
The Body Multiple in an Aesthetics of Consciousness

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Introduction

It is reasonable to start with what we *see* and what we *do* when describing an interactive experience. In fact, this is primarily how we have come to critique most interactive art. However, in an attempt to refocus our attention towards *why* we may be drawn to interactive art, this paper will introduce a slightly different perspective. Instead, I will consider how the material elements of the brain apply to a philosophical potential of perception. Much of what occurs at the internal biological level mirrors *action* at the full body level. So when an artist builds a case for an aesthetic experience, she is also building a case for the material properties of perception and consciousness itself. As brain functioning may suggest how we behave in the larger world of being, aesthetics may function as a way to locate these perceptual exchanges within the multiplicity of self-awareness.

There is a constant exchange between the world of what we see and the kinetics of the unseen, and it all works within a seamless contingency of perception. Life is an endless search for exchange, sustaining both the individual and the collective society. Acts of exchange allow moments of consciousness and the reflexivity of introspection. In neuroscience today, one can detect that it is *gesture* that leads to a kinetic resonance in each individual brain cell. In the search for one brain cell to make contact with other brain cells we find a compulsive need to create ordered relationships, and these relationships are not at all unlike how individual people make their gestures within the larger human social sphere. Within this body gesture, the excitable cell resonates outward into the larger primordial openness of the *life world* (what neuroscientist Daniel Dennet calls the *qualia*, and what phenomenologist Merleau-

Ponty describes as the *lebenswelt*). At the same time, each cell receives from the larger social sphere. If we can accept this phenomenological exchange of human experience, then existence becomes essentially perceived as co-existence. Interactivity becomes the choice and the aim of this coupling, and works as a trigger to awaken consciousness. Consciousness becomes both an instrument and an outcome: a desire to reach beyond one's own sense of autonomy in order to establish a more complete sensation of a total reality.

The implication for how we view, make, and critique art is important here because what we see as evidence of the artist's process is also modeled simultaneously in the synapses of the brain. Scientists no longer look at the brain to be the engine of the body, the decision maker, or even the sole source of consciousness. In other words, one is not a trigger of the other, but rather consciousness is an emergent pattern that can be found at many levels of experience. So when art is experienced, these patterns repeat to iterate both the biochemical and the mechanical locomotion of consciousness. The pattern is reciprocal – consciousness creates the aesthetic moment, and the process of experiencing art becomes a reflection of our consciousness. Interactivity becomes an instrument for this understanding *in action*. We do, we see, we feel, we comprehend, and we react all as part of a whole action of becoming conscious. Contemporary art that explicitly stretches into these boundaries equates work that fosters an inter-subjective contribution to the transformation of the historical mind/body duality. Developing an interactive aesthetic is part of an awareness of this exchange, and manifests the literalness of this by working beyond a singularity of the sense, and towards a relational nature of a new corporeal understanding and aesthetic experience.

Corporeal Transitions

Intersubjectivity performs within phenomenology the valuable function of empathy, which involves experiencing another body as another subject (and not just an object among objects). In doing so, one also experiences oneself as seen by the other, and the

world in general as a shared world (instead of one that is only available to oneself). Intersubjectivity is functional in the arts *de facto*, because it flourishes in the rarified circumstances of the artwork that is viewed by an art audience, who frames it separate from the everyday world. In the aesthetic exchange, participation is the constant search for meaning through these special connections. Systems where a material form (such as partial physics), or a non-equilibrium of ideas (such as justice) are evident, can become dynamically stable when they are bound together by experience. In other words, things and people are meant to move and interact. The 'thing' or the person does not emerge until this exchange occurs.

One does not come to consciousness without an ecological understanding of this wholeness. This is true in both the connection to our bodies and our minds. Philosopher Jean Luc-Nancy reminds us that being is always *being with*, and that *I* is not prior to *we*. Nancy goes so far to say that there is no meaning if meaning is not shared. In order to unravel what this might mean, we must establish a variety of perspectives; from neuroscience to anthropology, as well as phenomenology, just to name a few. A view from a socially constructed art practice also contributes with a first person perspective. Art leverages intuition and open systems thinking -- two processes consistently identified as critical by neuroscientists to bring a person to a full sense of being and consciousness in the world.

The self may not be the monolithic entity we believe it to be. We consist of many components, each of which can be studied individually, since the notion of one's unified and solitary self may very well be an illusion. This is a claim that comes out of recent neurological studies, but can be justly applied to multiple perspectives on a variety of human activities, such as negotiation and interpretation. This means that searching for a single truth about consciousness may not be the way to go about things, but rather, to bring all the pieces together to see how they may fit within a continuous variety of perspectives, arriving at a consensus. Daniel Dennett, whose research centers on the philosophy of mind and biology, works towards the reduction of the internal process through the analytical workings

of cognitive science. Using a heterophenomenological system ("phenomenology of another not oneself"), Dennett makes it clear that his goal is to explain every mental phenomenon within the framework of contemporary physical science. More specifically, the challenge he has set for himself is to construct a convincing theory of consciousness on the basis of data that is available from the third-person scientific perspective but with the requirement for the researcher to listen to the subject. The third person, or scientist may ultimately dismiss the subject all together, but the voice of the first-person perspective remains as a trace (1).

Dennett's heterophenomenological perspective is a contemporary style of inquiry that can be considered a standard neuroscientific system-of looking at cognition. It separates us from the type of classical philosophical phenomenology that one can find in the models of Husserl and Merleau-Ponty, where the individual experience is what drives the theory. In fact, rather than working to bridge the heterophenomenological with a traditional phenomenological perspective, Dennett holds much criticism of phenomenology that utilizes only the first person perspective. So although Dennett's contemporary scientific methodologies use phenomenology differently than Husserl and Merleau-Ponty, it might take both systems to understand a fuller range of potentiality within the whole phenomenological field of experience. With this multiple understanding, we may never look at the embodiment or at aesthetics in the same way again, which is exactly what may finally lead us to a new understanding of how they may fit together as a multiple truth.

In the case of the study of neurophenomenology, there is a dissolving of the long held divide between the first-person embodied and the third-person analytic. There are two important situations we may notice in this trend -- one is the taking up of the phenomenological by neuroscience, and the other is the use of scientific methodologies in contemporary art practices. First, both the neuroscientist and the artist link together the scientific or analytical understanding of structures, considering how material forms lead to consciousness. It is now

possible to claim that thought is physics, or more specifically, that there is an existing sameness that governs the activities of thought. Secondly, both scientist and artist connect these understandings of being with our mutual permeability with all things. Thought is a sentence examination, or more technically, the reduction of analyzing the internal. It is an introspective process that is providing new information about the world, including how materiality is perceived as a point of reflection to underlying systems that map-for us how experience rises.

In Jean Luc Nancy's *Being Singular Plural*, he calls this continuous domain, being-with-itself, designed as the 'with/ of being to be a blow to ontology itself. And we can see why. Without sold differences, with only superficial punctuations, we can now locate ourselves in a unity of the world that does not have to be in singular relationship. We can be full of diversity, disparity, and oppositional perspectives. Nancy offers us a profound shift in what unification itself means when "the plurality of origins essentially disseminates the Origin of the world."(2). He is referring to a collapse of a singular unification that shifts our focus on the total of knowing back to the individual. So from the whole we locate the singular.

Even the smallest virus surviving among us seeks to bind the 'we' to the 'I'. The singular becomes an element of the 'we' in the co-appearing of an interactive life event. The virus is part of the 'we', which we are coming to recognize is both a remarkable unfolding, but also the struggle of being. The virus that temporally resides on its host, such as a common cold, or a super-virus that tunnels in to alter the host DNA, nullifies the possibility of material autonomy from others. In fact Nancy describes connection as a kind of circulation. This circulation is active, with material properties, and it goes in all directions. This can be compared to the Nietzschean thought of the "internal return", or a feedback system for audiophiles, or the interactive experience with visual art. With this fluidity, with everything in motion, and with the picking up and leaving traces of the other, we find what Nancy describes as everything passing between us. "This between

as its name implies, has neither a consistency nor continuity of its own"(3). This circulation or access is what Nancy would describe as a 'coming to presence', is an 'it' in itself and for itself, while it also creates a co-existence with everything. This plurality of origins that we understand in Nancy's philosophy essentially disseminates the origin of the world into the individual.

Awareness and Aesthetic Interaction

A coming to awareness involves an unexpected arrival. Levels of awareness occur in waves all the time, and all around us. Yet we tend to focus only on the moment of arrival between the parts, so this collision of coming to awareness always takes us by surprise, and feels like the first time. But we can think of coming to awareness as also a distribution of the world's parts of which we are already participants. So awareness can be understood as the *return* of the multiple with a mobile trace of (re)distribution and (re)sharing.

Art is a systematic sharing of this awareness *per se*. Louis Glanetti, a new media theorist, coined the term 'Endo-aesthetics' in describing the interactive in new media art. It describes the complete and radical removal of the subject-object distinction, with only a focus on the action or activity of the event. His claim is that there is a sameness governing thought and action at the interactive moment. A neuroscientist might say that the activities of thought and the laws of physics have mutual permeability. Both art theorists and scientists are connecting understanding within the self to the larger works of being-in-motion. Nancy might refer to them as the circulation of events into events; the internal return of coming and passing between that which creates awareness and aesthetic transparency. It provides a kind of sympathy within what we experience, perhaps because what we offer in the exchange is a part of ourselves.

Let us consider a small neurological event in the human brain. The neurobiologist has found a particular individual event that exhibits the collective ability of the individual. It is what the cognitive scientist calls the Mirror Neuron -- a single cell that responds to the larger cluster of

brain activity, but that also has the functional properties to trigger signals from someone else's experience. The Italian neurophilosopher, Corrado Sinigaglia, claims that both mirroring the emotional system and the fact that mirroring for action occurs in a single cell, represents a specific way of understanding the actions and intentions of others. Neurons in the brain send out sophisticated signals down the spinal cord that orchestrate skilled movements. These are considered "ordinary" motor command neurons. But some of them, known as Mirror Neurons, also fire when you merely watch another person perform a similar act. It is as if the neuron (more strictly, the network of which the neuron is part) uses the visual input to do a sort mimicking of the other persons actions—allowing one to empathize with another's view from within one's own point of view. It can be therefore speculated that these neurons can not only help simulate other people's behavior, but as they turn "inward"—they create a second-order sense of self or a metarepresentation-of one's own earlier brain processes. This activity of mirroring the individuals around us could be the neural basis of introspection, and of the reciprocity of self-awareness. A 'being-like-me' quality to humanness is wired into the material nature of the brain as a feedback loop of the entire system.

There are also "touch mirror neurons" that fire not when one's own skin is touched, but when one watches someone else being touched. This raises an interesting question: How does the neuron know who the other is? Why doesn't the activity of these neurons lead to *literally* experiencing the touch delivered to another person? The neuroscientist has two answers: First, the tactile receptors in your skin tell the other touched neurons in the cortex (the non-mirror neurons) that they are not being touched, and this null signal selectively vetoes some of the outputs of mirror neurons. A second reason why mirror neurons don't lead people to mimic everyone else all the time (or to literally experience another's tactile sensations) might be that the brain's frontal lobes send feedback signals partially inhibiting the mirror neurons' output. (It can't completely inhibit them, otherwise there would be no point having mirror neurons in the first place.) As expected, if the frontal lobes are damaged you do start miming people. Echopraxia, the medical condition of involuntary repetition or imitation of the

observed movements of another, is a feedback loop of consciousness without a filter to define boundaries. A redundant eco of action, or praxia, produces the loss of an individual distinction, which makes it impossible to locate an autonomous self in the world all altogether.

Recent evidence from the neurobiological lab suggests that there may also be mirror neurons for pain, disgust, and facial expression—perhaps for all outwardly visible expression of emotions. Is this the material map for empathy? Is this a biological need hardwired into people? Perhaps it is the need for communication or an intrinsic material value for art making and aesthetic appreciation. Autonomous expression becomes then device or syndrome that is correlated with the primitive actions of the brain, and bundled with the fundamental properties of human existence. Along with the ordinary life of a human cell, humans have an internal editing device that keeps us from completely losing track of ourselves in the context of the larger world. So, from an intersubjective perspective, we are able to retain a sense of self-identity. The aesthetic experience is a system of constant echo-praxic exchange. Despite all the pride that the self takes in its individuality and privacy, the material that separates you from me is a small subset of neural circuits in our frontal lobes interacting with Mirror Neurons. Damage these and you "lose your identity"—your sensory system starts blending with those of others and, in exchange, a singular self would experience their qualia. The larger primordial openness of the life world erase any distinction of individuality. The individual would dissolve and with the loss of an echo-praxic exchange, the larger world would collapse.

In Alain Badiou's discourse on 'being qua being', being itself, is his ontology of the multiple, and multiples of multiples. It is what Badiou designates as 'inconsistent multiplicity' in his discussion of the presentation of presentation. (In Georg Cantor's terminology on mathematics an 'inconsistent multiplicity' cannot be set because it is "too large"). Badiou opens up the strict language of Cantor's mathematics to alter the meaning and functionality. Math becomes a system of reflecting relationships of being within the event of being or for our

specific purpose here, in between the individual and the larger world collection of individuals.

This system is not unlike the ontology of neurophenomenology that looks to solve problems in philosophy of mind with empirical information from the neurobiology along with the more subjective action of becoming. In biology there is another emergent materialism found in this act of becoming: It is a *search* that creates the moment that is also evidenced in material form. For instance, the act of using one's brain to figure out difficult problems – either theoretical or ones involving a thought and any subsequent locomotion – will actually create more neurons in the brain to accommodate the extra flow of biochemistry through a limited amount of receptors. This expansion is further evidenced at the full body level with its own sets of infinite permutations in time. Badiou uses the term 'historical becoming', where a certain point in history creates what we were capable of thinking or expressing. His focus on Event, and its illusive nature, brings us into the moment that is part of this evolving history. Badiou leads us through the basics and the mysteries of Cantor's set theory, to show us how ontology comes to life. His truth is a praxis that might never happen, but the moment is always part of an inaction that is contingent upon other moments. "When truth occurs, it does so by means of a double origin: the name of the event and the 'operator of a faithful connection'" (4). Badiou finds the endless multiplicity of Cantor's set theory in both the mathematics and the system which is returned to our own selves.

Perhaps mathematics as ontology has finally realized itself in a state of dynamic complexity, although it has most certainly not seen its potential (its historical end point). As example of 'historical becoming', Plato's interruption of Parmenidean poetic ontology was brought about through the insistence on the 'matheme', the mark of an absence. For Badiou, the mathematics employed by Plato himself (in turn), was not equal to being as Badiou understands it. In fact, the range of mathematics-ontology has consistently grown. For Badiou, it is not until the creation of set theory by Cantor, and its subsequent axiomatization, that mathematics as ontology finally realizes its potential. Cantor's

theorem implies the existence of an "infinity of infinities," a system that challenges the uniqueness of the absolute infinity, and moves us closer to a knowledge of never ending.

Set Theory as a mathematical ontology is also concerned with multiples. The category 'set' has no explicit definition within set-theory itself, so Badiou can use it as a way to discuss sets as collections of things. Badiou's ontology sets platonic idealism and truth with the absolute abstraction mathematics against the reality of mimesis in the presentation of self. He uses them to interrogate art and history, as well as ontology and scientific discovery in a consistent multiplicity of parts that constitute a truth. This would therefore be considered itself in the order of a mathematical system *to a priori*.

Badiou's science of being qua being (being in itself), and the place of the event — is seen as a rupture in ontology — and it is in this realization that the subject finds her reconciliation with truth. This situation of being and the rupture which characterizes the event are thought in terms of set theory, and specifically Zermelo–Fraenkel set theory (with the axiom of choice), to which Badiou accords a fundamental role in a manner quite distinct from the majority of either mathematicians or philosophers. For instance, Badiou's concept of the "count-as-One" structure of consciousness is set in opposition to the usual noumenal understanding that is independent of the senses. It classically refers to an object of human inquiry, understanding or cognition. In the use of post-cantorian set theory Badiou implicitly forms an ontology that breaks free from traditional identity theories towards one of perception processed in a more phenomenological or whole understanding. This is how Badiou creates a theory of the event. He does this through the historical situation of numbers, always 'on the edge of the void', and on the face of the multiple. Badiou's mathematics is once a part of the whole situation of numbers, but of which some of its members are not. Like the figure of the refugee, who is at once a member of a national situation, and yet not represented or recognized within it, mathematics is the singular and the plural simultaneously. This singular multiple is what Badiou calls an 'eventual site', and the

precondition for a change in a situation. Its border status and its exposure to uncounted situations are inconsistent with being. It is this inconsistency that opens up to the potential of an event.

Badiou's event is what is radically unpredictable. It has the status of an unconscious moment in which the possibility for change is all but invisible, as Badiou's mathematics evolves through history in a multiple pattern that is both performative and interactive. Badiou sees two different ways of understanding the event. In a phenomenal sense, the event is what appears in disappearing. It has no counted-as-one status, no reality or sense within the situation without the rest of history that unfolds around it. In other words, the event, in its elusive (non)-presentation, cannot be the object of factual knowledge, evidence, or proof. It is a subjective experience which is shared by us all.

Jean-Pierre Changeux is a French neuroscientist known for his research in several fields of biology, with particular interest in the structure and function of proteins. Changeux asserts that there are objective correlates in neurobiology of subjective experience. He ascertains this because he strongly supports the view that the nervous system is active rather than reactive, and that interaction with the environment (rather than being instructive) results in the selection of preexisting internal representations. This is an unusual position for a scientist to take because it suggests an inversion of the scientific ontology regarding what a nervous system is capable of. It suggests that the system of nerves has the ability to collect experience and project it *into* the world. If this is in anyway accurate, it becomes even more difficult to map even a simple formula for the exchange of information between people. Changeux supports a system that is not easily broken down beyond experience itself. Robert Provine, Psychologist and Neuroscientist, and the author of *Laughter*, suggests that a sense of material self can be understood when you try to tickle yourself—tickle requires a non-self, animate entity on the surface of your skin. This non-self, animate other is the most primitive social stimulus. Self-produced stimuli are not ticklish because our nervous system cancels their effects, So the same mechanism that detects the

non-self, ticklish stimuli generates the sense of self as well as a sense of (non)self. Although our sense of identity involves more than self/(non)self discrimination, such a mechanism is at its foundation for what we may consider a distinction of note and the neurological computation of boundaries. In this example, we need the other, the tickler in order to locate our own selves.

The Excitable Cell

Neuroscience has changed the dualist notion that consciousness is made of 'special stuff' – science is replacing this old model with a new way of understanding materiality's essential purposes. An important observation has been made in the relationship of the brain's synaptic gap to full-bodied mediated experience. In the brain sciences, the synaptic gap is defined as the space between neurons, a divide across which the activity of the brain is conducted. Because it is the biochemical handshake, it is the very exchange in the brain that may best describe the locus of the mind. The transmission of representational information across a synaptic divide follows the same structural resemblance between neural networks and communications media networks. Is it no surprise that at the same time we find networks in science that we also find in much contemporary art. New media theorists describe a networked global brain and posited the emergence of a collective, global aesthetic consciousness. With this new understanding of the very network systems that make up our own processing, we can see how even a collective consciousness will always be in dynamic transformation. We can look to the individual human cell to understand this collective action in which both (individual and collective) have the potential for expansion.

The living cell works at the biochemical level to make connections to its neighboring cells. In a sort responsive action, this action looks very much like one of the first things we do to create a community of people. All are returns of the reflection in what Nancy would support as living within the decentralized communities of the individual, and what a neuroscientist would call a complete concurrency consciousness. In each case, consciousness is brought to being through

the interconnections and patterns we first make as a whole. So the particulars of how self is constructed can be found not only at the cellular level of every individual, but also located in our full body experiences. Shaped by aspects of the body, the perceptual system employs an intuition that underlies the ability to move, define activities and interactions with our environment, and identifies our fundamental desire for expression and communication. Understanding of the world is built into the body, the brain, and the social experience. Within each autonomous action of the cell there is the desire to communicate and create networks of experience. This desire to network is essential because the individual looks toward-community to complete him or herself. Full consciousness occurs at the social level, and the interaction with art is an integral part of this communication process.

Every cell holds a bit of consciousness – like a holographic diffraction of light waves, the cell contains all the information for the whole picture, but we are unable to make sense of it without the rest of the picture present. In other words, the material nature of the individual cell may be complete, but the consciousness that exists within that form cannot rise without the complete picture of the brain, the person, and the experience of the world in which that experience unfolds.

The contemporary challenge for both artist and scientist is to embrace the wholeness of phenomenological ontology without losing the particulars learned through the specializations of scientific inquiry or the rendering of crafted art objects. Contemporary art employs an aesthetic that works to remove the distinction of an outside and an inside to the self. This is why using the material of the whole world, including scientific knowledge and research methodologies is an essential consideration when building an interactive art experience.

Jacques Rancière (re)forms artistic representation by locating it in process. We identify the aesthetic for the capacities it sets in motion rather than the images it may offer. The essential character of ‘things’ are ideas, and they

are evidenced in thought before they are visible. He sees the act of representation as the materiality of ‘being there’. In turn, the anti-representational is one of non-figuration, or the absence of the human form from the perspective of the other. So essentially, in a remarkable turn of events, Rancière is able to take communal existence and shoot it directly back upon the individual. From this he can argue that the non-representational in modernity and political engagement is actually very much embodied in the individual human being. Rancière ends his thinking on the anti-representational by introducing the *inhuman*. The witnessing and then the materializing of something like the Holocaust expresses *inhuman*. He explains that an “appropriate form is also an inappropriate form”(4). He argues that something cannot be aesthetically represented in the relationship between exhibition and signification or the “adequate submission of the visible to the sayable”(5). In other words, An artist may be providing content in the work, but we just might be able to see it as an aesthetic formation; it is incomplete. Time-based media is a good example of an incomplete formation because the act of arriving at the totality of the visual event never occurs. Interactive art has a similar absence of representation. Such incomplete ideas languish in the aesthetic regime of art without determinable content. We are left with a vacuous idea that in its own un-presentability collapses the system of signs and destroy itself. Rancière intertwines vocabularies of history, philosophy, aesthetics, and politics, to encourage a fresh look at the wholeness of occurrence. This is a complex project but its intention is structurally direct. He un-fragments the traditional fragmentation of specializations, making discontinuous elements follow one another back into a more reasonable experience.

Rancière’s image can be understood as an individual clashing the visible with the invisible. Aligned together, they produce a new form that is further contingent upon representational properties commingling with the larger political problem of being-in-the-world. Rancière insists that the literary and visual equality of the “esthetic regime” has something liberating about it that escapes political determinism. Both individual and society need each other to keep an open system of exchange in the wholeness of being.

If we look at the very small state of ‘things’ – the ‘things we are made of, scientists find elusive items such as the quark which displays properties not like what we imagined things are made from. Through the quantum physics lens – we identify an immaterial connectedness of the physical basis of life with that of something that is in total flux. In other words, quantum physics reveals that matter is not composed of matter at all, but reality is mere potentiality. Quantum physics would go even further to say that the world is a holistic structure of fundamental *relations* and is not based on material objects at all. If we follow this rationale, objects will always lean towards a more open interpretation. So in the case of physics, ‘things’ that lead to wholeness are statistically unstable, although they contain dynamically stable configurations. This is Jacques Derrida’s mechanism. What is understood as the ‘lively’ features of the underlying quantum structure surface is connected not only to its own dynamic structure but with what we observe as the whole phenomenon of life. We are left with an action of movement. The object is action.

This is why when we look only at a particular aspect of ‘thingness’ we lose the actual meaning. In contemporary medicine, this plays out in how we understand the human body as a whole. A particular organ may be treated well, but its relationship to the health of that body has been lost in western medicine. What is a system built for the well being of people, gives way to an endless rotation of singular expertise. Wholeness of a self is lost in the details of a medical specialty and the understanding of the dynamic stability of self is never completely addressed.

Wholeness in Environment, Body, and Cognition

But the artist looks to create a larger understanding – one that connects the smaller units of what we know into more sustainable ideas of humanity. Artists pick-up the common and make it unique. Mass media has provided common knowledge to just about anyone who wants to know. So at this time of specialization,

we also have the ability to make connection and to recreate a wholeness of life for ourselves. The common person has access to a vast assortment of specific knowledge, which is exactly what the mind desires for the full range of experience. Cognition is what occurs when the body engages the physical and cultural world so must be studied in terms of the dynamical interactions between people and the environment. It is essential that we do not think of cognition as a purely internal, symbolic, computational, and disembodied, but seek-out ways that thought is inextricably shaped by embodied action. The embodiment of mind leads us to a philosophy of embodied realism. Our concepts cannot be a direct reflection of an external, objective, mind free reality because our sensory-motor system plays a crucial role in shaping them. On the other hand, it is the involvement of the sensory-motor system in the conceptual system that keeps the conceptual system very much in touch with the world.

Neuroplasticity and kindling of brain activity are both forms of a remapping of the brain – each part of the brain does not have an absolute single function. We have plasticity from cradle to grave. The brain process is not hardwired. The brain works by changing its own wiring to accommodate the world that affects it. Because the model is not fixed, it creates a tension between the individual and the collective. Neurophilosopher Bates describes that as a “Redundancy,” and the brain’s understanding of the world a *thoughtbody environment*. Creativity to negotiate this relationship has to be part of that system. The singular body becomes the instrument where we are forced to recon with the matter of our material and immediate condition. Apollinaire refers to this as *the portal of your body*. Nancy calls it a decision of being to the openness, or simply *Being open*. Badiou finds the evidence in *being it itself*. Wholeness of environment, body, and cognition **is being all at the same time**. The cell is excitable, malleable, and transformable. Neuroplasticity of the excitable cell are responsive to themselves also extend their territory for survival. Each cell is complete within a changeable neural network, each in concert with the full body, and the larger social network of the world – all are exchanging in endless multiplicity for the conscious moment.

Conclusion

In understanding consciousness through a materialist lens, aesthetics may function as a way to develop empathy. Artists work to develop systems of connections – between forms, colors, ideas, and in the world around them -- but art is perceived within a different set of rules than experience of the everyday. What role does art have in the brain? The materialist might suggest that there is a special framing of art and aesthetic experience as a way to protect certain types of exceptional neurons – to keep them unique and from the more mundane or automatic exchanges in everyday life. Somehow, the brain needs to identify boundaries between the every day and the extra ordinary; the individual and the community; the singular and the multiple. It is this distinction that claims art as the brain's exclamation to the every day. Perhaps it is the unordinary positioning of the aesthetic experience within the regularity of everyday exchange that keeps the Mirror Neurons in good working order. Certainly, by the time art is consumed, its potential is far wider, far more involved than the neurobiological triggers of the brain. But in the meantime, we hold onto patterns that provide passage to highly subjective and emotional experience and it is designed as a rarity, for the brain to set them free.

The observational learning that occurs with Mirror Neurons provides a method to identify new material for thought – it keeps thinking an open system. Understanding moves from the outer manifestations of human action into inner meaning and back out again in an endless circulation. Therefore, experience and expression cannot be neatly separated. Philosopher Wilhelm Dilthey makes a distinction between natural science and "human" science and suggests that expression converts experience into meaning, because when we express something it is no more a private and personal thing but becomes an appeal to somebody outside of oneself. A materialist response to Dilthey's separation of perception to the natural world would be say that such a distinction is to miss the opportunity to understand the interrelationships between forms, ideas, and being. The artist intuits this each time she makes artwork and combine experience and expression. Art is a multiple of the intersubjective and the collective. It is also the laboring brain and the

communal consciousness. The singularity of perception dissolves and meanings emerge into the whole world of experience.

If I can look at you and feel what you are feeling, I can learn from you, connect to you, and perhaps empathize with you. Empathy is one of our finer traits, and when it happens, it happens so easily, since we have special circuitry in our brains to empathize whenever we look at each other. We can connect to each other deeply when we watch other people. Sometimes watching someone doing something is just like doing it yourself. You can move with them and be moved by them. You can share an aesthetic experience. According to the neurobiologist, there is a place in one's own brain with the job to live in other people's minds and bodies. You can actually connect to someone else's point of view. So it is no surprise that we invent ways to connect – we invent dances, games, and art. Culture comes from watching people do something. Deep in our architecture, down in our cells, we are built to be together.

References

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