

Title: Sharing Haptic Attributes between the proximity senses

Model development of 4 haptic attribute models for hand, nose, mouth and, body

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Topic

Our topic concerns how to conduct practice-based research between and within three aesthetic disciplines: sculptor, professional taster, and performative artist. We continue to work with the material and experiences developed during the 3-year VR-funded HAPTICA research project. Our plan is to actualise a few practical situations that show how we gained both a deeper aesthetic knowledge within our own artistic disciplines and grew more sensitive and knowledgeable about the challenges faced in the other disciplines. The overall topic has been to expand the field of aesthetics by including the proximity senses: tactile, haptic, smell, taste, and movement by conducting artistic research in haptic.

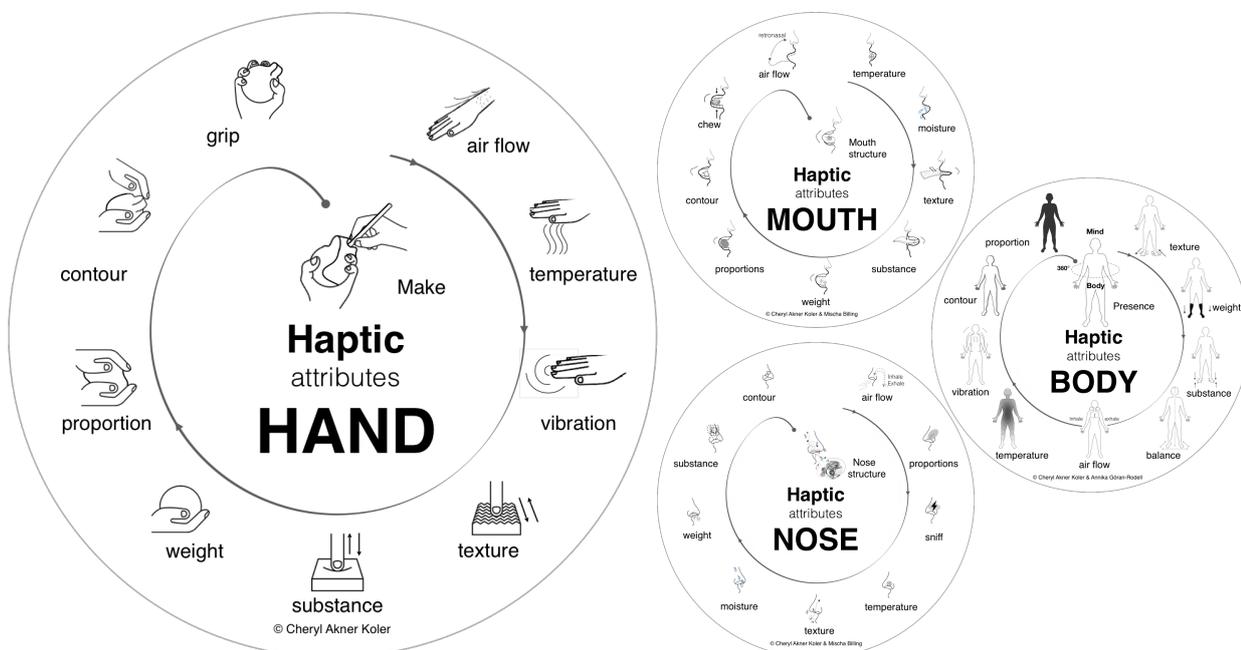


Fig 1. The four haptic attribute models of the hand, nose, mouth & body = **total of 13 haptic attributes.**

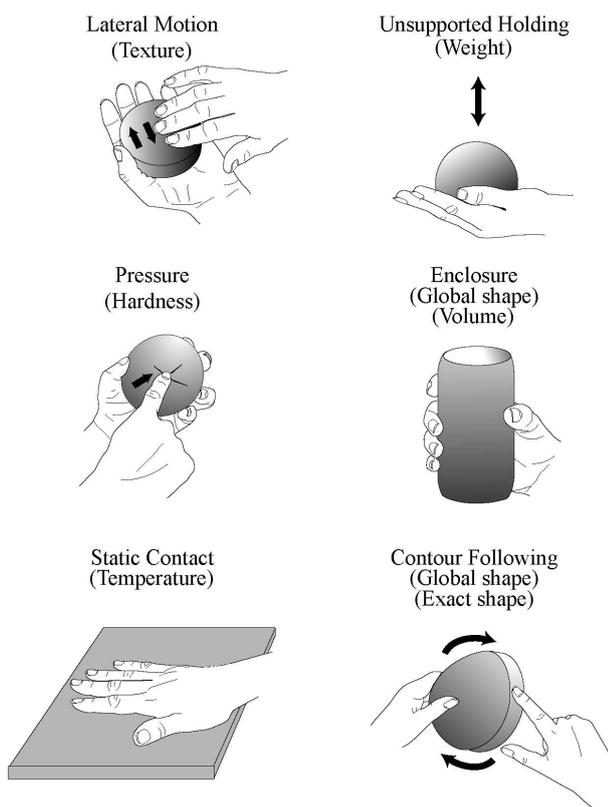
7 common attributes: air flow, temperature, texture, substance, weight, proportion and contour.

6 separate attributes: vibration, moisture, balance, grip, sniff and chew.

By Akner-Koler, Billing & G ran Rodell.

Research issues

The 4 haptic attribute models expanded the work of Katz, Gibson, and Lederman & Klatzky in both a qualitative and quantitative manner. The drawings in figure 2 are from Lederman & Klatzky's (1987, 2006) classic model of "Six manual exploratory procedures of the hand" captured our attention and was instrumental for developing the "Haptic attributes of the hand"-model in figure 1. The following points outline our contributions to further develop Lederman & Klatzky's model. Compare the Haptic attribute of the Hand model (figure 1) with L&K's model (figure 2) :



- **Attributes-terms:** The following five attributes were added: air flow, vibration, proportion, substance, and grip. Thus, the "Haptic attribute of the hand"-model included a total of 9 attributes.
- **Attributes-illustrations:** All the illustrations were redrawn, and three new illustrations were added.
- **Configuration:** Each attribute was positioned within a circular configuration in a clockwise sequence, starting with air flow, strengthening an interrelationship with the neighbouring attributes.
- **Intentional drive:** Both the definition of each haptic attribute and their unique sequential position in the configuration are motivated by the professional experiences and intentional drive or sense of presence from the artistic leader responsible for developing their respective model.

Fig 2. "Six manual exploratory procedures of the hand"
Lederman and Klatzky (L&K's) model.

Conversation

In the spirit of the theme working together for this symposium, we had a recent conversation with Roberta Klatzky to discuss our revised Haptic attribute of the hand model in figure 1 with their model in figure 2. She expressed her support for further developing their model based on the above five points. We address the methodological development of the four haptic attribute models; each illustrated with nine haptic attributes: air flow, temperature, texture, weight, Etc; see figure 1. Through these models, we articulated how the sense of haptics emerged from touch (tactile) engaging receptors in the skin and continued through the sensory/ motor- experience in muscles. Starting with the hand's haptic attributes followed by the nose and then mouth; all three models involve active sensitizing processes for the artist(s) to prepare for the creative composition of a gestalt. The final fourth model was about creating a sense of presence by calming the body and mind through subtle haptic bodily experiences. We also come prepared to shared our experience and understanding of haptics between our disciplines by engaging in several different activities such as

creating aesthetic labs (A-labs), collaborative projects, and design courses. These activities helped us empathize with each other's drive to reformulate the attributes as the models developed.

Another important mode of actualization for the HAPTICA project was in staging the HAPTICA exhibition at Konstfack in January 2019. Two short films of the exhibition will be presented to show how it directly inspired how we organized the HAPTICA "exposition" in Research Catalogue.

Transpositional approach

For theoretical inspiration, we have explored a "Transpositional approach" (Schwab, Braidotti 2018) that explains some of the ways we have conducted our research in haptics. Initially, the terms describing the haptic attributes were derived from a cross-disciplinary literature review mainly from a psychological and neurological perspective. The five points above outline how we transformed Lederman and Klatzky's model in figure 2. When the first model of the haptic attributes of the hand was designed, each of the following models emerged through a transpositional approach by adapting each model to the subjective experience of the artistic leader in their professional context. Although the models have a majority of shared terms for each attribute, there can be significant differences in the definitions of the attributes due to material choice (wine/clay) and the artistic leaders' professional situation. The nine haptic attributes in each model are sequentially positioned in a circular clockwise configuration. During the transpositional process, the attributes were reconfigured into a different sequence that resonated with one of the three artistic leaders responsible for developing the respective model (Rutz 2018). An important part of the artistic development of these models was to integrate our subjective emotional response as part of feedback- and feed-forward interaction. Emotions are intimately woven into haptic perception because the direct nature of experiences brings us "in touch" with ourselves. The statement "I was touched" expresses a direct experience of someone or something physically touching you. However, we may also be emotionally moved by an encounter with or without physical touch. This complex yet direct, emotional feedback mechanism that arises from direct and indirect haptic experiences can feed-forward to, directly and indirectly, affect future actions.

Proximity senses

Over the past two decades, research in and about artistic practice has made it clear that we must challenge the sense hierarchy claimed in the foundation of modern European aesthetics, between the so-called 'higher' *distance senses*; vision and hearing and the 'lower' *proximity senses*: tactile, haptic, smell, taste and movement/presence (Korsmeyer 2017). The HAPTICA research project contributes to emancipating the proximity senses because haptic perception is an intricate part of these senses. By sharing the tangible aspects of sculpting, tasting, and performative acts, we have made informed decisions for developing concepts and models that can help articulate our tangible and tacit aesthetic knowledge.

Rosa Braidotti states the need to "propose creative links and zigzagging interconnections between discursive communities that are too often kept apart from each other" (2017, p.26).

Fine arts, culinary art, and performative arts are aesthetic disciplines; however, we have seldom been able to establish a domain of inquiry based on our own professional needs. There is a great wealth of knowledge to be gained in creatively interconnecting the aesthetic disciplines to create a shared discourse that can strengthen the artistic community in its role to shape a more sustainable and sensitive future.

Reference

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(Figure 2 with permission of the authors, the original figure was modified and published by Oxford Press as Fig.5.1 in Jones, L.A. & Lederman, S.J. *Human Hand Function* (2006).
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