

DIFFICULT SENSE: THE NEURO-PHYSICAL DIMENSIONS OF THE ACT OF READING

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What follows are parallel readings of a piece of video art by Gary Hill (*Remarks on Color*) and the short story *The Library of Babel* by Jorge Luis Borges. These readings involve considering how difficulty-in-the-act-of-reading in both works allows us to think about reading as a process which involves both making sense and sensation as it engages the body in specific ways. By thinking through this engagement of the body via the senses we will come to see how understanding might be thought of as a sense. This way of thinking will emerge from considering how an eight-year-old's struggle to read a dense philosophical text allows us to see that understanding is both grounded in the body, and can be seen as a hybrid sense. We will then consider how the sensory experience of understanding operates in a library in which the vast majority of books are incomprehensible.

At this point it's worth reminding ourselves of the structure of Borges' library. Speaking of the thinker whose ideas about the organizing principles of the library had come to be accepted, the narrator tells us that;

This thinker observed that all the books, no matter how diverse they might be, are made up of the same elements: the space, the period, the comma, the twenty-two letters of the alphabet. He also alleged a fact which travellers have confirmed: In the vast Library there are no two identical books. From these two incontrovertible premises he deduced that the Library is total and that its shelves register all the possible combinations of the twenty-odd orthographical symbols (a number which, though extremely vast, is not infinite) (Borges, 54)

We're also told that "for every sensible line of straightforward statement, there are leagues of senseless cacophonies, verbal jumbles and incoherences" (Borges, 53). These verbal jumbles, incoherences and senseless cacophonies are present too, albeit on a less imposing scale, in

Gary Hill's video *Remarks on Colour* in which his young daughter Anastasia reads aloud excerpts from Ludwig Wittgenstein's book of the same name.

Although Anastasia cannot fully comprehend the meaning of Wittgenstein's text, she was asked by the artist to pronounce every word as best as she could. Consequently, certain letters are transposed and words are mispronounced. With pauses and deep breaths between sentences, she patiently reads through the text, often attempting to find the place where the intonation should fall. (Art 2006)

In viewing this work we are captivated by Anastasia's struggle. The pauses, deep breaths and attempts to find a way of intoning are the consequences of just how difficult it is for her to read the text. As we focus on these difficulties the relation between understanding and the bodily process of reading are inverted so that we firstly become aware of the reading body while understanding becomes the background against which the efforts of that body stand out. What we witness here is the re-centralization of the corporal in the reading process, as Anastasia articulates as much through her bodily actions as through the words that she struggles to pronounce.

Occasionally and by degrees Anastasia's sense of understanding comes to the fore. These degrees of understanding are evidence of the modulation of Anastasia's mind/body by the text as it is "translated" into a myriad of muscular expressions associated with the difficulty of articulating and the fleeting moments where sense can be made. From here it becomes possible to think of the pauses, deep breaths and muscular expressions of Hill's daughter, as she reads Wittgenstein's text, not as the results of the difficulty she has in reading, but rather as contingencies of the reading process. *The body is not responding to reading, the whole body is reading.*

The physicality of Anastasia's reading and its implicit search for meaning is paralleled by those who search Borges' library seeking its true catalogue or "their Vindication" (Borges, 55). In this case the search for meaning takes the form of a physical journey into the seemingly infinite series of hexagonal galleries that make up the library. However, while it is possible for some inhabitants of the library to "repudiate the vain and superstitious custom of finding a meaning in books" (Borges, 53) we cannot help but try to make sense of what Anastasia is saying. We do this not only by attempting to decipher the content of her words but also by empathizing with the physical effects of her search for meaning. As is the case with *The Library of Babel* we try to make sense of the search for meaning.

In Anastasia's case it is her acts of bodily focus and attention that draw *our* focus and attention to her search. As we become aware of that search we also realize that those acts of bodily focus and attention (deep breaths, sighs, shifting posture etc.) are the necessary physical foundation of the reading process. Or to put it slightly differently, it is impossible to separate those acts from the sense we make of the text. Wittgenstein offers us a parallel to this inseparability in remarks on colour, the book that Anastasia struggles to read. In his writings on "the brightness confound" Brian Massumi quotes Wittgenstein who says;

In my room I am surrounded by objects of different colours. It is easy to say what colour they are. But if I were asked what colour I am now seeing from here at, say, *this* place on my table, I couldn't answer; the place is whitish (because the light wall makes the brown table lighter here) at any rate it is much lighter than the rest of the table, but, given a number of colour samples, I wouldn't be able to pick out one which had the same coloration as this area of the table. (Wittgenstein cited in Massumi, 162)

Massumi then goes on to talk about this confusion of colour in terms of "the brightness confound", a term given to the empirical inseparability of colour and illumination. We can then see how this inseparability is what breaks down Wittgenstein's ability to make a clear statement about the colour of that particular patch of his table. The highly contingent nature of colour and illumination mean that certain *ideas of colour* start to disintegrate when we reflect on our *experience of colour*.

This is due to the fact that "actual seeing is a singular confound of what are described empirically as separate dimensions of vision." (Massumi, 162) Later Massumi goes on to describe the empirical processes of "analysis" and "synthesis" as "the *reduction* of the whole to the variable sum of its dissociated parts" (Massumi, 164). He puts these processes into relief by thinking about Wittgenstein's experience of the colour on his table as a "relational appearing" that is best thought of not as analysis or synthesis but rather as "catalyst". "It is the fusional production of a primacy of relation ... The relating takes priority over any possible separation between combinable 'terms' ... The relation determines the parts, not the other way around." (Massumi, 165) If rethinking phenomenologically intertwined "terms" through a primacy of relation is a difficult task, it is because it involves thinking a determining in-between process rather than a determined reference point. In the case of vision such an in-between might be found in experiments in which healthy people are completely deprived of all light. In this case one of the key terms of vision is removed and yet relations persist in the form of hallucinations.

In one study, in which participants wore specially designed blindfolds that allowed them to open their eyes but that let in no light for a period of five days, 77% of those involved reported hallucinations (Merabet). Without the means to relate to the other “terms” that facilitate seeing the mind/body processes of visual perception created those “terms”. Most participants in this experiment reported seeing “flashing lights”, with the majority also seeing more complex hallucinations, from green faces with big eyes and Elvis Presley to skulls and context specific objects, (one woman reported seeing a water pitcher as she poured herself a glass of water).

This example makes it clear that there are no pre-relational “terms” that can be separated from the eyes functioning. When deprived of light and the perception of reflective surfaces, rather than entering an “empty” space prior to the relations of sight, the eyes and visual processing produces a relation that is prior to its reception of the “terms” of seeing. In the “discussion” section of the study mentioned above the authors make the connection between the hallucinations experienced by their participants and “other phantom sensations, such as auditory sensations in the recently deaf or phantom tactile sensations in amputees” stating that they “may represent similar phenomena in different sensory domains” (Merabet, 112).

In all these sensory domains, the determining process of relation has an excess that spills into situations where the “terms” or “parts” (light, sound, limbs etcetera) of the relation are no longer there. In this way we can see how relation might be thought to be both before and after its “parts”. Or more precisely, relation is the inbetweenness of sensing that is carried over regardless of whether or not its “parts” are present. This persistence of an inbetweenness is the primacy of relation. *Relation is how we learn to perceive and it is this learning that causes relation to persist even after its terms disappear.* This is exemplified by the fact that if we don’t learn to see we will not be able to hallucinate sight. Here it becomes possible to see learning to perceive as also a process of learning to hallucinate. Through the process of considering these sensory anomalies we can understand that when Wittgenstein sees “the brightness confound” he initiates a generative decomposition of its terms, (illumination and colour), that finds a poignant expression in situations in which one of those terms, (illumination), is removed from visual perception. Far from blinding us, this removal and the decomposition of seeing it represents, is generative of unusual ways of seeing (hallucinations).

From here we can think of how this primacy of relation in seeing might feed into our thoughts around the act of reading and offer us a generative

decomposition of its terms. We might consider understanding to be one of those terms. While asking an eight-year-old to read a philosophical text is perhaps not a complete “blinding” of understanding, we certainly witness an impairing of comprehension and also what we might describe as hallucinated understandings. These hallucinated understandings might bear some correspondence to the text, (similar to the women seeing the water pitcher) or they may be as alien as a green face with big eyes.

We can expand on this idea of hallucinated understandings by reflecting on the sense that is made of the texts in *Library of Babel* by its inhabitants. The desire to make sense of the largely incomprehensible books leads librarians to speculate; perhaps the “impenetrable books corresponded to past or remote languages”. (Borges, 53) There are those who suggest that even “a book (that) was made up of the letters MCV, perversely repeated from the first line to the last” could be a code in which “each letter could influence the following one and that the value of MCV in the third line of page 71 was not the one the same series may have in another position on another page”. (Borges, 53) While the narrator dismisses this theory it does suggest to the reader the productive and creative elements of making sense. Like those deprived of sight, the librarians are forced to create a sensory order where no clear order exists.

By bringing together understanding and an examination of the senses we are able to think of comprehension as a “sensing” process (existing as part of a broader sensory confound). Making sense is making sensation, (sensed), making sensation, (what Massumi might call “attention most twisted”). Understanding is felt/feeling. Anastasia’s expressions make this resoundingly clear. What we also start to see through Anastasia’s reading is the importance of hallucination in the way we learn to sense/understand. From here we might think of “textual understanding” and “the senses” in the primacy of their relations, in their inseparability.

There is no understanding of the text without the senses and textual understanding might itself be thought of as a sense. This notion is strengthened by the recent expansion of psychological definitions of synaesthesia beyond the mixing of the five senses that we most readily identify. This has been prompted by studies of synaesthetes whose mixing of the senses includes what we describe above as the sense of understanding. Julia Simmer and Jamie Ward report specific cases of synaesthetes being able to taste words (Simmer 2006). These synaesthetes hint at an inseparability of the senses, including understanding, which appears to be confirmed by studies that show that “semantics, hand actions, ingestive actions, and syntax are all intermixed in a rather restricted neural space” (Rizzolatti, 186).

We'll get back to this point shortly but first we'll look out how studies of the functioning of "mirror neurons" offer us not only a way to understand our empathetic response to Anastasia's struggle, but also the means to place this struggle into a larger context of mind/body language acquisition. The authors of the article "The Mirror-Neuron System" offer the following account of its functioning in monkeys: "Mirror neurons are a particular class of visuomotor neurons ... that discharge both when the monkey does a particular action and when it observes another individual (monkey or human) doing a similar action" (Rizzolatti, 169).

They then go on to cite studies that show similar functioning in humans. With this knowledge we can understand how watching Anastasia read produces an empathetic mirror neuron response in the viewer; we mirror Anastasia's sighs, deep breaths and shifts in posture to produce our own physical understanding of the difficulty that she has in reading *Remarks on Color*. This neural functioning is a real-time double of the actions of the person that we are viewing, (Rizzolatti, 176) and this response is so pronounced that the spinal cord must inhibit our limbs from carrying out the action that we observe, so that the neurons remain free to reproduce that action (Rizzolatti, 175).

Beyond generating an empathetic response through the mental reproduction of action, the functioning of mirror neurons also provides us with an interesting way of thinking about the language acquisition that is implicit in Anastasia's ability to read. This involves expanding on the idea that mirror-neurons help us to understand particular actions, in the sense that we understand by feeling the actions of others as processes that are mirrored in our own brain. Rizzolatti et al. suggest that this feeling and understanding of the actions of others has an advantage over communication via speech because the meaning being conveyed is inherent in the gesture being used to communicate it (Rizzolatti 184). They then go on to state that:

This fact suggests that a necessary step for speech evolution was the transfer of gestural meaning, intrinsic to gesture itself, to abstract sound meaning. From this follows a clear neurophysiological prediction: Hand/arm and speech gestures must be strictly linked and must, at least in part, share a common neural substrate. (Rizzolatti, 184)

They then cite various studies that demonstrate this "neurophysiological prediction" including one that "showed that the excitability of the hand motor cortex increases during both reading and spontaneous speech". (Rizzolatti, 184) In order to lend greater weight to their theory of the evolution of speech the authors cite the example of the "almost universally

recognized” “mnya mnya mnya” sound of eating. In their discussion the authors outline the process by which the motor actions of eating (movements of mouth, tongue, lips etc) are understood via the mirror-neurons then transferred to the sound “mnya mnya” by moving air through our “oro-laryngeal cavities” as we eat.

This direct correspondence between motor action and sound then leads to the possibility of referring to the act of eating through this sound, even when food isn’t present in the mouth. Understanding of action can then be transferred onto an abstract sound. The authors then suggest that “The incredibly confusing organization of Broca’s area in humans, where phonology, semantics, hand actions, ingestive actions, and syntax are all intermixed in a rather restricted neural space, is probably a consequence to this evolutive trend” (Rizzolatti, 186).

Lending weight to this point, other studies have shown that the mirror-neuron system in humans is triggered not only by watching the actions of others but also by reading or hearing descriptions of those actions (Aziz-Zadeh). This suggests that textual understanding can be thought of in terms of the workings of the mirror-neuron system and its ability to simultaneously “perform” the “actions” of the text. It then becomes possible to think of understanding as the process of mirroring the movements of the text so that they can be felt in the body even if the spinal cord stops them from being actualized. In this way understanding is seen as the returning of the abstract sound to the gesture that gave rise to it. The gesture is registered by the nervous system negating the need for it to be actualized through the limbs (although the increased excitability of the hand motor cortex reminds us that the actualization is not far from the surface).

Clenched fist relaxing

When we read this description it is reflected in the mirror-neuron system, we know/understand how this action feels through this mechanism. From this process we begin to think of the movement of thought as an incipient gesture; stopped before it is actualized in the limbs, yet felt in its emergence. Thinking is feeling incipency; actions turned in on themselves to form sensation. Writing then becomes an exercise in creating a correspondence between the incipency of the gesture that we feel in thought and the words that are used to communicate that gesture. We might then think of complex-abstract-ideas as internal gestures, gestures that could never be actualized in the movements of the limbs alone, but that actually exist as sensation. Rather than being a mirror of the

movement of the limbs, these internal gestures mirror the infinite confound of our senses and the subtle movements that allow these thoughts to be written. Massumi's "thinking feeling" might then be conceived of as a gesture, yet to be actualized but actually emerging; the sensing that sense might be made. To help us to think with these ideas it's useful to go back to what Massumi writes on this subject:

Imagination can also be called intuition: a thinking feeling. Not feeling something. Feeling thought-as such, in its movement, as process, on arrival, as yet unthought-out and un-enacted, postinstrumental and preoperative. Suspended. Looped out. Imagination is felt thought, thought only-felt, felt as only thought can be: insensibly unstill. Outside any given thing, outside any given sense, outside actuality. Outside coming in. The mutual envelopment of thought and sensation, as they arrive together, pre-what they will have become, just beginning to unfold from the unfelt and unthinkable outside: of process, transformation in itself. (Massumi, 134)

By this route we can find the connections between the emergence of language from gesture and emerging gesture as sensing thought or sensing as the "thinking feeling". That which is "insensibly unstill" is the gestural ground, a ground that also becomes the figure in intuition, a figuring that reveals its priority to its actualizing in word/image/sound; the initiation of movement, intention in its embryonic stage. As the movement continues the gestural ground remains. Even as gesture is actualized through the word/image/sound internal gesturing continues to ground the process in the body.

The situation faced by the inhabitants of *The Library of Babel* is one in which everything that can be felt in the incipient gestures of the production of language has already been actualized in the pages of the books ("to speak is to fall into tautology" (Borges, 57). This sense of completeness contradicts those who claim the library is full of "nonsense". Its order is simply of a larger scale. "In truth, the Library includes all verbal structures, all variations permitted by the twenty-five orthographical symbols, but not a single example of absolute nonsense" (Borges, 57). We also find a larger scale of order in Anastasia's reading of Wittgenstein. While we may not be able to make sense of her words, sentences and paragraphs we none the less sense her process as being significant. Through sense and sensation we are able to access dimensions of understanding in material that may seem to be impenetrable.

Through our reading of these works we can start to see how both *Remarks on Color* and *The Library of Babel* allow us to think about our sense of understanding as one that operates regardless of whether or not

we get the immediate content of the language that we encounter. When we are blinded we hallucinate. When understanding eludes us on one level we find it on another, even if it is just to acknowledge that we understand that we have failed to understand. But more than this Anastasia reminds us that reading through difficulty can produce understandings that would not be possible to those who read the same material fluently. This view is complemented by our narrator in the library who finds a certain comfort in the thought that there may be at least one person who may have read the one book that is “the perfect compendium of all the rest”.

It does not seem unlikely to me that there is a total book on some shelf of the universe; I pray to the unknown gods that a man —just one, even though it were thousands of years ago! —may have examined and read it. If honor and wisdom and happiness are not for me, let them be for others. Let heaven exist, though my place be in hell. Let me be outraged and annihilated, but for one instant, in one being, let Your enormous Library be justified. (Borges, 57)

Here the possibility that the library may be understood by someone is the vindication of the failure of others to understand. This hope that someone may attain a complete understanding runs counter to the narrator’s experience of understanding as a process that is open ended or only partially made, and that part of what is sense is the sense that sense will continue to be made. When we cannot immediately make sense we use of what Massumi calls imagination or intuition to close the loop from an abstract sound or letter combination to the internal gesturing of embodied understanding. This is an intuiting of the ways in which these meanings can be transformed or, in Massumi’s words “transformation itself”. Borges’ narrator makes sense of the incomprehensibility of the books on the shelves of the library by realizing (or imagining) that these transformations already exist somewhere in its pages.

I cannot combine some characters *dhcmlrlehtdj* which the divine Library has not foreseen and which in one of its secret tongues do not contain a terrible meaning. No one can articulate a syllable which is not filled with tenderness and fear, which is not, in one of these languages, the powerful name of a god. To speak is to fall into tautology. This wordy and useless epistle already exists in one of the thirty volumes of the five shelves of one of the innumerable hexagons—and its refutation as well. (An n number of possible languages use the same vocabulary; in some of them, the symbol library allows the correct definition *a ubiquitous and lasting system of hexagonal galleries*, but in others *library is bread or pyramid* or anything

else, and these seven words which define it have another value. You who read me, are You sure of understanding my language? (Borges, 58)

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