Intra-sensora is a free movement audio visual experience on the verge of abstraction driven in part (and optionally) by biosensing data collected in real-time from the user via EEG equipment, creating a neurofeedback type interaction that can be influenced by the subjective regulation of inner experience. Thematically, the visual component of the piece is meant to represent the metaphorical traversal of boundaries and thresholds in the context of how the outside world changes us at every moment and how we change the outside world from within.

Neurofeedback: neurofeedback is described as “meditation on steroids” in the book The Body Keeps the Score, where the therapeutic practice is discussed in the context of trauma treatment.

Inner experience and external world dynamics: If we allow ourselves a measure of simplification, just to begin making sense of things, we may observe that conscious experience can differentiate between two contexts of operation. There's the management of private thoughts and feelings, that goes on in an unbroken chain of sensations and ideas in the making. And there's the outward perception of environmental events, largely outside of our control, that filter back into the inner experience level of operation according to ever-changing criteria of importance. We humans are constantly monitoring the world around us as well as the turmoil within ourselves; then generating new sensations, thoughts and behaviors from those observations. The emergence of new experience bits can also be observed and, consciously or not, be projected beyond to influence the external world.

Conceptual and physical borders: To continue simplifying things, and in so doing creating a metaphorical-conceptual boundary, we can identify the wider phenomenon of differentiation in experienced reality into those instances of the process that occur physically; in terms of matter, objects, substances, and the organic constituent parts of living organisms, and those occurring purely in the cognitive realm. Conceptual borders are those created and continually developed out of bits of experience; like categories of music. Physical borders are those existing (and developing) in the material environment; like the difference in frequency between one tone and another and the material constitution of the floor against that of the chair.
A large portion of conceptual borders are actually interpretations of observable physical borders. And most physical borders that we interact with on a daily basis are not in fact naturally occurring, but manifestations of conceived conceptual borders. Following from that; it is particularly important for thinking conscious beings to continually define, refine, re-interpret and re-develop our borders, even as we traverse and expand beyond them, like thresholds, within our minds and within our bodies.The segregation of populations, lines delineating political regions, the assembly of given materials into a chair format, the miscommunication of ideas that results in argument; language morphemes forming words, sentences and meaning, are all border conditions with conceptual and physical manifestations. The displacement of atoms, bodies, and minds in a specific configuration in space and time. And the experiences of those minds that give rise to new configurations.

The body: Let's look more closely at the organic constituent parts of living organisms. Such as cell membranes and organelles; the physical outlines that delineate individual identity. And let's

try, as much as humanly possible, to differentiate them from the expanded outlines that reach out to draw culture, belief systems, values and so on into the fold of identity. In the case of our immediate experience as humans at least. We make the distinction not to ignore the latter, but to precisely observe the kinds of boundaries at play; their interconnected shifting nature. And to recognize the body as the ultimate territory from which we make our stand and project our intentions into the world.
What must it feel like to inhabit a body that is not your own? Or one that actively fights against you? Does discomfort turn to resistance, then action? What if action is limited or thwarted? The shifting of weight away from an injured limb become a district gait. Does it turn out that some cognitive features of personality are just as solid, natural, and unchaining as physical traits? Does it turn out that some physical traits are in turn not strictly fixed?
Making the distinction turns out not to be an easy task, especially when it comes to feelings and sensations. They seem to emanate from vague regions in the body and exhibit elusive yet distinct characteristics. Heat, cold, warmth, brittleness, weightiness, a noisy depth. How would you describe hunger? What about a craving? Still, the obvious physicality of the body stands as a reference point for the flow of experience. Its shape demands space wherever it exists, and some base level of inward awareness from its inhabitant. And that shape itself is not immune to the influence of conceptual processes; technological and biological. The body is continually accessible for directed awareness and deep sensing of whatever may be observed within.

Expanding the realm of the imaginable: Our Influence over both internal states within ourselves, and external ones in our environment, comes down to decision making in time. And to talk about differentiation, border conditions and thresholds is to talk about decisions. Decisions that are made for us, decisions that we think we make and decisions that we don't know we can take. The process of observation of experiential dynamics changes those dynamics to the point of perceived time distortion, among other side effects. Notably, fine grained analysis of conscious experience (even when dealing in concept with broad-strokes boundary continuums) generally reveals a larger space of possibility of imaginable realities. It can be argued that time spent thinking “slow” in some way improves our reaction to a high volume of events relative to time, or our “fast” thinking ability. But really, novelty combined with time scarcity represent a hard limitation for effective action in the case of too fast-changing stimulus. The question is; should observation be consciously enabled, and experience directed at diverse levels of granularity of events-to-time ratio, would a response to novelty and limitations contain a factor of novelty and creative control? How would the development of such a frame of mind affect our outlook, our view of the future as it relates to the present and the past, evnen in the midst of an apparently hopeless situation?

Technical approach and artistic workflows: The central element of the piece will be improvised and directed motion capture performances of dancers and actors. The motion data's final presentation will primarily take the form of animated humanoid character rigs, and adapt to specific thematic scenarios evoked in the performances. Time slices at various scales (frame, shot, sequence, event, narrative moment) are open to iteration using a variety of digital imaging techniques, ranging from the hand drawn to the procedural. Particle simulations, shader effects, geometry animations, virtual camera work, compositing, paint over, motion retargeting, and post

processing visual effects can all come into play to complement, interpret and enhance the captured motion data.
The production of art assets and sequences is, in this way, envisioned to be for the most part informed by that improvised movement-based structural backbone as well as by the thematic framework. A free flowing sequence of motion meant to express an aesthetic style, a mood, or a subtle narrative. Gradiantly concerned (as in a gradient of intensity) with depicting concise behavioral and emotional scenarios inspired by the theme of boundaries, thresholds and the active experience of change.

Additional topics and themes to develop:

- **What are the programmatic rules by which the visual stream evolves based on EEG readings?**
- Neurofeedback and EEG (What is it? What is the state of the discipline? And can you make art with it?).
- Subjectivity of experience and neurodiversity (Everyone's brain wave patterns are different and their meaning ever changing).
- Time and sequence (or thinking and experiencing change)
- Homuncular adaptation (Inhabiting virtual anatomy)

Baseline art asserts and visual anchors:

- Types A and B humanoid figures.
- Coral.
- Fungi.
- Vegetation, foliage.
- Micro algae.
- Currents of air, water, smoke, etc.
- Terrain, topology, natural textures, materials.
- A circle on the ground.
- A cell.

Reference:

The Body Keeps the Score << Book by Bessel van der Kolk.

https://youtu.be/URo66iLNEZw << Annihilation and Decoding Metaphor.

https://youtu.be/uBsJgceM0KI << Annihilation, escape scene part 1.

https://youtu.be/zqFds4L73Uo << Annihilation, escape scene part 2.

"An organism is a unique combination of its genotype and environment, and their interaction. It's here in one generation, gone in the next. [...]" _ Arvid Agrid, Mindscape podcast, the gene's eye view.

“Minds like ours,[...] Separating information about self from information about the world [...]” _ Jenann Ismael, Mindscape Podcast, Connecting Physics to the World of Experience. Zensunni awareness._ Dune

Oblivion Song humanoid aliens.

Zen circles. Arrival circle language.

Everything _ Videogame by David OReilly.

EEG and Neurofeedback references:

Neurofeedback enhances functioning in trauma-Bessel van der Kolk << Long lecture on Neurofeedback.

https://traumaresearchfoundation.org/resources/neurofeedback-forum-with-bessel-van-der-kolk-ruth-lanius-and-sebern-fisher/68c385a4-fb8e-11eb-9a03-0242ac130003/ << Long conversation on Neurofeedback from the trauma research foundation.

https://openbci.com/_<< Open source EEG hardware and software.

https://neurosity.co/developers << More expensive option.

Some DIY EEG stuff:

DIY EEG to Arduino // Live Hardware Hacking!

https://frontiernerds.com/brain-hack

https://www.crowdsupply.com/upside-down-labs/bioamp-exg-pill/updates/electroencephalography-eeg-walkthrough

Motion Capture Tools:

https://www.deepmotion.com/ << AI Video Based motion capture (paid).

https://plask.ai/ << AI Video Based motion capture (free).

https://www.xsens.com/ << Motion Capture wearable bands.

https://www.rokoko.com/products/product-overview << Motion capture suit.