Machine – Body – Space.
The Accomplishment and Entanglement of Human and Non-Human Sensing

Collaborative Research Center “Media of Cooperation”, Herrengarten 3, Room 217/218
University of Siegen, November 7–8, 2024
Hosted by Projects P01 & B06, CRC “Media of Cooperation”

Program

Nov. 7, 2024	
12:00	*Get-together with soup & sandwiches*
12:45	**Introduction** Stephan Habscheid (Siegen) & Lorenza Mondada (Basel)
13:00	***Panel I: Interfacing and Interacting with Machines*** **Children and digital-analogue animals: Alive enough, to become a playmate?** Hoa Mai Trần & Astrid Vogelpohl (Siegen) **Embodied robotic sensoriality: Walking with – and for – a robot** Jakub Mlynář (HES-SO Valais-Wallis) **Démontage and Its (Dis-)Contents: Machine Ecologies as Staged Encounters** Philippe Sormani (Zürich/Siegen) Response: Tanja Aal, Dennis Kirschsieper (Siegen) Moderation: Clemens Eisenmann (Konstanz/Siegen)
15:00	*Coffee break*
15:30	***Panel II: Augmenting Sensing Bodies in Interaction*** **Making sense of machines: Communicating asymmetries between human sensing and machine sensors** Hannah Pelikan (Linköping) **Biosensibility: an Imaginary-Materiality in Affective Performance** Mona Hedayati (Bruxelles) **A minimalist perspective on technologies and augmented bodies** Clemens Eisenmann (Konstanz/Siegen) & Lorenza Mondada (Basel) Moderation & Response: Tim Hector (Siegen)
17:30	*Coffee break*
18:00	**Keynote: Sensing Machines: Ubiquitous Technology and Bodily Experience** Chris Salter (Zürich)
19:15	*Short Apéro*
20:00	**Dinner in the Dark** **Social awareness for the concerns of people with Dis-Abilities** Jan Meyer-Krügel (Siegen) (Dark Café, Kölner Str. 11, 57072 Siegen)

Nov. 8, 2024	
9:30	**Keynote: Merging Humans and Technology: Social-Psychological Implications** Bertolt Meyer (Chemnitz)
10:30	*Coffee break*
10:45	***Panel III: Interaction in Space: Equipped Spaces for Interaction*** **Sensing in the Smart Kitchen: Studying Cyborg Cooks** Katharina Graf (Frankfurt/London) **Jointly recalibrating the perceptual foundations of interactional space in a collaborative VR game** Wolfgang Kesselheim (Greifswald) **Sensing and Sensoring in Private Homes: The Smart AirFryer as a Case Study for Human and Non-Human Sensing in Interaction** Stephan Habscheid, Tim Hector, Dagmar Hoffmann & Niklas Strüver (Siegen) Response: James McElvenny (Siegen) Moderation: Dagmar Hoffmann (Siegen)
12:45	*Soup & sandwiches*
13:15	**Concluding discussion** Moderation: Philippe Sormani (Zürich/Siegen)
13:45	End of conference

Conference Abstract

The conference “Machine – Body – Space. The Accomplishment and Entanglement of Human and Nun-Human Sensing” will explore the various relationships between machinic and human methods of sensing and sense-making in their practical environments. Digital and networked technologies are increasingly permeating everyday life and practices. This not only applies to forms of communication, navigating and travelling (e.g. on a bicycle in the city or at border control), but increasingly involves bodily and environmental sensor technologies also within people’s living environments. Whether its managing one’s blood sugar, cooking in the kitchen, watching television in the living room, or regulating the solar panels on the roof: sensor-based, domestic technologies are increasingly brought onto the market and get integrated into almost all areas of life – e.g. new generations of voice assistants, which now also capture visual and tactile signals. „Sensing machines“ (Salter 2022) pervade various environments, equipped with an array of sensors that detect diverse physical or chemical attributes. These sensors register and capture attributes like brightness, motion, touch, temperature, and humidity from their surroundings. Thereby, they capture the movements of humans and pets, their habits, information about architecture, furnishings, or consistency of certain materials (e.g. in the kitchen). They enable new kinds of everyday practices and sensory experiences – or transform familiar ones (e.g. cooking and tasting food) – and can play an ambiguous role also in the context of physical dis/abilites and assistance (Meyer/Asbrock 2018).

Sensory technologies not only potentially empower bodies, but also challenge them with new vulnerabilities, inequalities, and frictions. The entanglement of human and machinic sensing appears to be increasing, which reflects a broader trend of intertwining between humans and machines, e. g. in recent developments of communicative AI. Machines are capable of mimicking human behaviors, while in postmodern approaches such as Haraway’s Cyborg Manifesto (1991) humans are often reconceptualized within mechanistic frameworks. Various perspectives on social theory, such as the concept of “human-machine reconfiguration”

(Suchman 2007) have highlighted these developments. Approaches range from feminist critique (Haraway 1991) via Actor-Network-Theory and the idea of nonhuman actors (Latour 2007) up to posthumanist perspectives (Barad 2003) and psychological findings about humans who partly conceptualize themselves as computers (Turkle 1995, 30–31). These approaches stand in opposition to essentialist perspectives, which distinguish sharply between humans and machines as an ontological boundary. However, recent sociotechnical inquiry highlights "the simultaneity with which humans and machines are both separated *and* interconnected" (Lipp/Dickel 2022, 15). Expanded understandings of "interfacing" (Lipp/Dickel 2022) and of "human sense-making practices" (Eisenmann et al. 2023) offer paths for re-examining familiar boundary-work and exploring new connections between humans and machines.

To facilitate such a conceptualization a certain set of theoretical assumptions seems valuable: The activation and processing of senses and sensory systems can be conceptualized as practical "doings", with which participants indicate to each other in practices whether and 'what' they perceive. Accentuated by praxeological perspectives (e.g. Hirschauer 2016), material objects, including machines, can engage in sensory practices. They contribute to sensory processes and exhibit specific machinic states (e.g. by emitting audiovisual cues), thereby actively participating in the practical execution of sensing. A praxeology of perception, grounded in ethnomethodology, hones in on the embodied and interactional dimensions of sensing (Coulter & Parsons 1991; Lynch & Eisenmann 2022, Mondada 2021), to illuminate the characteristics, achievement and display of sensing-and-sensory-practices. In this vein, figurations and conceptualizations of body and space come into play: Linguistic research in multimodality has intensively discussed this relationship (e. g. Streeck/Goodwin 2011) and suggested to conceptualize also space as an "interactive achievement" (Hausendorf 2013).

The conference encourages investigations into the social accomplishment of perception and sensing against the backdrop of sensor technologies. Contributions could focus on the co-constitution of perception in everyday situations, but also in situations of testing, research and self-examination of perception. We seek to explore (among others) the following questions:

- How are machines, bodies and spaces reconfigured in the context of sensory technologies?
- In what ways do recent developments in sensory technologies challenge traditional ontological distinctions between humans and machines?
- How can we conceptualize and discuss dis/continuities, seams and ruptures between bodies and machines in the context of empowering but also irritating embodiment of sensory media – also against the backdrop of normative body concepts, which are incorporated in machines?
- What are differences, interrelationships and preconditions of machinic sensors and synaesthetic sensory practices? How can we illuminate and describe them?
- In what ways are machine and human methods for interfacing realized in situ? How are they dependent on the practical accomplishment of perception and sensing in interaction and vice versa?
- How can we discuss the relationship between machines, bodies and spaces against the backdrop of different concepts of sensing and multisensoriality?

We are looking forward to discussing theoretical questions, e. g. on interface/interfacing, multimodality and multisensoriality, as well as methodological approaches, empirical findings and project presentations.

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