each other because of their shared emphasis on the agential capacities of technologies, stressing the complex and dynamic interrelations that occur between human and non-human actants. However, despite the attempt to overcome the evident anthropocentric prejudice, environmental approaches to media, particularly by addressing these as technological infrastructures, hold a neutral vision of technopolitics. In this paper, I argue that when media are studied and approached as organisational processes and objects, an inoffensive political perspective emerges; one that neutralises the

potentially disruptive media politics of ecological thinking and its related media practices. From differentials capable of opening novel processes of subjectivation, scalarly intervening on multiple ecological registers, media become neutral channels for organising forces, and their ethical and aesthetical qualities dissolve in favour of inoffensive metaphors. Environmentally thinking of clouds, winds or seas as media parallels with the critical accounts of infrastructuralism, since both address media as organisational 'middles'. Contrariwise, media ecologies foster a radical media politics. From free radios to independent media centres and contemporary forms of hacktivism, certain resistant forces have been capable of generating assemblages of collective enunciation via specific media practices. Nonetheless, nowadays these forms of media dissent are increasingly captured by the structuring power of digital media platformism: a dispositif that machinically enslaves these disruptive forces within an organising paradigm. This paper will have as such a double objective, 1) to push forward (again) the disturbing and pirated, transversal, proposal of media ecologies – which seems pivotal for the study of contemporary societies, and in particular of power and resistance within digital cultures; and, at the same time, 2) to encourage a media practice-theory that goes beyond the critical accounts on the analysis of media infrastructures, or media as infrastructures – avoiding thus to reinsert the 'organisational' and hierarchic limits of structuralism within media and cultural analysis. Following this line of reasoning, 'staying in the middle' will be recovered as a disruptive, 'excommunicative', media ecological mode; a critical and creative way to investigate and deploy the performative capacity of processes of mediation, but as a capacity that can challenge and not maintain contemporary diagrams of power.

Session 5d

Karolina Mikołajewska-Zając | Kozminski University

Striking Home: The Struggle to Regulate Short-Term Rentals in San Francisco

There is an increasing effort among researchers studying digital platforms to describe how the macro-policies, such as the safe harbour provisions embedded in the Communication Decency Act, have become an important institutional anchor contributing to the politics of 'platform immunity' adopted by digital corporations. However, less is known about local political processes which influence the politics of platforms and the boundary conditions for their operation. In this paper, I focus on Airbnb as a case study. I develop an account of the conflict between

Airbnb and its home town, San Francisco. Based on my fieldwork conducted in San Francisco in 2016-7, I present the subsequent iterations of regulation as outcomes of particular constellations of social actors and their struggle. Two moments of this conflict became heavily publicized in the press media: the 2016 lawsuit of Airbnb against the City of San Francisco and the recent sharp decline of Airbnb listings in its home city in January 2018. I explain these two events in the broader context of a much longer tension between the anti-Airbnb coalition of housing organizations and unions, and the pro-Airbnb 'camp' which has been taking place in the setting of San Francisco City Hall. As far as theoretical contribution of the paper is concerned, I aim to draft a framework for analysing local regulation struggles (of short-term rentals, or STRs) as processes influencing platform politics in a bottom-up manner. I seek to place the case which I studied in the broader context of the multiple struggles to regulate STRs unfolding right now across the US, Western Europe, and Australia.

Session 1c

Constantinos Miltiadis | TU Graz

The Architectural Continuum

"Ουδείς αγεωμέτρητος εισήτω" reads the inscription believed to have marked the entrance of Plato's Academy. Although often mistranslated, it's literal meaning is: "Let no ungeometered person enter." Plato addresses not geometers, but the geometered, as if mathematics were a practiced, embodied quality, and a modality of being, instead of mere knowledge. Indeed, Euclid's rigorous axiomatic system, doubles also as a first formal scientific method, that Plato will employ as an instrument to better understand reality, while expecting from his students and guests the ability to employ the empirical sequential methodology of constructible geometry in their rhetoric. Mathematics thus, becomes a form of ideology. Centuries later, Alberti's "De Pittura", on mathematical perspective, bridges geometry with the experience of the world and initiates the scientific revolution. Cartesian rationalism will employ geometry to represent and understand the world, while Kant will advocate for "absolute space" as the petri dish of reality. In the millennia to come, Euclid's geometry will become the most intuitive model of space. However, the search for a proof of his infamous fifth postulate, will trouble mathematicians for centuries. Gauss' "Theorema Egregium" will provide a paradigm shift and alternative to Cartesian space, while his student Riemann, addressing the "hypotheses which lie at the bases of geometry" will

generalize the theory for N-dimensions. Einstein will adopt such a geometry to theorize reality as spacetime, accounting for phenomena unheard of in Euclidean space, and providing the first significant rupture between visual space and reality. Meanwhile, video games become the most prominent entertainment medium and the field of game studies is established. Scholars will write on space; as the 'raison d'être' of games; as a parallel to architectural practices; and as a paradigm shift of this cultural medium coming of age. Space has indeed become the underlying substrate in both the production and consumption of games, with gameplay seen a spatial practice. From military flight simulators to contemporary videogames, 'gameplay' has been proven to develop and expand one's spatial skills. Although architectural design is locked in a Euclidean paradigm, a few video games show our capacity to conceive and engage with spaces impossible to construct physically. Through a short historiography of the evolution of spatial concepts, this contribution intends to suggest the possibility of a Virtual Architecture. Based on both theory and experimental practice we will discuss sensible, post-physical-world navigable environments residing in the VR-video game medium, and the vast aesthetic potential stemming from their capacity to tap into currently latent spatial-cognitive abilities. As Van Schaik suggests, our ability to harness and cultivate "spatial intelligence" is the essence of architecture par excellence, and the well of its future.

Session 5b

Carola Moujan | ESAD TALM / École Camondo

Shifting Paradigms in the More-than-Urban City: From Data as Information to Data as Tension

Linking data and physical space is a major trend in contemporary urban design. Data has become a design material, a design tool and a design field. Designers represent it, read it, use it to build services and games, to tell stories and generate forms. In spite of such diversity, a substantialist perspective underpins much of this data-driven design work. Focus is placed on highlighting specific readings of the information concealed within it. Such an approach implies a form of reduction where complex, at times conflicting qualities of urban phenomena become readable messages. Whether such information 'augments' public space, however, is difficult to assess, for qualities considered as 'noise' in regards to communication efficiency, may well be essential, albeit non-functional, components of urban experience. Issues of attention, of ownership, of privacy, of atmosphere, inevitably

arise, along with street cluttering and energy concerns. What is the nature of the space where information and urban space meet? Is the augmented city a hybrid space, a layered space, a digital divide? Whilst many critical voices focus on content, very little attention is paid to the material fabric of relationships being built, on the edge where bits and matter meet. Much like in the natural world, one might distinguish a border from a boundary. The first is defined by the meeting of diverse conditions, of different organisms, a condition that leads to increased interactions and the emergence of new species. The boundary, instead, "establishes closure through inactivity, through things not happening". This is crucial for the nonfunctional aspects of the urban experience, which depend on the integration of rational, conscious elements with the aspects of the experience that cannot easily be reduced to words, as well as on insertion of new forms within a pre-existing context in such a way that "it is not the object that is perceived, but the world, polarized in such a way that the situation has a meaning" (Gilbert Simondon). Weaving theoretical discussion with design research projects, this presentation will argue towards a paradigm shift, from data as 'information' to data as 'tension'. Such a paradigm shift requires a design attitude that, instead of static construction (material and form relationships), considers "the activation of space by means of a dynamic-constructive system of forces" where materials are employed "only as the carrier of forces." (László Moholy-Nagy). Instead of designing for known, controlled outcomes, envisioning data as tension implies considering urban spaces as force fields where, akin magnetic fields, individual parts loose their substantial identity to build an entangled whole, setting the stage for more-than-urban experiences.

Session 2d

Andreas Möllenkamp | University of Hamburg

Metaphors and Narratives of Digitization in Music Culture and Technology Design

Digitization has been addressed as a key development in contemporary history as it affects all aspects of contemporary life, economy and society. Computers, smartphones, tablets and other digital media have become an integral part of our everyday life, material culture and symbol systems. Digitization shapes and reconfigures our perception of the world, our relation to others as well as our memory and imagination. But what kind of story is the history of digitization? Which metaphors and narratives are used to characterize this process? Which

role do the different actors and 'the computer' play in this history? Drawing on approaches from the linguistic turn in history, I critically engage with the idea of digitization as a homogeneous process, but will analyze the different histories that have been brought forward to grasp and describe digitization. My argument follows three steps: First, I will give an overview of historical accounts on digitization and computing looking at their main questions, actors and themes. Secondly, I will look closer at the digitization of music culture and examine the discourse on music software and its effects on musical practice. By analyzing the design of music software applications as well as magazines for musicians from the 1950s to the present, this paper describes the main metaphors of musical human-computer interaction inscribed in music software and the narratives that accompanied them. Facing the possibilities of digital music production and the internet, the 'digital revolution' promised to bring about new aesthetic possibilities, a democratization of music technology and emancipation from the music industry. In addition, the computer challenged the very ideas of artistic creativity and virtuosity as well as the relationship between man and machine. Constructed by its producers, the media as well as popular musicians, these narratives help to promote the diffusion and frame the appropriation of the software. The third and final step of my argument is to put forward a more differentiated look at how these promises and narratives impact the experience and everyday life of musicians. In a time and context in which the business model of the music industry faced a radical structural change, music software facilitated the 'outsourcing' of several tasks previously assigned to specialized staff (like producers, audio engineers, promoters) towards musicians, leading to increased expectations for self-marketing as well as precarious working conditions. Writing 'the history' of digitization thus was and still is a contested field of identity constructions as well as marketing strategies that play a vital part in prefiguring the roles the involved actors play in this story.

Session 2h

Eva Nesselroth-Woyzbun | Ryerson University

House of Memories: Digital Detritus and the E-Waste Dwelling

When we think of home, we think of a private place where we feel comfortable and safe, surrounded by family, memories, and belongings. Home is a complex ideal which seeks to unify disparate experiences within a single, normative experience. Home, however, is indeed the place where we live, voluntarily or otherwise, where our life unfolds and where we are physically bound to space for some time. Digital

technologies and electronic "dust", to use Jussi Parikka's term, circulate across the planet in transglobal flows of trade, so too do value systems and their detritus. Amidst the shipping containers of waste that migrate toward the global south in an economy of electronics salvaging, are memories – some precious and some confidential, but much of it mundane and lost to technological obsolescence. The digital object is the estranged, nomadic traveler, traversing the globe bringing data, memory, and its material traces with it. Along their journey, digital objects are entwined in postcolonial narratives, economic narratives of success and reuse, and of environmental catastrophes and deterioration of human health. In many e-waste recycling villages across the globe, families live, work, and raise their children to earn a living dismantling the world's digital rubbish. In such sites there are often no boundaries between the home and the refuse pile, they are one and the same. Memory, material, and the subjectivity of 'waste' can been seen to intersect at the site of dwelling, or home. The e-waste home is made of memory – hardware, that is. The living space may be formed of bricks of informatic recall in the form of memory boards and other digital remains. The e-waste dweller lives amidst the ruins of memory, while creating their own new memories of family life. This paper examines the abject nature of images of the e-waste dwelling as it is captured and shared through digital galleries and social media. I explore the problematic and insightful framings of such images and propose that the discomforting quality of these allows for a productive analysis of e-waste through alternative lenses. Ultimately, images of e-waste dwellings are powerful expressions that challenge assumptions about digital technologies and their residual impacts.

Session 1d

Eva-Maria Nyckel | TU Munich

Media-Technological Conditions of Process Management 1911/2011

When Frederick W. Taylor published *The Principles of Scientific Management* in 1911, his key goal was to optimize work processes so that they would be as little time-consuming as possible. His principle held that inefficiencies should be made visible through practices of measurement. In order to control the performance of labor, the standardization of efficient work processes accompanied the process of standardizing the collection of organizational information for capturing the work processes that laborers performed in numbers and metrics. The key operation – measuring – was used, on the one hand, to construct ideal processes (goals to

be reached) and, on the other hand, to control whether the pre-set goals were reached by the workers. Today, process management systems such as Salesforce or SAP are used in all kinds of organizations (i.e. companies as well as universities and hospitals) to realize the standardization of workflows as well as to control their efficiency. The key procedure of these systems is still numeric registering. While Taylor's systematic approach involved a combination of distributed practices, Salesforce is a cloud-based process management platform that connects these practices digitally. The system structures sales agents' workflows, measures their performance and provides the corresponding data to managerial decisions. Its configuration is specifically designed to optimize sales processes: the declared goal is to acquire more customers, on the one hand, and to tweak the internal processes of the organization, on the other. Ideally, according to marketing claims, sales agents should be primarily occupied with talking to and managing customers while the amount of administrative work should be reduced to a minimum and be partly automatized by Salesforce. This thesis focuses particularly on the media techniques of Taylorism and the media technologies in contemporary working environments. It will be debated whether today's practices of working with digital process management systems are following on the same epistemological assumptions as in Taylorism which would allow for evaluating the term 'Digital Taylorism'. A media-archaeological approach will be used in order to shed light on both the technical structure of Salesforce as well as the epistemological implications that lie in its code. For analyzing the media-technological conditions of both Taylorist organization of labor and process management practices that are mediated through Salesforce, I suggest four categories of epistemological assumptions. The central task in all four categories will be the contrasting of pre-digital analog Taylorist techniques with the practices in current digital cultures of process management.

Session 2i

Thomas Nyckel | Technische Universität Braunschweig

The 'Rule of Thumb' from Taylor to Turing: A Conceptual Shift indicating the Transformations induced by Digital Technologies

The term 'rule of thumb' commonly refers to fast methods for the calculation of approximate values without performing precise computations. Interestingly both Frederick W. Taylor and Alan M. Turing make use of this term. Taylor's understanding of 'rule of thumb' stems from this common meaning: According

to him ‘rule of thumb’ denotes traditional and individual methods, which are inefficient and imperfect compared to exact scientific methods. In contrast, Turing – whose Turing machine from 1936 is regarded as the *fons et origo* of the concept of computability and as the foundation stone of the digital computer – uses the term “rule of thumb” in a diametrically opposed way. According to him the term refers to all that – and only to that – which can be executed by digital computers:

“Some years ago I was researching on what might now be described as an investigation of the theoretical possibilities and limitations of digital computing machines. […] One of my conclusions was that the idea of a ‘rule of thumb’ process and a ‘machine process’ were synonymous. […] If we take the properties of the universal machine in combination with the fact that machine processes and rule of thumb processes are synonymous we may say that the universal machine is one which, when supplied with the appropriate instructions, can be made to do any rule of thumb process.” (Alan Turing)

While Taylor is using the term ‘rule of thumb’ to denote inaccurate processes, Turing understands the same term as synonymous to all the exact methods of digital computers. This conceptual discrepancy originates in a fundamental difference between the epistemological standpoints of both authors: In Taylor’s use of ‘rule of thumb’ the important question is whether the results of rule of thumb processes correspond to the actual circumstances in ‘nature’ or within material processing. From this perspective rules of thumb are neccessarily inaccurate, because by definition they match the actual circumstances only in an imprecise manner. For Turing the question about the correctness of the results of rule of thumb processes becomes unimportant. In his perspective rules of thumb are first of all to be regarded as methods: Before we can even think about the adequacy of the results of rules of thumb, we have to acknowledge that they must be of inherent exactitude, for a human and especially a machine to execute them. If any step of a rule of thumb instruction is unclear or regards thinking, it is – also by definition – no longer a rule of thumb.This paper’s thesis is that this drastic shift of meaning of the term ‘rule of thumb’ from Taylor to Turing indicates the transformation of the spheres of knowledge and circuits of culture under the proliferation of digital media technologies in an especially insightful manner. This contribution therefore seeks to explore the implications of this shift for the new subjectivizations generated from changing human-machine configurations.

Session 3d

Rachel O'Dwyer | Trinity College Dublin

FitBit is a Bank: Developing Research Methods for the Intersection of Money and Platform Studies

Digital platforms such as internet service providers, mobile network operators, artificial intelligence companies and social media networks are now acting as infrastructures for the circulation of monetary payments and transactions, going so far in some instances as to acquire financial licenses and issue their own private currencies. In China, Alibaba and Tencent, two platforms that specialise in retail, internet service provision and artificial intelligence, now dominate the payments space, while in Sub-Saharan Africa, the mobile network operator Safaricom is a primary financial actor. In Europe, meanwhile, numerous platforms such as Apple Pay, Google Wallet and social media networks are entering the payments or 'Fintech' space and creating new services for money transfers, savings and credit. These platforms bring with them a business model that is based on a) establishing intermediary positions in multisided markets, b) capitalising on network effects and c) monetising user-generated data from electronic payment and transactions. Today, these data platforms are intersecting to form and transform money. We urgently need new frameworks and methods to rethink money and its current situation within communication and datafication processes. While this talk surfaces the key connections and concerns between internet and money studies, it largely focuses on the development of appropriate research methods for the study of digital payments, Fintech and monetary platforms. This speaks briefly to burgeoning research across the study of digital platforms and algorithms generally but primarily focuses on the development and formalisation of methods for cross-disciplinary research within industry and innovation. This includes participation in payments industry expert spaces and groups, explorations of Fintech industry myths and failures, approaches to an ethnography of industry literature and the development of social mobility within Fintech spaces. Furthermore, this talk will point to some of the key issues associated with this kind of research, including language and social barriers, trade secrecy and the extent to which information gleaned in an industry context can ever be believed or applied in a research context.

Session 5g

Marcus Owens | UC Berkeley

Media Ecologies and Urban Wildlife

Stemming from Alberti's development of linear perspective, landscape aesthetics such as the picturesque, the sublime, and the idea of wilderness, are always already entwined with media technologies, which provide the detached view and the privilege of safety required for the aestheticized gaze. Accordingly, this paper examines the media ecologies and aesthetics of digital imagery at work in the contemporary ecological management apparatus. After fleshing out the theoretical relationship between media technology and landscape aesthetics, it traces the development of the camera trap at the turn of the twentieth century to the confluence of trends in ecological landscape management in the 1990s with accelerations in information communications technologies. It discusses how these technologies provided not only new modes of representation but a logic for conceptualizing landscape as territory that characterize these new ecological images. The empirical core of this paper takes form as a survey of ecological images produced in landscape management projects with a focus on California, including live feeds, camera trap networks, social media platforms, and web map visualizations. It analyzes the aesthetic qualities of these landscape representations and nature scenes, their modes of production and routes of circulation that work to construct nature and produce urban space. Finally, it considers the implications of the machinic gaze for landscape aesthetics as it is developing in collision avoidance systems for autonomous vehicles as well as other emergent forms of wildlife-computer interaction.

Session 6e

Nicolas Oxen | Bauhaus-Universität Weimar

Machinic Sensibility of the Lens Flare

Lens flares have made a curious evolution in film aesthetics. They started as 'defects' created by optical aberrations, as an "internal reflection or scattering in the complex construction of compound lenses" (Cubitt et. al. 2015: 7) caused by a direct 'camera gaze' in the sun or other light sources. From unwanted 'defects' lens flares have become technological and aesthetical 'effects'. In digital post-production they are used to simulate the presence of a camera, creating a strange indexical form of optical realism. American independent cinema and B-Movie

Horror has developed an aesthetic repertoire of lens flares forstering a sensorial realism. The final scene of Tobe Hooper *Texas Chainsaw Massacre* (1974) for example is tainted with the carnal glow of sunrise. Science-fiction cinema has made an excessive use of lens flares, not only to hide CGI, but also to stress the artificial quality of their utopian worlds. In the mode of a supercut YouTube compilations meticulously document for example J. J. Abrams' excessive and sophisticated use of these aberrant light-effects. Lens flares are small but interesting objects, which have a tendency to blur the dichotomy of 'defect' and 'effect' or 'realism' and 'fiction'. In this way lens flares are also critical objects that indicate the changing looks and trends of digital film culture. My paper is interested in these 'sensible' aspects of lense flares and its main argument is to describe them as something that points to the entanglement of 'human' and 'machinic' sensibility. To develope this argument, I will refer to discourses of somatic film experience and foreground their arguments about the different experiental layers in the relation between film and viewer. From here, I will try to introduce Alfred N. Whiteheads concept of "prehension" as a pre-subjective and sub-representational 'mode of experience'. For Whitehead the ecology of the bodily sensitive relation to the experienced environment is such a form of "prehension" (Whitehead 2014), but his process metaphysics widens this concept to describe also non-human modes of experience. In his *Feed-Forward. On the Future of Twenty-First-Century Media* (2015) Mark Hansen has shown how important Whiteheads concepts are to think the "worldly sensiblity" of contemporary digital media environments. I will follow Hansens reading to argue, that the concept of 'prehension' can be used as a tool to describe lens flares as an entanglement of 'human' and 'machinic' sensibility. Their prehensive aspects encompass, as I would like to show, a 'prehensive gaze' of the camera, as well as operations of digital post-production and also the aesthetic and sensorial relation between film and viewer.

Session 7d

Imge Ozcan | Vrije Universiteit Brussel

Framing the Self-Tracking Subject and the Data Ecologies it Inhabits

Bringing together critical data studies and software studies, this paper will look into digital self-tracking practices (done via mobile apps and wearable technologies). There is a tendency to analyse the self-tracking subject as that of discipline and responsibilisation. Grounding the analysis in governmentality

studies, some researchers argue that a self-tracker is a form of "enterprising self"– a self that that works through autonomy and responsibility in order to better itself. Others describe self-tracking as a practice of relieving oneself of responsibility by delegating it to external technology such as big-data analytics and the data-driven nudge. These framings of the self-tracking subject cover significant aspects. However they leave out a lot of the social dynamics and data practices that are at work in digital self-tracking. Global surveys show that people mostly track health and fitness. However different people self-track for different reasons. And it's important to ask what people actually do with their data and how they make sense of it. In this regard, this paper will discuss the following questions: To what extent self-trackers benefit from their data? What do the commonly available self-tracking devices and apps afford? Do they help self-trackers to figure out which questions to ask or empower them in any way? How do design presumptions such as "self-interest" shape our engagement with technologies? Aiming to answer these questions, this paper will explore new frames to situate the self-tracking subject and the data practices and structures it engages with. It will also present an analysis of choice, agency and empowerment issues at play.

Session 6h

Weixian Pan | Concordia University (Montreal)

Reclaiming the Ocean: Mobile Signal as Sovereignty and Speculative Videation

Since 2014, speculations of China's anthropogenic activities at the South China Sea – such as land reclamation, construction of civil and military facilities, and excessive fishing activities – are circulated by state institutions, military strategists, journalists and the general public alike. A series of questions emerge from this terrain of indeterminacy: Can a more-than-human topography push us to rethink what constitutes sovereignty, legality, and materiality at sea? And in a time when uncertainty is "circumscribed by risk analysis" (Ned Rossiter and Soenke Zehle), or governed by algorithmic modulation and state-corporate profits, in what ways speculation might offer an anticipatory logic that allows us to remain attentive to processes of distribution as well as specificities of mediation? In response to these questions, this paper investigates how the making of a speculative digital space is crucial to configuring ecological environments into zones of exceptions. This approach allows me to critique the diplomatic and legal discourses build around the subregion, the ones that fixate on an ocean geography through clean-

cut border lines, categorization of 'natural' entities (islands, reefs or rocks), and international laws. Rather than simply looking at how digital media represents territorial disputes at sea, this paper asks what it might mean to look at the ocean and the internet not as separate domains but as co-constituted in recasting new forms of political technosphere cutting across the ontologically separated realms – land and sea, virtual and physical, material and speculative. Invoking this internet/ocean assemblage, this paper will focus on two main threads of arguments. The first half of the paper traces the construction of 3G/4G mobile cellular network across the Spratly Islands by China Mobile, the state-owned telecommunication corporation, since 2010. I argue that these media infrastructures need to be examined as part of a larger attempt to recast political and legal authority over territorial waters in the South China Sea. Mobile internet signals are transmitted and increasingly operate as an informal register for oceanic sovereignty. This paper further proposes to approach the contested water through speculative videation. 'Videation' signals various forms of material and imaginary intimacy through video culture's unique mediation, which allows us to navigate the dispute region through its blind spots, paralegal entities, and the fragile mobility. The emerging video practices over the island controversy offer a glimpse into such technological intimacy that is often understood through satellite imaging services and commercialized oceanic data. These videations both produce material traces of geopolitical struggles and distribute speculations of regional risk and potentiality.

Session 2g

Sheenagh Pietrobruno | Saint Paul University / University of Ottawa

Methods and Media Ecology: Curating Digital Museum Objects on Search Engines

Methodological approaches to the curation of digital museum objects are outlined to demonstrate how they emerge within a media ecology combining the human and the digital. This paper addresses the methods to analyze the transmission of museum objects from exhibitions at the Swedish History Museum including "We Call Them Vikings" that are featured on YouTube videos accessed via the search engines of Google Search, DuckDuckGo and YouTube. For six months starting in March 2018, the Viking helmet displayed at the Swedish History Museum is tracked through an analysis of YouTube videos. This helmet has been used in various historical and contemporary contexts to symbolize political meanings including nationalism, fascism, as well as hyper masculinity. I argue

that these methods demonstrate how the juxtaposition of contrasting media in relation to digital museum objects featured in videos listed on search engine result pages (SERPs) can lead to new algorithmic and user-generated curation through the production of meanings associated with the Viking helmet that counter or differ from those put forward by the Swedish History Museum. The use of juxtapositions to generate meanings draws upon theories in digital media as well as analog media of the relation between meaning and media contrasts. This methodology tracks under specific keywords and within specific time frames SERPs of YouTube videos in Google Search, YouTube and DuckDuckGo in order to triangulate data through investigating three search engines where YouTube videos are disseminated. This tracking enables an analysis of the juxtapositions of the digital visuality of the Viking helmet and the concomitant meanings these contrasts may incur. Technologies of search engines and those of each of the three sites are taken into account within this approach to ascertain how their search engines integrate users and algorithmic processes, which in turn enables the digital curation of museum objects of YouTube videos on these sites to work in a networked structure combining human involvement and automation. To combine the human and algorithmic, this method incorporates technologies of YouTube, Google Search and DuckDuckGo enabling users to exert a certain degree of control over the listed videos that comprise SERPs: keywords, language setting and geolocations. They integrate elements impacting personalization on Google Search and YouTube: search history, browsing patterns and being logged into the platform or not. DuckDuckGo does not track its users, providing a contrast to the two other engines designed by Google. These methods comprise elements outside user control including the experimentation and randomization of Google's algorithms in addition to algorithmic processes that rank videos such as PageRank on Google Search and the dominant ranking signals on YouTube such as watch time.

Session 4d

Maurilio Pirone | University of Bologna

Platforms as Mythological Machines: Post-Capitalism, End of Work and Digital Democracy

The most used metaphor to describe the forms of enterprise at the base of the gig and the sharing economy is that of the platform: a smooth and flat space where to develop flows and continuous mobility, the meeting between customers

and suppliers, but also sharing practices, forms of socialization and an ethic of participation. That is why many digital platforms categorically reject the name 'companies' tout court. Yet this model or strategy is increasingly referred to as the future of capitalism. Or rather, a post-capitalist society that has overcome the twentieth-century concept of work and the conflicts and inequalities that were generated by it. Yet, despite this aura of digital democracy and the rhetoric of the end of the work, very often platforms resemble black boxes more: they do not just create digital spaces of aggregation between equal users, but rather constitute a digital infrastructure and a logistics chain that completely reshape the production processes, the subjects at work, the forms of consumption and the rules of the game in an opaque and vertical way. Put another way, the egalitarian metaphor of the platform often hides vertical and asymmetrical relationships: platforms know all (or almost all) of us, while we know little or nothing of them. How can a critical approach be built to these new forms of enterprise whose algorithmic and managerial logic remains impenetrable to the various actors involved and whose resonance extends to society in general? In the first part of the intervention I will try to better investigate the metaphor of the platform, both from a symbolic and a genealogical point of view. I will focus on the type of work and society narrative it conveys and on some genealogical stratifications that are set up in this business model. In the second part I will give space to what the metaphor does not say. Above all, I will try to bring out how the image of the platform is indissoluble from the repetition – in a new form – of some processes typical of the capitalist mode of production: subsumption, accumulation, enclosures. In the third and last part of the article I will show how these capitalist processes are anything but linear but a ground of confrontation between different instances and subjects.

Session 6h

Martin Pogacar | Slovenian Academy of Sciences and Arts

Speculative Futures: Transience and Obstinacy of Memory and History

Digital media spawned a substantial reconfiguration of how the past is re-presenced and manipulated. They have affected the politics of memory, the way the past is used in daily politics and quotidian meaning- and world-making practices. In response to the rising political instability in the aftermath of the end of the Cold War, the unpredictability and the absence of an inclusive prospect of the future, digital media have become the pharmakon of the present condition. Human action and

interaction, in and with digital media, in relation to the archiving of the past and to the industrialisation of memory, configures an exploratory terrain structured by the increasingly dominant 'feeling and opinion', societal distrust, recalibration of monopolies of knowledge. In such context, the issues of memory are as pressing as ever. In this presentation the author investigates user interventions in social media dealing with speculative future narratives of socialist Yugoslavia. He departs from taking the break-up of Yugoslavia as the central hyper-mediated and mediatised meta-historical event that has altered the anticipated future and around the legacies of which prospective future paths have sprouted. Unpacking the 'what-if future memories' he asks: how and to what effect do historical events and legacies still bear relevance and meaning in contemporary mediated realities? What can be learned from speculative digital video-narratives about the past, present and future? What are the imaginative contours and present-shaping powers of such interventions? When knowledge, expertise and facts are increasingly devalued (e.g. historical revisionism), when histories are audiovisually crafted according to one's own choosing (individual or collective), such affective, discordant, fragmented, antagonistic and impoverished, bubbled-up micro-narratives of the past emerge as widely used tools and mechanisms for interpreting the world. To address these questions the author juxtaposes media presences of the meta-historical event and the speculative futures narratives into Yugoslav past and future, and traces the re-presences and reuses of this event as an interpretative prism through which the socialist past and the post-socialist subject are recoupled to flex present and future imaginaries. Doing so he traces interpretative shifts in a selection of YouTube videos and analyses them as instances of exteriorisation of memory and the central props for memory.

Session 3i

Aleksandra Przegalinska | Kozminski University

Trust in the Device

The reliability of various devices, systems and platforms arises as an important problem when one considers the level of trust that is allocated in them. In a social context, trust has several connotations. Trust is characterized by the following aspects: one party (trustor) is willing to rely on the actions of another party (trustee); the situation is directed to the future. In addition, the trustor (voluntarily or forcedly) abandons control over the actions performed by the trustee. As a consequence, the trustor is uncertain about the outcome of the other's actions; they can only develop

and evaluate expectations. Thus, trust generally can be attributed to relationships between people. It can be demonstrated that humans have a natural disposition to trust and to judge trustworthiness that can be traced to the neurobiological structure and activity of a human brain. When it comes to the relationship between people and technology, the attribution of trust is a matter of dispute. The intentional stance demonstrates that trust can be validly attributed to human relationships with complex technologies and machine-learning based mind-trackers could be considered as complex technologies. During our previous studies, we have noticed that that users of various wearable technologies tend to trust the data and follow instructions provided in apps attached to wearable gadgets, treating them frequently as experts in the field of wellness, while at the same time are afraid that their privacy will be breached through uncontrollable circulation of sensitive data. In another study devoted to human-bot interaction we have observed how the channel of communication and choice of interface affects trust allocated in natural language speaking entities. Thus, one of the key current challenges in the social sciences is to re-think how the rapid progress of technology has impacted constructs such as trust. This is specifically true for information technology that dramatically alters causation in social systems: AI, wearable tech, bots, virtual assistants and data. All that requires new definitions of trust. I'm really hoping to engage in a discussion that would help us move forward in this urging field.

Session 4h

Holger Pötzsch | UiT Tromsø

Media Matter: Rethinking Borders and Archives in the Context of the Digital

My contribution refocuses the discipline of media studies in a materialist direction and interrogates questions of how borders and archives change in 'new' digital environments. Firstly, focusing on the issue of borders and bordering, I identify and systematize new technological affordances for the control and management of global mobilities and migration flows. I argue that increasingly ubiquitous techniques of tracking, profiling, and predicting have transformed borders into dis-located regimes of control that attach to individual bodies and this way become inherently uncrossable for non-normative subjectivities, while at the same time becoming largely invisible and impalpable for normative subjects. This dislocation of the border implies a simultaneous extension of exceptional state power into the inside of nation states and reveals a growing privatization of key

state functions. Secondly, I look into new technological affordances for archiving and their implications for individual subjectivities and collective identities. I describe a transition from linear file-based archives as repositories of historical traces and documents towards an algorithm-driven, future-oriented predictive archive. This new type uses big data and fine-tuned feedback loops to not only retain and make accessible various possible pasts, but also to nudge and poke both individual users and groups to actively shape the social world in line with initial predictions. I conceptualize these new affordances and dynamics as a transition from borders to iBorder and from archives to iArchive. Here, the "tricky-little 'i'" (Andrejevic) hints at a critical trajectory that shows the inherently neo-liberal and atomizing tendencies built into digital technologies. Thirdly, I will bring these divergent lines of inquiry back together and suggest that top-down descriptions of technological affordances often implicitly reify received imageries of neatly functioning technological frameworks. This part focuses on concrete material practices – the situated everyday performances through which the potentials of iBorder and iArchive are implemented, negotiated, (re-)appropriated, and subverted. Apparently powerful and neatly functioning socio-technical means of management, power, and control become conceivable as not quite as functional and far more messy and prone to errors than implied in received discourses regarding both the unprecedented potentials and underlying dangers of contemporary digital networks. Theoretically, the present contribution will draw upon notions of power and the subject connected to Foucault, Deleuze and Bigo, interrogate the role and place of humans and human agency in complex socio-technical networks (Latour, Coole, Hogan), focus on tensions between technical infrastructure and situated practices (Walters, Rossiter, Starosielski), and address constitutive impacts of digital technologies on subjectivities and performances (Cheney-Lippold, Gehl).

Session 7e

Robert Rapoport | Leuphana University Lüneburg

The Ethics of Automated Video Feeds Narrating Computer Vision

The past two years have driven home the urgency in understanding the automated editing of news feeds. Part of this requires public educated in the poetics of targeted narratives, of the kind used by Cambridge Analytica. This paper brings that dynamics 'weaponized data' to bear on a problem that is a few years down the

line: the automated editing of video. The danger of techniques used by Cambridge Analytica and others deepens when moved from text to video based 'fake news'. The thorny question is particularly pertinent to 'empirics of the digital' referenced in the call for papers. Automated editing is poised to be used on both news stories and personal video (as in the Google Photos assistant). The analysis of moving images is an arena in which the humanities now compete with the algorithmic as an arbiter of meaning. What differentiates this arena from others is that moving image production – in all its defiant contingency – is a space in which predictive analytics and computer vision can still appear fallible. Galloway speaks to the need for the humanities not to try to beat the algorithmic at its own game. It would seem that a film set in which embodied performance is watched by AI provides a space in which algorithmic and humanistic ways of knowing can achieve some parity. Films that are co-authored by AI and humans can function as a microcosm for thinking about broader shifts brought on by the nexus of predictive analytics and omnipresent cameras. The paper will reference contemporary video editing applications employing a number of different forms of Artificial Intelligence. In a final section I explore how the integration of AI into video editing – and post-production workflows more generally – changes practices of media production. The logic of post-production has always influenced the on-set conditions of video production, but this project will investigate the ways in which the inclusion of AI in this cycle asks us to rethink this relationship with regard to performance, and by extension subjectivity, as per the conference theme: unlike text-based newsfeeds and automated video timelines have many more parameters along which to optimize, insofar as they will bypass language. How might reliance on this mode of image production and distribution lead to what Galloway has called the "black-boxing of the self"?

Session 6c

Helene Ratner | Danish School of Education, Aarhus University
Bjarke Andersen | Danish School of Education, Aarhus University

Configuring the Teacher as Data User: Algorithms and Statistical Uncertainty in National Testing

Knox et al. (2007) suggest that digital technologies largely have become responsible for rendering the world calculable and informational. As a consequence of this, expertise is configured as the capacity to re-connect calculative data representations with organizational practices "which enables representations to be returned to

the world through allusions to their transformative effect" (22). This expertise is shaped by the way agencies of human and software agencies come together in digital interfaces. As a result, expertise cannot be disentangled from the socio-material digital arrangements analyzing and visualizing data (Suchman 2007). This paper explores how the digitalized national testing of students configures the expertise of teachers. Based on an adaptive algorithm and delivering auto-scoring assessments of students, the Danish national test is characterized by high levels of automation and computation. Digital education technologies such as computer adaptive testing have been criticized for displacing "informed professional judgment" (Williamson 2016: 130). Instead of teachers' direct and 'analogue' assessments of students, "database software packages and data companies are the 'hidden' new managers of the virtual educational landscape" (Lawn in Williamson 2016). Indeed, digital interfaces visualizing national test results play a central role in the Danish organization of national testing. Yet, rather than displacing educational expertise to a technical and computational domain of software developers, we suggest that national testing produces a new form of teacher expertise as much attention is devoted to develop digital interfaces that help teachers interpret complex statistical test data. This points to new human-technology configurations where the digital national test system is governed as a relational outcome of teachers and the digital interface and makes a case for exploring different digital configurations of the 'teacher as data user'. The paper compares two influential digital configurations: the Ministry of Education's national test visualization and that of a leading commercial actor (Company A). This casts light on the contingency and open-endedness of questions such as what data expertise is and how teachers are to engage with the statistics inherent in digital database infrastructures. While complex statistical data infrastructures intervene in educational realities, to what extent teachers are expected to understand this is far from settled. This opens new spaces for intervention and negotiation of what we mean by datafication of teacher expertise. The paper is based on Ratner's (Author 1) fieldwork in the Danish Ministry of Education, responsible for developing the digital national test visualisations, and an interview with the owner of Company A where Madsen (Author 3) also works.

Session 3e

Noopur Raval | University of California Irvine

Geographies of Futurity: Of Potholes as Data Points

Postcolonial urban spaces are layered temporal archives in that they bear material traces of state planning schemes, citizen movements and capital flows. When investigated temporally, they also reveal themselves as social interfaces, giving clues about the social and economic relations between coexisting communities of caste, religion and formal and informal production. Scholars of urban planning, bureaucracy and development have highlighted how processes of space-making produce and alter the social and economic relations between different urban communities. They have also illustrated the role of new and old architectural, planning and mobility technologies in mediating, asserting and re-allocating urban power. What do we then make of the role of digital, and especially algorithmic technologies in postcolonial space-making? Importantly, as is always the case in Western conversations of technologies, historical perspectives only get appended much later. Geographical differentials of infrastructure, politics and data regimes from the Global South arrive even later if they do at all. This paper draws on my fieldwork on ridesharing platforms in Bangalore, India, in order to do two things: 1) stage the encounter of the algorithmic and urban space in the Global South and, 2) ponder aloud what ongoing conversations in urban studies and platform studies can contribute to understanding the encounter of algorithmic platforms and existing forms of work in the Global South. Presenting ethnographic data on ridesharing drivers, driving for app platforms like OlaCabs and Uber in Bangalore, the paper demonstrates how the arrival of these apps initiated a new chapter in the relationships between Bangaloreans as well as between Bangalore and its peripheries. The paper gathers various aspects of ridesharing – its friction with taxi unions, anxieties around women's safety and debates around public transport, to argue that ridesharing services, and generally digital platforms, reveal the city as a socio-spatial space. Importantly, it explores what recontextualizing platforms in the space of the Global South can do, to problematize and expand the assumptions of infrastructure, labor and urban space.

Session 4f

Renée Ridgway | Copenhagen Business School

Subjectivities of Search

In the opening paragraph of his book, *The Sense of Dissonance* (2009), the sociologist David Stark defines 'search' as "the watchword of the information age". By typing in a few keywords, "search engines power the information economy", providing access to databases that open up and reveal answers to users' queries. It is however, human-machine configurations in an era of 'big data' in which "search is the process that best exemplifies the challenges of contemporary organization". As a type of 'invisibility management' with digital technologies reflecting an organizational apriori – the user is directed and unconsciously organised by the very action of searching online. Wendy Chun articulates the ways in which the more the users see when searching online, the less they know, and that there are ever-shifting degrees of "control and freedom". Moreover, it is through habit that users become more like their machines. Behind the scenes there are other non-human actors (algorithms) involved in this digital 'organisation of the self'. Already at the turn of the millennium Martin Parker coined the term 'cyberorganisation' to describe human-machine systems that control the flow of information back to the user. Louis Althusser argued that the on-going process of interpellation transforms individuals into subjects, culturally constructing identity through ideology. Nowadays technological infrastructures such as the world wide web, network layers and protocols regulate various forms of address. The subject (or user) has become the site of data collection as well as being constantly evaluated by algorithms and "technology, or standards, precede meaning, and enable it – similarly to how they enable the being of the subject" (Bernhard Siegert). "Subjectivities of Search" examines the posthuman condition and how search organises the self (selves), mapping the various forms of address and which types of subjectivities result from this human-algorithmic interaction. Drawing on a method entitled 'critical ethnography of the self', the analysis sheds light on the effects of Google Search, along with its technological implications and consequences. In contemporary "surveillance capitalism" (Soshana Zuboff), Google's 'logic of data accumulation' enables 'personalised subjects' to obtain free services in exchange for data who are then assigned or collaboratively filtered into groups of others 'like them'. Algorithmic 'weapons of math destruction' execute the inherent programmers bias (race, gender, class) and predict user behaviour based on previous data sets. In contrast, agency lies in alternative search methods

with Tor facilitating anonymous communication of information and data between unknown users. Ultimately, "Subjectivities of Search" will show how search organises personalised subjects and anonymous users and which digital subjectivities are produced en route.

Session 4d

Martin Roth | Leipzig University

The Suspension of Media Literacy and Platform Plunder

While causing an outrage amongst digitally sensitive critics, the 2017 German parliament election poster "DIGITAL FIRST – BEDENKEN SECOND" – "bedenken" meaning reservation, doubt, or reflection – captures a common mode of engaging with digital media daily. I myself am certainly practicing this mode frequently: despite knowing better, I use software and services that exploit my input in may ways, helping secure the hegemony of commercial enterprises over digital spaces. At the same time, this mode of engaging with digital spaces, which I have referred to as a "suspension of media literacy" elsewhere, seems to be an almost inevitable condition for incorporating an increasingly complex range of media productively in everyday life. Felix Stalder argues that the structure in place in such media use is "postdemocratic", in that it maintains or increases opportunities to participate, while shifting decisions to a layer on which participation in the decision-making is impossible for most of us. In Japan, Eiji Ōtsuka calls for a new conceptualisation of labor, which can take the free and voluntary "information labor" many of us are doing simply by partaking in popular culture and, more particularly, digital culture, into account. In my paper, I take a closer look at the economical dimension and power structure of this relation between concrete content-focused 'regional platforms' popular in Japan. I argue that, in order to make sense of the relationship between user and platform enterprise, we need to look past simple market logics. For this move, I draw on theoretical conceptions of social formations in terms of exchange forms by Japanese theorist Kōjin Karatani. While not discussing digital spaces, Karatani develops a perspective on world history as a history of competing modes of exchange, namely the reciprocal mode A: gift – countergift; the hierarchical mode B: plunder and redistribution; the capitalist mode C: commodity exchange; and, the elusive mode D: free and mutual associationist exchange. In my paper, I propose that Karatani's perspective can be adapted fruitfully for a critical perspective on digital platforms, or, more accurately, digital spaces, meaning spaces that emerge in user engagement with

digital platforms and services. Doing so helps identify not only the market logics in place in digital spaces, but another, accompanying type of exchange that resembles mode B, plunder and redistribution. In the final section of the paper, I discuss the implications of what I believe symbolizes a crucial shift in media economy.

Session 5c

Paolo Ruffino | University of Lincoln

Video Games for Earthly Survival Gaming in the Post-Anthropocene

In this paper I evaluate the sixth mass extinction on planet Earth, and its implications for the medium of the video game. The Anthropocene, a term popularized by the end of the 20th century to refer to the geological impact of human beings on planet Earth, assumes temporal development, a 'before' and 'after' the appearance of humankind. The 'after' period, the Post-Anthropocene, is repeatedly claimed by scientists to be approaching within the next few decades, as over-consumption is destroying vital resources of the planet. Allegedly, the sixth mass extinction in the history of our planet is already unfolding, and might determine the disappearance of life from Earth and, as far as we know, from the Universe and beyond. Video games responding to the arrival of the future is not just imagined in fictional settings (e.g. *The Legenda of Zelda: Majora's Mask,* Nintendo, 2000; *Horizon: Zero Dawn*, Guerrilla Games, 2017), but within game design. In the last decade an increasing number of video games requiring limited human intervention has been released. Incremental/ idle games such as *Cookie Clicker* (Julien Thiennot, 2013) and *AdVenture Capitalist* (Hyper Hippo Productions, 2014) require an initial input from the player to start, and then keep playing themselves in the background operations of a laptop or smartphone. Virtual environments can be entirely designed by algorithms, as experimented by Hello Games for *No Man's Sky* (2016). Artificial Intelligence is also used to play games. *Screeps*, a massive-multiplayer online game, requires players to program an AI that will play the game in their place, and which will "live within the game even while you are offline" (Screeps Team, 2014). Ghost cars in racing games replace the human actor with a representation of their performance. The same concept is further explored by the Drivatar of the *Forza Motorsport* series (Microsoft Studios, 2005-2017), which simulates the driving style of the player and competes online against other AI-controlled cars. These are only some of the examples that suggest that human beings are becoming peripheral in the act of playing games. In

short, it is probably becoming 'easier to imagine the end of the world than the end of gaming'. While studies on games with no players, and on the non-human side of gaming, have been proposed in the past, my presentation takes a non-normative and non-systemic approach to the study of games for the Post-Anthropocene. I am concerned with the creative potential of the paradoxes, spoofs, and contradictions opened by games that take Man/Anthropos as being no longer at the centre of 'interaction', 'fun', and many other mythological aspects of digital gaming. Non-human gaming questions the historical, political, ecological and even geological situatedness of our knowledge on games and gamers, interaction and passivity, life and death.

Session 5g

Nicole Sansone | Goldsmiths University

Picturing Invisible Places

How can we have a real picture of an un-real place? The question may seem rhetorical, but it's not. Rather, such a question names a contradiction in our existing methods for reading digital images of environment across art and science. Imaging technologies (such as satellites and drones) have reduced the earth's surface to binary data in the same procedures that have simultaneously expanded our visual field. Three-dimensional modeling makes creative decisions in real time that should be taken as tantamount to terraforming. Our aesthetic decision-making is intimately intertwined with shaky epistemological grounds, compounded in the ecological context by urgent and unmanageable climate change. This paper will propose a method for interpreting images (and by extension, visual literacy as a whole) that responds to these challenges. By reading computer science with art theory, new axioms for visual analysis emerge that throw into relief the blind spots in keeping these two discourses separate. In particular, I focus on themes of perception and vision, and how these themes coordinate actions across the three registers of images of environment: landscape art, geospatial imaging, and perception of the physical world. I show that contrary to conventional, unilateral understanding of how perception is conceived in terms of an observer or user, digital articulations of environment force together a number of disparate modes of perception. What digital images of environment can show us is how amongst these modes of perception many are irreconcilable with each other, resulting in images that are either improperly read or wrongly classified as faulty or glitched. This paper seizes on these moments of breakdown to use as examples for unpacking

and mapping how digital images of environment are never just technological or stylistic, but instead always imaging some form of excess that only makes itself known when we start to understand perception as the negotiation between cultural values and practices of representation.

Session 4h

Özlem Savas | Humboldt University

Intimate Digital Places and Collectivities of New Migrants from Turkey

This paper focuses on collectivities, solidarity, and affective politics that emerge from digital places of intimacy and affinity, created and inhabited by new migrants from Turkey. Due to the recent increase in political repression and turmoil in Turkey, a growing number of people – mostly intellectuals, academics, journalist, artists, and students – are leaving Turkey. Although these new migrants are settling around the globe, most are going to Europe, especially Germany. New migrants from Turkey have created various digital media platforms and online groups to provide solidarity and collaboration and to establish social and political collectivities. I would suggest that these digital places are produced, inhabited, and networked through intimacy and affinity emerging from the common experience of particular social, political, and historical circumstances. Digital places of new migrants serve as spaces of intimacy and affinity not only because they are imbued with profound feelings of solidarity, hope, hopelessness, fear, anger, despair, anxiety, overwhelm, and impasse, but more importantly because these collective, public, and political feelings are deliberately or unintentionally registered as the basis of the existing and possible collectivities and actions. They are open, nomadic, and networked with other digital and physical places of affinity, solidarity, collaboration, and resistance by means of the existing and possible commons. The forms of encounter and conviviality in these digital places and their networked connectivity potentially yield an affective, tactical, and affinity-based politics. In this paper, I will firstly discuss how digital places and collectivities are produced, inhabited, and networked through intimacy and affinity invested in digital media. Secondly, I will explore the affective, tactical, and affinity-based politics that play through these digital places and their networked connectivity and that potentially brings about new political possibilities, horizons, and subjectivities. This paper is underpinned by an ongoing engaged ethnographic research that employs in-depth and open-ended interviews, participant observation and observant participation

in relevant digital and physical places, autoethnographic practice, and a digital media platform that serves as a collective diary composed of written texts, photos, videos, and sounds posted by new migrants from Turkey.

Session 2c

Eva Schauerte | Bauhaus-Universität Weimar

From ORAKEL to Computer-Democracy: The Planning of Digital Participation in West Germany during the Early Seventies

With my talk I would like to shed light on an early episode of participative democracy that both gives an account of the media technological history of digital collectives and of the critical public discourse that has accompanied policy making in digital cultures ever since. In 1971, German television channel WDR broadcasts a couple of episodes of a program called ORAKEL, a title that besides pointing towards the very old, obscure and enigmatic medium of political consulting stands for the the "Organised and Representative Articulation of Critical Points of Development" (*Organisierte Repräsentative Artikulation Kritischer Entwicklungslücken*). As a social and technical experiment on live television, ORAKEL explores the means and potential of participative polling and decision-making in the golden age of television at the cross section with rising digital cultures. With a special subject such as "environmental protection" or, quite self-reflexive, "television", each episode works as a combination of an expert panel discussion on stage and live interventions from the public, both inside the studio and from their homes by means of telephone, fax and mail. Additionally, a selected panel of citizens who are supposed to represent the West German population at large has privileged access to interrupt and intervene in the discussion on stage, and a group of prepared scientists is present to deliver additional information when needed. The feedback created by any of these interventions is completed with continuous evaluation and analysis presented by technical and statistical staff in the studio; next to panel discussion and experts, the studio is crowded by students answering and registering phone calls and faxes and by technical support. However, at the same time invisible and omnipresent, ORAKEL's main protagonist seems yet to be something else: An IBM computer serves as the connecting host of "cybernetic social research" which constitutes the theoretical grounds of the program, invented by social scientist and consultant to the BRD government, Helmut Krauch. The use of the computer allows the collection and evaluation of an important number of interventions from

outside the studio and enables the researchers to quickly feed the results of the interventions back into the discussion. A central question in and around all episodes of ORAKEL is therefore the importance and future role of the medium 'computer', both for policymaking and participative democracy, but also in its function as a competitor for the so called 'old' media such as television. Krauch's final reflections on the potential of the experiment result in the book *Computer-Demokratie* from 1972. With my talk I would like to take a closer look at these early attempts of participatory policy- and decision-making, which at the same time make use of and seem to be inspired by the 'new media', cross-reading it with our contemporary discourse on liquid democracy and collective decision-making.

Session 7f

Sebastian Scholz | Vrije Universiteit Amsterdam

Connect, Capture, Calibrate Media Environments for the 'Sensor-Self'

Sensors surround us, we are surrounding ourselves with sensors. Hardly noticed in everyday life, sensor technologies have gained a place as one of the dominant contemporary media of communication. Operating 'anaesthetically', they detect changes of states and location, monitor aspects of body or environment and ultimately make data comparable, often with the aim of initiating specific responses to measured conditions, either on a technical level or in the form of responses of users. The process of comparison and (possible) subsequent adjustment can be understood as a mode of calibration that relates effective states to standards of accuracy or normalcy – a conjunction of sensor calibration, automated sensor-to-sensor calibration and re-calibration of the self in terms of behavior, fitness, moods etc. Devices like smartphones that merge a multiplicity of monitoring and measuring features by default, constantly bundle and disperse data acquired through sensing activities: velocity, gyration, luminosity, magnetic fields and GPS positions etc. Coupled with wearable sensors for self-tracking purposes and connected to a platform environment, they interface human users, hardware devices and software applications. To comprehend the specific knowledge current cultures of self-tracking render possible (by sensing) as well as the new forms of self-conduct that are incited and actuated, the different intimate relationships stimulated between user and technology, and, eventually, the production of new subjectivities and selves, it is helpful to regard self-tracking sensors as media. As media they not only make things perceivable, but convey, modify and re-distribute

self- and power relations within an environment of multilayered processes of mediation between hardware devices and software applications. As such they could be considered as integral part of the "stack" (Bratton). They enable, prevent or shape communication between abstract platform infrastructures, tangible technology and processes of subjectivation of emergent sensor-selves. Sensor-based 'exosenses' which ceaselessly monitor, measure, collect, compare and quantify can be seen as part of a media ecology – which calls for corresponding media epistemologies that reach beyond limitations of any medium-specificity and traditional disciplinary boundaries. The 'other' forms of knowledge and sensation based on sensor technologies, the paper argues, amplify the sensual registers of experiencing the environment and oneself. At the same time they derive from and feed into multilayered processes of mediation between worldly and platform environment, technology and subjectivity in a way that can be conceptualized as a building block for contemporary forms of 'algorithmic governmentality' (Rouvroy). Examples of (bio)politically relevant sensing applications will be discussed against the background of an ecology of dynamic interconnected sensor-media and their 'becoming-environmental' (Gabrys).

Session 3d

Jens Schröter | University of Bonn

Post-Monetary Economy and Digital Culture

The contribution is based on the project "Society after Money – Beginning of a Dialogue" funded by the VW-Foundation, which will hopefully soon be succeeded by a bigger project called "Society after Money – A Simulation". Its basic assumption is that the widespread distribution of digital technologies on the one hand comes into conflict with capitalist relations of production (crisis of labour and crisis of the commodity-form), but on the other opens up possible new roads to go – perhaps beyond capitalism. In the talk the main results of the project will be presented and related to digital cultures. Its main question – which will also be central for the planned second phase of the project – is, if under the conditions of digital cultures some or most of the problems, which prevented commoning to become a serious economic alternative in a more than local scale, can be solved. Commons and commoning are, as shown by Elinor Ostrom, who received the (so-called) Nobel Prize for economics for her research on commons in 2009, feasible in principle and can operate as economic structures beyond the state and the market. But their expansion from local to regional to even global

levels might be blocked by the same calculative (Mises) and informational (Hayek) problems that also affect diverse other forms of communicatively organized ('planned') economies. The talk will discuss these problems and their genealogy – it is worth reminding that Lange remarked long ago: "The market process with its cumbersome tatonnements appears old-fashioned. Indeed, it may be considered as a computing device of the pre-electronic age." So one question is, if and how the market can or will be transformed or overcome by other computing devices.

Session 5h

Julia Scott-Stevenson | University of the West of England

The Complexity of 'Being' in Data Storytelling

I would like to present an exploration of the intersections between interactive factual storytelling and ideas of surveillance, privacy, identity and data. There are significant public concerns around the increasing collection of personal data online, and a related and concerning issue is the feeding of such data into algorithms that then make broad and often biased assumptions about groups of people. This is perhaps an updated version of an older concern – Douglas Harper, a visual sociologist writing in 2004 on the working class of the USA, noted that the larger the sample group of people being studied, the more data that is obtained but the more unreal and impersonal the conclusions. Documentary media has long been a solution of sorts to this problem – individual stories, individual voices, give a personal insight into much larger issues. Interactive and immersive documentary, too, can offer these individual stories, and in particular can offer the potentially ethically problematic approach of personalised storytelling. "Do Not Track", for instance, is a 2015 i-doc that presents to the audience a personalised representation of how we are tracked online, by collating (with consent) the data of its viewers. Might interactive factual storytelling offer some insight into this current dilemma of representation, data collection and digital rights? How do we capture the complexity of 'being' in data-based story representation, while considering notions of ethics and privacy?

Session 4g

Mayya Shmidt | Stockholm University

Sharing Economy in Russia: Sociological Analysis of Emerging Communities

Over the past decade we observed the enormous rise of alternative forms of organizing economy such as the sharing economy. Terrains of the phenomena which are widely discussed are peer-to-peer accommodation and transportation, on-demand household and professional services and collaborative finance. Since origins of sharing economy activities can be traced back to the foundation of eBay and Craigslist as marketplaces where buyers and sellers meet to recirculate goods, by 2010 platforms amounted to some thousands, provided goods and services from clothes-swap to peer-to-peer banking services. While some argue that the sharing economy addresses anti-capitalist rhetoric and strive for inventing novel means of resource allocation, others assume that "label [sharing economy] is either strategically or unwittingly employed to expand the market rather than sharing" (Widlok 2016: 193). Thus, sharing economy is quite contradictory in its fundamental reasoning and remains undertheorised, since the focal point of interest was switched to the technological composition of web platforms, attempts to set legislative agenda, assessing market size and presence of collaborative consumption platforms and estimating revenues generated by platforms. The present contribution conceptualizes sharing economy as non-commercial organization of exchange, brought in existence by digital platforms, where users which are strangers to one another organize peer-to-peer networks, thereby creating a community in which no one knows each other by name, but has the right to invest their resources and use the resources of others. General and specific features of formation of social communication were specified by comparing three cases of sharing economy platforms in Russia: Darudar (sharing goods), Bank Vremeny [*timebank*] (sharing time and services) and Couchsurfing (sharing private space). What is the motivation that is underlying participation in sharing economy activities? How is the egalitarian idea of sharing contested: are sharing practices of wealthy and deprived categories of participants demarcated? Thus, by presenting the qualitative descriptive model of exchange practices within communities, the study gets a relatively novel picture of sharing economy functioning in Russia.

Session 2i

Mary Shnayien | Ruhr-Universtität Bochum
Felix Raczkowski | Universität Bayreuth

History and Aesthetics of Progress Indicators as a Cultural Practice

Fluent human-computer interaction (HCI) requires various interface conventions, not all of which stay confined to the surface of digital devices and software applications. We propose to investigate the historical, cultural and aesthetical 'career' of one such convention: progress indicators. Found in today's interfaces as progress bars and throbbers alike, these ubiquitous interface elements are an attempt at solving one of the major challenges in HCI: the delay in an interaction that's otherwise designed to be perceived as seamless. The machine 'works', so the user can do nothing but wait. Isabell Otto has argued that the appearance of a progress indicator makes the two different times in HCI tangible: the user's time and the machine's time, which are fundamentally incompatible, regardless of any attempts undertaken by interface designers to hide this incompatibility. However, progress indicators are not only managing diverging times in digital interfaces. Through platforms like YouTube, streaming services like Netflix and the popularization of video game interface elements in non-game contexts through gamification, the progress indicator has found its way into the visual conventions of many different media – not all of them digital. Starting from this observation, our paper will outline the varying functions that progress bars and throbbers fulfill in these contexts, tracing them from their first appearances to today's adaptations. In exploring their aesthetics and contexts in which they appear, we propose to see progress indicators in between two poles: the quantification of human activity, which is conceptualised as an equivalent to machine activity through its expression in progress bars, and the machine activity which is denoted but simultaneously obfuscated through its expression in throbbers, making the machine seem strangely vivid. It thus becomes apparent that progress bars are increasingly used for measuring human productivity, while working machines simulate their vividness through pulsating icons. The 'logic' of measuring machinic progress has thereby become detached from actual digital machines and instead informs strategies of self-optimization and -quantification, diary-like tracking procedures (e.g. in so-called bullet journals) or the management of impatience and boredom during television commercials (e.g. in the corporate design of German private TV station Pro7). The throbbing rings of light or pulsating icons on the other hand allude to heartbeats and thereby connect originally inanimate objects like e.g. a

computer booting a Windows OS or Amazon's Alexa, which shows a pulsating blue ring when making sounds, to a certain notion of liveliness. Taking these and several other observations into account, we will argue that progress indicators today can be read with Bernhard Siegert as a cultural practice [*Kulturtechnik*].

Session 3f

Dhyan Singh | Govt. Post Graduate College Dharamshala

Dalit Goes Online: The Construction of Identity and Social Space

Dalit accounts 205 million populations and is the most oppressed and socially backward community in India. Their voices remain unheard and are not given appropriate space by mainstream media. They face severe discrimination, social exclusion, violence and averagely three Dalit women are molested, two Dalits murdered, and two of their houses burnt every day. But most of these catastrophes do not become headlines in mainstream media because it is possessed and run by the members of the upper castes and press gatekeepers do not belong to this community. Each day 4.000 newspapers are published in 100 languages in India but the voice of Dalit remained largely absent in the press of the world's largest democracy. But the advent and ubiquitous availability of digital media has opened up unprecedented spaces for Dalit to speak up and write about their life in society. The study was conducted to explore how this marginalized community of India accessed, engaged with and navigated the digital technology to construct their identity and fight against injustice. Thirty Dalit activists who were active on social media were interviewed. The study concluded that digital technology is enabling Dalit to raise their voice against social injustice, untouchability and exploitation. It is offering some of the great possibilities to construct identity and improving their everyday life in many ways. Online activism of Dalit through various digital platforms is providing them a strong space to representing themselves and an entry to the nation's internal discourse.

Session 2f

Alexander Smit | Utrecht University
Gerwin van Schie | Utrecht University

Measuring Liveability through Indicators: The Politics of the Dutch "Leefbaarometer"

With the rise of e-governmental practices, open data is progressively used to construct indicators of the state's performance. Within these practices, indicators are used to index societal phenomena, so that they can be assessed, compared and ranked. As a consequence, open data has contributed to a new modus operandi, as governmental actors provide data to, and simultaneously interact with its citizens to inform, perform, and reform existing knowledge structures. The Dutch Ministry of Internal Affairs introduced the "Leefbaarometer" in 2008, in order to visualise statistical data from the Demographics from Statistics Bureau, concerning liveability within the Netherlands. The Leefbaarometer is an interface which calculates a liveability score, based on hundred indicators, which track the granular performance of the state, and translate this into a visual representation. This analysis is focused on how the Leefbaarometer reconceptualises the notion of liveability with these indicators, data categories and translation of statistical data from the CBS into an interactive system. Perceiving the Leefbaarometer through the framework of critical data studies will show how the Leefbaarometer assumes a normative measure through taking native Dutch citizens as the standard against which other people are measured, which can imply a polarizing norm. The Leefbaarometer is conceived as an data-assemblage, a term introduced by Rob Kitchin and Tracey Lauriault, which they define as "a complex socio-technical system, composed of many apparatuses and elements that are thoroughly entwined, whose central concern is the production of data." We argue that data-driven instruments embed already existing ideologies and biases concerning socio-cultural norms, and that these norms are reproduced in systems like the Leefbaarometer. This will enable us to perceive the Leefbaarometer in a dual manner, scrutinizing the technical apparatus, while simultaneously contextualizing it within a broader frame of governmentality. Potential results could entail how the socio-cultural norms concerning liveability, according to the five dimensions embedded within the Leefbaarometer, are reshaped with the use of specific indicators and data categories. We start by investigating the normative and political assumptions embedded in what the Leefbaarometer deems relevant and important indicators of the state's performance. We question if the Leefbaarometer transforms citizens into indicators of its performance, and consequently in the objects of politics. This adds to the ongoing critical data studies debate, which argues that a critical inquiry of governmental systems through the lens of the humanities is needed, by depicting how profound norms and values are reconceptualised by processes of datafication within institutional systems.

Session 1g

Vivien Sommer | Chemnitz University

Digital Transformation of Mediated Memory: Cultural Knowledge about the Past in Digitized Public Spheres

Much of our memory is not based on our own experiences, but on public knowledge communicated to us through media. Communication can be characterized as highly mediatized in our present society: the different forms of communication from private to mass media forms are nowadays always determined by media. Cultural knowledge about the past is (re)activated and (re)formulated through discursive negotiation and institutionalization processes. Through these processes it becomes socially relevant knowledge. Elements of cultural knowledge about the past go through the process of objectification in order to generate relevant patterns of meaning, which can then act as a knowledge resource in individual memory, thus becoming real and true for a group, community or society. These discourses about the past are shaped by the present needs of different communities of memory. The discursive generation of cultural knowledge is in turn determined by the omnipresence of media communication. Digitization as a preliminary accumulation point of a mediatisation process therefore changes the constitution of cultural knowledge about the past. Digitalisation and the spread of the internet are intensifying the mediatisation process on different levels. On the basis of these theoretical assumptions, I would like to discuss in my presentation how the constitution of memory-cultural knowledge changes when the past is communicated not only in mass media but also through the online medium internet. Especially in the so-called social web, personal public spheres arise through private-interactive communication offers, determined by web-specific production and dissemination practices, which differ from mass media usage. As a result, smaller, more specific commemorative communities become visible, which for the most part already existed before the spread of the internet, but which were not processed in the media and therefore less easily discoverable and accessible. The main question of my contribution is therefore what effect this changed visibility of different actors and memory communities has in the generation of knowledge about the past. My approach is characterized empirically, by my analysis of the remembrance cultural debate about the former concentration camp guard John Demjanjuk, who was indicted in Germany in 2009 for his involvement in the murder of prisoners of the Sobibor extermination camp. The results of this analysis serve as the basis for further generative statements

on questions of change and permanence regarding the constitution of objectified knowledge of the past in meditation processes of memory cultures.

Session 3e

Florian Sprenger | Goethe Universität Frankfurt

Location and Territory: On Capturing Mobile Media

We presently live in a world of networked, smart media that are constantly relaying their location and their movements. The peculiar feature of cellular mobile networks, in which many of our gadgets operate, is that they are formed by the motion of end devices in relation to the position of radio towers. As a matter of principle, it is this motion that allows the location of devices to be identified within the network. The presentation argues that the emergence of mobile media based on cellular triangulation has introduced an ontology in which, by technical necessity, the position of every object is constantly registered and objects that do not have an address do not exist. Reachability implies seamless connectivity. A world in which media are mobile in this way – in which we can move freely and our smartphones register our location – is thus a world in which the location and movement of all participants are, at all times, a known technical variable. With Xerox PARC's "ubiquitous computing" as reference case, the talk scrutinizes how movement triggers the process that registers the locations of mobile phones or smartphones, a development he situates against the cybernetic imagination of determining the location and the movement of an object at the same time. Today, the potential to move freely may be enabled by standing as still as the infrastructures that surround us.

Session 2i

Michael Stevenson | University of Amsterdam

Having it Both Ways: Larry Wall, Perl, and the Technology and Culture of the Early Web

What image defines the early web? Perhaps a 'starry night' background, or some other lovingly crafted and freely shared fragment of what net artist and scholar Olia Lialina dubs "a vernacular web". If not a vernacular, perhaps a sign of an increasingly commercial and professional web: the first banner ad, announcing that this particular information superhighway would be dotted with billboards and shopping malls, or a jutting line graph showing the precipitous rise of the

Nasdaq composite index. Of course, the answer is both, or all of the above. The early web was defined by its contradictions: amateur and professional, playful and serious, free and incorporated. This paper explores this dynamic through a history of one of the key technologies of 1990s digital culture: the Perl programming language. Developed by idiosyncratic linguist-turned-programmer Larry Wall in 1987, Perl evolved from an ad-hoc free software project into an indispensable technology for countless web companies, professional developers and homepage-building amateurs. As various commentators noted in the late 1990s, Perl was the 'glue' that held the web together. The relationship between Perl and the early web was not just technological. Here, I draw on archival research and interviews to argue that Wall and the Perl community's most important innovation was a balancing act in which seemingly incommensurable modes of valuing technology were aligned with one another. Perl and the volunteer work that sustained it came to be justified at once in terms of civic worth (as collective interest) and market worth (as commercial opportunity). This balancing act required material, social and discursive interventions, including Wall's invention of the dual software license, and prefigured the establishment of the open source movement in 1998. Most of all, it required articulating Perl as a creative and inspirational break from entrenched hierarchies and belief systems. Perl and the web were tied to a "belief in the new" and a sense that the old rules no longer applied, and because of this these things could be embraced at the same time by activists and capitalists (and those who claimed to be both). While such a 'belief in the new' has often been critiqued as false consciousness, my aim here is to highlight the productive capacity of such an 'inspirational mode' of understanding and valuing technology as a break from the past, in particular its affective power in galvanizing supporters and contributors, as well as how this helped Wall maintain Perl's relative autonomy despite the language's massive growth and commercialization. Rather than mourn the passing of Perl or the early web, or critique the naiveté of the beliefs that surrounded them, I would like to suggest we mine their histories for lessons on how to make such things new again.

Session 7h

Francesco Striano | Università degli Studi di Torino

Cyber-Rape: A Philosophical Inquiry on Computer-Mediated Violence

In my talk I will investigate the phenomenon of cyber-rape in its various forms

and facets, with a certain attention to the psychological and moral implications connected to it. The underlying thesis is that cyber-rape is a phenomenon with its own specificity (though no less serious) compared to a proper rape. This specificity is due to the influence and conditioning that media have on human perception, cognition and action, both in the individual and in the collective realm. I intend to report the superficiality of two different and opposite attitudes: the techno-phobic and techno-accusatory trend, which tends to blame social networks and media as such; and the techno-enthusiastic and techno-absolutory one, which focuses exclusively on individual responsibilities. What happens, in fact, is that the web opens up to the possibility of unprecedented types of violence, providing individuals and collectives with channels to express violent behavior; but this behavior often derives from psychological and collective structures already present within individuals and social groups. As I will clarify during the talk, the role of media in these processes is that of catalysts or amplifiers. In dealing with the thorny issue of cyber-rape, I will make use of some examples taken from news and reports, as well as from academic literature, starting from the first documented testimonies (referring the so-called Bungle Affaire), up to more recent cases. First I am going to analyze and criticize the model of explanation of the Ring of Gyges, i.e. that model that connects the onset of violent behavior with the coverage given by anonymity. Then I will try to replace the above theory with that of the anti-Ring of Gyges in a version based on that of Alexander Galloway. Finally I will try to provide a paradigm that gives reason for the manifestation of behaviors such as cyber-rape, taking into account both the psycho-social dimension – with all its implications related to gender-based violence – and the technical specificity of the media apparatus of CMC, as well as their mutual connection and the role media-induced factors play in the process of psychic and collective individuation. In conclusion I will propose a suggestion that aims to curb these practices in the future and to empower individuals in the use of media. This suggestion is based on the perspective of an alliance of theoretical and technical knowledge in an approach that attempts to reduce the distance between theory and practice, which seeks to introduce the elements of criticism, deconstruction and interpretation into the analysis of information technologies, and at the same time, makes the technical knowledge and skills accessible to anyone who uses them, through an archaeological process that reveals and makes transparent what normally the interface – analyzed as a problematic knot of aesthetics and politics – conceals.

Session 2e

Andreas Sudmann | Ruhr-Universität Bochum

The Infrastructures and Temporalities of Artificial Neural Networks

The current boom of Artificial Neural Networks (ANN) is connected with the promise that it can function as an universal technology of prediction, capable of calculating and thus mastering the uncertainties of future events. At the same time, advances of ANN are fueling the speculative notion of a so-called "technological singularity" as the very event after which all future development of machine intelligence will no longer be predictable or comprehensible to humans. It is precisely this paradox of temporal logics that marks the speculative and profound dystopian core of ANN as the most promising account of an Artificial General Intelligence (AGI): how the accelerated development of a predictive technology might turn into something, at least for humans, fundamentally unpredictable. Furthermore, the dystopian quality of such a scenario is also exacerbated by the fact that ANN/DL already is perceived as a fundamental opaque black box technology, not or only partially understandable by humans. This black box aspect encompasses many aspects, among them the tremendous speed of micro-temporalities, which have always been a sub-medial form, operating below the threshold of human perception. And yet the micro-temporalities of parallel-organized GPU processors have been the crucial factor of enabling the current leap forward in AI research areas like image or speech recognition. For example, since very recently AI systems are already able to understand basic forms of common sense knowledge. Such advances are only possible thanks to the calculation speeds provided by the infrastructure of GPU hardware. Yet the operations of these infrastructurial temporalities are also determined by the infrastructurial patternings of time that govern the overall processes of modern ANN technology. Hence, one important task of the paper will be to show how the globally distributed activities of crowd workers involved in the production of learning data constitute a temporal order and regime of its own. To unlock the different temporalities of ANN infrastructures, one has also to take into account the machine training process, i.e. the multiple cycles of training runs. On the one hand, the temporality of these training processes follow a serial, sequential logic, on the other hand they are configured by the processes of simultanization inherent to the massive parallelism that can be conceived as the key feature of every ANN system. These different temporal logics coexist and overlap. As such, they constitute the very infra-medial foundations of digital capitalism. Consequently, it is important to

focus on these specific, inherent temporalities of learning algorithms, which at least partially retain autonomy and contingency over those temporal regimes that characterize the infrastructures of machine learning as a whole.

Session 7d

Teresa Swist | Western Sydney University

Health Imaginaries: Learning with Maladies, Remedies, and Commodities

Technology is hailed as the implement which will save us from present health quandaries, as well as intractable crises looming in the not-too-distant future: finding cures, distributing care, meeting market and public health demands. Yet always coalescing with technology is the imaginary, a melding which informs the 'health imaginaries' explored in this presentation. This fusion of seeking and sourcing imbues a range of hopes and fears about how we are to live and die, the way we care for ourselves and others, and the interface of body, mind, and spirit. Creativity is key to understanding how these health imaginaries unfold. However, creativity often remains ensconced in Western conceptions, tied to neoliberal considerations – an individualistic calling, a relentless commodity. Against this grain, I draw upon insights from design, philosophy, anthropology, and physics to highlight how rather than a solely human trait or property, creativity is inhuman and generated across a duration of bodies, technologies, and geographies. To do so, I explore how Big Data, the Internet of Things, and Artificial Intelligence afford novel phases of perceptibility and imperceptibility. The datafication of health and associated innovations promise novel pathways for diagnosis, treatment and prevention across Majority and Minority World countries. Key characteristics include the multimodal tracking, sensing, and testing which permeate the background of many aspects of our lives. Despite the demarcations of data-driven imaginaries, we continually exceed parameters of knowledge by co-creating with more-than-human worlds. We modulate what is intelligible with evolving digital apparatuses: about ourselves, human and nonhuman others, and the broader world around us. Tracing the tensions and horizons associated with health imaginaries and data subjectivities, I identify the critical role of inhuman creativity for how we learn.

Session 2e

Alexander Taylor | University of Cambridge

From Recovery to Resilience: Temporalities of Security in the Data Centre Industry

Disaster Recovery (DR) has long provided the guiding security framework in the data centre industry. However, growing demand for constant and uninterruptible connectivity has led facility operators to increasingly speak of data centre security in terms of 'resilience' rather than 'recoverability'. Drawing on ethnographic fieldwork conducted in high-security data centres, this paper explores the temporalities underpinning this shift in anticipatory security logics for managing disasters. Recovery and resilience are both modes of preparedness enacted in the present that try to deal with disasters before they happen. However, they also engage future disasters at different temporal stages. A typical DR plan aims to restore IT service functionality after a disaster has occurred. But in an economic context where expectations for uninterrupted uptime become more and more inflexible, this post-disaster temporality has become unfeasible. Rather than respond to disaster after the event, the framework of resilience offers a different operational temporality: it is enacted during a disaster. Both recovery-thinking and resilience-thinking approach disaster as inevitable. But whereas DR aims to manage the ensuing downtime or system failure, resilience attempts to manage the fragility that leads to failure. Techniques of resilience do not seek to eliminate disaster, but rather, the end-user experience of disaster, so as to produce the illusion of a seamless and undisrupted service delivery. For this reason, resilience-thinking is increasingly seen to offer a more 'pro-active' security posture, than the largely 'reactive' stance of recovery. As logics of resilience rather than recoverability come to dominate the data centre security agenda, new, increasingly planetary, infrastructural assemblages and service models for delivering computation are spawning. Through a close ethnographic analysis of the technologies and infrastructures that produce and enable these security frameworks, this paper investigates the plural disaster timescapes at work within data centre security. In doing so, it examines not only how data centre professionals manage and prepare for the future disaster but how they inhabit this dystopian digital future and imaginatively, affectively and materially navigate and negotiate the collapsing temporalities of digital-industrial disaster management.

Session 2h

Nanna Bonde Thylstrup | Aarhus University

Data Wastelands

Throughout the years, old data has been allowed to linger on servers, fuelled by increasing levels of computational power that has given rise to a "save-all" data ethos. In the big data discourse this data is framed as a precious resource, an accumulation of valuable recyclable data laid by for future use where the right kind of technology can "interconnect, analyse, identify, and extract new and unanticipated value from even old or seemingly worthless data." (Fred Cate and Viktor Mayer-Schönberger)Recently, however, the sustainable nature of data hoards has also had to contend with new ethical, legal and environmental challenges. Discussions on data hoarding have most prominently centred on the ethics of not only remembering, but also forgetting, spawning for instance a 'right to be forgotten'. But the past few years have also seen the environmental costs of server parks become an increasingly pressing matter of concern. Just as new questions have arisen about the actual efficiency of big data, or whether the siren song of data accumulation is just a 'waste of time and space'. These challenges have rendered the otherwise prevalent memory discourse for articulating the issue of data storage inadequate for capturing these larger ecological concerns. Inspired by Elaine Gan, Bettina Stoetzer and Anna Tsing's conceptualization of the technosphere as a dump, this paper therefore suggests the idea of data waste as a productive framework. The paper draws on a methodological pairing of waste studies, media archaeology and feminist media theory to explore the concept of waste in relation to the empirical field of social media's feral and unintended data environments. The ambition is to provide a better cultural understanding of what data waste is; when it is; how it managed; and how it fits within broader media ecologies. First, the paper looks at different strategies and discourses of digital forgetting, data deletion and data sanitization in social media frameworks. Secondly, it asks how data waste feeds into overarching ecological discourses of destruction, extraction and recycling in an age where the technosphere cannot be considered apart from the biosphere and geosphere. A consideration of these questions and their theoretical and methodological framework, I suggest, can help us to gain a better handle on the possibilities and problems of waste in contemporary digital ecologies where it is becoming increasingly clear that we cannot throw stuff away because there is no 'away' anymore, and where it appears that humans are no longer in control but rather act as one force among many

other biological, environmental, and technoscientific forces. The talk builds on earlier work on big data and archives (see: www.uncertainarchives.dk).

Session 4f

Kathy Tian | The University of Illinois at Urbana-Champaign

Algorithim Subjectivities: How Machine Learning Algorithms and Artificial Networks Tacitly Maintain, Perpetuate, and Legitimize Infrastructures of Inequality

Rising racial tensions across Europe have been further aggravated by issues of mass immigration following human generated tragedies and the current socio-political dialogue has become inundated with public discourses on issues of racial inequality across geographic borders. Recently, subversive discourses relating to issues of social inequality have shifted into the dominant sphere of public dialogue. Questions concerning racism, sexism, and structural biases are at the forefront of the publics' reprimands of political, governmental, and economical institutions as the tacit systematic discriminatory of such institutions continue to maintain enduring power dynamics in modern life. However, as technological advances function, improve and reshape daily life in both the public and private spheres of social life, it has become increasingly pressing to elucidate the ethical implications of new technologies and their underlying classification or prediction algorithms. Issues of ethics and bias in the examination of machine learning and AI are particularly relevant as machine-generated predictions are often perceived objective, which, due to the inherent biases in-laid in such algorithms, function to reinstate and legitimize the fabric of social inequality using ostensibly objective data. As information becomes increasingly accessible, dominant institutions, spanning from government to business, increasingly rely on AI to guide actionable decisions (e.g., which neighborhoods contain high rates of crime, which product is a consumer likely to purchase based on previous behaviors, and how does gender influence product sales?). Institutions are aiming to become more 'data-driven' in the hope that leveraging data would remove human bias in decision making, resulting in (ostensibly) objective decisions bases on raw data. In actuality, however, machine learning algorithms are largely probabilistic in nature and if a particular algorithim is trained on a biased data set, those human biases will inevitably seep into the predictive models. As algorithms are often trained on certain feature variables such as gender, race, education, and income, social biases regarding an individual's race and propensity toward defaulting on

loan repayments will invariably influence an algorithm to favor non-defaulting individuals of a particular race over defaulting individuals of another race for large loans, functioning to further instill power structures and inhibit social mobility. In this paper, I examine the various influences behind machine learning and AI bias by examining the reductionist tendencies of data modeling. Further, I continue to explore the inherent assumptions made by predictive algorithms and the concurrent ethical implications of these in-laid assumptions. Finally, I provide a summary of the ethical implications of leveraging big data in classification systems and how awareness functions to circumvent the harmful repercussions of data-driven decisions.

Session 3d

Nathaniel Tkacz | University of Warwick
Michael Dieter | University of Warwick

The Media Ecological Niche: An Approach to App Studies

Not all apps are created equal. Apple's now-cliched slogan, "there's an app for that", manifests itself today in a seemingly endless diversification of types and genres defined by their dedicated capacities for everyday or 'mundane' practices. Yet across this wide ecology, apps clearly share formal similarities in terms of function, design and code; indeed, standards for developers are strictly enforced as such under regimes of corporate platform governance. There are a number of useful methods for studying apps that take advantage of these shared qualities as designed or coded, such as user 'walkthroughs', APK analysis or packet sniffing network data. But in utilising these methods, how should we (also) account for the differences between apps? By way of addressing this question, our presentation develops the concept of the media ecological 'niche' as a critical problematic and methodological challenge for app studies. Taking inspiration from approaches that analyze software populations differentially, the niche can be understood as a durable distinction or recognised specialisation that accounts for the non-generic and more-than-formal nature of apps as software. The niche, therefore, speaks to the internal and external differentiation between apps, but equally seeks to understand how apps operationally extend to intervene in specific domains of everyday life. This extended mediation is achieved through overlapping capacities and mutually transformative relations between apps, multisided software platforms, data flows, material infrastructures, legal regimes, mobile devices and cultural practices. That is, since apps partake in radically different

quotidian scenarios, a niche analysis must reflect on and dialogue with their domain specificity or build 'niche expertise', including an understanding of the niche problems attached to these settings. To illustrate our approach, we examine banking apps, and specifically apps released by digital-only 'challenger' banks. This presentation, therefore, builds on recent calls to take heed of what happens materially 'around' apps, but argues for cultivating unique 'ecospatial' sensitivities. From our perspective, this means not only addressing the invisible infrastructures that underpin interface operations, but articulating how different populations of apps, platforms, infrastructures, institutions and practices become circumscribed into recognisable zones of activity. In the case of challenger banking, this involves tracing redistributions of agency facilitated by such a niche alongside the unique issues that emerge in the drive to transform our everyday experiences of money and finance. As apps insinuate themselves in new ways throughout everyday life, we must go beyond not only the interface, but the established forms of expertise used to understand their significance.

Session 3h

Vera Tollmann | HfbK Hamburg
Boaz Levin | Leuphana University, Lüneburg

Faces as Identity Tokens

Biometric technology is on the rise. Its applications are wide-ranging: facial scanning to replace passwords; iris recognition to replace debit cards; fingerprints to replace passports. Value is increasingly tied to faces, and faces have increasing value. Without our noticing, cell phones have become Janus-faced machines. For an 11-year-old school kid today, the optics of the front-facing camera are just as important as those of the back camera when deciding what new phone to buy. Producing self-images, the new social currency, is key. Selfies have also become keys in a more literal sense: besides processing text and voice and monitoring movement, Apple's latest phone, for one, has a 3D face-scan feature, which claims to collect more than 30.000 data points to produce a 'true' digital copy of a user's face. Previously, security systems based on 2D facial recognition software, piloted by companies like Lenovo and more recently Samsung, could be easily fooled by static images of the owner's face. Yet with every new iteration of such technology, digital copies of our faces are gaining volume, depth, and higher definition. The explicit aim is the creation of immediate security, and with it, trust: no more passwords, no more middlemen or secret patterns, just tailored and 'smart' access

to your device at the blink of an eye, on your iPhone. The idealized vision behind biometric identification is a security system that could recognize each authorized individual directly without the use of proxies such as keys, identification cards and passwords. Such proxies merely verify that the person requesting access has the needed device or password in their possession and does not guarantee that he or she is actually the authorized person. Etymologically, a proxy is someone responsible for representing someone else in a court of law, or more generally, "one appointed or authorized to act for another". Today, the word proxy is frequently used to designate a computer server acting as an intermediary for requests from clients. These servers afford indirect connections to a network, thus providing users with anonymity. However, in this intermediary capacity, proxy servers can also be set up for the opposite task: to monitor traffic. Proxies are fundamentally ambivalent, Janus-faced; they can be seen as a symptom of crisis in current representational political structures, as well as a potential counter-strategy that aims to critically engage and challenge the existing mechanism of security and control. In our talk, we explore the 'token value' of identity resulting from such software and hardware, where one's "digital identity and physical body become closely entangled" and one's virtual proxy enters the political realm. Can the one-to-one relationship between self and proxy be skewed through forms of obfuscation? What will happen when the face on the screen looks back?

Session 6d

Carloalberto Treccani | City University of Hong Kong

How Machines See the World: Understanding How Machine Vision Affects our Way of Perceiving, Thinking and Designing the World

We share the world with machines and technology, a man/machine relationship that is increasingly marked by empathy and reciprocity, so as to gradually assimilate our perception (human vision) with the way that digital devices see things (machine vision). Machines see the world in various ways, and they share this with us and what and how they see the world in turn affects our way of seeing it. Ways of seeing also mean ways of thinking and designing that seem to meet the needs of machines. This is an approach that deliberately makes use of the plasticity and malleability of human beings to create a new world thought that is designed to be shared with the machines. The core theme of my proposal is to understand to what extent the machines' view of the world in turn influences the humans'

perception of the world through the definition of the unconscious. While the definition of optical unconscious fits particularly well with the reality of the late nineteenth century and early twentieth century, that of technological unconscious instead has somehow defined the second half of the twentieth century. However, these definitions do not seem appropriate anymore in a contemporaneity that has radically changed form, far from the human eyes and now largely invisible, in an historic moment that marks the end of the anthropocentric monopoly of vision. The contemporary individual must, therefore, begin to understand this change, these new forms of invisible and algorithmic power that pass through our culture and which embrace all aspects of human life. For these reasons I propose a new idea of the unconscious, an electromagnetic unconscious that best seems to define the contemporaneity.

Session 1i

Marc Tuters | University of Amsterdam

Bullshit's Birthplace: How 4chan/pol/ Created #Pizzagate

Based on original empirical research, this paper presentation traces the origins of #Pizzagate, an online anti-Clinton conspiracy theory that was amplified by alt-right activists during the close of the 2016 US election. While much has been written about #Pizzagate's dissemination on Twitter, this article traces the emergence of the story back to a 26 hours period on the 4chan web forum – famous as the home of memes as well as the Anonymous hacker movement. Taking a platform studies approach, the article considers how the affordances of 4chan, specifically its anonymity and its rapid temporality, make it particularly productive of bullshit – the latter which refers to a technical term for persuasive speech unconcerned with veracity. The presentation offers a timeline of the birth of the Pizzagate conspiracy on 4chan's /pol/-board (a forum devoted to the critique of liberal political correctness) as well as an analysis of how the users of 4chan/pol/ organized collectively in order to compile information, create visualizations and publish to other platforms, thereby creating all the basic elements of the Pizzagate narrative within the period of only a single day.

Session 5h

Magdalena Tyzlik-Carver | Aarhus University

Posthuman Curating: Curating Data and Control through Affect

In this paper I argue that curating has become an infrastructural practice which performs as a form of biopolitics, what I also refer to as "posthuman curating". In today's social media landscape we observe the rise of curating as common practice. Performed every day by millions of users who organise and care for their Facebook, Instagram and/or Twitter profiles, curating in network cultures is about affect and data, body and algorithm, and their mutual transformations and entanglements. As the definition of curating evolves and now includes curating not just in terms of art but also digital objects and subjects, brands, concepts and ideas about how to present the self online, there is an urgent need to rethink how curatorial knowledge is produced, and how such a process facilitates becoming in-formational of the body and to what effects. The focus of this presentation is on structures of the curatorial apparatus conditioned beyond the usual interest in art and heritage institutions and their publics and curators. Recognising how curating is about both curating content and management of data-driven user profiling I explore the relation between social media platforms and their users as part of the curatorial apparatus. Taking a cue from Patricia Clough's interest in affect beyond the body-as-organism this presentation will offer an analysis of curating as a material mode of self-governance and self-censoring performed by the bio-mediated body.

Session 3f

Lonneke van der Velden | University of Amsterdam
Jeff Deutch | Humboldt-University in Berlin

Open Sourcing Open Source Intelligence Data, Activism, and Alternative Epistemologies

This presentation theorizes Open Source Intelligence (OSINT) projects as instances of data activist epistemologies. One key example, the Syrian Archive, serves to illustrate this point and to discuss how their mode of knowledge production offers a concrete vision on how data potentially operates in doing justice in future times. We live in an era of 'datafication', rife with its own risks and challenges, including state surveillance and corporate surveillance. At the same time, there is also a need to not only focus on 'big actors' but pay attention

to community and grassroots engagements with data, to better understand contemporary modes of critique. Along these lines, the authors are interested in 'data activism', a notion proposed by Milan to understand critical interventions with mass data collection. Data activism gives insights into contemporary and technology-mediated criticism and can present inventive perspectives on the datafied society. The authors are particularly interested in data activist forms of knowledge production. For that reason, it is productive to rethink the notion of 'epistemic cultures', as developed by Knorr-Cetina, and place it in the context of data activism. The concept originally refers to the diversity in modes of (scientific) knowledge making and stimulates us to take into account how experts, organizational relationships, objects and settings interrelate. The paper looks at OSINT as a knowledge practice. OSINT commonly refers to intelligence on the basis of publicly available sources. It is usually not associated with 'open source principles'. However, there are projects working on this intersection. Therefore we argue, in line with others before us (Stalder/Hirsch; Glassman/Kang), that rethinking the connections between OSINT, open source tools, and open source communities can be productive. Activist forms of OSINT can be seen as expressions of particular forms of knowledge making, combining experience with collecting and analyzing data with certain principles coming from open source thinking (e.g. trust, sharing). OSINT is especially interesting, because it is a practice that seems to belong to formal and relatively closed institutions such as intelligence agencies, and is appropriated in a radically different context: one that stages values of openness as of primary importance.The authors will focus primarily on one case example, the Syrian Archive, a Syrian-led and initiated collective of human rights activists that provides a methodology for collecting, preserving, verifying and investigating visual documentation in conflict areas (https://syrianarchive.org). The project aims to help victims, witnesses and journalists to tell yet untold stories, strengthen human rights campaigns, and support human rights activists in issues of justice seeking. By preparing the data for future truth claims, the project shows how truth making can be done, and shared.

Session 2d

Liliana Vasques | University of Coimbra

"The Writing Is in the Mix": The Ecology of Remix in Digital Poetry

This paper aims at framing the creation of digital poetry in a context of a remix ecology. To accomplish this, I will focus, on the one hand, on the concept of

remix – as a cultural and artistic framework of contemporaneity, intensified by the proliferation of digital media; and as a notion that denotes the manipulation of pre-existent material – applied to the analysis of digital poetry that appropriates previous texts. On the other hand, I will explore the notion of ecology to frame the practices found in digital poetry in a larger, cross-arts (music, video, literature, cinema) and cross-cultural environment of appropriation and re-use, combination, interpretation deeply connected to the features of digital media. I intend to use this notion as a tool (I will not address nature/environmental issues and/or media ecology themes per se) to identify interconnections and relationships between digital media, artistic and social practices that support the current and growing presence of remix in digital poetry. As Navas puts it, "the contemporary artwork, as well as any media product, is a conceptual and formal collage of previous ideologies, critical philosophies, and formal artistic investigations extended to new media." Digital poetry is a contemporary artwork and a media product; asserts itself in the networked culture and is produced using software and web applications that build upon the remix aesthetics themselves. Alongside music, visual arts and video, digital poetry is making use of the selection and recombination of previous textual material to create new poems. Remixing seems to be a defining trace of the digital, or perhaps more accurately, post-digital condition. Statements as "everything is a remix" or "we're always sampling" are now trivial. Citing Manovich, artists in networked culture find their creative potential in the appropriation, selection, and combination of pre-existing material on a meta-level – that of the re, or more specifically, remix as a form of discourse. Having this in mind, I will try to map out relationships between: the uses of digital media, the influence of other arts and the broader artistic scene; the social context that contributes to the use of remix-based practices and techniques in digital poetry.

Session 5d

Thomas Veigl | University of Applied Sciences Krems

Historiography of Digital User Innovations: The Case of Machinima

Many contemporary, very successful media formats have their roots in open innovations that were realized by copyright infringements by users of media technologies and were followed up by commercial reappropriation by the media industry. Although 'innovation' has become a marketing buzzword for promoting

the new, the new looking or even the functional, it certainly has lost its actual informative value. In economics, however, for a long time the term has been well defined and precisely described as "creative destruction" (Joseph Schumpeter) from which cultural and social studies can profit. Innovations can be understood as breaks and changes of socio-technical associations that serve as epistemological interrelations whose exploration deepens our understanding of cultural development as a whole. While the industry produces technologies that shape our digital culture, users, especially of computer games, are continually practicing reverse engineering of digital media technologies, which further drives its innovation. The case study of *Machinima*, a form of film production using computer games, shows a cultural practice which began as modding and hacking activity and has developed into a commercial project including investments of millions of dollars by leading media ventures like Google or Time Warner. This digital user innovation evolved as an original platform organization in the 1990s and is a direct ancestor of one of the earliest and most successful platform economies, that of Machinima, Inc. (www.machinima.com). This example shows how users create their own orientation and media public in the form of platforms that empower them and at the same time make their activities' underlying aesthetical and collaborative imaginations, wishes and intentions objects of public perception and increasingly the possible subject of commodification. Here, a neoliberal logic of personally observable and addressable individuals becomes effective which produces precarious individuals that are at the same time empowered and exploitable. Against the background of media and cultural theory, as well as science and technology studies, this talk offers a critical historiography of the capacities of digital technologies of computer games to change cultural practices and organizational forms in digital economies. To overcome technological and social determinism, innovations are observed and described as networks of associated human and non-human actors. The approach follows the underlying notion of a para-humanism that assumes a world, which is inhabited by beings which are not human and where humans are only partly sovereign. The conceptual approach proposed helps to understand the historical specificity of digital cultures of user innovations of computer games and shows a tested methodological approach to realize the historicity of digital cultures.

Session 4f

Julia Velkova | Södertörn University, Sweden
Anne Kaun | Södertörn University, Sweden

Opening the Black Box: Challenging Algorithms

In recent years, we have witnessed an escalation of fears related to the rise of algorithmic governmentality in highly digitalised societies. Some of the major concerns lauded by scholars, journalists, and citizens alike, revolve around the isolation of the digital public spheres through social fragmentation generated by algorithmic logics; the reproduction of biases against race, gender and class in machine learning; and the suppression of ethics in favour of commercial logics based on politics of satisfaction and normalisation of the average. Most of these concerns emanate from an assumption of algorithms as "black boxes" (Pasquale) that causes a crisis of knowing of and acting on the all-more pervasive algorithmic logics of control. This paper sees a need to reframe the scholarly and public debate around these issues and to reassert the agential and political capacities of media users, demystifying the black box and with it reducing the sense of fear of algorithmic governmentality. It formulates three propositions for how to do so. First, following Bucher, the paper argues for an epistemological reframing based on destabilising the focus on the technicality of algorithms and shifting attention on their embeddedness in practice. Second, when moving to practice, it prompts the need to re-emphasise the capacities of everyday media users for changing and challenging the algorithms, and offers an empirical example of how this can be done through media practice, not through code. Third, theoretical work on repair and algorithmic labor is further helpful to consider the instability and impermanence of machine learning and algorithmically constructed governance by highlighting the processes of human maintenance, disruption, decay and decommissioning of algorithms. Altogether, these three propositions aim to create a renewed framework for theoretical and empirical enquiry that proposes more hopeful paths of managing the machinic.

Session 2g

Desiree Vidal Juncal | Universidad Autonoma de Madrid

Festivals, Participation and Post-Digital Curatorship Experiences

The digitization of information and its spiral flow on the internet have radically turned around museums, studies and cultural practices as well as their working

methods. From the traditional historiographical subjects' matter like work of art, artist, style or art genre, the work of the curatorship takes a qualitative leap towards social practices, display policies and digital content management. The phenomenon of displacement, from the cultural object to the digital subject, draws in festive forms like festivals and events and finds in the transmediality the suitable flexibility, temporality and randomness to engage public in arts nowadays. The festivalization of culture is a commodification process that started to being visible in the mid-1990s expositions, mainly in urban and neoliberal societies where leisure and extra-ordinary experiences have been becoming particularly relevant for the construction of individual identity and the development of micro-communities. If the production and commodification of subjectivity are the basis of the post-capitalist society, it is at this point that art and market compete for capitalizing the subjectivity of experience. Nowadays, attendance at museums and art galleries goes through the contemporaneisation and resignification of the collection and the work of art regarding the visitor. So, curators have been called to rethink their role and its extension in digital media environments. Since 2008, transmedial festivals and art events like *Future Everything* in Manchester, *The Influencers*, *Sonar* and *Mira Festival* in Barcelona, *Time-Based Art Festival* in Portland, *Transmediale* and *CTM Festival* in Berlin, *Nextwave Festival* in Melbourne, *Walk and Talk* in Açores Islands, among others, have demonstrated engaging and introducing new audiences thanks to their cosmopolitism, spontanity and innovation. This presentation will address how festivalization works in contemporary artistic practice and adress some issues in its dissemination and reception and how transmedial curatorial practices can imagine historical fictions in relation to the great social, political, and ecological crises of our times.

Session 1f

Liam Voice | University of Leeds

Digital Media Consumption, Cephalopod Digestion, and Becoming

In this paper I harness the so-called 'animal turn' to reconfigure conventional perspectives on digital culture which I feel are inadequate. I hope to disrupt these normative perspectives by following a posthuman logic to restore the vitality or, as Haraway suggests, "the extraordinary liveliness" to the digital. The paper forms part of a larger project which has the overarching research questions: What can an

animal approach teach us about digital culture? How can an animal approach help us to "think differently" (Michel Foucault) about what digital culture is? More specifically, in this paper, I use the cephalopod and the octopus as conceptual tools to examine the processes of digital culture. I argue that digital culture can be, and is, embodied. It is embodied through the continual process of becoming, and this process can be explained with a model of media consumption based on cephalopod digestion. I contend that the answer to these metaphysical questions of becoming and being is, as Braidotti claims, metabolism. I position the two octopus beaks – the upper and lower beak – as twin processes within becoming. Each beak, and their movement, is a form of becoming. 'Beakomings', if you will. Beakomings take inspiration from both Deleuzian and Nietzschean theory. In my conceptualisation, the lower beakoming represents a set of remembered becomings while the upper beakoming represents the present-to-near future becoming. The upper beakoming suggests a kinship with Nietzschean excess and is the embodiment of the question 'what else do I want to become?' My conceptualisation of becoming in digital culture reconfigures the process as fundamentally animal, while recognising the social, cultural, and political power structures inherent in humanism. Furthermore, the two beaks more elegantly emphasise the breaks and ruptures of continual becoming. I also consider the central nervous system of an octopus which is wrapped around the oesophagus. This brain-oesophagus relationship limits the size and shape of food an octopus may digest so as to not risk piercing the brain. My conceptualisation considers this requirement in relation to the media diet of online users and strategies for deeper engagement with larger and more complex digital media texts that may not ordinarily be digestible.This cephalopod digestion approach keeps user agency in the equation, while also not neglecting the role of algorithms. The model considers what happens when users do encounter opinions and content that challenges them. It does not preclude differing opinions from being digested; an octopus will continue to eat prey that could cause problems despite the risk because it provides an opportunity to become something more. Thus, it is a model of confirmation bias but one that builds into itself an allowance for growth and the changing of personal opinions.

Session 1d

Daria Voyloshnikova | University of Fribourg

Problematizing Workplace in the Digital Age

The paper is bound to explore social and cultural effects of contemporary workplace digitization. Based on ethnographic fieldwork, interviews, and literature analysis, it tackles four aspects of the condition of the so-called 'digital proletariat' and their influence on the ongoing societal transformation. First, pervasive at the planetary scale, these are new forms of collaborative socialization stemming from digitization of routine experiences, digital automation and tooling as well as new organizational protocols. Contingent thereupon is the issue of new space shaped by the phenomena of augmented and virtual realities, social 'reboundaring', and collective narratives. The third aspect is the change in decision-making processes that came by with task and measurement atomization, cyborg communication media, and eventual extended intelligence (Ito). Finally, it is the change in the professional education and skill development practices. Looking at those through the prism of the constructivist and postcolonial perspectives, tried-and-tested in corporate anthropology, permits to reach out to a wide range of problematiques: from the digital skill gap to imaginaries of the ethical to demographic insights.

Session 4g

Evelyn Wan | Utrecht University

Can You Trust a Stranger? Predictive Analytics and the Future of Trust

This paper reflects on the predictive modelling of trust in the context of sharing economies and peer-to-peer platforms. Using apps in the likes of Airbnb, Uber, TaskRabbit, and Tinder give rise to questions of security and trust when it comes to deciding whose car you step into, whom you invite into your home, go on a date with, or hire to fix a broken pipe. The sharing economy is built around trust between fellow users. Traditionally, individuals could be vetted through background checks that involve the verification of social security numbers, education and qualification, employment histories, and criminal records. But these processes are deemed too time-consuming and cumbersome for the digital age and are re-invented through algorithmic procedures today, creating a market for algorithms that broker in the determination of trustworthiness. Trooly, a start-up from 2014 recently acquired by Airbnb, boasts a proprietary algorithm that can 'calculate' Instant Trust™ in 30 seconds. The company mines digital

footprints to bypass formal background checks. Collecting data and metadata from the public and the dark web, search engines, social media, digital public records, the company built machine learning algorithms that could determine – allegedly – how 'trustworthy' someone is. A 'trustworthiness' score could be assigned to individuals based on correlating internet activity with personality metrics and predict whether someone is prone to anti-social behaviour. Through a close reading of such trust authentication models, I analyse the anticipatory and preemptive logic of trust prediction, and discuss how trust is speculated and mediated through these modes of quantification and calculation. I study how these predictive models redefine the meaning of trust in an era of algorithmic governance, and extract value from the digital afterlives of our online, networked selves.

Session 6e

Devin Wangert | Harvard University

'Unseeing' Surveillance: Nonvision, Ordinariness, and Police Infrastructures

Surveillance, like other police infrastructures, is a mode productive of criminal visibility – productive of bodies rendered visible in their capture by camera or in their arrest by police. In fields as diverse as media studies and black studies, such infrastructures are figured as invisible by the scholarship contending with them. How might this problematic – a "visibilizing" function coupled with an ostensibly invisible infrastructure – become an iteration of and analytic immanent to that same police logic? Through an engagement with Harun Farocki's installation, Gegen-Musik (2003), and a close reading of Steve Martinot and Jared Sexton's article, "The Avant-Garde of White Supremacy", I want to query the common sense which frames police infrastructures as invisible, and which poses the political problems attendant to being caught up in police infrastructures – the politics of belonging to populations 'invisibilized' by the carceral system or targeted by surveillance – as problems within a visual regime. 'Surveillance footage' names a corpus of media that is perceptually encountered because the events it documents have come to matter – a marginal corpus relative to and culled from a colossal inventory of data recorded by surveillance cameras but never perceived on surveillance monitors. When Farocki employs surveillance footage to render that purportedly invisible infrastructure visible, he both defers an encounter with that structure – a mass record(ing) of unseen, unimportant images – and

reproduces its function: the perceptual encounter he has staged reiterates those formerly unseen but nonetheless recorded images as visible and important footage. This sight is also an unseeing. Developing Martinot and Sexton's work on the "excessiveness" of police violence, I foreground how the relocation of excess from spectacle onto routine does not leave behind but is further bound up in the criminal visibilities produced by police infrastructures. I claim that the subjects of surveillance recording are not invisible but nonsensuous to the extent that they are recorded and recognized as insignificant, as not mattering. An auxiliary of this claim is that there is an untreated link between the nonsensuousness of mass amounts of unseen images recorded as insignificant, as ordinary, and surveillance mechanisms operating in registers above or below human perception. I pursue this line of thought to three ends. The first thinks the surveilling and profiling of racialized populations as the modes of unseeing that they are, in addition to the criminal visibilities that they produce. The second situates techniques of surveillance and profiling as mediatic gestures which are not prefatory to but are themselves modalities of violence against the body. The third is a query: how might the subjectivities both affected by and produced in their encounters with such techniques index those encounters in ways that do not repeat their logics?

Session 5d

David Whitecross | Glasgow Caledonian University

Transforming the Logic of Transaction or Enacting the New Economic Subject? The Realities, Possibilities and Meanings of Informal Restorative Justice Statements Regarding Piracy on the Steam Store Review Page

Steam is an 'evaluative infrastructure' whose form of economic exchange is driven by the collective network valuation of its products which is performed by, and externalised to, the unpaid labour force of its customers. The customers'/producers' identities as new economic subjects are created by, and governed within, the platform through the assignment of public profiles which hierarchically order and classify them based on their consumption and production of content. In contrast to this stratification however the valuation system itself operates on a heterarchical flow of communication expressed within a relatively open review space for products. This setup consequently generates large quantities of highly diverse cultural and political expressions and practices within this review space. Ranging from protesting notions of economic exploitation, coordinated in

"review bombing", to the specific, previously unstudied, forms practices that this paper will document and explore – calling them "restorative statements". These statements involve users voluntarily disclosing within their reviews, despite the potentiality of legal and moral retribution, that they are purchasing the product as a form of restitution after previously "downloading", or in legalistic/moralistic terms, "pirating" it. This study situates and understands these statements within the broader framework of restorative justice in that they bypass criminalised discourses and outcomes by addressing and redressing the offended directly. It therefore seeks to utilise that literature, alongside literatures of "file-sharing" and "cybercrime", for its analysis and seeks to contribute to it by shifting focus from the administration of criminal justice control policies to this radical new form of expression. Locating these statements will be accomplished by drawing upon empirical literature which documents both the etiological rationales given for piracy and for desistance in order to construct a set of variables which will guide in ascertaining the probability of statements by game type with a sample of games then selected as appropriate. Their review sections will be searched, results narrowed through steam search variables, based upon a set of keywords referencing the practice in its competing discourses of "downloading" and "piracy". A second stage of data gathering will then proceed examining the authors review history to establish whether these statements were unique or part of a broader pattern and, if so, what variations exist between them. This data will then be utilised to explore a set of specific questions as to their content and discursive character in its moral, legal and transactional dimensions, which will then ultimately be used as the foundation to answer the overriding question of whether restorative statements constitute a break with and challenge to the logic and political economy of Steam or are enactments of the new economic subject produced and governed by the platform.

Session 4h

Saskia Witteborn | Chinese University of Hong Kong

Digital Migration Infrastructure and Migrant Ecologies: The Example of Hong Kong

Discussions on infrastructure have started taking off in the field of transnational migration where structure-agency debates, push-pull models, and discursive analyses of the migrant have dominated. This paper takes the theorization of migration infrastructure by Xiang and Lindquist as the point of departure to

examine migrant infrastructure constellations in Hong Kong, with focus on the component of the technological in relation to forced migration. Hong Kong and forced migrants (refugees and asylum seekers) are used as contexts as Hong Kong describes itself as a global city, nourished by migrant talent. At the same time, the city is one of the key urban areas in East Asia not having signed the 1951 Geneva Refugee Convention. Forced migrants live in the social space of Hong Kong but can rarely be of it. In this context, the question arises how migration infrastructure configures the forced migrant as a bureaucratic object to be stalled or moved along the humanitarian and political supply and demand chain (e.g., resettlement treaties between Hong Kong, Canada, and the U.S.). Xiang and Lindquist identify humanitarian, regulatory, technological, social, and commercial as constellations structuring movement, and shift the discussion from the migrant as agent to the components and networks that move the body. This paper shows how the technological dimension of migration infrastructure becomes a primary socio-computational realm, a prism of objects, platforms, interfaces, and signals, which shapes or even interferes with other dimensions (e.g., the social or the regulatory). Through the socio-computational realm, forced migrants are given selective entry to urban space and a bureaucratic status, they are registered, archived, typified, and searched for. But the people are not only shaped by but also co-shape this realm through gifting technology and thus connectivity to other infrastructure dimensions, such as the social. They become part of migrant ecologies through dating and translation apps, Facebook and WeChat, entering alliances with migrants on the margins in Hong Kong, representing themselves in social media, and channeling refugee destinations through digital interactions. In sum, technology as a computational, material, and relational dimension of migrant infrastructure shapes how (forced) migrants are moved and configured to live but also how migrants who are arrested in space can move themselves by appropriating the datafication of their lives. The data materials have been collected over a period of two years in Hong Kong through social media analysis, interviews, and participant observation.

Session 7g

Gareth Johnson | Nottingham Trent University
Andreas Wittel | Nottingham Trent University

From Knowledge as a Private Good to Knowledge as a Common Good: The Political Economy of Open-Access Publishing

Apart from very few exceptions the debates on Open Access (OA) have not been influenced and informed by a political economy perspective. Furthermore many of the claims regarding knowledge, property and the public lack a grounding in a moral economy framework. Finally, while different types of OA have emerged, the debate has focused predominantly on one type, on gold OA. We see these three observations on the OA debate as problematic. The objective of this paper is to respond to what we perceive as shortcomings in the OA debate. Our response makes an argument in four steps. Firstly we will outline our moral position with respect to public and common ownership of knowledge. Our moral economy will then inform our inquiry toward a political economy perspective on OA. We will introduce in the second step of our argument three types of OA, gold, green, and radical. Thirdly we will explore the implications of the three types of OA for key concepts of political economy, namely property, labour, and value. This is the core part of our inquiry. According to our analysis the radical OA model corresponds most closely with our moral economy principles. However it is hardly discussed and it struggles to grow as an alternative to gold OA. Therefore, the fourth and final step of our argument is devoted to policy recommendations that could boost radical OA publishing.

Session 6e

Aylish Wood | University of Kent

Under Surface of Digital Images: A Cultural Approach to Digital Objects

Although now very much a part of our everyday world, explanations of digital objects tend to remain superficial and overgeneralizing. A growing impetus to interrogate objects such as algorithms is visible across a range of disciplines, including anthropology, philosophy of technology, software, technology and cultural studies. Since moving images are increasingly digital, whether as digital cinematography, visual effects embedded in live-action films, computer-generated animations or games, they are a resource of visual prompts through which many

kinds of digital objects can be investigated, described and understood. I argue they are a means through which scholars in screen studies such as myself can enter into and participate in the wider growing debate. Even so, screen studies have been criticised for retaining an emphasis on the surface of the screen. To meet this criticism, in the following I put forward a conceptual framing for thinking about the digital objectness of visual effects images. The conceptual framework builds on Johanna Drucker's writing on digital materiality as well as software and technology studies. Drucker, for instance, approaches digital objects not through what they are, but what they do. As she argues: "Performative materiality suggests that what something is has to be understood in terms of what it does, how it works within machinic, systemic, and cultural domains." Drawing from across this range of literature, I explore digital objects in terms of their materiality and examine them through their relations with humans and other objects that coexist in the context of their making. My hook into this discussion is the toxic storm, one of the main visual effects of *Mad Max: Fury Road* (2015, George Miller), and which was generated using procedural animation software. Many insights about its production can be gained through an analysis of readily available paratextual materials of the kind released in conjunction with many films, and use them to develop a frame of reference for thinking about digital images as digital objects, as opposed to what they depict on-screen. The marketing materials for *Mad Max: Fury Road*, for instance, reveal an often repeated and problematic distinction between objects that are real and those that are digital. As such they provide a rich resource for exploring the parameters through which digital objects such as algorithms emerge and gain meaning. By seeing visual effects as digital objects, on-screen digital entities become a resource for helping us reflect on and interrogate our experiences of a digitally-based world, addressing questions such as automation, artistic and software agency, and challenge the transparency of simulations. My presentation, though focussing on *Mad Max: Fury Road* and its associated production materials, has applicability for deepening our analyses of digitally generated imagery more widely.

Session 6f

Derek Woods | Dartmouth College

Cat Face with Tears of Joy

In 2015, the Oxford English Dictionary named the "face with tears of joy" emoji 😂 the "word of the year". Many smartphone users also have access to a "cat face

with tears of joy" emoji. As the most popular emoji in 2015, the former sign emphasizes their undeniable role in digital sociality. But the latter raises a more specific question: what is the function of animal images in digital communication? If many emojis convey clearly identifiable feelings, what do animal signs mean and how do people use them? The scope of this question is very broad, extending as it does to the animal images and videos shared on social media platforms in such a ubiquitous way that phrases like "watching cat videos" have become metaphors for any kind of idle time on Facebook or Twitter. To make this question manageable, my talk will focus on animal and plant smartphone emojis, reviewing available data about their use. In addition to this empirical work, I will theorize this form of communication in two ways. The first draws on Nicole Shukin's account of animal affect in *Animal Capital* to suggest an interpretation of the meaning, not just of individual emojis, but of the general set of available life form signs on smartphone keypads. The argument is that the set of available animal and plant emojis, as a digital medium within a digital medium which allows only certain representatives of Earth's biodiversity, tells us something about the relation between infrastructure (smartphone hardware and software) and superstructure (events of communication selecting life form signs). The second theorization situates life form emojis in the larger context of the Anthropocene "technosphere", in which, as Ursula Heise argues, we paradoxically see "the footprint of the biosphere in the archive" grow as actual species go extinct at unprecedented rates.

Session 3c

Danielle Wyatt | University of Melbourne
Dale Leorke | University of Melbourne

Habitats of Disruption: Co-Working in a Digital Culture

While they transect a wide range of disciplines and sectors of social and economic life, narratives of digital disruption are perhaps most closely tied to discourses around the future of work. The impact of digital technologies is predicated to alter the dynamics of markets and market behaviour; to transform corporate culture and existing practices of management and resource allocation; to demand the development of new business models and strategies to take advantage of or mitigate the threats of disruption to corporate growth; and perhaps most alarmingly, to threaten the existence of entire industries and sectors of the economy through automation and artificial intelligence. In these narratives, disruption is an inevitable force demanding preparedness, either to seize the abundant

opportunities of the future or to ward off impending threats. It is positioned temporally, as imminent, intertwined with feelings of urgency, optimism and fear. In this paper, we suggest that digital disruption can be understood in more quotidian, and less speculative and emotive terms. We look particularly at co-working spaces as 'infrastructural registrations of the digital' that have emerged to buffer and support new labour dynamics in disrupted times. As Manuel Castells predicted, networked societies have seen an increase in a high-skilled, knowledge workforce. At the same time, work is being de-securitized through individual contracts, downsizing, the casualization of the workplace, and more flexible, mobile, and precarious working conditions. Co-working – where the self-employed, or workers with different employers share the same work space – is one response to these shifts. Co-working spaces, we argue, are habitats through which new models of the workplace, and new ways of being a worker, are being conceived, improvised and practiced. Through detailed ethnographies of two co-working spaces in Melbourne, Australia, we attend to the subjective and organisational formations coalescing in these spaces, marking the ways in which co-working models both reconfigure and embed post-Fordist working futures.

Session 5b

Chamee Yang | University of Illinois at Urbana-Champaign

Immanent Surveillance: Living with Unpredictability and Environmentalization of Media

From the CCTV-mounted streetlights to the RFID-embedded waste bins, living in a 'Smart City' involves enduring the 'paradox of mobility', allowing our inert bodies to be assisted by the increasingly animated environment. This paper conceptualizes the Smart City as exemplifying the latest case of cybernetic spatialization of the city. In so doing, I observe the interrelated dynamic between the centrifugal "environmentalization of media" (Jennifer Gabrys) and the centripetal mechanism of control that constitutes the government's management of urban risk and caring of its subject-citizen. Both the centrifugal and centripetal relations of media and space make up the dual architecture of the Smart City system, which distributes and synchronizes media in space. This paper will specifically focus on the preoccupation with the security features in the Smart City, asking how we grapple with both fear and fascination with living in the Smart City. It partly entails exploring the 'ambiguity of surveillance', meaning the mechanism of control is less determined than immanent, as the technologies of

control overlap with the technologies of care on the other side of the spectrum. This paper adopts an integrated approach to the non-representational aspect of surveillance as well as semantic and cultural ones, the ones that pertain to how security and risk come to matter in different degrees and intensities to different groups of people. I observe how the security systems in the Smart City not only is a tool to contain risk of the city but the one that also produces the reality of the city as precarious, surrounded by threats looming everywhere. In addressing the affective and cultural context of surveillance as well as its material condition, I ask how the notion of risk is being reconfigured, as it is increasingly imagined as an invisible, but always present reality, encompassing the most micro- (e.g., virus, street violence) and macro-scale (e.g., nuclear war, climate change). If we understand the notion of risk as a socio-technically constructed one, then the liquefied notion of risk is making untenable the overdetermined binarism we bring to the critique of surveillance that posits individual privacy versus society of control. In fact, one is compounded by everyday banal encounters with the mechanism of control that exhibit a rather nonchalant attitude of indifference. Even the full exposure of ubiquitous mechanism of monitoring does not lessen the general support for the idea of the smart and secure city. In non-Western South Korean context, demand for a more rigorous control of space overrides the concern for invasion of privacy. Surveillance can be seen more like an alignment, which generates unexpected outcomes. Historical specificities and socio-technical imaginaries that have driven Songdo and other Smart City projects in non-Western context have to be considered.

Session 5c

Feng Zhu | King's College London

The Conscious Malleability of Gamer Habitus/Hexis

This paper seeks to use gaming practices to interrogate some of the assumptions behind the Bourdieusian theory of habitus. "Gamer habitus" has been defined as "the socially acquired, embodied dispositions that ensure someone knows how to respond to a computer game" (Graeme Kirkpatrick). Becoming competent at computer games is especially revealing as to the way in which we acquire a (gamer) habitus, particularly in the context of Bourdieu and Wacquant's neglect of agentic consciousness. This is due to the speed with which we attain gamic competence, owing to the analytical learning cycle afforded by computer games. I argue that Bourdieu's concept of habitus has obscured certain older roots with

the Greek term hexis. This bears on the issue of the extent to which we manage and 'choose' our own habitus. Although its parameters are contested, habitus has arguably come to have a much narrower application, one more associated with 'habit' than was hexis. Aristotle defined hexis as actively pursued, rather than passively acquired. It could be unreflective but also freely chosen, in a way that contrasts with the implications of Bourdieu's class reproduction analysis. Emphasising this aspect brings hexis closer to the work of Simondon on the relation between psychic and collective individuation, or Foucault on the care of the self. With RTS games like *Age of Mythology* (Ensemble Studios, 2002), the player must be deft with innumerable hotkeys and able to recall a variety of scripted strategies; their own embodied dispositions need to culminate in a particular orientation towards the game such that their reactions are consciously geared towards long-term aims, but also unconsciously or intuitively implemented at speeds that preclude conscious reflection. The player must rely on both non-conscious automated responses as well as the conscious reflection that selects a particular avenue of play, shifting seamlessly between one and the other. The capacity to do this has not been sufficiently addressed in the literature on habitus. There are implications here for games' inculcation of such capacities in us, such that we may be able to better apply this seamless shifting elsewhere. The degree of consciousness involved in gamer habitus also extends to the problem of why certain individuals want to acquire a gamer habitus in the first place, given that to actively pursue that acquisition in the initial stages is precisely when one feels most at odds with the game. Thus, I will broach considerations of an explanation at the pre-habitual level. In particular, can the level of explanation here invoke a conceptual structure of social origin, like 'habitus', without lapsing into an infinite regress due to having to come prior to habitus?

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