

Sensory and Spatial Koans

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Abstract

Taking as a departure point Lygia Clark's koan-like use of paradox and material juxtaposition this paper asks how her methods might be deployed in the context of contemporary technologies, like embedded electronics and algorithms, and what we might make if we take the spatial or sensory koan as a strategy when building with these materials. It will introduce the spatial koan as a lens through which to view Clark's work, discuss her use of sensory juxtaposition in the object based therapeutic treatment she devised called *Structuring the Self*, and introduce *The Relational Objects Project*, currently in production, as an example of how this framework might be applied in the context of contemporary materials. This work developed through research in Clark's archives and conversation with Lula Wanderley and Gina Ferreira, two psychotherapists trained by Clark in her *Structuring the Self* practice.

Keywords

Sensory Engagement, Gestural Interaction, Physical Computing, Lygia Clark, Spatial Koans, Embedded Electronics, Contemporary Sculpture

Introduction

koan (n.) a paradoxical anecdote or a riddle that has no solution; used in Zen Buddhism to show the inadequacy of logical reasoning. [1]

The Koan is a provocative form to consider when working digitally. We often use binary and electromagnetic materials to make a task easier, faster, or more profitable. In these cases the framework of optimization guides design and the binary nature of these materials complements the logic of their formation and use. What might we find by juxtaposing binary materials with methods that ask us to look beyond logic? Might we achieve radically different outcomes by using logical materials in ways that 'show the inadequacy of logical reasoning'? The koan, with its use of juxtaposition and paradox, offers an alternative design methodology. One that is promising for discovering new ways in which digital and electromagnetic materials can affect sentience, possibly even leading to new types of sensations. Lygia Clark was an artist whose objects used koan like juxtapositions to create experiences of overwhelming sensation. Her works suggest that the koan framework is a rich strategy for designing objects that prompt transformative experiences between people.

In the late 1970's Brazilian artist Lygia Clark developed a therapeutic object based practice called *Structuring the Self*. This practice relied on her *Relational Objects* and the types of interactions they enabled her to develop with clients. These objects stimulated sensory engagement and employed a koan-like use of paradox and material juxtaposition. This paper provides an overview of Clark's *Relational Objects* and *Structuring the Self* practice. It describes her methodology in making these objects as sensory and spatial koans and it speculates on how this idea might be useful in framing a sensory focused object making practice in conjunction with contemporary materials, like embedded electronics and physical computing. It discusses *The Relational Objects Project*, a set of interactive sculptures focused on the qualia of gestural interaction, as an example of how materials operating on the electromagnetic spectrum can be used to create focused sensory experiences that explore the framework of the sensory koan.

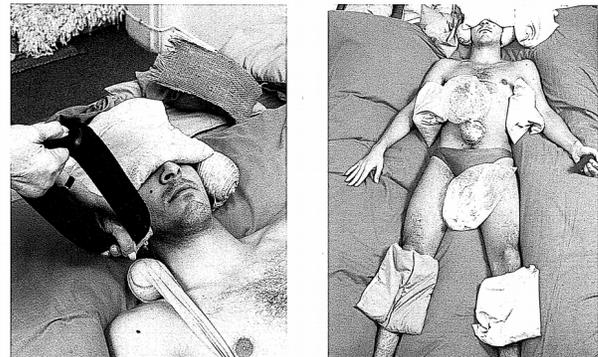


Figure 1. A client with *Relational Objects* during a *Structuring the Self* session.

Lygia Clark's *Relational Objects* and *Structuring the Self*

Clark was a Brazilian artist who developed an object based practice centered on sensory engagement. She created interactive objects that re-framed familiar experiences and the mindset with which audiences approach those experiences. From the late 1960's through the 1970's she made works focused on interactions that redirected the viewer's attention to sensorial experience. These objects privileged senses like smell and touch and hinged on the active participation of the viewer. Through their forms, they created uncomfortable, transgressive, explorative arrangements of bodies. What grew from this was a series of works, made from 1976 to 1988, that turned away from the

form of the object to the gestures of the participants. These artworks involved objects that acted as focal points around which ritualized gestural performances were enacted. They specifically required gestures to animate them. These works transcended the object and centered on the active participation of the viewer. She called these sculptures *Relational Objects*.

With the *Relational Objects*, Clark became focused on one-on-one experiences that centered on touch. These sculpture were made from mundane materials- a shoe, a mattress, a piece of cloth- that Clark used in gestural and sensorial ways. In this period Clark begins to achieve a minimalism of the object that focuses on the possibility of the object as relational device. She built these sculptures with materials that highlighted themes of passage, exchange, and relationality. With these objects, Clark developed a therapeutic process she called *Structuring the Self*. Clients visited the artist for one-on-one sessions conducted in her home, where she applied the *Relational Objects* to herself and the client's body. Many of her earlier works were re-purposed in service of these therapeutic engagements.



Figure 2. The *Relational Object, Respira Comigo* in use.

The film, *Memória do Corpo*, depicts the *Structuring the Self* process. [2] In the film, Lygia Clark gets down on her knees next to Paulo Sergio Duarte. He lies prone, on a bed, and she takes her *Relational Object, Respira Comigo*, and puts it to his ear. The object is a small length of industrial rubber tube with tapered ends for making fitted connections. She puts one end of the tube to her mouth and the other to Duarte's ear and begins to suck, cluck, and whistle. She makes more clucking noises followed by small hums. She ends with a few clucks and takes the *Relational Object* away from his ear. Duarte was undergoing a *Structuring the Self* session. As part of the process Clark had already stroked his face like a person pets a cat, played with his hair, and put plastic bags filled with water and air over his crotch and rolled them across his torso, arms, and between his legs. Suely Rolnik further describes the process in her 2007 article, *The Body's Contagious Memory*:

The artist received each person individually for one-hour sessions, one to three times a week, over a period of months, and, in certain cases, for more than one year. Her relationship with the receiver, mediated

by the objects, had become indispensable for the realization of the artwork: it was on the basis of her sensations of the living presence of the other in her own "resonant body," in the course of each session, that the artist progressively defined the singular use of the *Relational Objects*. This very quality of opening to the other is what she was able to provoke in those who participated in her work. [3]

As Rolnik characterizes it, the *Relational Objects* focus attention on the sensory and through this attention open a disruptive and ultimately transformative space for the client, one where they could conceive of new possibilities in how they relate to the world. Her practice was never fully accepted by either the art world or the medical community. Rolnik characterizes it as transcending both. Certainly, clients of Clark's felt transformed by their participation in this process. However, when asked to talk about outcomes few could articulate what exactly happened or the mechanism by which it worked. Most talked, as Lygia wrote, about an opening to the possible. [4]

The Spatial and Sensory Koan Framework

I present here the koan as lens through which one can understand both the effect and mechanics of Clark's work. Much like a koan, Clark provided experiences of such overwhelming sensory engagement that there was no one logical or linguistic pathway to arrive at understanding. Clark's material choices also created koan like juxtapositions. She used materials, like burlap sacks and transparent bags, in ways that highlighted the paradoxical qualities of the skin as a relational zone. She juxtaposed sensations like the taste of honey and the warmth of a lamp or the lightness of air and the heaviness of stone. In her article, *The Spheres of Insurrection: Suggestions for Combating the Pimping of Life*, Suely Rolnik analyzes the tension created by paradox in the political sphere. [5] She speaks of the disruptive strength in paradoxical recombination, and this analysis describes how a process like Clark's, that relied on material and sensorial paradoxes, might evoke the transformative opening to the possible that Clark and her clients so often describe.



Figure 3. *Pedra e Ar*, a *Relational Object* that the client creates by filling the plastic bag with their breath

Lygia Clark's koan-like use of paradox and material juxtaposition was a crucial element of how her *Relational Objects* worked. In these objects, made from deceptively

quodidien components, she paired materials that evoked inverse sensations like heavy and light, or malleable and rigid. In *Pedra e Ar*, Clark used a plastic bag filled with air juxtaposed with a small stone. In this object inert material mimics the epiphenomena of life. Clients would blow up the bag with their own breath and use the air filled bag to move the stone in a way that evoked respiration. The light material moves the heavy object and the heavy inert stone, often a metaphor for a death like state, is the thing that, through its movement, mimics life. In regards to juxtaposition Clark said, 'I felt that life is always existent because of the polarities that give mutual value to one another.' [6] Like koans Clark's object paired contrasting and paradoxical sensations. These spatial and sensory koans animated her *Relational Objects* and gave rise to tensions that spurred her clients self described transformative experiences.

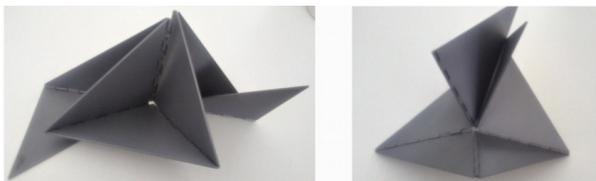


Figure 4. A replica of a *Bicho* in two positions

Lygia Clark coined several phrases that capture the way her objects sensorialized paradoxical concepts. One phrase in particular, the empty/full, embodies a koan-like relationship to space. She often referenced this concept but the *Bichos* are the first of her objects that embody it. When one plays with the *Bichos*, geometric sculptures made participatory and kinetic through hinge connections, the object's planes are both inside and outside while its forms create containers that are simultaneously cavities. As Lula Wanderley says of them, one must make oneself complicit with the object while also dealing with its autonomy because the hinges both invite movement and impede it. [7]

Joan Sutherland's description of how koans work also describes Clark's use of *Relational Objects* in *Structuring the Self*. She says, "...the koan is a way of getting us out of our constricted sense of self, not by denying or cutting off that self but by expanding it so infinitely that it ceases to have the limited meaning it once had." [8] Clark spatialized this idea of the koan. Her objects used juxtaposed sensations, like stretching and compression, to expand the self beyond prior conceptions.

Structuring the Self used juxtaposed sensations to make explicit the koan like role of the skin as both a border, that defines inside from outside, and a site of exchange, where the inside interacts with and takes in the outside. Her therapy involved touching the client's body with her hands and the *Relational Objects* creating an awareness of the skin as relational zone. Her objects, through their material qualities like transparency and holiness, referenced the perme-

able barrier- a surface where the inside might encounter the outside. The application of Clark's *Relational Objects* to the body made the in-flux, porous nature of this relational zone explicit. Her process was a demonstration of the skin as site of exchange, even though we often conceptualize it as boundary that contours definitions of the self. By contrasting these simultaneous functions *Structuring the Self* suggested that one's conception of experiences was relational, rather than a definition by which one was bounded. By making explicit the ways in which the skin functions as a relational zone she was able to foreground the possibility inherent to exchange.

This koan like making explicit of skin as porous barrier and relational definition was an outcome of a particular facet of Clark's work, namely the way her objects activated a reflexive sort of sensory engagement to access narrative consciousness. *Structuring the Self's* overwhelming sensations drew attention to the process of creating conceptions of self in relation to the world. By intensifying the experience of receiving sensorial inputs she was able magnify the mechanics of how sensory experiences structure understanding. Her process gave her clients an analyzable experience of how the body's sensations trigger memories that become the ground on which we build a conceptual model of our environment. Inherent to this process is the idea that restructuring our interpretation of sensations demonstrates the possibility of restructuring our understanding of complex narrative concepts. Clark called the process *Structuring the Self* because it opened one to the infinite possibilities of reinterpreting one's conceptions of the world.

The *Relational Objects* and the gestures they elicited mimicked the patterns and rhythms of the natural world. For example, Clark amplified the rhythms of breathing with objects like *Respira Comigo* and *Pedra e Ar*. She evoked those rhythms with sound by placing conch shells on her clients ears during sessions. Clark used these intensification to create an awareness of the qualia of living in one's body. As she put it in the film *O Mundo de Lygia Clark*, "You take things with your body, which you do not remember with your head – you can not remember because you have no memory at the time, but you record these things in your body. You record when you sway, when you fall sharply, when you are hungry, when you are wet, when you are dry – in short, the body registers everything and is going to structure itself with it." [9] By presenting the ways that qualia undergirds our experience she implicitly reveals the possibility of taking an active role in applying qualia to building a narrative understanding of ourselves in relation to the world. Hubert Godard says of Clark's work:

....she actually made two types of perceptual revolutions. The first is at the level of how it works within each feeling: taking the eye as an example, the question here is how it goes from an "objective" gaze to a "subjective" gaze. It is not new to say so, but today there is a lot of research in neurophysiology that

supports her ideas and explains well these two ways of looking, since there are two analyzers in the brain. We could qualify the first gaze as subcortical. It is a gaze through which the person merges into the context, there is no longer a subject and an object, but a participation in the general context. So this look is not interpreted, it is not loaded with meaning. If a fly comes in the corner of my eye, my eye blinks and closes, before I realize the fly is coming. Therefore, there is sensoriality that circulates without being necessarily conscious and interpreted. This is possible because there is actually a gaze that is beyond the objective gaze. A geographical or spatial gaze. A gaze that is not linked to time or, in any case, that is not linked to a memory, which is not linked to a return to the subject's history. And then, if we go to the other sense of the gaze, it would be the objective, cortical, associative look, the objective gaze, which is associated with language, etc. So it's really crazy, because it's not about Lygia Clark being content with that gaze. Lygia actually makes a revolution in the sense that she works on what might be called a subjective gaze. [10]

Clark's process used a koan like application of sensory experience to access the space in which qualia shades subject-hood. Her objects used an intensified sensory engagement to make strange familiar sensory experiences. This tension, grounded in embodied consciousness, lead to an awareness of the ways in which qualia moves from providing feedback to structuring our interpretation of the world. Her *Relational Objects* suggest that sensation is a way to modify the armature of narrative consciousness and thus to access the always present possibility of 'structuring the self.

Suely Rolnik provides a further assessment of how Clark's objects open the user to a transformative position. She analyzes the way in which paradox creates productive tension that moves one to act. Combined with Clark's focus on sensation as armature of consciousness her use of juxtaposition and paradox allowed the client a new openness to desire, to the position of the subject, and the subject's ability to act. Rolnik, in analyzing the discordant pressures of contemporary political life, explains how paradox might give rise to these positions:

Destabilized by the paradoxical experience of strange-familiar, subjectivity experiences a tension between two movements. On the one hand, the movement that presses it toward the conservation of life in its essence as the power for germination, in order to be embodied in new modes of existence. On the other, the movement that presses it toward the conservation of existing modes in which life is tem-

porarily embodied and subjectivity can recognize itself in its experience as a subject.

The malaise caused by the tension between the strange and the familiar, as well as between the two movements triggered by this paradoxical experience, functions as an alarm that summons desire to take action in order to recover a vital, emotional, and existential balance, a balance shaken by the emergence of a new world and the dissolution of the existing worlds. [11]

As she puts it the tension of the paradox calls on us to recognize desire and act on our recognition in order to feel vital.

It is in this same spirit of opening to the possibility of the vital that I look to Clark's work for strategies of making with algorithms and electronics. Much like Clark stands in implicit if not explicit counter to socio-cultural strictures and hierarchies this work also seeks to open a space where it is possible to re-imagine oneself in a new relationship to these entities. Considering her works as spatial and sensory koans provides a point of departure for thinking about how we might use her strategies when building with contemporary materials.

The *Relational Objects Project*

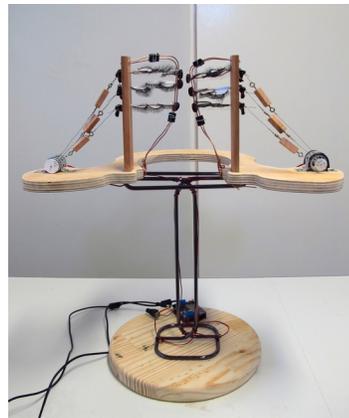


Figure 5. *Beijos de Borboleta (Butterfly Kisses)*, from the *Relational Object Project*

In the *Relational Object Project* I appropriate Clark's strategies of gestural engagement and juxtaposition in conjunction with physical computing. I use embedded electronics and algorithms as materials in relational sculptures that explore 'techno-qualia,' a new repertoire of senses created by our experiences with technologies that let us dwell in the material world while simultaneously experiencing a more abstract conceptual space. [12] By focusing and intensifying embodied sensations I suggest new relational encounters and create new sensations. These strategies,

tools, and materials produced focused sensory experiences that trigger cross-scale interactions between rhythmic, haptic, and reflexive ways of knowing.

The sculptures in the *Relational Object Project* engage the qualia of gestural interaction. They appropriate and re-invest Clark's strategy of material and sensory juxtaposition. They begin with quotidian sensations, like the feeling of eyelashes brushing one's skin, but use embedded electronics to create sensory juxtapositions. These objects amplify the paradoxical nature of gestural communication and simultaneously focus attention on the embodied aspects of its interactions.

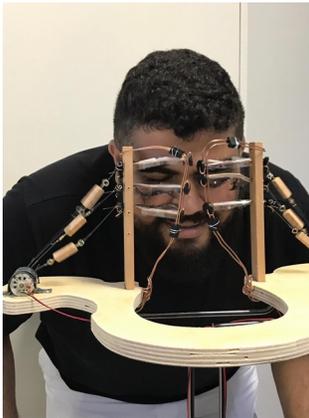


Figure 6. *Beijos de Borboleta (Butterfly Kisses)* in use.

Beijos de Borboleta, the first sculpture in the series, is a machine that can kiss. Reimagining the intimacy of the butterfly kiss as a technological encounter, it amplifies and intensifies the intimate gesture of brushing one's eyelashes against another's skin. It is a 22 inch high sculpture whose scale references table top vanity mirrors. It has a fitted wooden base and chromed, decorative, metal stand. The stand supports a wooden platform, the design of which references the shape of eyelash curler handles. This platform supports two motors and the mechanics that move three tiers of false, extra-long, carnival eyelashes. The viewer is invited to put their face up to the flitting eyelashes to receive the sensation of several butterfly kisses at once. The frequency of the motors and the sound of the mechanics mimic the sound of medical devices. For many people, its sound evokes a heart rate monitoring machine. This juxtaposition, of medical support sound with intimate sensation, is one of the sensory koans that animate this object. The paradoxical qualities of the butterfly kiss as intimate and localized gesture given with high frequency and over the whole face creates overwhelming sensations that call on the viewers embodied memories. When people use this machine, these sensations remind them of their past experiences involving similar intimate gestures. Their narrative consciousness is called forth through the qualia of the sensory experience.



Figure 7. *Respiração (Breath)* a Relational Object for two or more people.

The second sculpture in the series, *Respiração*, translates the rhythm and force of one's breath into haptic experiences that others can feel on their skin. It is a five foot tall structure with a blue hexagonal base. Three bars extend from the base. One supports a small and sensitive microphone, the other two support open hexagonal structures whose insides are ringed with orange, five inch long cilia. One person breathes in front of the microphone and the orange cilia vibrate mimicking the force and rhythm of that person's breath. Others are invited to interact with the hexagonal transducing forms as they choose. All the hinges on the structure are adjustable, allowing people to move the object to suit their stance. Users can arrange the microphone and the transducing cilia so that they can lay down, or have one hexagonal cilia form ringing their leg and another their head. The machine creates a unique experience that focuses attention on the awareness of another's breathing patterns. It re-frames what is often an intimate gesture of attention between two people as a site for engagement and reflection. It evokes the juxtaposition of intimacy and distance and it allows for the receiving users to develop new forms of engagement with what is usually a passive experience of attention and perception.



Figure 8. *Respiração (Breath)* in use.

Both of these sculptures reflect my engagement with Clark's strategies of sensory engagement as amplified by electromagnetic materials. The viewer's participation is actively invoked by sensory attunement and the attendant association of personal embodied memory. By provoking new associations, the sculptures arouse the possible mutability of the viewers narrative consciousness. My work, however, diverges here from the influence of Clark. The sculptures that comprise the *Relational Objects Project* amplify epiphenomena of the viewers' body in a different way. Sensors and those algorithms which interpret their data allow for a sustained immersion in the embodied experience of intimate communication. The viewer's engagement is more autonomic, they need not maintain conscious or directed focus on the sensory. Instead, they are able to remain immersed in sensation, cycling through embodied engagements, visceral interactions, and memories of intimate encounters.

The use of computing as material then attempts to open the viewer to novel variations in sensory language, prompting them to devise new engagements with its syntax. Embedded electronics and algorithms then enable dynamic interactions with viewers. A critical aspect of this work is the possibility of expediting an embodied response to stimuli that is usually passively processed. Through amplification and sustained interaction these sculptures experiment with a collaborative process of play and exploration which facilitates ways of knowing that are beyond logic. They call on our embodied knowledge and temporal sensibilities in a new process which builds on the suggestion in Clark's work that relational objects can be transformative and therapeutic. Like Clark's *Structuring the Self* process they activate sensory experience to loosen a productive potential, an opening of oneself into other possible worlds.

The innovative legacy of Lygia Clark's *Structuring the Self* practice offers fertile strategies to explore how embodied engagement may be able to restructure our narrative consciousness. From focused engagement with documentation of her work and process, I borrow and re-invent the following strategies as my own: 1) novel approaches to material and conceptual juxtaposition, 2) ways to access and explore relational border zones, and 3) intensified sensory engagement as a method to accessing a speculative narrative structure of the self in the world as it is given and as it may become possible.

The *Relational Objects Project* is, foremost, a body of sculptures to reimagine a breadth of possible worlds. These sculptures use technology and sensory engagement as their materials. This project lead to further questions: What worlds become possible if we take seriously these strategies of sensory engagement as guides when building with new technologies? What types of sensations might I and others discover, as sculptors, by thinking of algorithms and computational hardware as both material and relational? What possible worlds might we discover and proliferate if we invent new forms – new sensations to structure the self – that challenge the popular inevitability of techno-deterministic dystopia?

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Author Biography

Liz Lessner is a sculptor whose work combines traditional fabrication techniques and emerging technologies to create novel sensory experiences. These often interactive objects stage encounters that reframe common occurrences and routine happenings. She was a 2019 Fulbright Scholar affiliated with the University of Fortaleza in Ceará, Brazil. Lessner has had solo shows at Honfleur Gallery in Washington, D.C.; Big Orbit, a Center for Exploratory and Perceptual Arts Project Space in Buffalo, NY; and an upcoming show at VisArts in Rockville, MD. She has exhibited her work nationally and internationally including the Guapamacátaro Center for Art and Ecology in Michoacán, Mexico, A.I.R. gallery in Brooklyn, NY, and Everard Read's Circa Gallery in Cape Town, South Africa. Her research into embedded electronics' ability to create novel sensory experiences has been supported by grants like the Mark Diamond Research Fund, fellowships like the Eyeo Artists Fellowship, and awards like a Fulbright Research Award.