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How the floor can facilitate self-sensing and inspire somaesthetic technology design

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As discussed in section 6.2.1.1, technologies can enhance our ability to sense (and make sense of) our physical selves. Even deceptively basic artifacts can facilitate self-sensing, and examining how they do so can lead to some interesting insights on designing for embodied interaction. For instance, a smooth, flat, horizontal surface—such as an ordinary wooden floor—is an essential aid to developing somatic knowledge in the Feldenkrais Method (Feldenkrais, 1972), an educational approach to sensorimotor learning that had contributed significantly to Shusterman's development of somaesthetics. The modern hard floor is a peculiar human invention. With the exception of, say, a frozen lake, few surfaces in nature are perfectly smooth, uniformly flat, absolutely horizontal, and capable of supporting the weight of the human body. Such surfaces can generate sensations that are particularly amenable to systematic observation and, consequently, enhanced body awareness. In contrast, natural surfaces are often riddled with noisy features that complicate prediction and interpretation of sensations that are felt when interacting with such surfaces. In the epistemology of the Feldenkrais Method, you can observe your neuromuscular response to gravity through attending to your body's contact with the floor. This neuromuscular organization can be altered after doing and carefully attending to the slow, gentle movements typical of a Feldenkrais Method lesson. You can glean additional insight about your neuromuscular organization by noting any differences in how your left and right sides contact the floor, using a kind of comparative analysis of embodied phenomena wherein the floor acts like a "kinaesthetic mirror" (Wildman, 2006, p. 64). If the surface on which you're resting is not smooth, flat, and horizontal, any differences you sense may not provide you accurate information about your neuromuscular organization. In other words, when coupled with attentive observation, the *physical properties of the floor provide a uniform learning environment that affords proprioceptive distinction-making.*

The wearable device my co-authors and I presented at the Works-in-Progress session at TEI 2020—called *Haplós* (Maranan et al., 2020a, 2020b)—was inspired by simple artifacts that afford sensory attentiveness, such as the modern hard floor as described here. It additionally built on the work of designers and artists from the field of embodied interaction technology research (Höök et al., 2015; Loke et al., 2013; Schiphorst, 2008) and somatic costuming (Dean, 2015). Finally, Haplós was motivated by research in neuroscience suggesting that vibrotactile stimulation can alter the cortical representation of the body (Rosenkranz & Rothwell, 2004). Through carefully designed patterns of vibrotactile stimulation, Haplós aims to elicit self-reports of heightened body awareness by supplying the user with higher-resolution information of body areas in order to increase their representation in the

somatosensory cortex. As such, Haplós could be regarded as an example of a *somaesthetic technology* (Maranan, 2017) in that it enhances the ability of its wearer to make systematic observations of pleasurable, structured stimuli that lead to heightened awareness. Thus, Haplós encourages its user to treat the body as the site both "for aesthesis (sensory appreciation) and creative self-fashioning" (Shusterman, 2008, p. 1).

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