Infrastructures and Inequalities: Media Industries, Digital Cultures and Politics

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Book of Abstracts

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Keynote 1: Lisa Parks

Glimpses of Network Sovereignty: Materialities of Media Infrastructure in Tanzania

This talk addresses the question of infrastructural equalities by analyzing the labor and resource challenges inherent in moving the global internet from undersea cable landings in urban areas to rural, low-income communities in Tanzania. Tanzania hosts four major undersea cable landings, suggesting that the country's 51 million people would be well integrated within global broadband fibre optic networks. Despite Tanzanians' close proximity to major internet gateways and the country's innovative regulatory climate (van Gorp & Maitland, 2009), limited electrical and terrestrial telecommunication infrastructure prevents most citizens from benefitting from these cable landings. This study uses ethnographic fieldwork, including site visits and interviews with workers at network facilities and the national data center in Dar es Salaam and the Mara region, to investigate the material conditions undergirding these paradoxical dynamics. Building on my past research on rural connectivity in neighboring Zambia, this study will also explore how labor and resource conditions have affected an initiative called the Serengeti Broadband Network (SBN), which began in 2007 to establish broadband connectivity across 15 villages in one of Tanzania's remote interior regions. Ultimately, the talk will draw upon this empirical research to explore how limited forms of network sovereignty may emerge within contexts of broader infrastructural inequalities.

Keynote 2: Kaarina Nikunen

Regarding the hate of others: digital infrastructures, data imaginaries and material solidarity

This talk explores the role of digital infrastructures for our understandings of and possibilities to further solidarity and social justice. The recent rise of populist and far-right movements in the Nordic countries and across the globe has brought about concern over intensification of circulation of affective racist and misogynist discourse through digital media, particularly on and across social media platforms. A growing body of research has investigated the management and circulation of 'hate speech'. I critically discuss the ways in which these studies address the role of infrastructures in terms of intensifying and/or advancing discourses and practices of hostility. To understand the complexity of these processes and to avoid simple technological determinism, there is a need for a more contextualized approach on circulation of racism and hate speech. The paper further explores connections of these dynamics to larger shifts in media ecosystem with the rise of anti-democratic media, hidden mechanisms of data surveillance and invisibility of power. Finally, I discuss the concept of material solidarity, inspired by feminist scholarship, as a way to approach new initiatives that strive to create ethical public media spaces and imagine alternatives to communicative capitalism.
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Plenary Panel : Lisa Parks, David Hesmondhalgh, Kaarina Nikunen, Jean-Christophe Plantin

The Relevance of Infrastructure Studies to Media Industries, Digital Cultures and Democracy research

In this closing session we invite the panelists and the conference participants to reflect on the relevance of the notion of 'infrastructure' for our understanding and study of media industries, digital cultures and questions of democracy. Is 'infrastructures' a concept, a perspective, or something else? What does it do and not do? Do we need it, and why/why not? What are its possibilities and limitations? What follows after 'infrastructure'?

Linus Andersson
Media infrastructures and (un)readiness-to-hand

The purpose of this paper is to explore a development of the concept "ready-to-hand" in relation to media infrastructures. Following an (mostly) American/pragmatic reception of Heidegger (Dreyfus, Blattner) I will discuss how "unready-to-hand", the mode of being of equipment that fail to fulfill its purpose, can be a useful concept to approach the phenomenon of technological breakdown and planned obsolescence that are part of present day everyday life with technologies. In the process of disclosing these fundamental structures of the information society, the infrastructure's aspect as equipment serves as object for contemplation (they are there, we rely on them, but in the conducts of everyday life we seldom think about them). In the terminology of Martin Heidegger this mode of being of equipment can be understood as "ready-to-hand" (Heidegger 1927). However, following Hubert Dreyfus' development of Heideggerean phenomenology, one could also talk about "unreadiness-to-hand" (Blattner 2006) as the way equipment reveal themselves. When equipment fulfill their purpose they are transparent, they become part of the activity in which they are being put to use, but when they do not fulfill their purpose we suddenly become aware of them -- the transparency is lost. A common example is a hammer that is too heavy or too big to use. When it comes to the everyday life of information society the unreadiness-to-hand is an all-too-familiar experience: incompatibility between different applications, constant upgrades that renders hardware obsolete, slow Internet-connections etc are common features of technology. Hence living in a culture that heavily relies on equipment that cannot be fully trusted requires strategies and attitudes to deal with this constant threat of malfunction. How do we secure ontological security, continuity, integrity and memory in all this?

Andrew Ó Baoill

Between opportunism and resilience: the infrastructure of alternative media projects

Alternative and community media projects are often in the invidious position of relying on infrastructure and institutions that are designed for – and in many cases by – for-profit entities, with access by non-profit (and, particularly, explicitly politically radical and/or oppositional) projects accommodated incidentally, if at all.

The tactics adopted by alternative media practitioners can often amount at best to a form of arbitrage, opportunistically identifying aspects of existing systems that can be leveraged or appropriated in service of their particular ideological or project goals. Such an approach is most obviously associated with the 'tactical media' tradition, in which practitioners are focused on short-term and once-off projects that subvert elements of the dominant cultural/media systems.

However, community media and other projects which are envisaged as having greater longevity also grapple with questions of sustainability and institutionalisation within regulatory, technological, and economic systems. This paper will draw on a range of examples to explore both the opportunities and constraints faced by such projects, and build a conceptual framework for understanding the tensions within which community media operate.

The work draws on numerous examples, such as the varied tactics and strategies adopted by community and college radio stations seeking new paths to their audiences, at a time when many institutions are shuttering their over-the-air FM audio channels, simultaneous with a movement of audiences away away from broadcast platforms to new spaces. Such cases highlight both the resilience and ingenuity of alternative media practitioners, but also the limitations to the various solutions available.

This research is part of a project part-funded by the Irish Research Council New Foundations scheme, into the sustainability and resilience of alternative and community media projects.

Tim Barker

Misusing the Postal System of Communication: Transmission, The Non-Dialogical and Technologies of Care

In 1913, with a 15-cent stamp attached to his clothing, the 8-month old James Beague was sent through the post. He was picked up by the mail carrier along his usual route out of Batavia, Ohio, and delivered to his grandmother, who lived about a mile away. In this paper I use examples where the postal system for communication is used to transmit children, rather than letters, to rethink the way that communication has been traditional linked to dialogue and understanding. Instead, using the work of Sybille Krämer and Michel Serres, I present a way of understanding communication through the media technical concept of transmission, which is predicated on the maintenance of distance and difference, rather than its eradication. Media archaeological in its methods and informed by archive research using the collection at the Smithsonian postal museum, the paper takes the example of small children being sent through the post and uses this firstly to think through contemporary media theoretical concepts around non-dialogical communication and the idea of hacking transmission media. Secondly, the example of children moving through the post is used to explore the idea of the postal system as a technology of care. The sending of children through the post – turning them into messages – makes it obvious that the infrastructure of the media system needs to be able to provide care to its messages, insulating them from outside noise. This section of the paper ends with some examples of 16th century letter writing guides and the notion that Michel Foucault gives us of care as a constant writing activity. The paper ends with the idea that the postal system produced a non-dialogical style of communication where the media system itself developed rules, protocols and techniques that acted as what Foucault would call a technology of the self.

Asunción Bernárdez and Paula Requeijo Rey
The Use of Social Networks Against Feminism: the Case of Vox Political Party in Spain

Far-right Spanish political party Vox was founded at the end of 2013. However, until 2018 it won't achieve a great media impact as well as representation in the regional Parliament of Andalusia. Currently, Vox has 24 deputies in Spanish Congress after obtaining 10.2% of the vote (2.677.173 votes) in April 2019 general elections.

The supporting axis of this political group discourse is what they define as the big threats to Spain's identity: peripheral nationalisms (especially the Catalan), immigration (especially that which comes from Muslim countries and Africa) and feminism (which they call "gender jihadism"). Left also represents a special threat because it brings together and integrates the three previous dangers.

Social Networks have been key in order to build Vox discourse and alert Spanish citizens in general and their voter segments in particular of these threats. In this research we analyze the use that Vox has made of Twitter and Instagram during the two previous months to the April 2019 elections in relation to one of these threats-axes: feminism. We delve into the trends of tweets, images and videos posted on the political party official accounts.

We discover that they build feminism as if it were a power or doctrine that promotes social inequality. For this, they use, among other things, the definition of gender as a false concept and the decontextualization and partial use of data.

Ramnath Bhat

Matter of Government: Internet Infrastructure and Subjectivity in India

The Indian government started to wire up 600,000 villages with fiber optic networks since 2010 and has accelerated since 2014. The exercise comes in the wake of increasing wealth inequality and state-backed promotion of extremist Hindu majoritarianism in everyday social and political life. The proliferation of internet infrastructure is at the intersection of two phenomena. The opening of rural markets to include free flow of global and financial capital; and the closure of plural and diverse subjectivities in order to impose a masculinist upper caste Hindu subjectivity. In the predominantly indigenous (Adivasi) central-Indian state of Chhattisgarh, my doctoral research investigates the impact of internet infrastructure on different processes and practices of subjectivity. Governmentality is seen as a set of strategies and practices of exerting authority over self and others. In India, networked infrastructure plays a crucial role in reorganizing relationships between State and subject. My research will demonstrate the range of everyday practices (both material and symbolic) where infrastructures are implicated in shaping subjectivity. Marked by the deep time of coloniality, authority and inequality are both reproduced by and reproduce infrastructures that mediate all aspects of modern life. Drawing upon participant observation and interviews conducted in Chhattisgarh and discourse analysis of policies over the last three decades, I argue that material and symbolic aspects of internet infrastructure are marked by a process of social haunting when it comes to Adivasi subjectivity. In a region marked by desperate poverty, other infrastructures related to mining, roads, dams, electricity, housing and livelihood are interlinked to and often challenge the logics of digital governmentality. The so-called infrastructural turn runs the risk of moving away from investigating power relations as they are inscribed in human society. I argue that people-centric approach is needed to better understand how closely infrastructural practices are involved in exacerbating inequality.

Tiziano Bonini and Emiliano Treré
Making sense of algorithmic resistance: A theoretical framework

The dichotomy between audience agency and media power is central to the entire history of media studies. Over time, the needle of the balance has oscillated cyclically towards one or the other pole. In this historical moment, marked by debates on audience datafication and cultural platformization, the needle seems to be leaning again on the side of media power. As Livingstone puts it: "To theorize recent and profound changes, media scholars are reasserting monolithic accounts of power that tend to downplay or exclude audiences and the significance of the lifeworld" (2019: 171). Yet, the relationship between agency and power has always been a dialectic one, giving rise to ever-changing forms of hegemony (Hall 2016). This holds true also in the current platform society, because "while algorithms certainly do things to people, people also do things to algorithms" (Bucher 2017: 42).

In this contribution, we map the practices citizens perform to 'live with' algorithms, including obfuscation, streaming frauds, audience boosting, rating improvement, profile optimization, visibility enhancing, engagement groups, and propaganda through bots. Conceiving all these practices as efforts for shaping/interfering/influencing algorithmic outputs, driven by diverse aims (political, economic, cultural, etc.), we argue that all these actions represent different forms of resistance to the power of the algorithms and the institutions that generate them. In order to make sense of these dynamics, we propose a conceptual framework articulated along four different axes: gaming vs. optimization practices and tactical vs. strategic practices. We then illustrate that each of these actions can be understood as either oriented towards hegemonic aims or to counter-hegemonic ones. Our paper contributes to recent debates over agency and algorithmic power by providing a theoretical framework able to account for and make sense of the complexity of resistance practices that citizens develop in our platform society.

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Philippe Bouquillion

The Capitalist Logics of OTTs in India

This paper delves into the financial and industrial structures and strategies of the digital audio-visual platforms (OTTs). The deployment of these platforms creates complex industrial alliances involving actors from different industries, a strengthening of market concentration, and an increase in the oligopolistic nature of competition. Beyond these operational dimensions, we hypothesise that these industrial movements can also be apprehended from the point of view of the assertion of capitalist logics – in the way Braudel defined capitalism- within the Indian culture and communication industries.

The paper brings out how and why OTT platforms operate under a capitalist logic in India. It argues the dynamics of capitalism are strong within these activities. In many respects, one observes the continuation of earlier movements: viz. new areas of capital development are created; the increasing oligopolistic nature of competition; dominance of transnational players. Similarly, players in the communication industries have entered OTT platforms either in the logic of joint products or to accompany the transformation of their former core businesses.

The paper methodologically combines a theoretical approach in terms of political economy of communication with empirical approaches, including interviews with key industry informants in New Delhi and Mumbai and extensive document analyses.

Patrick Brodie

Hosting Cultures: Placing the Global Data Supply Chain

Data centers represent an array of converging interests, discourses, and materials. By necessity, the circulation of data is a transnational phenomenon, and the constant negotiation of standards, infrastructures, policies, and legalities requires a dispersed arrangement of companies, organizations, interest groups, and experts. However, looking at the public materials available, one only gets part of the picture of this "logistical media" (Rossiter 2016). In my research on the data center industry in Ireland, I have encountered people who own data centers in their home towns; aspiring data center magnates; industry experts and advocates; realtors of data center space; divided and bitter local communities; besieged environmental objectors; curious and intrepid researchers; apprehensive and confused security guards; and even some of the relatively few workers within these highly blackboxed infrastructures. Data centers are lived, however labor-averse they are designed to be.

Using fieldwork conducted in Ireland between June 2017 and June 2019, this paper excavates the transnational industry of data center investment and facilitation in—and beyond—Ireland. Industry figures act as on-the-ground agents for the arrival and management of digital commerce in a particular location, traveling across the world to learn from one another and keep tabs on industry and regulatory trends, strategies, and challenges. As one interlocutor told me, there is something about the "culture" of Ireland—or rather, how the state sees doing business—that strengthens connection and trust from global companies, particularly from the US. The interplay between "hosting" data and business bears resemblance to perceived cultures of Irish hospitality. However, it is the fact that the country and its business actors are willing to sell its industrial (and environmental) future to the highest bidder that needs to be better understood in its lived manifestations of entrepreneurial and laissez-faire spirit.

Sofia P. Caldeira

"Getting word out through Instagram": Understanding young women's experiences of the gendered infrastructural politics of Instagram

Instagram has grown in popularity worldwide, having reached in 2018 over one billion active users (Constine, 2018). As an infrastructuralized platform (Plantin, Lagoze, Edwards & Sandvig, 2018), Instagram has become ubiquitous in contemporary visual cultures and embedded in the everyday lives of many young people. Instagram has an everyday political potential to challenge existing politics of representation, broadening the scope of who and what is considered photographable (Tiidenberg, 2018). As such, Instagram is a site for infrastructural politics, where notions of access, inclusion or exclusion are negotiated (Nolte, 2016). As young women are amongst the predominant active users of Instagram (WeAreSocial, 2018) and the demographic associated with online self-representation practices (Burns, 2015), this political potential also carries gendered undertones. These infrastructural politics are experienced in the course of everyday life, in affective and individual ways (Parks & Starosielski, 2015). Following a feminist media studies perspective (Van Zoonen, 1994), this paper explores how gendered politics of social media infrastructures are experienced and understood by young women using Instagram. This research is based on 13 in-depth interviews with a theoretical sample of female "ordinary" Instagram users (i.e. not celebrities or Insta-famous), ages 18–35.

Our findings illustrate how the perceived political potential of Instagram is grounded in the participants understandings of the socio-technological affordances of Instagram and its expected uses as an aesthetic platform. Most participants recognised the potential of Instagram for engaging in visibility politics (Whittier, 2017), showcasing a broader diversity of representations of femininities. Yet, this potential was seen as tempered by the co-existence of idealised Instagrammable beauty conventions and the politics of popularity of Instagram (Van Dijck & Poell, 2013). Issues that did not fit an Instagrammable aesthetics, depending on verbal discussions, were dismissed better suited for other social media platforms, e.g. Twitter. Furthermore, participants negotiate this political engagement with the possibility of receiving backlash or dismissals of their efforts as slacktivism (Glenn, 2015). As Instagram becomes increasingly ubiquitous, it becomes important to critically explore how young women are making sense of the gendered politics of Instagram, which are interconnected with the socio-cultural infrastructures that organise everyday life.

Tend Joseph Chari

Communicative Rights and Politics of Digital Infrastructures in the Global South: The Case of the #DataMustFall in South Africa

The Internet has become one of the most essential infrastructures for democratizing media and communications globally. Access to the Internet holds the promise for deepening democratic cultures in that it enables citizens to share and exchange information, to inform, educate and network among themselves as well as connecting with their governmental representatives. However, in the developing world, access to Internet remains a pipe dream for the majority who cannot afford the costs of mobile data – a key resource in accessing the Internet. In South Africa, spiraling costs of mobile data have triggered intense political mobilization and agitation in a battle pitting telecommunication companies and citizens. This paper is a qualitative evaluation of the political struggle for access to digital infrastructure in South Africa using the #DataMustFall Campaign as a case study to illuminate the rights-based materiality and politics of digital infrastructures from an African, particularly South African perspective. The #DataMustFall is a South African protest movement formed in 2016 with the objective of lobbying for the reduction of the price of mobile cellular data, arguing that the obtaining data prices were "exclusionary" and "anti-poor" as they were beyond the affordability of the majority of citizens who are poor. The examines the effectiveness of the strategies employed by the #DataMustFall movement to in lobbying for reduced prices of mobile data, and the extent to which the campaign has contributed to wider access of the Internet and reducing digital inequalities in South Africa. In addition, the paper critically reflects on the lessons which can be drawn from this movement by other African countries in the global South in general, and on the African continent. The paper contributes critical insights on debates about the way in which the politics of digital infrastructures plays itself out from a communicative rights perspective in the global South.

Nicole Cohen and Greig de Peuter
Organizing Infrastructure: Unionization Campaigns in Digital Media

In this presentation, we position unions as organizational infrastructure for countering inequalities and raising labour standards in digital media industries. We consider such infrastructures as products of collective action through a case study of recent union drives in one media sector, journalism. In 2015, journalists at the website Gawker announced they were unionizing, inaugurating what commentators have labeled a "wave" of unionization in digital newsrooms in the US and Canada. Since 2015, journalists have unionized at approximately 40 newsrooms, mostly digital outlets such as VICE, Vox, and Huffington Post, but also legacy media, including The Los Angeles Times, The Chicago Tribune, and The New Yorker. Drawing on 44 interviews with union staff and journalists leading the unionization campaigns, we survey why and how these media workers organized, with a focus on the role of affect and communication in collective organizing experiences. In terms of catalysts, journalists are unionizing in response to pressurized working conditions, precarious employment, and a lack of management transparency. Beyond bread-and-butter issues, however, our research reveals that journalists also see unionization as a way to protect editorial integrity and enhance social equity in their newsrooms - inequalities rooted in class, gender, and race motivated several campaigns. In terms of strategies, we identify dimensions of the union drives that have contributed to their success, including journalists' access to unions with an organizing agenda, a high level of worker self-organization, and cross-shop solidarity. Journalists, we highlight, are strategically positioned in networks of digital media circulation to leverage counter-publicity: journalists have frequently secured union recognition in record time and used social media to pressure employers that mounted anti-union campaigns. The growing digital media union movement shows how an "old" infrastructure of mutual aid is being adopted and adapted in a "new", digital media milieu.

Sally Deffor

Towards a blueprint for digital media and internet governance in Africa: Lessons from the European framework

Globally, we are facing some of the most transformative times in history as media industries are increasingly being shaped by technology. Countries in sub-Saharan Africa are no exception and a proliferation of the use of mobile phone, digital platforms, data centres, and software in everyday life requires that policy infrastructures keep up to date with practice. This paper therefore interrogates the preparedness of the region's laws and regulations to address and manage the digital turn. It considers in particular the transnational governance structures in place for internet and media governance. As such, it critically examines the African region as a bloc (African Union), as well as specific country case studies including Ghana, Nigeria, Kenya, Ethiopia, Zimbabwe, and South Africa. This academic treatment of the issue adopts qualitative discourse and document analyses, which commences with mapping these policies, laws, and regulations, in order to assess their overall efficacy in impacting media practice overall, and the application of these media technologies within culture, society, and politics. Foremost, it will highlight the stark differences between the progress being made among these countries themselves, and how they present lessons for the bloc (AU). The paper further illuminates what factors shape these advancements, including political and economic stability, the existence of a robust media environment, an active civic tech space, and a booming start-up culture. Finally, this presentation would shed some light on how the African context contrasts with the EU region, which is seen as having some of the most advanced internet governance structures in place, under the management of the European Commission.

Lauren Dempsey

Technological adoption and communication before, during and after economic unease: How change in use of Internet Facilitating Devices enabled social inequality between 2005-2018

2005-2018 was a period of momentous social, economic and technological change, where people's experiences with media dramatically altered (Couldry, 2012; Quan-Haase, 2015). Developments in Internet Facilitating Devices (IFDs) coincided with a shift in how people navigated day-to-day communication, reshaping social expectations and norms (Turkle, 2011; Chambers, 2013).

I collaborated with UK media regulator Ofcom to analyse data from their longitudinal 'Adult Media Lives' study. Beginning in 2005, this study captured experiences of the same 18 people through annual filmed in-home-depth interviews. By analysing the raw videos, I am able to qualitatively explore how technological development intersected with a shift in expectations of access and use of IFDs, examining how the reported normalisation of such technology led to inequalities.

The UK recession occurred at a time of rapid technological and social change, resulting in a conflict between increased expectation to own and use IFDs, but decreased opportunity to do so (due to financial limitations/ lack of training). As such, some participants were left feeling isolated and excluded, unable to 'catch up' with the shifting social norms. Thus, there was a growing risk of social inequality regarding IFDs and communication, where some individuals were unable to engage in activities increasingly conducted online, such as communication with loved ones, professional networking, or completing administration tasks. The impact of this resonated on individuals for years afterwards. I identify key groups most at risk: the elderly, unemployed, and those with financial restrictions.

I am able to explore this dynamic and fluctuating period longitudinally with the same participants year-on-year, analysing individual experiences alongside larger technological infrastructure change with a unique and valuable methodology. I conclude that wider changes in technology coincided with social shifts in expectations of use, leading to social exclusion and inequality for those unable to keep up with this rapidly changing technological landscape.

Selena Dickey

Shaping the Domestic Satellite Communications System: Bringing Hawaii into National Synchronicity

Hawaii, home to three television stations by 1954, was yet to be "synced" up with the mainland networks' live feeds. Unlike radio affiliates that were interconnected to the commercial networks via undersea copper "long lines" stretched along the floor of the Pacific, television stations' signals couldn't make the long-distance journey through cable. A new distribution infrastructure was needed. With the dawn of the space age, communications satellites were just such an infrastructure.

But to implement this cosmic solution, yet another communication challenge took center stage: long-distance telephony. By the late '60s, an undersea coaxial cable, jointly operated by AT&T and Hawaii Telephone Company, was already running at maximum capacity, and state officials looked to the burgeoning communications satellite technology as a potential solution. Not only could they alleviate long-distance telephone traffic, but satellites could also carry live television signals. As the FCC, federal legislators, telecommunication common carriers, and the national broadcasting networks hotly debated the ownership and regulation of domestic satellites, state leaders and legislators entered the fray, importantly shaping national communications and infrastructural development at the local level.

Building on Lisa Parks' and Nicole Starosielski's critical infrastructure studies approach, as well as Christian Sandvig's call for infrastructure of distribution studies, and drawing on archival materials, trade press, and in-house publications, this presentation looks at the under-examined inequalities of early television distribution. While others have looked at the impact these satellites had—and continue to have—on the international distribution of television, I look at their role in domestic distribution, underscoring how these infrastructures were (and are) multilayered and contingent, subject to multiple hierarchies of power, and yet critically shaped by local forces. In so doing, I hope to draw attention to moments of local activism in the history of television distribution infrastructures.

Kay Dickinson

The Global Studio: Logistical Landscapes for the Media Supply Chain

An increasing amount of big budget, off-shored film production currently routes through infrastructures located within the United Arab Emirates, often without the regular viewer even noticing. Bollywood, Chinese and Hollywood movies (such as Star Trek Beyond and Independence Day: Resurgence) are now regularly, if partially, made in this country. Here international media projects avail themselves of two outwardly uninvolved, but simultaneously central pillars of the UAE's infrastructural economy: logistics and real estate. Their confluence happens at specially designed sites, namely media studio complexes, that peddle a particular crafting of infrastructural advantage via not only superlative facilities, but also mechanisms of creative labour exploitation.

The UAE is a world-leader in logistics, the management science of fleet, uninterrupted distribution. Logistics has made significant inroads into the manufacturing end of supply chains, cinema and TV's included. In the UAE, logistical priorities marshal the practices of an increasing number of media free zones, such as Dubai's Studio City. This paper examines the built environments of these free zones and the spatial fixes they afford a post-oil economy. While, architecturally, film and TV studios have frequently been compared to factories, an analogy is instead drawn with other similar looking buildings: the warehouse and the distribution centre. These are structures dedicated to the economies of circulation; adjusting our analytical perspectives towards them pulls focus to the very real impact and recruitment of supply chain management into contemporary media production.

Within the UAE, media free zones are governed by exceptional legislation that meets logistics' frictionless ideals by legally enforcing the disposability and flexibility of migrant labour in order to take advantage of an international division of creative labour. Amid and enabled by the mercurial potential of capital, these free zones offer themselves up as solid ground for off-shored production to profit from exemptions and concessions that take significant toll on a precarious international workforce.

Paul Dwyer

Infrastructures of Inequality in Media Production: An Evolutionary Approach

Only 10% of London's creative media workers are BAME; women are significantly under-represented in higher wage jobs in these sectors (Eikhof and Warhurst, 2013). These inequalities are often explained as labour market outcomes produced by the 'flexible specialization' of media production (Blair and Rainnie, 2000). Such accounts offer limited potential for change, since casualization and precarity appear as the unintended consequences of competitive pressures for innovation in media markets (Storper and Christopherson, 1987).

A focus on infrastructures suggests an alternative approach. As Peters (2015:47) notes, media environments "select and reinforce traits that emerge from variation" but are also "recursively reconstructed by the life forms they enable". An evolutionary approach (see Nelson and Winter, 1982) enables identification of moments of variation and experimentation where industry infrastructures provide the potential for innovation and change. Applying this approach to the media industries, enables an alternative understanding of the relationship between media technologies, markets, production and unequal labour market outcomes (Dwyer, 2019). This offers an alternative perspective on the (still) emerging digital infrastructures and their potential to support variations and experimentation which could reconstruct sections of the media environment.

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Elisabetta Ferrari

Mirrors, icebergs and puppet masters: making sense of the power of digital infrastructures through visual focus groups

How do activists make sense of the power of digital infrastructures? How do activists relate to digital infrastructures from a social justice perspective? Drawing on my PhD dissertation, which analyzed the "technological imaginaries" of contemporary social movements in Italy, Hungary and the United States, I explore these questions through a research method that I developed – the visual focus group. In my visual focus groups, activists are asked to collectively draw what they think the internet is like. This collective graphic elicitation task encourages participants to interrogate the commonsensical, taken-for-granted aspects of digital infrastructure and create a conversation about the meaning of everyday technologies and their power.
In this talk, I will present the results of two visual focus groups, as well as individual in-depth interviews, conducted with the activists of LUME, an Italian occupied social center; in addition to the collective drawings produced by the activists – one depicting the internet as a distorted mirror, the other as an iceberg, in which processes of surveillance and data commodification happen below the water –, I also consider intermediate sketches drawn by activists during their discussion. Taken together, these drawings and the conversation that generated them express LUMe's political-economic critique of the power of corporate digital platforms, as well as their distrust in the supposed democraticness of the internet.

The activists, however, wrestle with these critiques because of the perceived unavoidability of digital technologies: although they are problematic, to them they are indispensable for political activism – there is no alternative to them. I explain how activists negotiate these tensions through the use of offline, occupied spaces and the notion of "awareness" (consapevolezza).
I thus conclude by offering the visual focus group as a useful methodological tool to explore the relationship between social movements, social justice and digital infrastructures.

Ingrid Forsler

From infrastructural imagination to infrastructure literacy in media education

This paper aims to address the conference theme of Infrastructures and Inequalities through discussing the pedagogical implications of the proposed 'infrastructural turn' in media and communication studies. Whereas media studies in general have indeed experienced an increased scholarly attention towards digital media as "enabling environments" (Peters 2015), educational initiatives in the field of media literacy remain directed either towards the critical examination of media content, or on the usage of media as tools for communication and democratic participation. In spite of an increased interest in digital media and data within this field, the media infrastructures underpinning datafication and structuring everyday use of digital media and communication technologies - not least in schools - have received relatively little attention within media education practice.

At the same time, practicing teachers are not blind to the problems involved in the digitalization of education, such as the neoliberal ideals underpinning development of educational technology or the use and misuse of student data. Based on 28 interviews with art teachers and teacher educators in Sweden and Estonia, this paper suggest that many educators have developed an infrastructural imagination (Jackson et al 2007), allowing them to repurpose and bypass existing educational infrastructures as well as developing new ones in line with their pedagogical ideals. How is it then, that media infrastructures are not discussed within media education in compulsory schools? In what ways can the infrastructural imagination of teachers inform pedagogical practice and facilitate debates with students about access, ownership and biases in digital systems? In line with research promoting infrastructure literacy (Parks 2010) and data infrastructure literacy (Gray, Gerlitz, & Bounegru 2018), this paper want to contribute to a discussion on how media training in compulsory education can be reshaped and broadened to include infrastructural perspectives on media both in and outside the school system

Helen Alexandra Hayes

Material Resistance and Legal Persistence: A Case Study of Hurricane Katrina's Storm Levy Infrastructure and the Katrina Canal Breaches Consolidated Litigation

In 2005, Hurricane Katrina submerged 80% of New Orleans in ten feet of floodwater, damaging 70% of the city's housing, and displacing more than one million residents, 73% of whom were African American (Plyer, 2016; Urlainis et al., 2014; Farber, 2007). This disproportionate effect on African American people was not accidental, but rather the result of the geographic reorganization of New Orleans that began in the mid-twentieth century, spurred by Jim Crow laws that legitimated racial segregation (Marable & Clarke, 2008; Fleetwood, 2006; Spain, 1979). New Orleans is one of the ten most segregated cities in the United States with the fifth-highest concentration of African Americans living in extreme poverty (Cigler, 2007). Jim Crow's socio-juridical practices isolated black communities not only in economically disadvantaged neighbourhoods, but also within dangerous landfall zones, making them far more vulnerable to Katrina's wrath than predominantly white communities mostly located in high elevation zones (Gotham & Campanella, 2013). It is within this context that my research asks: in what ways are disaster infrastructures sociomaterial terrains for the reproduction of discrimination, political dominance, and contestation? What are the relationships between the individual and disaster infrastructures and how do those relationships change in periods of infrastructural breakdown?

Because Hurricane Katrina had such a dramatic effect on the material infrastructure of New Orleans, it can be used as a case study to better understand exactly how and to what extent infrastructure effects social institutions, and also to what extent infrastructure exacerbates the fragile relationships between marginalized communities and the institutions that govern them. Through the analysis of the Katrina Canal Breaches Consolidated Litigation, this research employs the ethnographic and political analysis of disaster infrastructures and their related socio- legal infrastructures to reveal Hurricane Katrina as an essential example of infrastructure failure. In doing so, this paper will reveal how the breakdown of both New Orleans' storm levies and its socio-legal protections (meant to safeguard vulnerable victims of natural disaster) reveal the power of infrastructure to shape social relations, form metonyms of marginality, and produce the conditions for social assembly. To that end, this research draws upon the following concepts: the politics and poetics of infrastructure (Larkin, 2013), the promise of infrastructure (Appel et al., 2018), the ethnography of infrastructure (Star, 1999), and infrastructural resistance (Audette Longo, 2017; Easterling, 2014). By analyzing disaster infrastructures, both material and socio- legal, my research ultimately aims to reveal infrastructures as media of politics – the material sites in or at which we can catch glimpses of what politics is and how it works.

Danielle Hynes
Justice in the Smart City? The value of social justice theories in examining datafication and urban injustice

This paper brings together key debates in scholarship on critical smart urbanism and data justice to explore the question: What elements of social justice and data justice theory are most valuable in investigating contemporary urban injustice and datafication?

The term 'smart city' originally emerged as a marketing strategy, coined by IBM in the mid-2000s. The idea has now gained prominence outside the commercial sphere, increasingly driving planning and policy initiatives around the world. Recently, critical scholarship on smart cities and smart urbanism has emerged, questioning the perceived benefits of developing smart cities and analysing the impacts of these developments. However, an explicit social justice framework is largely lacking from this literature, and when the idea of social justice is invoked it is rarely developed or defined clearly.

One example of urban injustice in smart cities is found in Kansas City. Since 2017 the KC Living Lab, run by Spring and Cisco Systems, has collected a wide array of urban data through a multisensory network. KC has historically been exemplary of spatial racial segregation in the US and Brannon (2017) argues that KC Living Lab's data collection reinforces this division.

In this paper I argue that a social justice framework has much to offer in illuminating the social harms present in cases of urban datafication such as this. I draw on the key contributions of social and data justice theorists including Nancy Fraser, Iris Marion Young and Lina Dencik to advocate for a clear and detailed social justice framework that can underpin critical analyses of smart city developments and impacts.

Indrek Ibrus and Ulrike Rohn. The role of platforms in the emergence of mediatized cross-innovation systems

This paper looks at the role of platforms and their infrastructures on co-innovation practices between media industries and three other sectors: tourism, education and health-care. Such co-innovation processes have started to gain ground due to the evolution of 'creative industries' policy frameworks, the digitization and mediatization of service sectors, as well as due to platformization of those sectors. We have (Ibrus, 2019) re-conceptualised the cross-innovation concept and linked it to the broader innovation systems (Lundvall, Johnson, Freeman, Nelson) theory. Furthermore, we have interlinked the latter with the mediatization (Hjarvard, Hepp, Lundby and others), cultural science (Potts and Hartley) and platformization (Van Dijck et al) theories. As an outcome we developed an analytic concept 'cross-innovation systems' - to study these systems means to study the emergence of regional/international mediatized and participatory innovation systems. The fact that such systems can be both regional and international refers to the issue of platformization. In innovation systems studies Lundvall has demonstrated that the presence of multinational firms in any country could undermine the effective coordination within national innovation systems – they utilize knowledge resources, but do not contribute to the processes of 'interactive learning'. Our recent study into cross-innovation between tourism and media sectors (2 case studies in Hamburg and Riga, 40 stakeholder interviews) evidenced that the effect of global tourism platforms on local level cross-innovation systems is even more radical – the platforms (Booking.com, Tripadvisor, AirBnB, Google Maps, etc.) that have built extensice infrastructures have monopolized nearly all tourism market data have provided some essential tools for the tourism industry, but have demotivated the latter to co-operate locally with media and ICT industries. Our paper discusses this case study in detail and argues for policy measures aimed at increasing diversity in the local cross-innovation systems and the role of government-provided platforms in this (we bring examples of Estonia's government provided platforms for mediatized educational content.

Catherine Johnson

Technological Infrastructure as Controlling Point in the Online TV Industry

Since 2010, in regions where the social, political, economic and geographic contexts enable growth in access to and uptake of high-speed broadband and 4G and widespread ownership of smartphones, tablets and/or internet-connected television sets, television has entered into a new internet era. This internet era is characterised by the mainstream adoption of online TV: television services delivered via the internet that provide access to acquired and originally produced content. With the rise of online TV and related streaming services, digital infrastructures, such as data centres, software, cloud servers and content delivery networks, have entered into the agenda of media industry studies. However, internet-delivered television has not replaced digital television and depends on critical infrastructures, such as fibre optic cables, with their industrial origins in the cable/satellite era.

This paper takes a media industries approach to television's technological infrastructures in the internet era and asks how control over the technological infrastructure required to deliver online TV might function as what Tom Evens (2013: 481) refers to as a 'controlling point' that enables competitive advantage within a particular sector. It begins by mapping out the online TV industry, examining the kinds of companies and organisations that offer online TV services and that provide the critical technological infrastructures needed to deliver online TV. It then focuses attention on the areas of overlap – those companies that operate both online TV services and control an area of technological infrastructure – and asks how this might shape our understanding of how power is enacted in the industry. This approach shifts critical attention away from Netflix, which dominates academic and industry discussions of online TV, towards the cable and satellite companies (such as Sky) that control internet service provision and new tech giants (such as Amazon) that control cloud computing through Amazon Web Services.

Charlotte Johnson

Is Demand Side Response a woman's work?

Demand side response (DSR) refers to initiatives that encourage energy consumers to adjust their consumption in response to signals.   In the UK, DSR technologies and tariffs are already being offered by some energy suppliers. This paper discusses a utility-led research project which piloted smart meters and DSR products (a time of use tariff and a critical peak rebate scheme) with 500 low income households in London. Funded by the UK's energy regulator, the project aimed to investigate how the smart future could benefit low income and vulnerable customers.   As households set about the task of adjusting their electricity use in response to our prompts, they revealed the importance of managing domestic labour to generate value from DSR products and the role of women in carrying this out. The experiences is at odds with the smart future more typically imagined. Chore-doing should be handed over to feminized AI assistants such as Cortana, Siri, or Alexa who will orchestrate IoT appliances on our behalf to create comfort and capture value. Such imaginaries have been critiqued by Strengers (2013) and Strengers and Nicholls (2017) who argue that they stem from a future being built to serve 'resource man', a consumer archetype drawn by the male-oriented industries of engineering, economics and computer science which are building smart systems. Drawing on participants' experiences, the paper develops the concept of 'flexibility woman' as a counter archetype which can be used to generate an alternative imagined future; one in which the realities of domestic labour are brought more sharply into focus. I argue that chore-doing needs to become a narrative in the smart future to understand the burdens and opportunities for 'flexibility woman' to create value from her labour. I suggest that women unable to afford a surrogate AI wife may find themselves becoming 'flexibility woman' or get excluded from accessing the cheaper, greener electricity of the future. I also suggest that ignoring her risks undermining the impacts that policy makers and network operators hope to achieve through DSR.

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Anne Kaun and Fredrik Stiernstedt

Made in Prison — Tracing the Role of Prison Labor for Media Infrastructures

The main starting point for the presentation is the idea that prisons are not confined places removed from the rest of society that constitute fundamentally different social realities. To the very contrary, for society heterotopian places like prisons are essential (Foucault, 1967/1986) and they offer insights into general social processes (Goffman, 1961). We argue that prisons and prison work have been essential for the development of media infrastructures and media distribution and that these processes are crucial to understand how the mundanity of infrastructure relates to larger operations of power and authority.

The study of infrastructures has a long history and recently gained a renewed interest especially in media and communication studies with a focus on material aspects that underpin our media systems exploring for example the role of media houses' architecture in the construction of symbolic power (Riegert, Ericson & Åker, 2010), the role of satellite systems for global media events (Evans & Lundgren, 2017; Parks, 2005), and lately also undersea cables' (Starosielski, 2015) and data centers' (Hogan, 2015; Stiernstedt & Jakobsson 2010; Velkova, 2016) role for sustaining the internet and digital culture. These studies focus exclusively on infrastructures designed for the purposes of storage, processing and dissemination of information as well as communication and rarely consider other important social institutions that have implications for media and communication infrastructures. The presentation contributes to this growing field by arguing that prisons have historically been crucial for the development, construction, maintenance and repair of media and communication infrastructures despite not being media institutions as such. For example, prison labor has been essential in setting up communication systems of telegraphy; prisoners have in various ways contributed to the printing industry, the postal system, television as well as radio, and more pervasively prisoners are subjects to testing (digital) surveillance technology before it is being spread more widely in society (Bernhard, 2017). All these contributions have emerged as free or almost free labor and have rarely been acknowledged as a form of media work contributing to the general media and communication infrastructures substantiating society in general.

Empirically, the presentation draws on archival material tracing prisoners' work related to media infrastructures since the inception of the modern prison. It combines this material with observations and interviews in contemporary prisons as well as prison security exhibitions where the most current technologies are presented and negotiated. Our starting point is the Swedish context, but we follow the transnational character of media and prison technologies and hence have a broader empirical scope. The proposed presentation, hence, engages with an institution that is rarely considered as actively contributing to the infrastructures for production, dissemination, and circulation of media and in that sense considerably broadens the scope of critical studies of digital media technologies, both empirically and theoretically.

Shawna Kidman

Infrastructural Invisibility in Hollywood: The Finances Behind the Curtain

American media industries are characterized by a pervasive erasure of infrastructure that attributes the architecture of mass media, as well as its structural inequalities, to individual human actors and broad cultural forces. Creative workers, critics, and even scholars favor historical narratives centered around artistic genius, popular zeitgeist, and social change, while neglecting structural features of our media landscape, like distribution networks and legal frameworks. These systems therefore often remain invisible, even to those living and working inside them. In Hollywood, this tendency of infrastructure to recede into the background has frequently proved useful to corporations that take advantage of blind-spots in public and industry discourse to advance their own interests, often at the expense of more independent and subversive voices. My paper thus turns to infrastructure to understand how its invisibility has been mobilized and why (Larkin 2013). I also discuss the importance of examining not only material infrastructures (radio towers, cable networks), but intangible human infrastructures that persist relationally through their adoption by communities of practice.

My primary case study, which comes out of a broader history of the comic book industry, examines the sharp upsurge in comic book films that began in 2001. Many insiders attributed Hollywood's increased interest in the genre to a post-9/11 cultural mood, the strength of the characters and brands, and improvements in digital storytelling. But a closer look at everyday business practices reveals the change to be a result of alterations in the film business' funding model as well as shifts in accounting practices; the rise of superheroes has less to do with audience preference than particularities of the studios' financial infrastructure. As media scholars seek to understand why the cultural landscape looks as it does, and why certain kinds of cultural products are systematically shut out of mainstream media channels, it is imperative that we pay attention to the intricacies of financial, distribution, and organizational systems that shape possibilities from the bottom up.

Kaarina Kilpiö

Infrastructures as experienced enabling environments for music consumption of a language minority: case Swedish-speaking Finns

"The sharing function was so much fun but seems to be gone now."
(Male, b. 1985)
"When my daughter is in the car it's pop music on the radio."
(Male, b. 1973)

This presentation discusses infrastructural practices described by music users in two surveys. The first was conducted in a 2010 research project on compact cassette technology in Finnish life histories. The second survey is an upcoming analysis based on a 2019 (May–July) questionnaire on the everyday use of digital music services and devices by Finland-Swedes, a language minority that accounts for approximately 6 percent of the Finnish population.

Using an ethnographic approach, I will analyse the ways the respondents express relationships enabled by infrastructures. In their texts, these relationships exist primarily with music – e.g. from the cassette user's role as hunter-gatherer, to fine-tuning one's filtering system for personal music intake in the digital abundance. The relationships also actualise in each respondent's social environment – other music listeners, family, gatekeepers, recommenders etc. I also look for regularities and exceptionalities in how the respondents react to changes in technological and social infrastructures: the forming and dissolving of home-taping circuits; the evolving of the blog scene around their preferred music genre, etc.

It is my aim to better understand how the infrastructures involved in everyday music practices enable personal and shared musical world views. I am also interested in how this can be interpreted from the viewpoint of forming and maintaining identities. Is it significant in the texts of the 2019 respondents that they belong to a geographically scattered language minority, and in what ways?

Niamh Ni Bhroin and Steffen Krüger.
Vital Signs: Exploring Inequality through Datafication in Self-Tracking Health Insurance

Health insurers are increasingly harnessing processes of datafication to innovate and create new insurance products for their customers. These include the development of loss-framed incentives, such as Discovery's Vitality Program, where customers can obtain an Apple Watch 'almost for free', as long as they follow and record data relating to their individual 'health journeys' over a two-year period.

In this paper we outline the potential consequences of these new insurance products, with a particular focus on the enhancement of existing health and social inequalities. These inequalities arise because of the personalization of health insurance based on aggregate and individual data analysis. This moves away from pervious collective insurance schemes, where members would have a shared responsibility and related premium, regardless of their individual level of health or fitness. The schemes are also reliant on the integration of digital infrastructures, through which customers can be nudged and guided to behave and consume in ways that will support their achievement of optimum health. These schemes, as they relate to health and life insurance, are being strongly resisted in certain European contexts, in particular in Germany.

Through a discourse analysis of published materials, including websites, industry-publications, journalism and applied and critical research, we explore how these deals are presented and understood. We find that insurers are increasingly encouraged to 'get on board' and harness the potential of datafication, while consumers are warned about potential risks to data privacy and security. At the same time, insurers are encouraged to 'target the most lucrative customers', i.e. those with the lowest health risks, while end-users are encouraged 'to consume wellness'. This contributes to increasing social inequality.

Adi Kuntsman

Infrastructures of digital solutionism: a critical reading of how smart cities relate to the environment

The paper applies my recently developed concept of "digital solutionism" (Kuntsman and Rattle 2019) to address the ways digital communication and associated infrastructures figure in environmental agendas of smart cities, while overlooking the material costs of those very technologies: the ever-growing extraction of resources needed to produce digital devices; the toxicity of their production process and of the e-waste left behind after disposal; the rapidly increasing energy demands and heat impact of data farms, needed to sustain every click, website, database, and "smart" network. In digital solutionist framework concerns about environmental damages of the digital are met with the circular logic of techno-optimism: the tools in question merely need to be improved; the users merely need to be educated to use them correctly; more research or monitoring needs to take place – and those solutions, in turn, often require even more digital devices, platforms and infrastructures. Drawing on a narrative reading of policy documents and public information websites from selected smart cities across the globe, the paper asks whether and how visions of smart cities follow – or challenge – this logic.

The paper is part of my larger, ongoing work on the need to shift away from paradigmatic blindness to materiality and environmental toxicity of digital communication technologies, in particular when those technologies are used to support environmental initiatives. The infrastructural turn is crucial to this shift, due to its focus on the multi-faceted materiality of digital communication. Responding to the question of "technological media infrastructures" and their impact on society and politics, this paper reads narratives of smart cities as relational infrastructural entities, focusing both on their perceived environmental benefits, and on the ways digital harms map onto existing social and geographic inequalities on local, regional and global scales. The paper will focus on three types of relations:

(1) Environmental problems and proposed infrastructural solutions within each city
(2) Relations between each smart city and broader digital infrastructures in geographical proximity
(3) Relations between each smart city's digital infrastructures, and the global distribution of their environmental impacts

Meri Kytö

Listening to infrastructures

Urban spaces are being increasingly politicized through electroacoustic design that aims at affective responses. The formal and practical knowledge of responses and wide range of new technologies including background music generated by algorithms have led to a situation where affective responses can be designed into public and commercial spaces. Infrastructure in this paper is approached as transformations in media industries: in music dissemination and changes of music administration. Approaching this code-based infrastructure of the auditory modality I ask, are these soundscapes challenged (sonically), and what kinds of practices does this challenging involve on both individual and collective levels? The research is part of a research project ACMESOCS (Academy of Finland) examining diverse auditory cultures, particularly how they are articulated, experienced and reclaimed within the acoustic environments of different sized cities. It aims to answer how music is used in organising, regulating, producing and (de)territorializing spaces.

Salla-Maaria Laaksonen, Minna Markkanen and Mikko Villi
Balancing on the shoulders of giants: Tracing the organizational discourses and responses to platformization and datafication of news media

Scholars have increasingly discussed the datafication and platformization of mediated practices, emphasizing the growing power of the platform giants in our everyday (Van Dijck, 2014; Gillespie, 2015). In the context of news media, the changes brought by social media platforms upon media distribution practices has been investigated (Villi & Noguera-Vivo, 2017; Larsson, 2017), but the more systemic consequences to knowledge management and measuring audiences and transactions are less studied. Some scholars have traced the broader infrastructural configurations of surveillance economy in the media system (Helles & Flyverbom, 2019; Turow, 2011), and the ways in which media organizations are becoming dependent upon the platforms on which they operate (Nielsen & Ganter, 2018).

This study seeks to trace the effects of the platform infrastructure from inside a media organization by focusing on the strategic internal organizing and discussions in connection to social media. Our empirical material is collected in a Nordic news media organization during a 6-month participatory ethnography following the work of the media organization's social media development team both in person and virtually. Using the field notes, digital discussions and thematic interviews, this study asks how is the infrastructural voice of the platforms expressed in the internal discussions? How does it reflect to the institutional responses?

Our preliminary findings show how the media organization acts in an environment constituted by the technological platforms of content consumption and distribution, thus manifesting the "infrastructuralization" of the digital platforms (Plantin et al., 2017; Peters, 2015). The content options, technical interfaces and APIs, as well as metrics provided by the platforms generate an infrastructure that both openly and covertly affects the practices of news distribution strategies and the organizational identity of the media. In particular, they contribute to an imaginary of news media with ubiquitous presence in the channels used by its audience.

Salla-Maaria Laaksonen, Merja Porttikivi and Hanna Reinikainen
Critical consumer cultures on anonymous mobile social media

Mediated online environments have grown to be a significant arena on which audiences and consumers reach out to various public actors, and voice out demands concerning their legitimacy and accountability (e.g., Chadwick, 2013; Ojala, Pantti & Laaksonen, 2019; Porttikivi, 2016). Much of such activity takes place under real names on popular platforms such as Facebook and Twitter. Recently, however, online platform infrastructures have experienced a new rise of anonymous spaces.

This study asks how critical consumer voices are expressed on an arena that is fully anonymous. We focus on the consumer criticism targeted towards bloggers and vloggers, also known as social media influencers, who have become an important aspect of consumer culture and are shown to affect consumer decisions (Lee & Watkins, 2016). As the official social media channels of the influencers are often heavily moderated, followers have turned to other arenas to express their criticism.

Our empirical material is collected from a hyperlocal, mobile social media application Jodel. Jodel is anonymous by design: no user names are disclosed, and any comments or messages that identify the author are removed. For this study, we engaged in online ethnography on two specific channels that focus on discussions around social media celebrities. A password-protected Tumblr blog was used to collect screenshots and links, and to write fieldnotes.

Our preliminary findings show how influencers have become figures on which people project various social concerns.. In this process Jodel acts as an arena for critical, political consumer discussions and as a site for self-reflection of the consumer identities. Further, we argue, that Jodel provides an affectively attuned, anonymous infrastructure for consumer to express their brand relationships; anonymity generates a unique affordance for consumers to address their consumption-related experiences and, simultaneously, to generate social peer relationships (cf. Sharon & John, 2018).

Mikko Laamanen and Vassilis Charitsis
Resisting digital capitalism from the platforms to the streets and back again: On the intersection of data activism and grassroots mobilisation

Digital capitalism is characterised by increased concentration of wealth and power in the hands of few digital powerhouses (primarily Google, Apple, Facebook and Amazon, also known as GAFA) who by means of "infrastructural imperialism" (Vaidhyanathan, 2011) aim to colonialise and commodify everyday life through data appropriation and dispossession (Thatcher et al., 2016).

Touching upon the development of digital corporate power, there is a growing interest on ways of resisting corporate appropriation of user data and opens up the horizon for a citizen-centric data economy–data activism (e.g., Milan and Van Der Velden, 2016; Kennedy 2018; Lehtiniemi and Ruckenstein, 2019). While data activism may attract more technologically savvy users, the relentless expansion of digital capitalism is not limited to the datafication of everyday life but is manifested in many other even more concrete ways. For instance, the smartification of the urban environment and the corporate platformization of services have transformed city life and have led to the intensification of citizen surveillance and the augmentation of economic inequalities as employment relations become more precarious and housing more expensive. These tangible

negative effects in people's everyday lives present the opportunity for direct action against the dominance of digital capitalism.

The intersection of digital and social movement action has traditionally taken up the instrumental role of technology in supporting protes and organizing. In this paper, focusing on a number of grassroots movements of resistance in USA, Germany, Canada, Spain and elsewhere against the colonization of urban environments by digital "infrastructures of empire" (Aouragh and Chakravartty, 2016), we analyse the intersection of data activism and grassroots movement organising mainly drawing on the symbolic role of technology. We elaborate the intersection of physical grassroots mobilisation with digital technological activism enabling local mobilisation, but also show how local action may aim to change the larger understanding of digital capitalism and its impact on our communities and society at large.

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Meng Liang. Internet Social Network Development in China Liberalizing the telecommunications industry, Internet, and Tencent

Social networks based on internet technology nowadays attract billions of users across the world, and many of these users have already integrated social networks into their daily lives. Facebook themselves are currently globally the most popular Social Network Sites (SNS) which mainly provide social media and social networking services. But Tencent, the largest social network company in China, indicates significant differences from these global north social network companies. These differences cover the whole business model, functions and further the broad influence towards the national economy. For example, nowadays, Tencent services, following the Internet social network services of it, have permeated into much more various facets of people's lives than Facebook, including both tangible and intangible services, such as finance, mobile payment, entertainment, transportation. One of the reasons behind it, is Tencent's services are heavily relying on mobile phones instead of Personal Computers (PC), thus various services can be realized with the information terminal devices with mobility. Therefore, to equate Tencent's model with SNS, which is a term largely based on the Facebook model and Internet social network model in the Global North such as LinkedIn and MySpace, is impropriate. But where did these difference between Tencent and Facebook, which are respectively representing the largest Internet social network platform in China and Global North come from? This research, from the perspective of the information infrastructure and the economic-political context in China, it contends that in China, the telecommunications leapfrogging into the mobile wave has largely influenced the Internet social network form and the function based on it.

Johanna Lilja

Whose money, whose content? Funding options for digitizing literary heritage

This paper discusses options for funding the digitizing of publications and their effect on the content digitized. Analyzing the last ten-year experience of the National Library of Finland (NLF), the paper categorizes funding into three types: 1) digitizing done in the frame of the budget funding of the library 2) projects based on private funding 3) research-driven projects.

The NLF digitizes some 2 million sides, annually, mainly funded by its budget. This digitizing covers newspapers, journals and audio material, to some extent also books, maps and ephemera in connection with its exhibitions or other projects. Digitizing is an interesting target for private funders: media houses and publishers want to have their newspapers and journals digitized, and foundations and private donators have funded projects for digitizing books and sheet music. Some of them have asked the NLF to propose materials while some others have set their conditions for the content to be digitized. Research-driven digitizing is relatively rare. The NLF has participated in two big projects. The other included digitizing of 2000 books chosen for university teaching and research, the other gave an opportunity to digitize material in Uralic languages spoken by minorities in Finland and in Russia.

The budget funding is often tied to the most efficient digitizing process and to most widely used materials, i.e. newspapers, which are digitized comprehensively decade by decade. The private funding has offered further opportunities. So far, the private funding has been wide-ranging enough to cover material of both major languages Finnish and Swedish, as well as labor and right wing newspapers. Yet, there is a risk that mainly those actors who fund digitizing will have their voice heard on the web. This paper analyses this risk and considers whether it could be mitigated by research-driven funding or by other means.

Ella Lillqvist and Anu A. Harju

Too Poor to Die: Commodification and 'Market Violence' in Funeral Crowdfunding

GoFundMe is the world's largest social fundraising platform where fundraising campaigns range from the mundane to the more socially and politically acute causes. In this article, we approach funeral crowdfunding as a form and consequence of 'market violence': harm or suffering inflicted on people by the inherent logic of the market (Fırat, 2018). Drawing from Marxism, there is no escape from being part of—and in some ways enslaved by—the market; yet some people suffer from market violence more than others.

Through the conceptual lens of market violence, we can see double harm: First, the market harms especially the poor by excluding them from essential services like healthcare; funerals are another socially important service needed for a dignified life. Second, individuals subjected to this kind of market violence are offered a market solution, crowdfunding, where the memory of the deceased becomes a commodity exchanged for money. However, the platform solution does little to help with the original problem of market violence. Engaged in a grotesque popularity contest, many campaigns fail to reach their funding targets; crowdfunding can thus further marginalize the already marginalized. In addition, there is the ethical question of lack of consent on the part of the dead.

Taking a critical discourse studies approach, we analyse the texts and images used in funeral crowdfunding on GoFundMe. We shed light on how the memory of the dead is commodified in the narratives aimed at attracting donations, and how deservingness is constructed in these narratives.

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Hui Lin

Clicking Like Buttons: The Exploitation of Digital Labor through Collection of 'Likes' on Social Media Platforms — Taking WeChat as a case

This study aims to analyze the phenomenon that enterprises adopt the strategy of 'Like' collection which refer to an activity that consumers are encouraged to publish pre-designed information on social media such as WeChat to collect 'Likes' and offered rewards according to the number of 'Likes' they obtained, which is a way of the exploitation of digital labor. In this regard, consumers serve as online digital labor who help with product promotion and information dissemination.

A handful of scholars have contributed to the data analysis of 'Likes'. These mostly revolve around the notion that social media owners use 'like' buttons which are metrics of users' engagement to analyze consumers online behavior. However, little attention is paid to the exploitation of digital labor through the collection of 'Like' button clicks. This study attempts to fill this research gap by examining the exploitation of digital labor on WeChat in the form of 'Like' collections.

Adopting Marx labor theory and 'like' economy as theoretical frameworks, this study employs qualitative analysis based on questionnaires targeted at WeChat users who have experience in posting information and recommendations as a 'Like' collection activity to earn rewards. Two major questions will be addressed in this study: How enterprises use 'Like' collection to employ digital labor; whether this recruitment of digital labor through 'Like' collection is a new form to declare capitalist dominance over media users.

This study suggests that 'Likes' not only function to accumulate statistical data of users' preference, but also functions efficiently in the exploitation of digital labor which takes advantage of social relations and co-operative work. Although the information published online is pre-designed by enterprises, digital labor and enterprises are structurally subordinated to the need of market interest instead of acknowledging the notion that digital labor is under the subject of capitalism.

Stine Lomborg, Rasmus Helles and Signe Sophus Lai
TPS infrastructures and the web as a communication system

In this paper, we analyse how the TPS infrastructure is mobilised across the top-150 websites of the 28 EU member states, focusing on ownership, TPS specialization and regional variation. Our infrastructural approach contributes with important baseline information on ownership and market structures in the online tracking business to begin assessing the role and implications of big data in the attention economy.

Taking the point of departure in the web as a whole, we argue for the merits of moving away from ideational delimitations of the publicist news industries from other business sectors in media systems analysis. Online tracking and big data do not come with unique characteristics or modes of operation for news websites alone, but are spread out across different constellations of sites. TPS ecologies are heavily integrated across business sectors spanning e-commerce, games, porn, etc. as well as news outlets. This, in turn, suggests to an intensified and competitive battle for user attention and associated opportunities for collecting, mining and selling big data. Focused attention to TPS-based tracking as a coherent ecosystem – a communication system – helps us qualify further the myriad types of value generation taking place on the web as a key infrastructure for datafication, as linked to wider social and cultural processes.

In conclusion, our study offers one important step in building coherent scholarly attention to understanding the specificities and dynamics related to the topology of the current landscape of the web: The past decade has seen a substantial attention aimed at privacy, surveillance and discrimination issues regarding social media platforms. While this is immensely important, we argue that a broader understanding of the contextual factors shaping the web and the vast number of businesses that have developed in around it is needed as well.

Lars Lundgren and Julia Velkova
The Future in Decay: Infrastructural Temporalities of Emergent Communication Technologies

There is a bunker carved out deep into the bedrock underneath the Uspenski Cathedral in central Helsinki. Between 2009 and 2019 parts of this bunker were used as a shelter for a global data center known under the code name HE2. This data center was installed and managed at first by a local company, and later by the global colocation and internet service provider Equinix which ultimately shut down the facility and dismantled all infrastructural connections and technical equipment on the site. At a moment in time when discourses about datafication justify the rapid and expansive proliferation of data centers as a new communication and data infrastructures across the globe, the history of this data center provides an opportunity to explore the tension between the durable and the disposable in communication infrastructures. As pointed out by Parks and Starosielski (2012:7) media infrastructures such as HE2 rely on "labor, maintenance, and repair required to build and sustain them". However, the dismantling of HE2 raises further questions about the disposal and ruins of media infrastructures.

In this paper we use a historic approach inspired by media archeology (cf Mattern 2017) in order to discuss communication infrastructures' transience in the contexts within which they are situated. Taking as a point of departure the installment and dismantling of the HE2 data center, we inscribe it in a longer history of transport and communications infrastructure which kept being built and demolished in and around the shelter under the Uspenski Cathedral.

The cathedral overlooks a harbor that up until the 1980s was connected to the central station via Helsinki harbor rail, and in the 1920s Finland's first airport was established as a seaplane base on its south-eastern shore. The shelter itself, built 1939-1941, offered protection to citizens during the Finnish Winter war. After the war it was used as accommodation for homeless sailors until the early 1950s, then transformed into spaces for parking, storage and sports activities. The bunker, and its neighboring area, thus turned out to be an adaptable space, hosting many different tenants while continuing to be one of the main shelters of the area.

In our analysis we argue the need to understand communication infrastructures as processes, governed by multiple temporalities in a constant process of decay and ruination. Furthermore, drawing upon our empirical study of the newly dismantled data center, we argue that communication infrastructures are "ruins not of the past, but of the future" (Gupta 2018: 62, cf. Lundgren 2015)

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Giulia Manica

Rethinking digital media spatial and scale logics: Netflix "geographies" through a multi-layer network approach

A major problem in contemporary media theory 'is that current vocabularies for describing space and scale in digital media may no longer be fit for purpose' (Lobato, 2019, 71). Different degrees of transnationalism inherent in old and new technologies depend on the lens you use to look at their measurement criteria. This paper looks at Netflix as a complex dynamical system to search for 'an adequate vocabulary to describe the geographical configurations characteristic of internet-distributed television' (Ibid., 71).

As theory increasingly stresses the importance of researching contemporary media industries as complex systems (Caldwell 2013; Bondebjerg et al. 2017), I argue that a multi-layer network approach originating from the mathematical theory of graphs (Kivela et al., 2014) can serve as a tool for analysing Netflix spatial logics. The proposed network is composed of three different modelling layers: infrastructure, packet and protocol.

The infrastructure layer defines the spatial dimension, i.e. the physical interconnection of nodes, each having the same dignity (network of users). Following a multi-level approach, this topology is described as a set of local networks interconnected through a higher-level network which models Netflix spatial extension. Through this layer, Netflix distributes its content quasi-globally, yet applying local access policies.

The packet layer models Netflix content based on criteria such as 'domestic'/'transnational', or 'original'/'non-original', independently from the other layers.

The protocol layer represents Netflix geographical dimension as the distribution route that each product is "allowed" to take, differentiating between national, multi-national and multi-territorial distribution. The "rules" of access "travel" across the infrastructure along 'trajectories […] that cohere around preexisting concentrations of connectivity and capital' (Lobato, 2019, 71). This layer also represents the relational dynamics crucial to understand what infrastructure is about (Holt and Vonderau, 2015).

This analysis aims to contribute to redesigning systematic vocabularies for complex spatial logics in media infrastructure studies.

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Vincent Manzerolle and Leslie Meier. Digital convenience, energy demand: Media streaming, digital infrastructures, and environmental sustainability

As fast, high-quality streaming has been increasingly normalised as a basic user expectation, digital infrastructures have become key assets underpinning media consumption. Online videos reportedly amounted to "70% of all internet usage in 2017," prompting a Forbes contributor to claim: "It's proof that if you build it - a robust infrastructure necessary for video transport - they will come" (Rehman 2019). In this paper, we examine data servers, cloud computing, and media streaming platforms through a critical analysis of public and corporate policies that encourage infrastructural expansion and data growth. We reflect on the ecological costs of the energy demands of data centres and increasing data capacity.

First, we review global infrastructural investments of market leaders such as Microsoft, Amazon, and IBM. Second, we examine policies and incentives used by governments to court technology companies, focusing on regional case studies within North America and the Nordic countries. A broad range of "non-energy policies" impact on energy demand and, hence, carbon emissions (Royston, Selby, and Shove 2018). We focus on climate change policies, infrastructure spending, and job creation initiatives. Third, we review evidence on the environmental impact of digital infrastructure, including reports by environmental non-governmental organisations. Fourth, we analyse tech sector corporate social responsibility and environmental initiatives, including carbon offsetting. We situate public investments in the tech sector within a context of economic growth strategies that undermine more systemic responses to climate change. We argue for a holistic policy framework that would enable governments to better regulate the rapid expansion of digital infrastructure in the data server and cloud computing industry.

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Tim Markham

Rethinking Infrastructural Literacy: Wayfaring through Spotify's materialities

Research was published earlier this year (Brennan & Archibald, 2019) demonstrating that digital music streaming has a far worse carbon footprint than legacy media like the compact disc. This was quickly picked up by the media, but as a conversational talking point in arts and lifestyle features and on popular music radio stations rather than as serious news and analysis. As such, it seems on the face of it to be a prime example of what Heidegger (1927) characterises as idle talk, the knack "the they" has for seizing upon any topic and turning it into something simply talkable-about, rather than seeking to engage seriously with the thing itself. In this paper, however, I want to defend such idle talk about platforms such as Spotify, and in so doing to challenge our prevailing understanding of infrastructural literacy – that is, people's critical engagement with the materialities, inequalities and politics of digital infrastructures.

While it is intuitive to think of the withdrawal of infrastructures from conscious awareness as the process that entrenches their complicity in material and subjective inequalities, the paper contends that the mere at-handness of infrastructures provides a more solid grounding for taking an ethical position in relation to them than directed cognition. This is knowledge on the run (Levinas, 1961) or knowing as we go (Moores, 2015): for Heidegger, idle talk is not foreclosing but constitutive, and curiosity motivated by nothing more than the pursuit of liveliness nonetheless provides the constant, restless movement which, as Ingold (1980) argues, is how we come to understand a (digital) space – wayfully. In practical terms, the upshot is that we should take seriously the way that infrastructures are encountered ambiently, peripherally and affectively, by focussing on the ethical affordances of collective repertoires of improvisational navigation through digital spaces whose materialities are merely at-hand.

Maria Michalis
Explaining recent developments in the VOD market from a critical infrastructure perspective

"Infrastructure" and "platform" have become ubiquitous terms. It is not clear what they refer to or if they are synonyms and so their analytic value can be questioned.

This paper examines these terms in relation to recent developments in the Video-On-Demand (VOD) market. It builds on critical infrastructure studies that see an infrastructure as a dynamic socio-technical system (e.g. Star & Ruhleder 1996) and as a "relational concept" (e.g., Parks & Starosielski 2015; Sandvig 2013) that is embedded in and reflects existing knowledge, social structures, power relations and associated inequalities, whilst at the same time it is a critical factor shaping the production, circulation and consumption of information, knowledge and culture.

Recent developments in the VOD landscape include the continuing expansion of Amazon Prime Video and Netflix, and the planned launch of new stand-alone VOD platforms by traditional media giants like Disney and technology companies like Apple. In addition to these initiatives from commercial players, the paper also examines initiatives from Public Service Media organisations. In doing so, it maps the relational and power dimensions of VOD platforms, and goes on to consider implications for their regulation as well as for access to PSM content and services.

The paper ends by going back to the beginning. How can we best understand these developments? Are VOD platforms always "platforms" or do they in certain instances assume the characteristics of "infrastructures", as is the case of social media platforms (e.g., Plantin et al. 2016; Helmond et. al. 2019). Do these terms help or hinder our understanding?

In terms of methods, the paper is based on extensive documentary analysis at this stage.

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Mirka Muilu

Technological infrastructures and public action – An Arendtian interpretation

I discuss the shift to planetary-scale techno-human condition and reflect on its implications for theorising public life from the starting points provided by Hannah Arendt (1958) in The Human Condition. More precisely, the presentation addresses the relationship between materiality of media technologies and (public) human action through reworking Arendt's notions condition, worldliness and common sense.

In brief, the 'world', as defined by Arendt, refers to a physical space consisting of human-made artefacts that both bring people together and separate them. Simultaneously, 'world' is a 'with-world' that is publicly shared with others in communication. In its materiality and communicative plurality world is a necessary precondition of politics. At the same time that the world is shaped by human actions, this shaping produces, in Arendt's view, new conditions – infrastructures – for human life on the planet. At the end of 2010s, human-made artefacts have reached a sophistication that affords conditions fundamentally beyond the reach of human consciousness. I propose that a focus on infrastructures that condition worldliness opens fresh perspectives to examining the problem of public action and politics in an age of global sociotechnical complexity.

Vojtěch Novák

Scattered Eggs of Instagram: World Record Egg as a Democratic Collaborative Artefact of Produsage

I discuss here the issue of World Record Egg as a collaborative result of produsage between the peers who have created the most liked photography on Instagram. The research questions are: How does the World Record Egg as a result of produsage differ from the characteristics of photography defined in analogue era? Can we still talk just about a photography?

I use the methodological shift from Barthes´ poststructuralist viewer towards Bruns´ produser. As a part of poststructuralist approach, Barthes defines punctum as a photographical noema of „this existed" as well as a subjective detail connected with a viewer who also becomes a creator of photography via its interpretation. In the era of social media and digitization, we are losing the guarantee of „this existed" and a viewer also becomes a produser (producer + user) who is not just being creative via (subjective) interpretation, but also via user generated content that is oriented on (public) sharing.

Even though we may consider the concept of produsage to be rather utopian (Carpentier), because there will never be an absolute equity between the peers, it is still this concept that represents the idea of democratization of production in relation to the convergence of author and viewer. In short, without the participation of web 2.0 produsers, World Record Egg would have never reached the status of the most liked photography on Instagram. But it is not only the amount of likes and comments that is being changed, because the image itself is being decentralized, disseminated (or scattered) beyond its own frame on different platforms as well.

Therefore we can't talk just about a photography in sense of characteristics defined in analogue era, because we are shifting from one-author-finished original (this existed) product towards never finished hypermedial artefact of produsers who are generating disseminated variabilities.

Niels ten Oever

A Route Not Taken: the rejection of the inscription of societal values in the Internet routing infrastructure

The invisible infrastructure that underpins the Internet has far reaching ramifications for society through its ordering faculties. The Internet infrastructure emerges through the interconnection of independent networks, which is produced through transnational Internet governance. This paper asks the question how values are inscribed in the Internet infrastructure through its transnational governance. In the studies of this field, the underlying routing infrastructure of the Internet has received relatively little attention. Existing research into the governance of Internet routing concentrates on either trust, security, or economics. I depart from the description of the infrastructural and ordering power that the transnational Internet governance regime has on society. Subsequently I show how the actors in transnational Internet governance resist the inscription of explicit values, such as privacy and human rights, if the value is perceived to not be relevant for achieving the objectives of the significantly represented groups in the governance body. The research is based on qualitative and quantitative document analysis, participant observation, semi-structured interviews, and the deployment of an ethnographic probe. At the end of the paper I propose possible avenues for future research and policy recommendations to integrate value sensitive design approaches into transnational Internet governance processes, in order to increase their legitimacy and sustainability.

Jyoti Panday
From Data Localization towards Data Stewardship

The rise of data localization worldwide suggests that localized data governance arrangements will remain a feature of the shifting political and economic order for the foreseeable future. Given the importance of data for the digital economy, this paper provides a critical overview of the issues that explain structural interventions and policies for localizing data flows being adopted by governments around the world, and particularly in South Asia.

The paper begins with a categorization of data being restricted, focusing on three types: personal, commercial, and government data. I examine the simultaneous and overlapping rationales that are used to create support for the adoption of such policies. Next, I track efforts to harmonize conflicting national rules and practices on cross-border data flows through trade agreements.

The paper finds restrictions on cross-border data flows have implications beyond the economic dimensions and geopolitics of the neoliberal trade order. Under authoritarian regimes, data localization mandates may enable censorship or be used to silence dissent, which have implications for human rights and democracy. The paper underscores thinking through the social dimensions of data localization policies is important, particularly at a time of growing public debate about the use and commercialization of individual data.

Jyoti Panday

The reconstitution of messaging platforms as data infrastructures: The Case Study of WhatsApp, Instagram Direct Messages and Facebook Messenger Integration

This paper argues that increased competition for user attention and traffic has resulted in large technology companies reconstituting their services and platforms as data infrastructures. Through the case study of the integration of WhatsApp, Instagram and Messenger services, I argue that Facebook's proposal to to create a unified messaging apparatus across its multiple platforms is representative of the infrastructural turn in communication media markets. The paper shows that the creation of closed data infrastructures limits diversity of applications, services and knowledge in the communications and media markets. My analysis reveals that although justified on the grounds of greater access, and enhanced security or privacy, in reality such strategies are pursued as tactics to retain monopoly over users' data. I highlight the challenges of creating an indelible identity linked to multiple platforms with varying levels of security and privacy standards. I analyze the implications of the integration of Facebook's multiple messaging platforms for the future of universal, open messaging standards like the Short Message Service (SMS). I conclude by reflecting on the need for preserving the benefits of interoperability of open standards and positive network externalities gained through efficient allocation of critical resources.

Vibodh Parthasarathi

Platformisation, or a deep history of media and mediation

Rather than understanding the 'platform phenomenon' as a rupture, this presentation delves into the deep history of media infrastructures marking the Indian media economy. Cognitively, this shifts attention from engaging with the noun, i.e. 'platforms', to the verb, i.e. 'plaformisation', the methodological purchase of which marks the starting point of my proposition.
This proposition necessitates locating the entrepreneurial, technological and organisational aspects of 'platform economies' amidst the enduring dynamics of media and mediation in India. I will unravel longstanding processes that created the infrastructural (pre)conditions for the platform phenomenon in India. I bring alive my thesis by focussing on three practices of digitalisation long underway that today convey different registers of platformisation. These practices originated not only separately from each other in time and space but also in what were once three distinct domains of media infrastructures --- viz. the cable TV, newspapers, and marriage bureaus. Despite their distinct locations, the larger processes they embody indicate the core personality of the platform phenomenon.

Jaana Parviainen, Lauri Lahikainen & Seija Ridell
Infrastructural ignorance and the datafied (re)production of inequalities

In the past two decades, the relations between human corporeality and material infrastructures that condition social life have triggered interest across disciplinary boundaries. At the end of 2010s, humans live with code-based technologies that externalize, extend and augment their corporeal capacities as individuals, citizens and consumers in increasingly complex ways. Strikingly enough, we rarely are aware of, pay attention to or even are interested in the structural implications of these 'bodytechnical' entanglements.

In the presentation, we proceed from the observation that a key question concerning inequalities, today, revolves around the masses of data users generate while at the same time remaining ignorant of how commercial and political agencies collect and use these data to advance their own purposes. Important with regard to (re)producing inequalities is that the processes of collecting data are always unilateral and may result in stereotyped, distorted or twisted representations of flesh-and-blood individuals. Hence, through our daily uses of smart networked devices we contribute unthinkingly to the (re)production of these biases.

Our proposal is that to tackle the socio-political implications of infrastructural ignorance it is necessary to direct critical attention to how computation integrates human bodies to recursive cybernetic loops through diverse forms of bodily habit formation.

Robert Payne

Deterioration: Infrastructures Becoming Visual

When taken-for-granted infrastructures are made visible, what else comes into view? As part of the recent 'infrastructural turn' in media and cultural studies, scholars have posed questions about the visibility of infrastructures, interrogating the degree to which the infrastuctures that deliver mediated experiences are visible to users, the political and economic stakes of their invisibility, and the conditions under which they come into clear view. While some authors have argued that infrastructures operate similarly to ideology in aiming to conceal their own functionality or revealing themselves during moments of failure, others have documented the ambivalent visual form of diverse examples from antennas to data centres. Meanwhile, anthropologist Brian Larkin insists that to assume the invisibility of infrastructures is to ignore how often they present themselves rhetorically as conspicuous political spectacle.

Approaching some of these questions interdisciplinarily, this paper will focus on the trope of deterioriation, specifically to consider visual and affective encounters with deterioriated sociotechnical infrastructures as a coming into visibility of their taken-for-granted political desire. Despite the promise of various infrastructures to deliver normatively imagined futures, transmissions falter, signals fail, and materials degrade; it is arguably in these instances of rupture and indeterminacy that subject positions and social relations can be rearticulated. To illustrate, the paper will analyse multimedia works by two contemporary French artists, Mathieu Pernot and Kader Attia, who each propose remediated affective encounters with the failing material and biopolitical fantasies of infrastructural assemblages – in this case France's notoriously deteriorating and hypermediated 'grands ensembles' or social housing projects designed as social and architectural monuments of the state's post-war nation-building. Both artists' reconception of deterioration and endurance as generative aesthetic modalities may offer a lens on to other mediated experiences of late capitalism whose promises of mobility and futurity are also circulated by partly concealed infrastructures which normalise contained subject positions and foreclosed relations.

Sheenagh Pietrobruno

Democracy and YouTube: The Case of Heritage

YouTube videos of intangible heritage uploaded by communities can counter the official heritage narratives of nations sanctioned by UNESCO. This community representation increases the diversity of cultural expressions resulting in an increased democratization of heritage content. Since 2009, UNESCO has uploaded YouTube videos of the global practices that are officially recognized under the Convention for the Safeguarding of the Intangible Cultural Heritage (2003). This potential for democratic representation specifically emerges through the visual content of videos. YouTube's ranking algorithms are unable to conduct keyword searches based on the complexity of images in videos. Specific details in images perceptible to the human eye and invisible to algorithms offer an evasion of corporate surveillance whose algorithms may be reducing the diversity of heritage content. Google's algorithms rank and privilege videos produced by official heritage institutions at the top of search engine result pages (SERP). Images that evade the indexing of search engines, may become part of the heritage narratives forged by audiences as they find meaning in the juxtaposition of images that can counter dominant heritage narratives. The dissemination of alternative perspectives is examined through images of the Mevlevi Sema ceremony featured within videos ranked at the top of SERPs. This Turkish Sufi ceremony known as the whirling dervish ceremony was recognized through the UNESCO's Convention in 2005. The methodology of this paper combines theoretical and historical research with actual ethnographies of heritage communities, interviews with UNESCO heritage practitioners, and investigations of search engine result pages of YouTube heritage videos.

Elena Pilipets

The Platformed Value of Engagement: Affect, Control, and Participation on Tumblr

With the digitization of the communication and the entertainment industry, traces that we leave when we use social media networks become part of the affective economy of attention, sharing, and recommendation. Operating as data-intensive distributors of content, internet corporations translate participation into a source of control and value generation. Popular platforms thrive on intensive engagement, but what happens when their distinctive experiential affordances noticeably change?

In my presentation, I explore the latest transformations in the community- and algorithm-driven networks revolving around the social micro-blogging site Tumblr. In December 2018, after being suspended from Apple's App Store over child pornography issues, Tumblr banned all "adult content" from its users' Tumblogs in a move that negatively affected multiple body-positive and art-related platform subcultures. Especially the failure of automated filtering tools in this context, the proliferation of porn bots and the phrase "female-presenting nipples" from Tumblr's new moderation guidelines attracted major criticism.

Adapting digital methods to follow hashtags and memes that were shared in the aftermath of "Tumblr purge", I approach platforms as mediators of conflicting business models, lifestyle practices, and political interests. In particular, I focus on memes through which Tumblr's restrictive policies were playfully reappropriated and provided with new intensities and connotations.

Lulu Pinney

Data visualisation as an actor in the politics of inequality

In these datafied times, some scholars argue that having the ability to work with data visualisations – charts, graphs, maps, dashboards – is a requirement for participation in a data-driven society. Scholars researching data visualisations (datavis) from a situated, sociocultural perspective, such as Kennedy and Hill (2016), D'Ignazio and Klein (2016) and Gray et al (2016) have called for a critical awareness of datavis as a practice, drawing attention to the power relations datavis create and reproduce.

In this context my research seeks to identify the skills and awareness that are needed for making sense of datavis and how they are acquired. It does so from the perspective and for the benefit of those potentially marginalised in our data society, that is the individuals and institutions increasingly required to operate within a data infrastructure yet without easy access to support. I have taken a participatory approach, working with community organisations which identify as datavis non-experts and seek to acquire skills in this area. I have also conducted an ethnography of their data practices.

This paper will present some early findings. While community organisations understand the potential of working with data, and its visualisation, for the benefit of their clients – people experiencing social injustices – this potential is not being realised. My research suggests one reason is that datavis are visual artefacts. The allure of having a visual end product undermines any use of visuals as a means to derive insight from data. Another reason is the messy, opaque data reporting infrastructure that makes demands on community organisations' time and on which their funding depends yet that delivers little benefit for the organisation's work. I argue that these are two factors that implicate datavis – with the simultaneous status of being visual and data – in the politics of inequality.

Tellef Raabe

Paywalls: Profitability and inequality

The central aim of this article is to examine the financial strategies of national newspapers from a twofold perspective: their economic viability, and their impact on audiences' access to news. Since 2014, most European newspapers have erected so-called 'paywalls' – the term commonly used for digital subscriptions – but only a small minority of news consumers bypass such walls through paying for online news. In the era of social media, we have all become accustomed to free and instantly accessible news on our digital devices. This poses a simmering dilemma which has yet to be explored systematically: user-payments such as subscriptions constitute the largest source of income for most legacy newspapers, while paywalls tend to exclude many sectors of the public from being accurately informed by a plurality of credible sources. Several scholars now warn that digital technologies have added new layers to existing news inequalities.

I have constructed a mixed methods research design to investigate this issue in the context of a small-language market: Norway. Large sets of statistical material such as audience surveys, financial results, circulation figures, readership numbers, and social media engagement will be analysed, and semi-structured in-depth interviews with key actors from the Norwegian field of journalism will be carried out. This data will be used to inform the construction of an analytical and explanatory framework which leans heavily on Bourdieusian field theory. Although the article will reflect upon the unique specifics of this Norwegian case study, I aim to contribute to our understanding of how news organisations may most effectively attract revenues while at the same time providing citizens with the information they need to make informed decisions about their lives. Accordingly, I will nurture a sociological sensibility in which my analysis of the news industry is interwoven with questions related to the reproduction of social inequalities.

Christoph Raetzsch

Infrastructures of Publics in the Post-Journalistic Society

The aim of this contribution is a conceptual exploration of the question "How does an infrastructural perspective on public articulation and deliberation challenge our understanding of the central role of journalism in democratic societies?"

The relevance of this question derives from two observations:
1) Processes of public articulation take place in a convergent, digital and networked environment that is highly fragmented in terms of actor roles and political positions and highly dependent on a few online platforms and services, which assume an infrastructural function. This function is used by individual and institutional actors, public broadcasters,parties as well as commercial entities for direct communication with audiences and followers.
2) The disjunct disciplinary frameworks of fields such as media network studies, Internet and social media studies, political (online) communication, social movement studies and (digital) journalism studies so far obstruct a greater realization and theoretical appreciation of this fundamental change.

The goal of this conceptual exploration is thus to use the term "infrastructures of publics" to address these changes and contribute to theory-building. Based on foundational texts by Star, Ruhleder, Bowker, Plantin, Parks and others, the contribution highlights how a general definition of infrastructures as "pervasive enabling resources in network form" (Bowker et al 2010) and the methodological orientation towards "infrastructural inversion" (Star and Ruhleder, 1996) can shape an understanding of public articulation in the post-journalistic society. The emphasis on post-journalism questions the established notion that journalism as a practice of deliberation, communication and information is a necessary and indispensable component of democratic sense-making and governance. Rather, by problematizing journalism as an institutional form of modernity and by addressing its infrastructural function, the goal is to critically evaluate how practices of articulation and networking have proliferated in non-journalistic domains and begin to alter the very conditions of public spheres in general.

Noopur Raval

Gig Work, Social Media and Resistance

This paper draws on multiple ethnographies of gig-workers in India to offer insights on how ride-hailing drivers and food-delivery workers repurpose social media platforms to carve out spaces for communication, collectivization and resistance. In offering these vignettes, the paper takes seriously Gillespie's call to think about the emic and infrastructural functions of "platforms", and highlights the tactical "user choices" that app-based workers make vis-a-vis their work platforms as well as social media platforms. App-based workers in India are written of as "emergent" or "mobile-first" users that need to be managed, trained, and nudged to serve as the underclass workers servicing the aspirational hi-tech workers.

As we move towards a future of work where workers no longer work in a common physical space, there are grave implications for how we think about communities of work and the possibility of collectivizing. Simply put, one may wonder as to what forms worker-resistance might take and how it might happen when human workers are managed through algorithmic platforms. Consequently, the paper also discusses attempts at resisting gig-work companies that emerge from within such online communities, what happens to them and how they might contribute to thinking about resistance at-large after the rise of gig-work.

Rivka Ribak

Infrastructures of privacy in the global world of practice

This paper makes the case for considering local ideas and practices in the analysis of high-tech workers as global cultural producers, and examines the role of cross-cultural encounters in mediating developers' notions of information privacy. Recent studies on "privacy by design" highlight the role of developers as mediators of privacy yet tend to regard them as a generic occupational category. But in designing infrastructures for privacy, developers practice and commodify information in particular cultural contexts. Conceiving of high-tech workers as inadvertent cultural producers, the paper asks how developers in the periphery of Israel think about information privacy, and how local concepts of privacy are reshaped and materialized in encounters between Israeli and other high-tech workers – from the US, Europe, and Asia. Specifically, the paper draws on in-depth interviews conducted in 2017-18 with 15 Israeli high-tech workers to explore the challenges to privacy that they identify, and the solutions they develop, which both mediate and are mediated by the web of local and global interests and practices of which they are a part.

The stories of the workers suggest that the development of infrastructures in the global word of practice needs to be explored as a complicated, multi-layered process: That while peripheral locations may be defined as onshore sites, their not-Silicon Valley (Takhteyev, 2012) status remains significant; that while local developers may incorporate global regulations and procedures, and adopt global platforms and vocabularies – they nonetheless use them to reflect upon their cultural distinctiveness (Ailon-Souday & Kunda, 2003); and that even strategic compliance with international standards and regulations (Bamberger & Mulligan, 2013) leaves room for interpretation, variation and cultural inflection. This study of Israeli high-tech workers demonstrates that ideas that materialize in infrastructures are translated (Callon, 1984; Latour, 1987) through the intersections of biographies, histories, regulations and machines.

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Scott Rodgers
Social media temporalities as emergent infrastructures of urban politics

This paper explores social media platforms as emergent infrastructures of urban politics, clarifying along the way why infrastructure is an appropriate conceptual term for the matter at hand. Many scholars have begun to question whether we are seeing the rise of a 'platform urbanism', a condition in which urban life is increasingly organised and experienced through a growing range of digitally mediated, cloud-based, data-driven entities such as Facebook, Amazon, Uber, Airbnb and Google. In this paper, I advance a phenomenological perspective on social media platforms as increasingly ordinary, backgrounded infrastructures of urban life and its political contestation. Social media are novel infrastructures of urban politics in so far as their stream-based interfaces make possible new experiences of 'realtimeness'. Through such mediated environments, neighbourhood politics becomes oriented to a particular sense of 'locality now'. To elaborate on this contention, I draw on recent research on the ways in which various debates and controversies around urban transformation in Walthamstow, East London, UK have been mediated through social media platforms. Three cases will be examined in particular: heritage-led mobilising relating to the future of an architecturally striking but disused 1930s cinema known as the Granada/EMD; antagonistic exchanges around an ambitious infrastructure scheme led by the London Borough of Waltham Forest, dubbed 'Mini Holland'; and organising against proposals to reduce the land area of a central public square, to enable a mixed-used shopping centre and housing redevelopment. Each of these cases illustrate how various forms of inequality can be expressed, both implicitly and explicitly, though social media platforms, understood as emergent infrastructures for narrating, visualising, experiencing and articulating the urban as political.

Andrea Rosales, Jakob Svensson and Mireia Fernández-Ardévol
Stereotypical depictions of age in media technology industries

This paper reflects on the personal and professional trajectories of programmers in media technology industries and how those influence the design and development of media technologies. Algorithms respond to corporate interests (Zuboff, 2019) and values (Wachter-Boettcher, 2018). Directly or indirectly, they also reflect personal ideals (Levy, 2010) of those involved in coding. Widely discussed is how tech culture, or the everyday habits and values within tech companies, influence tech products (Wachter-Boettcher, 2018). Particularly regarding discriminatory practices related to gender, sex, or socioeconomic status (Faulkner, 2001; Wajcman 2009). For instance, how facial recognition systems fail with black women (Buolamwini and Gebru, 2018) and how this relates to the lack of diversity among programmers (Wachter-Boettcher, 2018).

However, less studied are discriminatory practices concerning age (Ayalon & Römer, 2018). Reflecting prejudices, such practices deprioritise, disregard or exclude certain groups of people. Thus, by not taking into account habits, uses, and interest of older people, media technologies tend to reinforce ageism (Rosales & Fernández-Ardèvol, 2019).

In this project, we interview programmers in media technology companies in Silicon Valley, Scandinavia (Stockholm, Copenhagen & Malmö), Berlin and Barcelona. Conversations revolve around participants' past, present and future programming trajectories to reflect on their age discourses and how those shape the products they develop. Thus our research interest is on ageing ideologies within the corporate culture of media technology industries and how they influence their products and services.

First interviews show that most participants have concerns about their abilities to continue their programming trajectories when they turn 40 years old. They point to physical declining associated with age "people don't have the same energy when they are 40", to the limitations to learning new programming languages as they become "old", and to the team building corporate politics that fit better for singles or workers without parental responsibilities. This stereotypical depiction of old age -that begins at 40- illustrates the disconnection of companies from the interests, needs and values of their older users.

Minna Ruckenstein and Sonja Trifuljesko
Debating and repairing ADM systems

The presentation revisits selected cases of the AlgorithmWatch report, Finland section, written by Minna Ruckenstein and Julia Velkova (https://algorithmwatch.org/en/automating-society-finland/). These cases have served as conversation openers, both among experts and citizens, underlining the open-ended nature of the current debate concerning automated decision making (ADM) systems. The piloting of uses of data analytics in the public sector with the aim of predicting future child services needs provokes fears about citizen monitoring. The credit scoring controversy described in the report underlines both citizens' and ombudsman's role in resourcefully using existing legal and political tools. Another controversy, focusing on a company with a product that lets potential employers scan emails of job applicants, raises questions about the repackaging of technological offerings to a market that is already potentially intrusive and discriminatory. In the Nordic counties, a particular societal strength lies in a broad consensus that ADM harms need to be avoided and fixed. Yet, in order to understand what those harms might be, we need to closely monitor ADM systems and how they are actually used. If the aim is to have "livable relations" with ADM, we need to know these systems intimately, work with them and shape them.

Minna Saariketo

Agency and inequality in the landscapes of code: sociotechnical imaginaries as infrastructure

The starting point for my presentation is the observation that by the end of 2010's we live our everyday lives increasingly in environments that are shaped by computer code in many complicated and often invisible ways. With the concept of "imaginaries of agency" (building on Jasanoff 2015; Taylor 2004), I will discuss the results of my PhD dissertation from the point of view of infrastructural inequalities and their reconfigurations. The focus of the presentation is on reflecting the possibilities and limits of "critical agency" (Rebughini 2018) in the algorithmic everyday, and the diversity of inequalities that the contemporary code-based environments and practices generate in people's daily lives. Intertwined with this question, I reflect on people's participation in the reproduction and legitimation of these different inequalities in their mundane, algorithmically mediated practices.

The empirical material for the presentation comprises four empirical case studies each of which travels back and forth between theories of domestication of media technology, software studies, and STS. In the qualitative analyses, I have explored interpellations to agency in European Union's Digital Agenda for Europe and in the news items on a new technical artefact, Google Glass, as well as negotiations on the power of Facebook' technical architecture by users and non-users, and experiences of daily life infused with software by avid social media users.

Rebecca Saunders

Queer and Heteronormative Infrastructures in Digital Porn Production Companies

This paper will begin by considering the infrastructure of the largest global pornography corporation MindGeek. It will analyse its infrastructure through the theory of platform capitalism, and will consider the ways in which the corporation aggregates and funnels attentional and informational value between different branches of its corporation, as well as separate production companies. The paper demonstrates how this digital platform infrastructure fosters an economic and cultural monopoly for MindGeek. I will then consider how this economic infrastructure impacts on the virtual architecture of digital interfaces themselves. How can the monopolising tendencies of the digital platform infrastructure be said to create heteronormative interfaces? What temporalities, with regard to both user consumption and filmic content, are constructed through MindGeek's infrastructure? And how do the power relations at work in MindGeek's infrastructural functioning produce particular power relations between viewer and image object, and between viewer and screen. The paper therefore seeks to uncover the relationship between the economic infrastructure of digital porn production companies, which it identifies as significantly connected to the features of platform capitalism, and the politics and culture of digital pornographic content and consumption. It concludes by exploring the possibilities of queer interfaces – in terms of temporality and the informationalisation of sex – and critiques what political and social features of a digital porn company would be needed to create a genuinely queer media infrastructure.

Marsha Siefert

From the Russian Revolution to Russia Today: The Longevity of Soviet Communication Infrastructure

This paper builds upon the observation of historian of science Klaus Gestwa (2016, 209) that technological infrastructures were "integral to the self-conception of the Soviet party state" and were implemented as "mediating entities, between the state and the economy, rule and daily life, culture and nature, urban and rural, and centre and periphery…." I propose to expand upon this insight by exploring how the communist party before and after the Bolshevik Revolution can be configured as a type of human communication infrastructure. Through its hierarchy the party created an interpersonal communication network through which messages could be disseminated and through its discipline provided an almost "technological" consistency in what could be conceived as infrastructural labor. The Bolshevik innovation can be seen as extending the party's human communication infrastructure by technological means, disseminating the Party message through its agitprop trains, mobile press, radio, and film and creating a "propaganda state" (Kenez 1985). Subsequent processes of cinefication and radiofication built on the human-technological interface to extend the limited hardware resources through traveling film projectors and wired loudspeakers, later in television through its communication satellite network (Evans and Lundgren 2016),. How can we interpret the post-Soviet longevity of this communications infrastructure, reckoning with the still essential Russian national television network and its international projection through Russia Today (RT)?

Anna Smoliarova, Natalia Pavlushkina and Tamara Gromova

'5 Ways to Bypass Internet Censorship': interaction with infrastructural imaginaries

Contrary to predictions of first cyber philosophers, Internet has not become a medium fully "unimpeded by national borders" (e.g. Castells 2001 and Halavais 2000). Instead of being a space liberated from national state's control it rather turned to "a global digital 'empire' in which it becomes possible to monitor the lives of individuals beyond traditional social and territorial units" (Beck 2014). Restrictions introduced by national governments in order to regulate communication beyond national borders influence media consumption of transnational migrants and ethnocultural minorities. In this exploratory paper we analyze the practices how users bypass these restrictions as "infrastructural imaginaries" (Parks 2015) with a special focus on three cases:

1) usage of Russian news websites around the Great Firewall of China

According to our findings, two-thirds of the 20 leading Russian news websites are visited by a significant number of people living in China. These news websites are not blocked, still, the main complaint shared by our informants is the annoyingly low download speed (interviews were collected in 2017 – 2019).

2) ban of social network VK in Ukraine

Contrary to China, Ukraine has blocked access to Yandex and VK, as well as other Russian platforms since 2017. Still, these websites continue belonging to the top-10 most visited websites in Ukraine (Similarweb 2019), and up to 70% of the subscribers of the Russian-language Ukrainian news media in VK reside in Ukraine.

3) VPN usage in post-Soviet countries

Netherlands were ranked among the top-five countries where the audience of Russian-language news websites in post-Soviet countries comes from (after Russia, Germany and US). Since there is no evidence for a significant Russian-speaking diaspora from Kyrgyzstan, Tajikistan and Ukraine living in Netherlands, this significant share of news websites visitors from Netherlands might be only explained by VPN usage in corresponding countries.

Stephan Struve

Digging Deeper Holes: Bitcoin Mines Map Onto Old Inequalities

The decentralized bitcoin promised to revolutionize many aspects of digital life. Instead, the crypto-currency and its infrastructure are reproducing old inequalities. China has just banned bitcoin mining as being too dirty and wasteful. While bitcoin 'mines' draw on electricity and consume resources, they produce little to no material value. The amount of energy that Bitcoin mining consumes is about the same amount as some medium-sized countries – and that will only increase. At the same time, a bitcoin-mining grandmother in China, age 61, just was sentenced to four months in jail for stealing electricity while mining the cryptocurrency. The Meanwhile, the Canadian province Quebec wants to attract major bitcoin mining companies with favourable energy prices.

The digital crypto-infrastructure deserves attention from media and infrastructural scholars. My project examines the relationship between nature, technology, and politics of inequality. Bitcoin mining, on the surface, demonstrates the ongoing project of borrowing from nature (i.e., clouds, streaming, etc). Much like recent work on data centres, these structures not only draw on the natural environment metaphorically, but also physically. More importantly, they are also deeply political. Bitcoin mines, much like data centres, materialize in places that have favourable energy prices and networks. Frequently, these mines are located close to older power sources, such as coal power plants. I argue that much like other forms of communication networks, bitcoin mines exemplify path dependency. Bitcoin mining is mapped onto old networks, very much like undersea cables, railroads, telegraph masts, and data centres. This paper will explore the political relationship between old and new communication networks such as bitcoin mining as sedimented layers of communication networks reproducing inequalities.

Quoc-Tan Tran

Infrastructural becoming as a provisional process: "What does open mean to you?"

Objective:
In recent years, cultural and memory institutions have been encouraging community and ordinary people to participate in the production of public memory (Crooke, 2010, 2015; Ridge, 2014). Decentralised practices such as digital storytelling, digital exhibition, participatory archive, together with the new online openness, have challenged the traditional role of memory institutions (Black, 2010; Haskins, 2007) and democratised experience (Coghlan, 2017). In this paper, we examine infrastructural qualities that facilitate openness in memory institutions from the perspective of "infrastructural becoming", suggested by Lancione and McFarlane (2016) as a process of incremental construction. The objective is to shed light on the motivations and conditions under which memory institutions, with their assumed authorial intent, call upon non-hierarchical, collective, and participatory practices.

Methodology:
We collect a representative sample of mission statements, project description and call for participation in diverse types of memory institutions to analyse how "openness" is discussed in contemporary discourses. The conceptual mappings of infrastructural qualities are grouped into four inter-related sets:
1) Infrastructural conditions concerns circumstances and settings that have brought about new dimensions of publicness, visibility, performance and commitment
2) Infrastructural engagements concerns collective action around shared missions and values, and public resonance that help institutions to build sustainable audiences
3) Standardisation relates to standards and conventions that help shape or are being shaped by infrastructure, their universal and local aspects
4) Obstacles and barriers (financial, cultural and regulatory demands) that prevent the scaling-up, interoperability and the merging into a broader infrastructure, or simply make "infrastructure failures" (Graham, 2010)

Outcomes:
In the GLAM sector, the idea of openness is subjective and institutionally defined. In this paper, we consider its way as an "infrastructural becoming" and a contingent and provisional process: relations might change, conventions might be broken, and failures or phases of stagnation might occur. Looking at the interconnected issues of scalability, standardisation and engagement, we try to address the potential of infrastructure to reach beyond the local level. We pay attention to processes and formations that are being institutionalised, seeing them as means to envision what openness might look like, how it might promote civil dialogue and reflective participation, and redress inequality and marginalisation.

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Gunes Tavmen

Implications of "Data as Infrastructure" in the smart city: Sidewalk Labs, and the future of public services in London

Although research on "IBM's smart cities" dominates the critical smart city literature, rather leftfield, in 2017, Alphabet (aka Google) owned Sidewalk Labs emerged as the next big player within the corporate world to invest in smart cities. This is due to the fact that data has become an infrastructure in the smart cities (as opposed to the metaphor of "oil"), and therefore, world's one of the biggest data agglomerates, Google, has now become more relevant to smart cities than any other IT company. Since Sidewalk Labs is about to take over what used to be public services in Toronto and NYC, many questions around the ownership of data and data infrastructure have arisen in the context of smart cities. London, on the other hand, had positioned itself as a smart city that thrives on opening up data and cultivating its own ecosystem of data-savvy IT sector together with the first Smart London report in 2013. However, through various initiatives (e.g. InLink UK), and plans to open up the new Deep Mind headquarter in King's Cross, Google is in the process of becoming a key player in London's smart city planning scene. In this paper, by comparing the emergence of Sidewalk Labs, and Greater London Authority's own data initiatives, I will be questioning the ramifications of "data as infrastructure" in the context of future of public services in the smart cities. To this end, I will expand on the processes in which data has been transduced (Simondon, 1991) together with infrastructure in smart cities. Consequently, I will argue that, due to lack of institutional contestation of data-driven urbanism, the organisational capacity of data analytics will increasingly determine the future of public services.

Niina Uusitalo and Katja Valaskivi

Organizing attention in reporting hybrid media events of terrorist violence

Acts of terrorism in western countries often create hybrid media events, which upsurge massive responses on different platforms. In one word, acts of terrorist violence receive a mass of attention. Attention is often described as a scarce asset in digital media environments, but it often remains conceptually fuzzy. This article analyzes how attention is managed through newsroom practices in the context of hybrid media events.

We draw from an ethnography-informed empirical study of terrorism news reporting in Finnish Broadcasting Company (Yle). Our data consists of thematic interviews (N=33) with Yle journalists, producers and content managers and a newsroom observation (14 days) conducted in Pasila central news organization. The findings of this paper are based on a qualitative content analysis of the interview data, with the other data sets informing the analysis.

In our analysis, we identified five dimensions of attention which Yle's newsroom manages in hybrid media events: scale, immediacy, liveness, interruption and display. Scale refers to the practice of wide reporting on several platforms. Immediacy refers to reporting in close proximity to their occurrence. Interruption refers to the abrupt disruption of "normal broadcasting" and schedules. Liveness refers to practices of reporting events simultaneously with their occurrence. Display means the way the terrorist act is constructed, framed and narrated in journalistic contents.

In the paper, we illuminate how these dimensions of attention are technologically and organizationally managed in the newsroom. We found that Yle manages attention through hybrid technological systems and tools both in the realms of broadcasting and online reporting. Yle facilitates attention through their broadcasting system but also steers the attention of online audiences through reporting tools such as fast online broadcasts, reflexive news formats and automatic moderation of audience comments. We also consider the ethical considerations of each dimension of attention in news reporting on terrorist attacks.

Elina Vaahensalo
Defining the concept of Othering Online Discourse

My paper deals with the definition and characteristics of the concept of othering online discourse (OOD). I explain what is othering in the context of online discourse and what kind of othering processes can be identified in online discussion. Although the concept I have created is based on the discussion in the Suomi24 forum, it is also applicable to other forms of online communication.

OOD is a way for people to form their online identity and define the line between self and the other in an asynchronous online environment. OOD is also a way to crop out those whose participation in the online discussion is unwanted.

Nowadays, people looking for information are almost completely dependent on the Internet. That is why the dissemination of ideas is easier and hate speech and fake information find their way more stealthily to the hands of internet users. (Meddaugh & Kay 2009, 252; Weaver 2013, 484.) Othering online discourse benefits from technologies that make it easier to engage anonymously in confrontations and hostile othering is likely to create inequality on an otherwise open forum.

Suomi24 is Finland's largest online topic-centric discussion forum and one of the largest non-English online discussion forums in the world (Vaahensalo 2017). Suomi24 allows users to discuss anonymously and the topics vary from everyday life to politics. It has also become a space where group identities are produced and reinforced. Sometimes this leads to heated conversations and hateful outbursts where us and them are seen as opposing forces. Othering creates narratives where people are divided into the "norm" and the other (Jensen 2011; Ahmed 2004). In these narratives, it is the "norm" that has the power to describe and construct the other as inferior.

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Yi Yang

Liberty as Discipline: Labor Dilemma of Media Industries in Digital Age

In April 2019, Chinese software developers launched a protest against the 996 work schedule (9am to 9pm, 6 days a week), which was strongly echoed by workers in digital industry. In China, the development of Internet and digital technology has reshaped every industry In the name of freedom and openness, but the problem of digital capitalism and digital labor is becoming visible. However, in the field of communication research, there is a lack of perspective on the labor process of media (especially digital media) practitioners. Meanwhile, in labor studies, media practitioners are often excluded due to their high education and the title of "uncrowned king".

This paper attempts to focus on the labor dilemma in media industry in digital age from the perspective of multiple actors which reshaped media infrastructures, such as the state, market, capital, technology, enterprise and consumers.

Firstly, from a historical perspective, this article analyzes the impact of the two transformations of media in China. The first transformation is the state-led market-oriented reform in 1980s, and the second one is the digital wave led by technology and capital. This paper will discuss how the two "liberalization" turns led to stricter discipline and regulation, which forced Chinese journalists to become the de-skilled "intellectual blue-collar" of the digital age.

Secondly, through participatory observation and in-depth interviews, this article looks into the labor dilemma faced by media workers, including the income, working schedule, working strength and sense of gaining, as well as the subject consciousness, social role cognition and class differentiation of the group. This part will also discuss the role of the digital infrastructure built by state, market, capital and technology in reshaping the media workers' labor process.

Finally, this paper will analyze how media practitioners make use of media to voice and fight, and how their voices are spread and eliminated. In this process, the differences between WGC（worker-generated-content） and PGC(professional-generated-content) or UGC(user-generated-content) are also noteworthy.

Zizheng Yu

From Selfish Consumer Activist to Caring-Citizen: Examine the Consumer Video Activism and Consumer Sphere in China

The year of 2018 could be regarded as the beginning of the golden age of short-video in China. Many emerging short-video-based social media (SVB) apps have gradually challenged the monopoly position of traditional social media platforms such as Weibo and WeChat in China. Today, these SVB platforms have become one of the most frequently-used ways for Chinese consumers to retrieve their legitimate rights and urge the reformation of governmental regulation on specific markets. To take the Chengdu housing problem, for instance, the homeowners urged the policymakers to draw up a certain policy to discipline the illegal developers, and help them to get compensations from these construction companies, by uploading short videos about their offline protests and housing quality problems on different SVB platforms.

The growing of consumer activism is inseparable from the media changes today, especially in China, the latest "consumer video activism", for instance, it is bred by the latest SVB social media platforms. When it comes to the studies on the social media or consumer activism in China, yet less research zooms in to see the interrelationship between them, especially in the context of the rise of SVB platforms. The main significance of this research is an attempt to study "consumer video activism" in China. In other words, based on the latest principle characteristics of Chinese SVB landscape, this research aims to answer the following research questions: Does the latest digital technology (mainly SVB) in several popular social media really empower Chinese consumers' powers to protect their legitimate consumer rights, moreover, does it promotes the construction progress of civil society and the incoming de-westernized "consumer sphere" in China? This research tries to answer these questions by interviewing the Chinese consumers, public relations department officials, relevant government officials and journalists, and analysing three latest consumer video activism cases (Chengdu homeowners protest; PinDuoDuo counterfeit goods; Hygiene scandal at Chinese hotels) happened in China.

Alexandre Zaezjev

Social media as rhizomatic digital infrastructure: power dynamics in the first days of the Ukrainian Euromaidan revolution

Despite the growing number of studies that approach contentious politics through the analysis of digital media, the role of social networks in framing the new power dynamics of media infrastructure has not yet been clearly defined. While "traditional infrastructures are generally thought to be – or actively designed to be – immune to democratic governance" (Peters 2015), this paper considers social networks as an example of a fundamental departure from an old type of vertically-oriented media logistics toward a new horizontally-oriented rhizomatic infrastructure. Building on the ideas of Deleuze and Guattari (1980), it presents rhizome as a model of the new media infrastructure that challenges the organizational power dynamics of the traditional root-tree system.

Using the Ukranian Euromaidan revolution of 2013–2014 as a case study, the paper reports on the results of human- and computer-mediated content analysis applied to collect and process user publications in the very first days of protests (February 21–29, 2013) on the two most popular social networks in Ukraine — Facebook and Vkontakte. The resulting data is considered through the lens of "connective action" devised by Bennett and Segerberg (2012) as a digital age alternative to the familiar yet outdated notion of "collective action."

Ultimately, the paper outlines patterns of online behaviour among the users who supported Euromaidan protests that demonstrate how social networks frame new rhizomatic power dynamics in the field of contemporary contentious politics. Breaching the gap between media studies and computational linguistics, this work sheds light onto the ways in which social networks affect media infrastructure in the digital age.

Dechun Zhang

China's Digital Nationalism: Search Engines and Online Encyclopaedias

Search engines play a vital role in locating, organising and spreading knowledge in China. Although there is a growing interest in China's search engines, relatively few researches have examined their role involving nationalism. In order to determine search engines' socio-political implications, this paper aims to compare Baidu's, 360 Search's, Sogou Search's and Google's top 30 search results regarding the "Meng Wanzhou Incident", focusing on the overlap, ranking, and bias patterns. Furthermore, this study also analyses the differences between Wikipedia and China's online encyclopaedias concerning the "Meng Wanzhou Incident" in terms of content, sources and their main arguments. This paper finds: 1) Chinese search engines and online encyclopaedias favour their own services' in ranking, which implies that different search engines can construct diverse social realities; 2) China' search engines are rarely linked to their competitors' websites, thereby offering a unique and selective content bias; 3) search engines' national biased knowledge raises search bias concerns; 4) Chinese online encyclopaedias offer a strong biased argument by using an emotive writing style and a single source of references. Overall, this paper finds that Chinese search engines service the Chinese government's self-interest by rendering biased social realities; moreover, they produce a logic of "imagined communities" to promote and stimulate nationalism.

Zhan Zhang

The Struggle Over Great Power Competition: In the Case of Huawei's Path in Europe

The information and communications technology (ICT) industry has been one of the most prominent drivers of globalization for decades (Lüthje et al. 2013). Huawei's path to success demonstrated one of the best evidences: coming from a manufacturing factory on phone switches benefited from the globalization network in late 1980s, Huawei has transformed itself into the largest telecommunications-equipment manufacturer and the second-largest manufacturer of smartphones in the world nowadays. Being the leading global provider of telecom networks, IT, smart devices and cloud services, Huawei was caught into the eyes of the storm ever since the trade war escalated between the United states and China. Especially after Trump declared the "national emergency" over IT threats in mid-May 2019, Huawei has been set as a clear target by the White House. The great power competition found its big clash in the field of ICT infrastructure and services, and more precisely, in the current technological standard-setting and infrastructure expansion of 5G cellular network.

Instead of following the heated chaos between China and America, this paper chose to look at Huawei's path in Europe as part of the "Digital Silk Road", which Beijing announced as a key component to its ambitious globalization project, the Belt & Road Initiative (BRI). By collecting Huawei's annual corporate report from 2014 to 2018, the author traces the changing business route of Huawei's expansion abroad since the BRI mooted. Three case studies were then followed to analyze Huawei's long-term strategy in the preparation of 5G infrastructure expansion in Europe: 1) the collaboration between Huawei and Cinia (a Finland-based Tech company) on developing new Eastern European market, 2) Huawei's marketing penetration of 4G gear in existing Western European market (e.g. UK) and 3) Huawei's growing investment in R&D research in Europe (e.g. Switzerland). By viewing the turn to "infrastructuralism" may especially trouble the distinction between private and public ownership (Rubenstein et al, 2015), this paper analyzes the power relations that constitute Huawei's expansion under the framework of political economy of communications. The author discusses the growth dynamics and disruptive limits of Huawei, as a private Chinese company, to remain and further develop its 5G business in the European "Digital Single Market" in-making, where higher market-entry standard is set and protected by the EU, and regulations on cyber security, data protection and copyright is much stricter than many other regions of the world.

Anna Zoellner

"4 All the UK": Regional production ecologies and Channel 4's reorganisation

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Abstract: Making television is expensive, even considering greater accessibility due to digitalisation and the internet. It is labour and time intensive and requires specialised equipment and skills. Partially for this reason, television has historically been a relatively centralised industry. This matters, because the power over who makes television and what content is produced lies with those who finance it. Within the European context, there have been attempts to decentralise and diversify television production and distribution, for example, through the establishment of multiple channels, the encouragement of an independent production sector, and subsidies for specific content or business development. Digitalisation has further facilitated the multiplication of producers and distribution channels across national borders – most notably in form of streaming platforms and YouTube DIY producers. Yet, content still tends to be dominated by a relatively small number of large, often multinational, production companies and distributors – alongside their inherent biases and inequalities.

The UK has a particularly centralised television industry, dominated by London-based broadcasters and producers. The most recent attempt to shift this bias is Channel 4's decision to establish a National HQ in Leeds and Creative Hubs in Glasgow and Bristol. Over four years this reorganisation, which commences in summer 2019, aims to increase C4's regional programming spend by £250m, create 300 C4 jobs and support up to 3,000 regional production jobs, since C4 – as a broadcaster-publisher – does not produce its own content. This paper introduces an on-going research project that studies the impact of this move on the local production ecology, exploring to what extent it regionalises commissioning activities and diversifies production staff and programming. Combining the multi-modal study of broadcaster, production companies, educational institutions, screen agencies and digital DIY producers with textual analysis, the project critically investigates the complex interconnections in regional media production ecologies focusing on power, diversity and sustainability.

Julia Velkova

The 'non-people' of datafication: data centres and human labour

Over the past decade, the data capturing practices of sensing media, platforms and algorithms have propelled the intense construction of large-scale, environmentally and energy-intense communication processing infrastructures such as data centres across the world. Strategic corporate visual communication, and media scholars alike have created an understanding of data centres as automated, depopulated, non-human spaces that are full of endless racks of servers. With this paper I argue for the importance to understand data centres not only as data spaces, but also as workplaces, asking questions about the nature and experiences of labour in them. Drawing upon qualitative interviews, participant observation and a vast photo-material shared with me by the employees working at the second largest data centre in Finland, one operated by the Russian IT giant, Yandex, I illuminate the experiences of work of those who Susan Leigh Star (1999) calls the 'nonpeople', people such as security guards, and maintenance workers who ensure the proper functioning of information infrastructures. With feminist art critique Lucy Lippard (1974/2010), and anthropologist Mary Douglas's (1991) ideas of home, I show how the labour of maintaining a crucial part of Russian internet consumption and data practices is contingent on the creative labour of everyday inhabiting and humanising the industrial space of the data centre. This labour rests upon mobilising traditionally feminine domestic craft and hobby art work such as gardening, cooking, and waste reuse as mode of critique and ultimately, a transformational rehabilitation of a space designed to cater for the machines rather than for the people who care for machines.

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