



Gestures and Artefacts: Diachronic Perspectives on Embodiment and Technology

International Conference

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Cologne-Lisbon Philosophy of Technology Lab
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The relationship between gestures and artefacts

Gestures are a crucial form of human embodied expression, which can be defined as “visible action” (Kendon 2004) for the purpose of communication. Gestures are more than mere actions without words (Sigaut 2012). They go beyond the explananda of linguistics and communication studies (Mittelberg & Gerner forthc.). As social, aesthetic, and epistemic forms of display, they make the body and its corporeality thematic in relation to itself and to others against the background of ecologies of material affordances (Gibson 1977, Norman 1988), engagements within chronoarchitectures of action (Gosden & Malafouris 2015) and enactive individuations (Simondon 1958). Thereby, gestures allow for a reflection on cognitive (material and informational) ecologies (Hutchins 2014) as well as digital design and fabrication (Poulsgaard 2017).

The conference intends to take a diachronic perspective on the relationship between gestures and technical objects. The tactile-haptic exploration of the environment with its epistemic function for the perceiving agent, manipulative actions (ergotic gestures and interactions; Luciano 2007, Roth 2003), and cognitive-semiotic gestures are fundamental for the evolutionary and historical development of anthropotechniques and their correlative cultural artefacts. Gestures are dynamic, performative, and explorative; we can adapt Austin’s (1962) pragmatic function and ask (Kendon 2017): *how to do things with hands (and bodies)?*

Furthermore, the notion of gesture is not limited to physical movements nor to the linguistic relation of such movement to speech. Narrowing it down to a relation of two types of gestures (kinaesthetic and verbal) would mean to omit the important eye movements and saccadic gestures (which are vital for joint attention and cooperative action) as well as whole-

body postures and movements, cultural, synthetic, and prosthetic approaches, or gestural extensions as articulations of the “exodied mind” (Mittelberg 2013). “Gesture” is conceived as a crucial dimension for (a) discovering the environment through tactile experience, (b) understanding ourselves, the other, and the world, and (c) developing knowledge in a diachronic perspective by gestural-spatial structuring of thought or by designing, using, and developing material artefacts.

The analysis of the various forms of gesture and artefact and how they are used in interacting manually and mechanically, or digitally and virtually, will open up new perspectives on the relative utility of gestures in the development of knowledge. From scribbling, writing, and drawing, to creating handy tools, extending gestures in operational chains and control systems, under the shifting epistemological and cultural conditions of contemporary media and technologies, we want to explore a complex scenario, ranging from early hominid stages of tool use to the enhancement of embodied technologies in hybrid human-computer systems and distributed networks of agency in contemporary societies.

Interdisciplinary perspectives on the evolution of gestures and artefacts

The connection of gestures and artefacts plays a central role not only in anthropology, but also in the visual arts, film, and music, in theater, performance, and dance. Gestures and artefacts are displayed and interpreted in social and individual embodied and material practices. What remains poorly researched, however, is the fact that gestures are linked to learning over time, cultural transmission, and to the development of artefact design, which are important to human experience, socialization and individuation, as well as the generation and transformation of knowledge. In the early 21st century, embedded in the ubiquity of new digital network media and the rising importance of virtuality, artificial agents and robots, gestures and tools need to be studied in their “logique d’usage” (Perriault 1989) as stabilisations of iterative experiential processes of enacted skills. How does the development of embodied practices and interactions with technical artefacts co-create significance within the framework of a diachronically oriented philosophy of technology? How does the nexus of embodiment and technical artefacts ground our self-understanding through gestures?

Concerning the relationship between humans and artefacts from a developmental perspective, we want to look at the interplay of biological and cultural evolution on the one hand and technological evolution on the other. Within this comparative framework, various modes of improvement and diachronic principles can be debated:

- individual innovations “from scratch” by a single constructor
- “zone(s) of latent solutions” (Tenie et al. 2016) implying social and environmental cues
- the cumulative character of human culture and the questioning of the “complexity of cultural traits” thesis (Vaesen & Houkes 2017)
- lateral movements, modifications, and recombinations (stealing ideas, mixing, matching, retrofitting, hacking)
- the “Hannah Principle” (Eldredge 2005, Tëmkin & Eldredge 2007), marking differences between entities in the biological versus the cultural domain

- the evolution of enhanced gestures by improvement of technical artifact design, for example, ameliorating grasping and distinct hand shapes to perform a grasp (Feix et al. 2009) as in the hand precision grip on the cornet

Theoretical resources and current questions

Within the tradition of French techno-anthropology, which is one of our theoretical resource areas, gesture is conceived of as a basic category to study techniques and technical objects. The classical text by Marcel Mauss *Techniques of the Body* has shown that our daily life consists of postures and routines, in which our body is the first technical instrument. Alongside each other exist, however, opposing opinions of how gestures are generated: While André-Georges Haudricourt claims that “the tool is adapted to the gesture” (Haudricourt 1987), François Sigaut argues that human gestures imitate technical objects and are thus always equipped actions (*actions outillées*; Sigaut 2012). They are exemplary of a recursive relationship with the technical world and play a central role in explorative anthropotechniques, i.e. techniques of exercising, making and using tools, embodied gestural rehearsing and thinking with tools as well as mimesis-kinesis-poesis relations. Studying material and technical artefacts leads to the methodical problem of finding ways to reinvent the gestures and operational chains that produced the original artefact. How can modern techniques reinvent gestures of the past?

Accessing the past via techniques and artifacts also calls into question the ontological status of gestures, artifacts, and things. According to André Leroi-Gourhan (1993), technology can be defined as a series of operations creating an operational chain. This approach is in line with Simondon’s epistemology of operations (Simondon 2013) and his philosophy of technology. Simondon conceives of the technical object as crystallisation of a human gesture (Simondon 1958). The production of technical objects presupposes a logically ordered propagation of action sequences in a technical ensemble, where human beings coordinate the relation between the natural and the technical milieus. This view can be confronted with the idea of “operative ontologies” (Engell & Siegert 2017) that deal with the media-technical constitution of the relationship between people and things and are performed technically in the concrete execution of the work they take place in. They can be exposed in specific ontological operations such as “recursivity of the work” (Krämer 2017), e.g. those of “opening and closing” and “condensing and dispersing” (Siegert 2015; 2017).

Gehring (2017) critically points to the fact that a philosophy of the technical medium as “thing” is needed to account for the lacking insight about “technical materialism” of a precise concept of technology mediating between media, practice/operation and “thing” as well as between “articulation” and “culture” in the composite term “cultural technique”. This controversy concerning the ontological status of things, artefacts, and objects is also part of the so-called “ontological turn” in the social sciences, where post-eurocentric cultural theories and anthropologies often understand themselves as records of “différent modes of existence” (Souriau 1943; 1982; Latour 2013) or “ontological regimes” (Haudricourt 1964; 1987; Viveiros de Castro 2014; 1992; Descola 2011; 2013). Viveiros de Castro (1989) and others provoked debates on crucial distinctions such as human/animal(/plant), culture/nature, ethnocentrism/animism, hence opening up the possibility of a redefinition of classical categories such as “nature”, “culture”, “supernature”, resulting in new notions such as “multinaturalism”, based on an emphasis on perspectivism, which is defined as a “corporeal mannerism”.

Guiding questions

Against the background of these widespread discourses and challenging topics, we want to tackle, among others, the following guiding questions:

- What are human gestures (gestures and artefacts as anthropotechnics) and how can their epistemic dimension in movement, agency, production be studied within the framework of an interdisciplinary anthropology?
- How does the nexus of embodiment and technical artefact ground our self-understanding through gestures?
- What is the materiality of these gestures when embodied in technical objects and artefacts?
- How does the development of embodied practices and interactions with technical artefacts create significance within the framework of a diachronically oriented philosophy of technology?
- What is the underlying ontology of the entanglement of gestures, techniques, artefacts, and human beings?