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# Sticking with Speculation: A practice in noticing attention

## I. A stick practice

*First you need to find a stick, a dry, relatively straight branch, of about 30-50 cm long would be a perfect but even a pen or a toothbrush can do. Find a room which you can totally isolate from any incoming light. If this is not possible you can simply close your eyes. When ready, hold your stick in one of your hands (using your non-dominant hand could be an interesting choice). Bring the stick into contact with a surface in the room (the floor, a wall, a table top) and move it freely while keeping the contact steady. There is no specific task or instructions. Take some time. Notice what you tend to do and what you attend to. What are you curious about? After a while open your eyes again and continue reading.*

What did you notice? How did you notice? Write those down. What is different now about the room you are in? The stick? Yourself? Write those down. We kept this first score purposefully open-ended so you can do it 'your way'. We will get back to it later.

This is practice as research... *doing with attention* is research. (NOTE: If you imagined doing this practice, rather than actually getting a stick and holding it in your hand, then you will be learning something other than what we are discussing here. You may as well skip this intermezzo and take a nap. Or start again at the beginning.)

This is practice as research... *doing with attention* is research. The time in which you are noticing is research. And it is research into noticing, into how we notice. And it is research into how taking the time to do this affects your noticing and attention and what we call curiosity. In this intermezzo, we ask you to take some time out of trying to read fast and understand efficiently. Instead, get a bit lost, entangled, maybe even disoriented by how you are inside of noticing, by how you can be caught up in curiosity with the world.

Research into experience involves entanglement of time and space. When you are returning "here and now" to your experience a few seconds ago.; this is not only a matter of linear time or cartesian space.

We invite you now to suspend reading again, and try out a slightly different version of the stick practice.

## II. A grasping practice

*Now, hold the stick again in the same set up as in I. (II a) First, use the stick to slowly explore the surface(s) in the room. Can you identify specific surfaces? Describe to yourself their tactile properties. When you feel inclined to, start exploring more widely. Can you distinguish between different surfaces through the stick? What do edges feel like? After a while (II b), keeping the contact between the stick and a surface in the room, start exploring the stick itself, its surface, form, texture, elasticity, resilience, irregularities. After a while start intentionally alternating between a AND b. How they oscillate... Now notice what changes **in your way of moving, posture and tonus of gripping** when you shift between them. How do you attend differently in the two conditions? Notice the way you notice.*

Please take some time to write down what you noticed and how you noticed this time? Did you feel a difference in the way you held the stick between the two tasks or conditions? When physicist Niels Bohr proposed this ‘thought experiment,’ in 1929, he used it to claim that we could

“remember here the sensation... which everyone has experienced when attempting to orient himself in a dark room with a stick. When the stick is held loosely, it appears to the sense of touch to be an object. When, however, it is held firmly, we lose the sensation that it is a foreign body, and the impression of touch becomes immediately localized at the point where the stick is touching the body under investigation.” (Bohr 1929 cited in Barad p. 154)

Bohr suggested that we notice how changing the tonus of the muscles in our hand shifted not only what we notice in the world, but how we notice the world. Attending differently comes with moving and holding oneself differently. Bohr used this thought experiment not as a somatic demonstration but as a general principle of how instruments work. It was for him what feminist physicist and philosopher Karen Barad came to call an example of an “agential cut”. From a quantum physics perspective (Bohr/Barad), the choice to attend to a certain property of the world (or phenomenon in their language) is not just an epistemic shift but an ontological one. The stick as object, exists only when we consider it as separate from the measuring/attending apparatus (in our case our own body+the room). The room itself, being part of the apparatus is not defined as-such (not there) neither epistemologically, nor semantically, nor ontologically. When, however, we turn our attention to the room as object, the stick ‘disappears’ or rather, it is now part of the/our measuring/attending apparatus (sensorium) and so undefined as an object.

In other words, the measurer and the measured, the apparatus and the world, are inseparably entangled. In Baradian language, our attention matters (in both senses of the word, as an adjective and a verb), it brings a world into existence. It worlds.

Phenomenologist Merleau-Ponty used a similar thought experiment involving stick sensing to suggest how this disappearance works somatically:

"habit does not consist in interpreting the pressure of the cane on the hand .. – for the habit relieves us of this very task. The pressures on the hand and the cane are no longer given, the cane is no longer an object that the blind man would perceive, it has become an instrument with which he perceives. It is an appendage of the body, or an extension of the bodily synthesis." (Merleau-Ponty 1996 189/154)

"Habit" here names an everyday ongoing embodied practice of (not)noticing that enables (part of) the world to become "objects" for a synthesized "us". Though his attribution of this experience to "the blind man" betrays normative ableist approach to humans, as discussed by disability studies scholar Reynolds and by blind phenomenologist Workman, they agree with the more general somatic point that the way we habituate ourselves to parts of the world "expresses the power we have of dilating our being in the world, or of altering our existence through incorporating new instruments." (Merleau-Ponty 1996 115/179).

There are many kinds of attending we engage in. They are each different habitual ways of being in worlds. Our habits shape the agential cuts between our selves, our noticing, and worlds. Barad describes the importance of such cuts for "knowledge":

"practices of knowing are specific material engagements that participate in (re)configuring the world. Which practices we enact matter—in both senses of the word. Making knowledge is not simply about making facts but about making worlds, or rather, it is about making specific worldly configurations—not in the sense of making them up ex nihilo, or out of language, beliefs, or ideas, but in the sense of materially engaging as part of the world in giving it specific material form." (Barad 2007 p. 91)

### III. A measure/modulation practice

*We invite you to go back to the very first practice (I. A stick practice), moving the stick in contact with the surface of the room. This time, what are you attending to? the surface of the room? the stick? Something else altogether? Can you recall what you attended to the first time around? Was it the same, or different? Can you recall your initial posture or muscle tone? Is it different now? In what way?*

Take some time to write down some answers to these questions.

Attention can be thought of as a habit, a sensori-motor habit if you like. Attention is something we do in/with the world, and certain ways of doing, through (sometimes instructed) repetition, become habits, default ways of being in/with the world. Certain situations call for, or trigger, certain attentional organizations. We are all familiar with 'chaired' attention (as in a seminar room or working at ones' desk). Was the specific way your attention was organized in the first score a function of your experience with sticks (e.g. as tools?), a reflex of being temporarily in the dark? Some specific feature of the room you are in? Something about the language used in describing the score? Something you read in the previous chapters in this book? Any or all these factors play into the way we attend, and in consequence, co-in-forme that we call the world we inhabit through the specific agential cuts our attentional habits materialize.

Potentially, the second score contained a surprise: a dis/appearance of the stick, an attentional modulation that offered a different agential cut. Something else, surprising, came to matter. If our attentional habits or practices are too entrenched, the possibility of such surprising moments to happen is limited. Barad (2007, p. 161-167) shares an anecdote from the early days of quantum physics that seems relevant here. Otto Stern and Walther Gerlach put in place an experiment to test a crucial prediction of the nascent quantum theory regarding the quantal nature of electrons. After exposing a glass plate to the experimental condition, they were disappointed not to find the predicted traces of silver on it. However, after a few moments the traces appeared. The explanation was the cheap cigar smoked by the younger (and poorer) Stern, that caused his breath to contain high levels of Sulfur. The two discovered that sulfur was necessary in order to make visible the silver traces of the experimental manipulation. More importantly, they came to notice that the apparatus was actually larger or different from what they intentionally designed. As Barad writes: "Apparatuses are not static laboratory setups but a dynamic set of open-ended practices, iteratively refined and reconfigured." (p. 167) Imagine a more 'controlled' apparatus which would have prevented the breath of the scientist to reach the paper and allow for this serendipitous discovery? The edges of our apparatus co-in-form the edges of our attention. It is about scaling our attention to where we and the world have edges. Openness to experience is a material affair.

Attention can be conceived of as a modulation (of our awareness, of our perception, of worlding). Certain theoretical understandings of attention model it explicitly as a wave (e.g. Dynamic attending theory Jones 1976). If attention is a wave, then attending to our own attention (noticing how we are entangled within what is happening) might well be a diffraction, the physical pattern emerging of the superposition of two waves. When in superposition, every change (through movement) creates a diffractive pattern through which both the observer and the observed are modified. Noticing how I notice brings me to realize/be with the ways in which the 'world' shapes 'my' noticing and so invites us to locate curiosity not in the subject but as a sympleiotic (Haraway 2016) dimension of a world-making-itself.

## [meta statement, belated introduction]

This text is an invitation to practice speculation. Together with Stengers and Debaïse (Debaïse and Stengers 2015) we take speculation to be a gesture, and extending it, we consider gesture as movement. The sequence of stick practices we are sharing with you here are, for us, concrete forms of diffractive speculation that we invite us to think of in terms of mod/tulations. They offer a way of slowing down curiosity to the speed of attention. Barad (2007) proposes diffraction as a mode of thinking to replace reflection:

*“Simply stated, diffraction has to do with the way waves combine when they overlap and the apparent bending and spreading of waves that occurs when waves encounter an obstruction.. In contrast to reflecting apparatuses, like mirrors, which produce images—more or less faithful—of objects placed a distance from the mirror, diffraction gratings are instruments that produce patterns that mark differences in the relative characters (i.e., amplitude and phase) of individual waves as they combine.” (Barad 2007 p. 74-81). Diffraction accounts for “How practices matter” (ibid, p 90).*

Diffraction, unlike reflection (in its original sense of a physical phenomenon), critically involves movement (waves). We propose, similarly, that as an intellectual/epistemological mode, diffraction requires bodily movement, displacement, re-situation. Not only movement of the object of inquiry, nor of the inquiring subject, but movement through which the subject and object co-become. Fred Moten writes:

*“Because what if intellectual practice is irreducibly chor(e)ographic? What if you have to move in order to map? What if reflection is also a matter of reflex? What if the animation of flesh is fundamental to reflection? (Motten 2018)*

In other words, diffraction, or speculation as diffraction, is a material practice that involves movement in/of the world. Extending Komporozos-Athanasίου (2022), we take speculation to be more than the “capacity to imagine under conditions of incalculable uncertainty”, and suggest that it be framed as the “*practices* of imagining...” and moving provides just these conditions. We might want to think of speculation as modulation or motulation (replacing the *spectra*, or vision, with *modular, variate/tune*” or *motus* ‘movement’). Gibson (1966) and others have highlighted the entanglement of sensing/perceiving and moving. For example, in order to sense the texture of a surface (the room or the stick) we need to move (the stick or the hand), and so tactile sensation requires movement (or modulating). Motulation (or diffractive speculation) recognizes (with Moten) the entanglement of thinking, and in particular imagining, and moving (in effect somatic and ideokinetic practices such as Feldenkrais are exactly this, see also Sheets-Johnstone 2011).

This short intermezzo is a practice in attentional modulation, a tuning practice of phenomenological ideation (a kinesthetically felt thought experiment). This tactile modulation of our habits of attention, or attentional modulation of our tactile habits, reveals edges. Edges between ‘things’ in the world, edges between the perceiver and the perceived, the apparatus and the observation, edges that (in)form our sense of sequentiality, causality and time and how all these edges are entangled with the edges of our own attending. As Barad writes:

*“diffractions are attuned to differences—differences that our knowledge-making practices make and the effects they have on the world. ...The point is not simply to put the observer or knower back in the world (as if the world were a container and we needed merely to acknowledge our situatedness in it) but to understand and take account of the fact that we too are part of the world’s differential becoming. And furthermore, the point is not merely that knowledge practices have material consequences but that practices of knowing are specific material engagements that participate in (re)configuring the world.” (Barad 2007)*

And at the edge of attention, perhaps is where we find ourselves curious. We have been inviting ourselves to think of curiosity as a movement practice of seeking out what *might be different* this time, asking questions, hesitating, perhaps even being surprised by what we hadn’t noticed before. The practice of curiosity takes time and effort. Curiosity is not “in the mind” but performed in/with the world.

#### IV. Subjects of our own experiments

*Go back to holding and moving the stick in contact with a surface in the room. Now, use this configuration to feel yourself, the texture and elasticity of the skin of your fingers and palm, the tension in the wrist, the articulatory potential of the finger and wrist joints. You might become curious regarding the elbow joint or the shoulder....*

What did you do differently in order to turn your attention to your own body-self? What parts (and parts of those parts) became sensible? How did it feel to become ‘[y]our own experiment’ (Steve Paxton 2003)?

This version of the Bohr experiment, inspired by the teachings of the improviser, writer, and teacher Lisa Nelson, complicates the Baradian analysis. Where is the agential cut? What/who is the object of the experimentation and what/who is part of the apparatus? What happens when we attend to ourselves? Is one part of us the measuring/attending device and another part the object? Are we forced back to a classical Cartesian dualism?

Feminist epistemology can come to the rescue: The experimenter is always entangled in the experiment, never outside the phenomenon (Haraway). As Barad writes *“Embodiment is a matter not of being specifically situated in the world, but rather of being of the world in its dynamic specificity.”* Similarly, we are never ‘outside’ or separate from what we attend to.

If the question of where we end and the world begins is an agential cut, then when we turn our attention to our own parts, we enter into a mutual and potentially disorienting dance of sensation/articulation. The improviser, pedagogue and writer Steve Paxton writes regarding the practice of Contact Improvisation that he has formulated in the early 1970’s:

Dizziness and nausea are, I think, signals that we have reached the borderland between these two aspect of physical control -- conscious and reflexive. When we linger in the borderland on purpose, we become our own experiment. We are

subjecting the reflexes to stimuli so our consciousness can watch them jump.  
(Paxton 2003)

Attention, even when attending to what apparently seems to be a well defined separate object (think the stick above), is not a reflexive relation but rather a 'being-with' (as in Midal 2009's exposition of buddhist meditation) , or in line with our discussion earlier, 'moving with'. In Barad's terms, attention is an epistemic entanglement where the the observer (the one being attentive) is inseparable from what they attend to. So while the agential cut brings certain things to matter, it does not produce alienable objects (Tsing 2015) that can stand alone. The stick in II above, just like 'my' self in IV are never separate or separable from the apparatus. Paying attention to our selves (while moving/experimenting) is experiencing the continuity of the 'flesh of the world' (Merleau Ponty 1968).

## V. A curious stick practice

*Let's go back one last time to the stick. Holding it as in the previous experiments, can you now 'invert' the apparatus? Can you invite the stick or the room, or room-stick, or room-stick-world to explore you?*

What did you do to invite the stick to attend to you? Is the agential 'do' even the right verbal form? Maybe 'what happened?' would be more fitting? What if attention and curiosity do not begin with us but are more akin to vibrations or waves passing through us? From where?

Karen Barad (2007) invites us to consider agency outside the dichotomy of subject and object, inviting the world into the mixing of agency and causality.

*"Agency is not an attribute but the ongoing reconfigurings of the world. (141) Crucially, agency is a matter of intra-acting; it is an enactment, not something that someone or something has...Agency is about changing possibilities of change entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulations and exclusions that are marked by those practices in the enactment of a causal structure. (178)... [I]f agency is understood as an enactment and not something someone has, then it seems not only appropriate but important to consider agency as distributed over nonhuman as well as human forms. (214)*

We provide these quotes from Barad in order to help us think through how curiosity, just like agency, is in the world. Curiosity is then not an internal property of an individual cognitive/biological system. It might be better understood as a superposition. In Barad's (2007) reformulation of Bohr:

*"superpositions represent ontologically indeterminate states—states with no determinate fact of the matter concerning the property in question." (p. 256) "The point is that measurement resolves the indeterminacy." (p. 280)*



In other words, curiosity (as quantum superposition), is not epistemological (information seeking trait of an organism) but ontological: it is the inherent indeterminacy of what has not yet been measured or observed or attended to. Agential realistic curiosity is then interlaced with agency:

*Acknowledging the agency of the world in knowledge makes room for some unsettling possibilities, including a sense of the world's independent sense of humor. (Haraway 2004)*

*The world's effervescence, its exuberant creativeness can never be contained or suspended. (Barad 2007)*

We propose that curiosity might be an *affect*, the feeling of “*changing possibilities of change entailed in reconfiguring material-discursive apparatuses*” (Barad).

Curiosity is the feeling of the world's indeterminacy in its becoming (or worlding). This is not a subjective feeling, but an intensification with and in the world (cf Massumi 2015 p3).

Being curious is then practicing remaining open to this feeling and present with this indeterminacy. Curiosity is the world tickling us with its edges, with its possibilities that we are not (yet) noticing. Being curious as openness to indeterminacy is an ongoing ethical practice. Curiosity reveals, attends to, or makes felt, what has been excluded from mattering and the edges of the apparatus.

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