

# SENSORIMOTOR TUNING & ANIMATION

The concept “sensorimotor” has provided a framework for understanding my animation practice in a meaningful way, as a non-dualist, practice-based way of tuning and knowing. This animated attunement can take place during classical animation techniques such as stop-motion but also through daily tasks, chores or spontaneous interactions within any of my environments. In “Baltic Tuning” I try to give a detailed account for how this works. It is these sensorimotor processes that scaffolds my worldbuilding and niche construction practice.

## Cognitive process

The term "sensorimotor" combines "sensory" and "motor," referring to the integration of sensory information and motor responses. It describes the bodily functions and neural processes involved in both perceiving stimuli and initiating movement. The term is used in various contexts, to describe the interconnectedness of sensory and motor systems

In cognitive sciences sensorimotor processing is described as a process that couples sensory input with a movement response combining an input with an output, into one unit, in the central nervous system. The enactive approach to cognition argues that perception is perceptually guided action and that cognitive structures emerge from the recurrent sensorimotor patterns that allow action to be perceptually guided.<sup>[i]</sup>

## Rhythmic becomings

New research shows that each individual has their own specific sensorimotor dynamic with which they can come to know the world. <sup>[ii]</sup> Each body has its own sensory profile, its own intrinsic way of functioning and coming into relationship with the world through.

Being in the world through repetitive rhythmic movements, sometimes referred to as stimming (self-stimulatory behaviour) where the difference between input and output can be gradually adjusted in a sensorimotor process, is a vital part of cognition for many people, especially autistic individuals. Manual animation is often exactly that: a continuous repetition of a drawn or otherwise shaped motif but with a slight shift with each frame. The visual and a tactile input is coupled with an action response (the adjustment of the motif in the next frame).

*“The ecological inclination to perform rhythmically repetitive motor actions as a form of regulating our grip on the world that suggests that stims, as temporally iterated actions, afford meaningful engagement, even if these meanings are obscured from an observer”.**[iii]***

*“Thought is constituted in ongoing sensorimotor adaptation to the environment in ways that serve our organismic and cultural needs”.**[iv]***

In many ways this iterative relating corresponds with the spontaneous rhythmic self-organisation described in particle physics as a fundamental and universal way that all matter co-compose itself through. As a language, the sensorimotor thereby offers itself to a conversation in which all matter shares the same way of being alive as the self. This sheds some light on the animation practitioner’s incredible ability and long history of portraying the lives of objects.

*”The earth speaks to everyone.....The stones have small voices”.  
Pom in Laputa: Castle in the sky*

*“In this part of the video the water doesn’t symbolize anything. I am just interacting with the water as the water interacts with me. Far from being purposless, the way that I move is an ongoing response to what is around me. Ironically, the way that I move when responding to everything around me is described as “being in a world of my own”. Mel Baggs, My language*

## Sensorimotor & animism

The connection between sensorimotor interactions and animist thinking is well established. Piaget's theory of cognitive development in children is one example where the sensorimotor stage is considered as the phase when children believe their toys are alive. A phase that the human grows out of as they approach adulthood. This view results in a less-than-human-othering<sup>[v]</sup> of any grown up relying on sensorimotor cognition and animist affections. The arts has offered a refuge for the sensorimotor though. Painting, sculpting, weaving, editing, animating are all processes that afford the sensorimotor. But arts main place is still in the studio and in the gallery with its white cube history of separation from daily lives. And even in the arts it is common to be dismissed as naïve if having animist experiences or irrational if insisting on manual sensorimotor procedures.

## Suppression of the sensorimotor - Modern regulation of the senses

Stimming-behaviours has historically been stigmatized in western society. Ableist prejudices and norms has subjugated many bodies to hegemonic corporeal norms that disable them from accessing their full cognitive potentials. Tapping fingers, flapping hands, rocking from side to side has been seen as unwanted behaviours that should be suppressed and disciplined. From our first school years we are taught that paying attention means sitting still and looking the teachers in the eyes.

For Rolando Vázquez Melken modern aesthetics is; the order of regulation of the senses and the arts under modernity. Beyond that regulation is a vast plurality of sensorial experiences and expressions potentially possible.<sup>[vi]</sup> The increased aestheticization of modern everyday life means that this instrumentalization of the senses takes place through all aspects of life.

The regulation and rejection of animist thinking as naïve and primitive is one of the central regulating mechanisms in modernity.

Anselm Franke's exhibition project "Animism" provides a thorough examination of this undermining. I will here move on to argue that modernity's repression of animist worldviews becomes regulated through the suppression of sensorimotor processing.

## Degrading of manual and repetitive labour

In the modern world, tasks that rely on the sensorimotor, such as "inbetweening animation", has been stigmatized and devalued as unqualified manual and repetitive labour to be outsourced or automated for profit maximization. Such jobs are still available within the western world but the wages are becoming increasingly unlivable. Such labour within the home has long been invisible and unpaid. But as feminist voices have acknowledged this as work, it is increasingly encouraged to be outsourced.

(women's higher stress levels from cluttered & messy homes)

## Extraction of sensorimotor practices

Government policies and market mechanisms are equally encouraging removal and extraction of sensorimotor practices from our lives. Services marketed as convenience or luxury such as Bolt, Voi or Foodora, removes biking, baking or walks to a restaurant. The government's subventions Rut & Rot encourages us to avoid washing, cooking, planting, tending, foraging, building, mending, caring and instead outsource it to precarious immigrant workers for unlivable pay. The outsourcing of physical labour to fossil fuels is also encouraged by the yearly global subsidies of \$7 trillion<sup>[vii]</sup>.

## Commodification of sensorimotor practices

This way sensorimotor activities become extracted from our lives, separated from their embedded specificities in our daily lives, packaged, commodified and sold back to us as vagus nerve vibrators, fidget toys, gym cards and ASMR videos scroll feeds. Or as in the case with the arts; represented with a safe distance from being of use or support of everyday life's organismic needs. This undermines our connection with our environments and renders our world as lifeless. It unables us to sense and self-regulate our

individual footprints, our life-space with the affordances of our environment. It wrecks niche construction, resulting in environments unable to support us. It furthers the separation of self and world and undermines the meaning of our lives.

## Prediction and direction

The sensorimotor connection with our environments enables a sense of direction. An embodied sense of how places are developing. It enables a extrapolation of that development, sensing into the continuation of this path, of for example warming.

## Ref

[i] (*Varela et al. 1991: 173*)

[ii] Tancredi S, Abrahamson D. Stimming as thinking: a critical reevaluation of self-stimulatory behavior as an epistemic resource for inclusive education. *Educ Psychol Rev.* 2024 Jun;

[iii] Tancredi S, Abrahamson D. Stimming as thinking: a critical reevaluation of self-stimulatory behavior as an epistemic resource for inclusive education. *Educ Psychol Rev.* 2024 Jun;)

[iv] Varela FJ, Thompson E, Rosch E. *The embodied mind: cognitive science and human experience*. Cambridge, MA: MIT Press; 1991.

[v] Visuri I. *Varieties of supernatural experience: the case of high-functioning autism*. Huddinge, Sweden: Södertörn University; 2019. 230 p. (Södertörn Doctoral Dissertations; 1652-7399). ISBN: 978-91-88663-70-2 (print); 978-91-88663-71-9 (digital). p.48)

[vi] Walter Mignolo and Rolando Vázquez, “Decolonial AestheSis: Colonial Wounds/Decolonial Healings,” *Social Text/Periscope* (July 15, 2013),

[vii] <https://ourworldindata.org/how-much-subsidies-fossil-fuels>