



## BOOK OF ABSTRACTS

Agency in a datafied society: Communication between and across  
humans, platforms and machines

International conference, 29<sup>th</sup>–30<sup>th</sup> July 2021, ZeMKI, University of Bremen



University  
of Bremen



**ZeMKI**

**Soziologie der Medienkommunikation**  **DG PuK**  
Deutsche Gesellschaft für Publizistik- und Kommunikationswissenschaft



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MEDIATED  
COMMUNICATION,  
PUBLIC OPINION &  
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## How to interact with robots in Japan – A comparative perspective on the Eurocentric concept of agency

Thomas Christian Bächle

With regard to communication and interaction with machines, humanoid robots represent a particular class of technological artefacts in at least two important regards: First, unlike most other techno-material objects they are capable of exploring their environments by interacting with objects or living beings. Second, and more importantly, they can take the function of a 'social interface'. Their anthropomorphic appearance is a cue to human agents that 'natural' modes of interaction are possible, even desired. This often leads to an attribution of human characteristics and at the same time might even trigger an emotional bonding with the machine.

These features of humanoid robots – and the specific forms of human-machine interaction they facilitate, including gestures, facial expressions or touch – evoke a range of obvious questions on agency, including those of responsibility (who is accountable for an 'autonomous' robot's actions?) and on the feasibility and desirability of functionally substituting what we regard as genuinely human. Agency, as the Call for Papers states somewhat reassuringly, "embodies free will, reflexivity, and conscious decision-making", a quality that "makes us unique" as humans. This definition, in passing, ties agency not only to the idea of a human consciousness but also subscribes itself to a strictly Euro-American tradition of interpreting today's socio-technical reality.

The phenomenon of humanoid robots, with their life-like appearance, their bodily presence, the affective responses they potentially trigger and their performative quality that duplicates human-human interactions, however, calls for approaches that divert from a premise that is mainly centred around the idea of the (Western) subject and its hypostases. The presentation will therefore explore concepts and figurations in Japanese thought that are being employed in order to make sense of humanoid robots and that offer alternative readings of their meanings and effects. The cross-cultural comparison of conceptual traditions and discursive realities of artificial intelligence and agents reveals the fundamentally Eurocentric nature of the concept of agency; but at the same time it helps to refine its instrumental value as a theoretical tool.

## Value, meaning and agency in a datafied world

Göran Bolin

If we, in line with common sociological wisdom, believe that human agency is based on the ways in which we perceive of the world around us, and that our agency is privileged (but not determined) by these perceptions, then it follows that our possibilities for agency is challenged by the sheer complexity of the contemporary, datafied media landscape. As has been shown in previous research (e.g. Bolin & Schwarz 2015; Kennedy et al 2015; Bolin & Velkova 2020), individuals tend to construct their own heuristics and understandings of what the algorithms and the metrics underlying the operations of social media, search engines, and other online services actually do, how they function, to what ends and with what underlying purposes. A theory of agency in datafied society thus needs to include a theory of meaning-making that can take these heuristics into account. One way to do this is to focus on value-generating dimension of meaning-formation. This paper will theoretically discuss how value and valuation practices contribute to the ways in which agents understand the media landscapes they inhabit. First, it will present the problem of agency in the contemporary media landscape. Second, it will account for the theory of value adopted. Third, it will relate value and practices of valuation to meaning, practice and agency, to suggest a model for understanding agency in a datafied world.

## Equality and servitude. How advertisements stage the agency of humans and artificial companions

Sascha Dickel, Miriam Schmidt-Jüngst

With the popularisation of artificial companions like Amazon's Alexa and the Google Assistant, natural language-based interaction with machines is increasingly becoming a part of everyday life. The conceptualisation of these tools as agentive assistants who help with a variety of tasks in both the household and at work is guided by their marketing: When Apple introduced the Siri-technology at their keynote event in 2011, the system responded to the question "Siri, who are you?" with "I am a humble personal assistant". This claim to a speaking subject position while at the same time locating this subject firmly in a servile social role has become a defining feature of the social place of artificial companions: Designed to postulate agency, they do so not in equality with humans but as their servants.

This paper offers an interdisciplinary analysis of advertisements for artificial companions, combining sociological and linguistic theories and approaches. We suggest an understanding of such advertisements as socio-technical visions in which transformed agency in human-machine interaction facilitates an egalitarian society of humans: The asymmetrical relationship between the human and the machine symmetrises the human sphere. In an imagined diversified world of equal human rights and relationships, social inequality is reconfigured in the relationship between human and non-human entities. The normalisation of this social model takes place on the basis of a *communicative symmetrisation of man and machine* and, at the same time, an unquestioned *social hierarchisation*, which justifies the unequal treatment of the machine with complete self-evidence. Our paper will thus provide a study on different dimensions of agency in human-human and human-machine interaction in light of social practices of symmetrisation and hierarchisation.

## Communicative robots, hybrid figurations and new forms of agency

Andreas Hepp, Wiebke Loosen

With deep mediatization – the progressive penetration of society with digital media and their infrastructures – ‘communicative robots’ have established themselves: (partially) automated and (partially) autonomous systems that serve to communicate with and among humans. Examples of this are artificial companions such as Amazon’s Echo, social bots on Twitter, and work bots that contribute to the automation of journalism. If we look at communication and media research, the discussion about the agency of communicative robots typically takes place between two extremes: On the one hand, the approach of an ‘instrumental theory of technology’, according to which technologies are ‘tools’ to which people ‘delegate’ their agency. On the other hand, these are approaches that, beyond such instrumentalism, grant such systems an agency of their own. The objective of our presentation is to argue for a ‘joint agency’ or ‘hybrid agency’ in contrast to both positions: The agency of communicative robots develops in the entanglement of technology and human practice and thus as part of hybrid figurations.

## Is mediatization theory a challenge for methodological individualism?

Kestas Kirtkilis, Lukas Wojtkowski

It seems that the rise of moral individualism and the collapse of collective values, allegedly caused by the media, is the main concern of cultural critics nowadays. Communication theorists, in their turn, have always doubted the validity presupposition of the transforming power media, arguing that the human-media relationship and their mutual influence is much more complex.

In this paper we will focus on the recent attempt to reconsider the human-technology relations – namely, mediatization theory. The proponents of mediatization theory explicitly state that their aim is not only to provide a new perspective for the understanding of contemporary social world, but also a new methodological framework for communication studies.

Since mediatization theory first and foremost focuses on the social change, in order to reach its goals, it should offer an explanation of the mechanism of this change and outline the ways for its empirical research. The main question here is of the basic unit of analysis. What is the driving force of social change?

The prevailing consensus in the social theory points to the humans. But who acts on the human side – individuals, collectives, institutions? Most of media theorists seem to accept individualism on the ontological level – for them, the basic element of social world is an individual and it is individual values and choices in media consumption prevail over the collective ones. But are they accepting individualism on methodological level?

On the other hand, a theory emphasizing the influence of media for the social developments (as mediatization does) is open to the risk of being accused of technological determinism. However, the advocates of mediatization approach usually respond to these accusations by arguing that they focus not on the media and their influence on people and cultures, but rather on the interaction between media and humans and their mutual influences, thus providing a more adequate description of contemporary social reality, without pointing exactly what comes first and which side is determinant.

We then argue that mediatization theory points to the futility of individualism/holism (or humanism/technodeterminism) debate. It rather draws a perspective for the grasping the contemporary social change in terms of human-media collaboration in the form of figurations. And the very notion of figurations invites the theorist to reconsider the notion of agency, which nowadays is overlaid with individualist overtones.

## An (im)perfect match: How digital technologies impact the working routines of investigative journalists

Jessica Kunert, Carl-Jannis Frech, Michael Brüggemann, Volker Lilienthal, Wiebke Loosen

This paper explores how investigative journalists around the world assess the impact of digital technologies on their daily work routines. We evaluate how digital technologies transform, support, or constrain investigative journalists' agency. We ask

- how investigative journalists' working routines changed with digitalisation,
- how journalists evaluate these changes,
- and which factors determine differences between journalists around the world.

We thus consider in which ways digital technologies are a perfect or an imperfect match with investigative journalism, as especially datafication and increasing connectivity (Hepp & "Communicative Figurations" research network, 2017) influence investigative journalists' relationship towards technologies, including machines. We conducted qualitative face-to-face-interviews with 133 investigative journalists from 60 countries. The interview data were analysed using qualitative content analysis.

Investigative journalists perceive the impact of technologies on journalistic agency both positively and negatively. Datafication processes such as enhanced access to data, for instance, complement most interviewees' working routines. However, the pervasiveness of technologies into journalistic routines is mostly perceived as a challenge. We uncovered individual adjustment pressures that arise due to datafication, as the rapid pace of innovation of almost all practices fosters a perception of information overload. Moreover, increasing connectivity is a double-edged sword for many journalists insofar that it allows them to contact sources easily, especially via social media, but also leads to a loss of social connectedness. Thus many journalists prefer talking to sources in person and keep technologies out of the journalistic process as much as possible. The latter is due to journalists not only fearing for low quality of their journalistic output but also for their life, as for example journalists from Indonesia and Ethiopia are faced with digital surveillance and persecution. All in all, these perceptions depend on the country context, as there are remarkable differences worldwide in how investigative journalists' agency can benefit from digital technologies.

## Incapacitated users or powerful gated? Agency of information intermediary users

Katharina Leyrer

**Motivation.** Internet information intermediaries such as search engines and social networking sites are often seen as limitators of their users' agency: By filtering information, they influence which content users get to see and can choose from. However, studies mostly focus on how intermediaries select and rate content; they scarcely research user agency in relation to intermediaries.

**Research questions.** Therefore, this paper asks: What agency do users of internet information intermediaries have? How is user agency in the context of internet intermediaries different from user agency in the context of traditional information intermediaries (such as libraries, bookshops and media outlets)? By comparing internet information contexts to traditional information contexts, this paper contributes an approximation on how mediatization and datafication have influenced user agency in the field of communication.

**Method.** The analysis is based on Barzilai-Nahon's Network Gatekeeping Theory (NGT). NGT characterizes information intermediaries as Network Gatekeepers and their users as Gated. To describe the users' agency and position in relation to the Gatekeeper, NGT introduces the term Gated Saliency. Gated Saliency is based on four attributes: political power, information production, relationship and alternatives. Gated Saliency depends on the number of attributes the Gated possess: The more attributes Gated have, the greater their Saliency. This paper discusses whether and in what way users of different types of information intermediaries have these four attributes.

**Results.** In some cases, it is not possible to unambiguously assess whether Gated have a particular attribute or not. Nevertheless, the study shows that Gated Saliency of internet intermediary users is neither bigger nor smaller than Gated Saliency of traditional intermediary users – but that it is based on different attributes. These results can serve as a starting point to increase users' agency in relation to information intermediaries, both in traditional and internet information contexts.

## Civic agency or apathy? Self-determination in news recommendation systems

Johanna Möller, Judith Möller, Felicia Locherbach

Testing self-determined control in news recommendation systems, this presentation addresses civic agency and apathy. Agents need to cope with datafied infrastructures, such as algorithmic news distribution. Whereas traditional media offer institutions for delegating civic knowledge work, datafied societies profoundly challenge this knowledge-trust relationship (Dahlgren, 2018). Beyond investigating technologies as facilitators or preventers of diverse, balanced or true information repertoires, there is thus a deeper need to explore individuals' relations with media as technologies and their mechanisms of information distribution.

Interested in self-determination and control in information distribution, we contribute to this by asking how civic agents respond to different levels of control. Using a novel experimental design (Locherbach & Trilling, 2020) that allows users to engage with a news recommendation system with varying degrees of control, we offer insight into how different forms of news personalization are connected to informational self-determination.

We developed a news aggregator that allows to test interactive news recommender systems for a longer period of time. It is based on an open-source Python application and presents the user with a web interface showing a selection of nine different news articles. Users are assigned to four different experimental conditions that vary in their responsiveness to implicit (through clicks) and explicit (through dashboards) feedback. Simply, users dispose of varying control over the recommendations given. In addition, participants are prompted to fill in a final questionnaire measuring perceived diversity, satisfaction and control.

Our findings show limited intentions to perform as civic agents, yet there is a red line of unacceptable control loss. Participants did only experience the effect of explicit control but not implicit control. The availability of control did not lead to higher appreciation of the recommendations and the recommendation system in general. If control is ineffective, however, it leads to higher dissatisfaction with the system.

## The struggle for recognition in times of deep mediatization

Leif Hemming Pedersen

This paper argues that in order to understand and conceptualise ‘agency’ in today’s deeply mediatized societies, we must pay close attention to the ways struggles over identity and difference – that is, processes of (mis)recognition and nonrecognition – play out in the light of digitalisation and datafication. Following the assumption that social theories of recognition (e.g. Fraser, 2000; Honneth, 1995; Taylor, 1994) can fruitfully be incorporated into the diverse field of media and communication research (and vice versa), this paper builds on initial attempts to do so within media studies (Campanella, 2018; Cottle, 2007; Edwards, 2018; Lorenzana, 2016; Maia, 2014; Singh, 2019) by focusing on questions of agency within today’s media manifold (Couldry & Hepp, 2016). First, the paper sketches how discussions of enhanced vis-à-vis limited agency in datafied societies can be normatively approached on the basis of what Axel Honneth (2014) has called ‘social freedom’. Secondly, the paper outlines a methodological framework for studying *mediated recognition* that is situated within the broad perspective of ‘audience reception’ (Schröder, 2018), but draws on Critical Utopian Action Research (Nielsen & Nielsen, 2016) in order to work together with research participants to co-define and create agency in relation to experiences of (dis)respect and (in)justice in their encounters with various human and non-human actors in our mediatized world. This approach is illustrated via a case study from Denmark, where a range of workshops on media and recognition were carried out with a group of young people from residential areas characterised as ‘exposed’ or ‘ghettos’ by the Danish authorities. The paper concludes by situating the conceptualisations of agency in times of deep mediatization, derived from the workshops, within the three ‘relational systems of action’ (personal relationships, the market and the political public sphere), which play constitutive roles for the realisation of social freedom in Honneth’s (2014) theory.

## Achieving agency within imperfect automation: Working customers and self-service checkout

Christian Pentzold, Andreas Bischof

Usually, automation comes as a threat to autonomy. Yet in order to be taken away by increasingly smart machines and self-learning processes, agency must have been possessed in the first place.

Our talk challenges this understanding of agency as a property and individual capacity. Instead, we treat agency as a continuous and fragile achievement whose situated accomplishment happens in relation to humans and today's pervasive technological environment. This redirects our attention away from the question of what defines and distinguishes humans and machines and toward the question of how people and technology come to step in the temporally embedded process of social engagement. Conceptually, we draw on scholarship from sociology and science and technology studies (Barad, 2003; Callard, 2019; Collins & Kusch, 1998; Emirbayer & Mische, 1998) as well as recent work on algorithmic power, fauxtation, human-machine interaction, and ghost work (Bucher, 2018; Gray & Suri, 2019; Neff & Nagy, 2016; Pentzold & Bischof, 2019; Schubert, 2012; Taylor, 2018).

The proposed conceptual move has far-reaching consequences for the study of agency in a datafied society when it is not treated as the privilege of a certain kind of actor but a matter of viable performance. There, humans can act machine-like while machines may actively intervene in communication and social life writ-large.

To further our argument, we look at self-service checkout interfaces, i.e. semi-attended customer-activated terminals or SACAT. They belong to a broad array of interactive terminals like automated teller machines or ticket machines which are one of the most pervasive though overlooked elements in mediated environments. Indeed, they channel and structure a large portion of everyday transactions. During the Covid-19 crisis, they have come into focus because they seem a means for social distancing.

We discuss findings from two corresponding studies completed in 2020, a participant observation in groceries stores and a survey among customers familiar with checkout facilities. Our results show that operating these machines must not be an individual affair but involves bystanders, fellow customers, and shop assistants who work together in following the machine's action protocol. Human-machine communication by default becomes a collective activity full of errors, malfunction, or unresolved questions. Moreover, this sort of imperfect automation has ambivalent ramifications depending on the capacities of customers: While younger people turn to these facilities in order to skip the queue and save time, especially older people prefer human shopkeepers for the same reason of time efficiency. Moreover, while SACATs suggest greater self-determination on part of the customers, they too have built-in control mechanisms that require human intervention, for instance, in terms of age control.

The empirical data on self-service checkout shows that agency in human-machine configurations is not just there, but must be achieved. And this achievement comes into action in friction with socio-material constellations that go beyond a dyadic conception of user and interface. Self-service checkout devices and their use entail agency as situated accomplishment in human-machine-texture.

## The participatory culture myth: Gender equality on/of YouTube and the pressure of commercial logic

Elizabeth Prommer, Christine Linke, Claudia Wegener

The video-platform YouTube is worldwide one of the most important and widely used social media networks. Its user-based structure enables communication in online public spheres. Nevertheless, the actual processes of empowering people and representing diversity has to be questioned and analyzed regarding YouTube's potential of participation (Jenkins et al. 2015), connectivity (Dijk 2013) and agency of the content creators. Previous studies found that male actors are most successful and hence more visible (e.g. Wotanis et al. 2014). Our research question therefore was, "*How is gender equality enabled on/of YouTube and are there differences regarding visibility and production culture?*".

To answer our research question with empirical focus on German language YouTube we followed a multimethod approach combining a quantitative content analysis of YouTube-channels (N=2000 Videos based on the 1000 most view German language channels) and an interview study with 14 female YouTubers (focusing on production conditions and culture).

The findings of the content analysis show an unequal visibility of gender in German language YouTube: Female protagonists are notably underrepresented. Female YouTubers became mainly visible with "traditionally female" topics (like beauty) and service oriented formats (like how-to).

The findings of the interview study reveal that while creativity and self-determination is a strong motivation for female YouTubers, they often experience friction between commercial demands and individual motivation. They address gender stereotypes on one hand as problematic but on the other hand as effective way to attract a (young) community on YouTube. Gender clichés, so the explanation, are easy accessible and promote the channel to a broader audience and are almost the only way to earn an income for female YouTuber. They all reflect on the logic of YouTube with its enormous pressure to constantly produce new content in order to keep in the accepted corridor of the algorithm, which again promotes content production of normalizing and stereotypic orchestrations of gender. The agency of the content creators is limited within the datafied mechanism of YouTube.

Overall the findings of the combined studies highlight existing gender differences *YouTube* that are profoundly connected to the algorithmic mechanisms due to commercial demands. The idealistic perception of an open user-generated space via participatory culture and agentic content producers seems to be a myth.

## Scrolling through TikTok: Notes on the pleasures of 'passive' consumption

Andreas Schellewald

The short-video platform TikTok has in recent times become a prominent case in debates around addictive media design. TikTok hosts short and seemingly arbitrary video clips that are distributed in the form of an endless and personalised content feed. This combination seems the perfect match for popular critiques, arguing digital technology to hold people in a constant state of flux and distraction, that they might satisfy in the moment but offer no fulfilment in the long run. The paper will critically intervene in these discourses by presenting preliminary results of a larger investigation into the meaning and value of using TikTok. Based on 30 qualitative interviews with TikTok users located in the Greater London area, the paper will discuss how users negotiate the effects of scrolling through TikTok. The paper will centrally reflect on users reporting on consciously approaching TikTok to give up their agency, to just go with the flow and not be responsible for it, often expressed in relation to feelings of pressure to interact and perform experienced using other social media apps. Looking at the practices and meanings of being embedded in TikTok's algorithmic environment, yet not located at a position of control over it, the paper closes in making two arguments. First, it (re)emphasises the necessity of studying media and their consequences through a contextualist lens, that means in the ways they are integrated into everyday rhythms. Doing so, the paper will, second, position itself against unitary understandings of agency and the central importance humanist discourses attribute to it. Instead, the paper argues that to fully take seriously people's uses of digital media requires not a set but situationally adaptive understanding of ideas such as 'self', 'agency', and 'meaning'.

## Maintaining activist agency during the pandemic: Fridays for Future's new digital repertoire

Giuliana Sorce, Delia Dumitrica

Fridays for Future (hereafter FFF) has emerged as an important actor in the contemporary transnational environmental movement scene. FFF's weekly school strikes are the trademark of the youth climate movement, drawing thousands to the streets each week. Pervasive and rapid crises, such as the Corona virus pandemic, severely impact the repertoire of action that social movements such as FFF rely on. Our study takes up this novel moment in social movement history as an opportunity to study how the COVID-19 pandemic has changed FFF activism and how FFF has tried to maintain a digital activist agency.

Theoretically, we engage with forced tactical innovation in social movements during crises, showcasing how adaptation to digital contexts inaugurates changes in movements' repertoire of actions (Tarrow, 2011; Tilly, 2006). We also take into consideration how networked social movements retain agency in times of crisis (Gerbaudo, 2014). Empirically, the study maps the repertoires of digital protest tactics employed by FFF across all 27 European nations in the spring of 2020 on their most prominent social media platform, Facebook. We ask what actions and tactics organizers employ and how this shift to digital activism under crisis affects the overall activist repertoire.

Via a two-fold content analysis of 800 individual posts, our coding captures events and campaigns, calls to action, hashtag use, and media content. In a second coding round, we developed a comparative codebook informed by previous analyses of NGO social media (Lovejoy & Saxon, 2012) and internet-based action repertoires (Van Laer & Van Aelst, 2010).

Our analysis culminates in a typology that maps the digital repertoire of FFF's online activism under Corona along four types: contentious actions (digital strikes, online petitions, etc.); informational and educational content (webinars, articles about the climate crisis, etc.); community engagement (giving thanks to participants, quarantine leisure activities, etc.); and, partnership development (sharing posts by issue-proximate groups, developing media partnerships, etc.). We discuss the typology with respect to the changes from analogue to digital, the shift in focus from contention to collaboration, and explore how digital adaptations helped organizers maintain activist agency during the pandemic.

## Agency of communication scholars in career-related communication

Franziska Thiele

According to Bourdieu (1984) societies consist of different fields, each with a predefined set of rules, that needs to be followed in order to become a part of a field, gain reputation and accumulate power within it. Yet, these rules can be altered by individuals using their agency and sometimes rules are still in the making.

In science for example reputation is often gained by publishing articles that are being cited by other colleagues. Among German-speaking communication scholars publishing in international, peer-reviewed journals helps to increase one's reputation. In the area of publication rules are rather clear and not many options for agency are given. But in times of deep mediatization, social media, which have become an integral part of most people's everyday life, may - especially for communication scholars, doing research on these media - offer new possibilities for individual agency. In order to find out whether communication scholars use them for career-related purposes and if they create new agency, qualitative interviews with 16 German-speaking communication scholars in different stages of their careers (doctoral students, post docs, professors) were conducted on their work-related social media usage and analyzed using Mayring's (2015) qualitative content analysis.

The analysis showed that all of the interviewed scholars were using at least one social networking site for work-related communication. Especially postdocs used the networks' possibilities to network, promote their talks, publications, achievements and themselves very actively. Rules on how to apply these media were not as set as with publications or presentations, giving the postdocs more agency to communicate as they liked, but also creating higher uncertainty on whether and how to apply them. Therefore, social media do seem to create new forms of agency for work-related communication of communication scholars, yet still play a rather marginal role in their overall academic career.

## Apps for the social inclusion: to the question of the agency of mobile application

Olga Usachova

Powered by advances in technology together with increased access to smartphones among the migrant population in Europe, the number of the available integration mobile applications “apps” multiplied in recent years. Migrants use their smartphones for many purposes (Diminescu 2008; Kaufmann 2018), but not always the apps specifically developed for them. Moreover, while developers work on the ways how to better develop and test these apps, the less clarity is on the side of the dissemination of the information regarding the apps for integration. With this paper, we examine the hybrid agency of the digital technology for migrants’ integration, with its distinguishing characteristics that result from the foundational process of the assemblages of human and non-human entities. The interrelation between migrant and digital technology, with its amalgamation of digital literacy and user practices together with highly sophisticated digital technology, is seen as a valuable setting for reflection on the agency of the non-human. In this paper, we explore how the agency of mobile applications designed for the integration of migrants is shaped through the interplay between the intentions of developers, users, and digital technology *per se*. Drawing on in-depth interviews conducted with app developers in Germany (e.g. platform Integreat) and the users (e.g. social workers, migrants, municipality representatives), this paper shows how the developers’ ideas for a digital solution for migrants integration relate to a) the development of relevant digital technologies, and b) the emergence of new use practices. The article goes on to propose a view on the agency of mobile application as an actor of sociomaterial entanglements in a particular setting by reconfiguring the process of its implementation.

## Intelligent personal assistants, human agency and the multiple forms of cooperation without consensus

David Waldecker, Tim Hector, Dagmar Hoffmann

The integration of Intelligent Personal Assistants (IPAs) in private households is becoming more and more popular. It seems that there are two forms of the distribution of agency between users and IPAs. At home, humans give “voice commands” to “digital assistants” – this suggests that, here, human users remain in control. However, once the command is translated into digital signals and literally out the door, the narrative changes. It seems that, on the macro level, the control over user data is with digital platforms, tech companies, and impersonal algorithms. In this perspective, individual agency is ceded to „surveillance capitalism“ (Zuboff 2019).

In our paper we want to scrutinize this picture in two ways. A) Actual use, face-to-interface interaction with IPAs is less uni-directional as the term “voice command” suggests. As we will show using linguistic conversation analysis of interactions with devices, agency has to be organized by users vis-à-vis the devices, especially when the IPA does not act as intended (Porcheron et al. 2018). B) With regards to the problem of potential breaches of privacy and loss of control, users have to place themselves in relation to the platforms and algorithms of the IPA providers. They have come up with justifications that allow them to save face regarding tales of subtle digital serfdom. We analyze these evaluations of agency via interviews with users and via the analysis of protocol data as provided by IPA companion apps. In this way, we are able to show that agency regarding IPAs is enveloped in multiple forms of “cooperation without consensus” (Star 1993).

Our analysis of qualitative and field-produced data is part of the interdisciplinary research project *Un-/desired Observation in Interaction: “Intelligent Personal Assistants”* at the Collaborative Research Center 1187 Media of Cooperation at University of Siegen.

## Machine agency? Arguing against a dangerous conflation

Lisa Waldenburger, Hannes Teutoburg-Weiss

Setting out from the observation that *datafication* and *deep mediatization* are highly relevant processes for how we interact with the world and how we see ourselves in the 21<sup>st</sup> century, one can indeed ask if agency should be (re-)conceptualized.

One line of argument in favor draws on and further develops concepts first articulated by Actor-Network-Theory. In a nutshell, it is claimed that *agency* of heterogeneous entities can only be observed and understood by examining the networks, through which these entities are reciprocally related. For example, Rose and Jones propose a *Double Dance of Agency*, which "attempts to encapsulate both the intertwined nature of the interaction of human and machine agency, and its part structured, part improvised emergent character."

While we agree with the notion that the operation of machines and algorithms makes a difference in how we as humans can relate to the world, each other and ourselves – by enabling or hindering certain forms of actions – we argue that the concept of agency should be reserved for humans alone. In this sense, agency is not only the capacity to make a difference in one's environment – as is often claimed by invoking Giddens and applying this baseline definition to machines – , but even more so the capacity to change oneself while making this difference. And further, the ability to observe, to evaluate and *to care* about the outcomes. Even though the forming of the actual self is dependent on procedural interaction with others and the world, agency is from this social theory perspective, which is informed by Critical Realism, per se part of the human condition. Having agency is inextricably intertwined with being human.

Lastly, we will indicate why conflating human agency with the capacity of machines or better: conceptualizing it after the capacity of machines is not merely problematic from an analytical viewpoint, but also from an emancipatory one.

## The construction of space through Google Maps – (in)visible economics and the agency of the users

Jeffrey Wimmer, Peter Gentzel

The medial representation of (urban) space in the form of maps has not yet been explored much in communication and media studies. Starting points for the analysis of the production, design and use of maps can be found foremost in critical cartography (Harley 1989). These studies show that maps are not images of geographical spaces, but constructions shaped by power and interests. Historically, it was institutionalised actors (state, science, economy) who selected knowledge of spaces and translated it into maps. In the course of digitalization, Google Maps has replaced these actors (McQuire 2019; Zuboff 2019: 128-175). The selection and standardisation of Google Maps is data-driven: Heterogeneous, diversely scaled data streams from a wide variety of actors (states, companies, end users) are fed into the "Ground Truth" base map. International studies show that Google Maps systematically privileges economic actions and actors and "depoliticises" urban spaces (Luque-Ayala & Neves Maia 2019: 9-10). We investigate agency in two dimensions: On the one hand, we ask about the datafied construction of maps, on the other hand, about the way they are used, i.e. the appropriation of spaces by means of mapping media.

In guided interviews (N= 20) we investigated the importance of Google Maps for different citizens (theoretical sampling) of a medium-sized German city. Questions about usage routines, navigation, annotation and opportunity management functions of the app were the main focus of the research (Schulz-Schaeffer & Lettkemann 2018). Inspired by multimodal mapping studies (Palipane 2019), we have developed an app that allows to annotate concrete places with multimodal media content (text, video, audio). From the perspective of user-centred design in the guideline interviews outlined above, questions were asked about the content and use of the app (contexts, functions, usability), which will be taken into account in further app-development.

## Research implications of (in)visible data agency

Irina Zakharova, Ann-Kathrin Bock

In times of deep mediatization (Couldry and Hepp 2017) and datafication (Jarke and Breiter 2019), communication technologies operate with data, often invisible to the users and inaccessible to the researchers. However, it is this invisible process of data production, where data are enacted in the communication technologies as sociomaterial artefacts with particular agencies (e.g. boyd and Crawford 2012). Thus, empirical research focused on the visible data practices and representations often has to deal with the uncertainty of what and how to conceive as data.

With our presentation, we aim to turn the focus from the context of data use to the (in)visible contexts of data production. To do so, we attend to the tensions unfolding between invisible data practices and visible data (representations) as proposed by Pink et al. (2018). Empirically, we focus on communication technologies in educational domain, which not only rely on data for administrative decision-making, but also are seen increasingly as means for young people's digital citizenship and democratic participation education. Therefore, the pressing issue is to understand how data, enacted in visible and invisible sociomaterial artefacts, act to configure the 'doings and sayings' (Schatzki 2008) in education. In empirical vignettes, we address the visualizations of educational data as actively configuring educational stakeholders and their communication about and through educational technologies.

To explore (in)visible data practices of educational communication, we build a transdisciplinary methodological bridge to the software studies (Manovich 2013) engaging with the (in)visibility of sociomaterial artefacts and studies on the materiality of data enabling the definition of the physical boundaries of data practices (e.g. Pink et al. 2018). With our methodological discussion and empirical vignettes, we reinforce the body of research in media studies interested in the methodological debates around the new research methods for studying deep mediatization and datafication (e.g. Rogers 2017; Breiter and Hepp 2018).