

Chapter 3 of *Matter and Memory*: “On the survival of images”
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protevi@lsu.edu / www.protevi.com/john/Bergson/MM3lecture.pdf

1. MEMORY AS A PROCESS. The error of associationism is to conceive of memories as fixed and pre-formed. The question then becomes how and where the brain can store these pre-formed memories. This is a spatializing temptation (memories are like pictures, the brain is like a storehouse of pictures – this one must be here, at this point, that one must be over there, at that location.)

Brain studies have always oscillated between locationists and globalists. Locationists look to anatomy as networks of connected neurons (hence they are “spatialists”); globalists look to neural firing patterns among distributed neurons (hence they are dynamicists or “temporalists”).

Bergson was fighting against the localists of his time. One of the big discoveries was Broca’s area as “site” of language. That is, damage to Broca’s area hurt language capacities. As you know by now, the last part of MM2 is devoted to discussing that finding. To recap, B does not dispute the fact that damage to Broca’s area hurts language capacity. But he denies that it does so by damaging stored memory-images related to specific words. Rather, it damages the motor schemas that provide for familiarity and ground language capacity.

Today, I find most interesting the globalists / dynamicists. There’s a very nice encyclopedia article (hence a review / overview) on Evan Thompson’s U Toronto web page.

2. NATURALIZING BERGSON. What I want to play around with is the following: (from the preview abstract for an article in a book on *Deleuze and the Body*):

I will examine Deleuze’s (and DG’s) treatment of the brain. I will treat the brain as does the enactive school of cognitive science (Francisco Varela, Evan Thompson, Alva Noe), as part of extended loops involving brain, body, and world. This school uses dynamic systems theory as their conceptual basis, so I will briefly explain the bases of that approach. I will pay special attention to the brain / body / world system’s role in perception and memory, and hence to D’s reading of Bergson’s *Matter and Memory*. I will hypothesize that Bergson’s dualism in *Matter and Memory* can be surpassed by the use of dynamic systems theory. I will thus use DG to help in naturalizing Bergson, as Varela and others have attempted to naturalize Husserl. This naturalizing of Bergson via DG and those branches of contemporary cognitive science utilizing dynamic systems theory will show the brain as generating wave patterns out of a chaotic background. During perception the brain functions via the “collapse of chaos,” that is, the formation of a “resonant cell assembly” or coherent wave pattern. Memory also occurs via the formation of resonant cell assemblies, which means that Bergson is correct that the brain does not store memories (as

actual wave patterns). Rather the brain possesses the potential to generate wave patterns that produce memory effects. These potentials must be seen as virtual. I will show how the phase space portraits produced in dynamic systems modeling of brain activity provide, in Manuel DeLanda's terms, "a window on the virtual," that is, they represent the potentials to generate the patterns and thresholds of brain waves. In this way we can have a thorough materialism, which, as long as it includes a notion of virtual as potential for generating actual patterns, can avoid Bergson's dualist invocation of "spirit."

3. PROCESS OF MEMORY AS ACTUALIZATION OF THE VIRTUAL. This is one of the things Deleuze pays most attention to in *Bergsonism*. Where do memories reside? They are not "stored" in the brain, but they "survive" in the "past in general."

Bergson begins Ch 3 with a diagram. We have to read it and the two cone diagrams as a process, "the movement of memory at work" [*le mouvement même de la mémoire qui travaille*].

How does memory work? We notice that we have to engage an act *sui generis*.

First, we "detach" ourselves from the present. This is important: we are "stuck" in the present by our biological history, which provides us with more or less strongly felt "invitations" to prepared and presumably useful motor schemas which have been implanted in our organism via evolution and development (we will talk a lot in reading CE on "evo-devo.")

Our first "destination" is the "past in general." Deleuze insists this is an ontological move. Duration is the being of temporal beings, the way the past is important, the way it constitutes the present (and hence both prepares for the future, but also allows for the future to be open and creative). The future is open and creative because the past changes with each passing present: there is a new condition for each new action.

Then we reach for a certain region of the past, "like adjusting a camera." So at first, the past in general is out of focus. It's like a cloud, a "nebulous mass" [*une nébulosité*] that condenses into water droplets. As it moves closer into focus, it tends to "imitate perception," but it retains something of its virtuality. That means it takes on an image, but can still be transformed into other images. There is no storehouse of fixed images; rather there is a preserved potential for image formation.

In *Parables for the Virtual*, Massumi writes about approaching the virtual topologically: "A topological figure is defined as the continuous transformation of one geometrical figure into another" [134]. It would be better to say "into a certain number of other figures." Those other figures are potential in any one figure. There is no one privileged "figure." Topology is the study of transformation. "Figures" or "things" are only snapshots of the underlying change. The change is the substance;

the figure is the attribute. This is the key to process philosophy, the reversal of Aristotelianism.

Remember, the brain doesn't form images. In perception, images are outside; the brain is only the filter that selects and thus forms the virtual image, which is outside, with the object on which it is "molded." In memory, the brain provides the motor schemas in which memory-images are actualized.

4. Again, the ERROR OF ASSOCIATIONISM is to put an image at the beginning of the process of memory, rather than at the end. It's the same old fault: confusing properties of product with properties of process. The DEEP ROOTS of this error lie in thinking of cognition as contemplation rather than as direction of action.

The key here is to think of past and present in terms of utility: the present is what interests me because it is the field on my useful action. The past is what has ceased to be active; hence is it powerless.

5. STRUCTURE OF TIME. The essence of time is that it passes. There are four things to notice here

The present is the movement of passage.

The present holds the past to itself in duration, creating the "thick" present.

The past is already past at the very moment of the present, or else it could never pass. B will illustrate this with the "two jets" image from the 1908 article, "The Memory of the Present and False Recognition." From the translation in *Basic Writings*, p 145:

The more we reflect, the more impossible it is to imagine any way in which the recollection can arise if it is not created step by step with the perception itself. Either the present leaves no trace in memory, or it is twofold at every moment, its very up-rush being in two jets exactly symmetrical, one of which falls back towards the past, whilst the other springs forward towards the future.

The present "encroaches upon" past and future: it is sensori-motor. It is sensory – (past) insofar as the durational present condenses the vibrations of things – the "immediate past" – into our perceptual present. And it is "motor" (future) insofar as it prepares motor movements we will soon exercise.

6. PRESENT AND MY BODY: "My present consists in cness I have of my body." Extended in space, body is unified sensori-motor system, "center of action." It is "the actual state of my becoming, that part of my duration which is in the process of formation" [*l'état actuel de mon devenir, ce qui, dans ma durée, est en voie de formation*].

I'm going to insist on "formation" as taking on of form, i.e., morphogenesis as actualization of the virtual, rather than "growth," which, speaking Aristotelian for the moment, is just quantitative increase of an already formed substance vs generation as coming-to-be of a substance. Since change is what is substantial for Bergson, being = becoming.

{Refer to outline for more on this topic.}

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1. BODY AS "CONNECTING LINK" OF TWO FORMS OF MEMORY. At 167 / 150 Bergson returns to his opening distinction, btw motor habits as ways we do not image the past, but act it, and pure memory, episodic and dated, but "virtual" in the "past in general," that is, capable of becoming an image by being actualized, but not being a determinate image "in itself."

It's the body that provides the site for linking these two forms of memory and hence providing memory-images. To repeat, motor habits are not images, but actions, and pure memory is not an image either, but a capacity to produce images.

My body (including my brain) is itself an image and hence cannot store or generate images. But our consciousness is durational, it has a thick present, it retains the immediate past in temporal synthesis. So my body as the site of sensori-motor action encroaches on past and future. It thus serves as a "section of the universal becoming."

2. This sets up the FIRST IMAGE OF THE CONE. Body habits are the "quasi-instantaneous memory to which the true memory of the past serves as base." That is, our body stores, in the form of motor habits, that which has passed through a utility selection: we perceive what is useful, then we act in view of that perception. The repetition of those perceptually guided actions (which also means those action-guided perceptions) installs body habits. So our acting present is connected to our past in the form of habit. It's also connected to the past in the sense that temporal synthesis creates the durational or thick present, so that we "perceive the immediate past," that is, the past on the back side of the "instant."

Now these body habits are also connected to pure memory, or at least the two forms offer "mutual support." Our episodic pure memory offers recollections (the benefits of experience) that can guide the present action, while body habits are where pure memory can be actualized into images.

3. Bergson's memory theory helps him explain the origin and status of GENERAL IDEAS, which is a classic problem of philosophy. It was known to the medievals as the problem of "nominalism" versus "realism" (B says "conceptualism.") The problem

was whether concepts were “mere names” (only concrete things existed) or whether concepts themselves existed (and concrete things were only instantiations of the concepts). You can see echoes of Aristotle vs Plato here.

As always with hardened philosophical oppositions, B sets out to show the presuppositions that lead to a badly formed problem. It seems we are caught in a circle in which generalizing implies abstraction and vice versa. To explain the general idea of “rabbit,” that is the concept or category of “rabbit,” we have to abstract from the particularities of the rabbits we encounter in the real world. But we already have to know how to form a general idea for our abstractions to have any focus. That is, we have to know how to identify the “essential” features of the rabbit that we are going to isolate (that is, “abstract”) from the “accidental” features. But you only know what are the “essential” features if you already have the “general idea” of “rabbit.”

The common presupposition leading to this impasse is that we have already-formed images at the beginning of the process. Once again, we see the mistake of taking the properties of the product (an already formed image) and using them to think the process. So, again as always, Bergson’s solution is to focus on the process and to show that we start in the middle with a “confused sense” of the “striking quality” [*qualité marquante*] of a series of experiences, that is, the felt resemblance of two experiences.

Again, it’s the utilitarian character of perception that is the key. B remarks that animals go straight to the essential: they perceive all kinds of grass as food or “grass in general.” That is, they already have a direct relation with the general without concepts. Even physical actions of acids have this property: hydrochloric acid will seek out its reactant in all sorts of materials: it abstracts from the particulars and goes straight to the essential, just the way a plant can get its nutrients from all kinds of soils. (There are obvious empirical limits here, but B’s point should be clear.)

Then B makes a strikingly modern “mind in life” move: to see the “germ” which human consciousness develops into the general idea, imagine the “rudimentary consciousness” of an amoeba and how it can isolate what is of use to it, and thus focus on the resemblance of the particles of sugar it eats, not their differences. It relates to “sugar in general” or to each particle as an “instance” of “sugar.” In other words, it has a felt, unconscious, relation to “sugar,” which does not have the status of our concept of “sugar” nor is it arrived at by an “effort of abstraction.” A *non-conceptual generality*.

So we have an “evolutionary” ladder: from minerals to plants to simple animals to complex animals to humans. NB: The important word in “rudimentary consciousness” is “rudimentary”: you have to have a notion of levels of consciousness: the amoeba would be at the very lowest stage of “awareness.” Remember too the “panpsychism” question of the “perception” of “any material point whatsoever” versus the more modest “mind in life” position.

So there is no circle from which to escape, but a process: we start with felt similarity and we arrive with concepts or general ideas. Here we see the cycle of perception and memory: we perceive individuals (but we do so by spontaneously abstracting what is similar in this experience to other experiences, that is, what is useful now and what has proved useful in the past) and we conceive genera (we focus on the essential and form concepts).

4. This all leads us to the SECOND IMAGE OF THE CONE. General images shuttle back and forth between action and pure memory. In so doing, they traverse “a thousand repetitions of our psychical life.” The idea is that all our memories exist in multiple levels of “contraction” of duration or “levels of tension” of duration. Remember what duration is: it is the holding together of past and present. In fact, we can say that memory = duration.

Remember too the three forms of memory (duration): (1) temporal synthesis creating the “thick present”; (2) motor habits by which we act the past; (3) pure memory, which insists virtually and is actualized as memory-images accompanying and completing perceptual images (virtual images of things as that which is useful to us).

Now it's this pure memory as virtual which has many levels. It is loose, expansive, and personal at the uppermost level (which comes to us in dreams or spontaneous memories) and tight, contracted, and impersonal as it fits into the present.

Again, the error of associationism is to assume that there are images in pure memory, that images are stored (in the brain). They are not. Memory is a process at the end of which we get images, but not at the beginning. Pure memory is virtual: it “insists” as nebulous clouds gathered around singularities. Finding a memory is a matter of finding the right level of contraction and then spreading out the cloud so that a memory will condense, like a water droplet.