Review of: "Modern Monads: Leibniz, Continuity, and the Stream of Consciousness"

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Modern Monads: Leibniz, Continuity, and the Stream of Consciousness

[In what follows, I will address the author as “you”, since that seems simpler than referring to him in the third person all the time.]

I think this is a really engaging and stimulating attempt to provide an explanation from a modern physical and neurophysiological point of view of how Leibniz's insights might be updated. Now let me give you some constructive criticisms: these do not detract from your overarching theses, so much as try to clarify things:

1. “Russell cannot see that a perceiving soul can (as Leibniz claims) both exist as an indivisible unit, encompassing all events it will ever encounter, and yet move from one event to another as a series of perceptions.”

[You also take this up again later: “But unlike a photon a human soul seems dynamically divisible in that we can observe repeated interactions with world as time goes along. Leibniz does not allow one individual to change into another. Yet he does claim that a monad exhibits unchanging or constant change. If that were simply a change in what it relates to that might seem OK, but Leibniz emphasises the dynamic, or relational, nature of the monad’s essence. Russell, at least, was not convinced.”]

I don’t think Russell has this right. The monad is a substance that undergoes changes of state; these are its modifications, and the series of modifications of the monad is given by the law of its series. The law remains the same, and it is in this sense that the substance is an indivisible unity; but its modifications are different at each instant. An omniscient being would see all the events it could ever encounter, but the individual monad will see only those that it is able to perceive at each moment. Russell argues that “What is called modification consists merely in having at one time, but not at another, some specific relation to some other specific term; but the term which sometimes has and sometimes has not the relation in question must be unchanged, otherwise it would not be that term which had ceased to have the relation.” (Russell 1903, 309). This is a specious, neo-Hegelian argument; you might just as well argue that motion is impossible, because the body is both changed (in having different successive positions) and yet unchanged (being, *ex hypothesi*, the same body that is undergoing the motion).

The difficulty is rather how it is that the perception at one moment constitutes a discrete unit even though the duration of the monad is continuous. In my opinion, this is not a difficulty that Russell successfully identifies, nor one that he

consequently ever resolves in his own theory of perception, where events are supposed to have discrete durations even though time is continuous. To the extent that he can account for the continuity of duration despite the discrete, finite durations of events, so can Leibniz account for the continuity of duration despite the discreteness of states.

2. You give the wonderful passage from Leibniz's*New Essays* in Jonathan Bennett's translation, but you reference the translation Bennett did with Peter Remnant for Cambridge University Press, which is the one you should use in preference (Bennett's online translation is for students, not specialists).

3. Some of your references are vague: you need in many cases to specify page numbers to target where the authors say what you say they do. E.g. (Heisenberg), (Dennett), etc.

4. "Leibniz's law gives the *a priori* case for Heisenberg's Indeterminacy Principle." This is very contentious. Leibniz's Law of Continuity stipulates that all changes come about continuously; Heisenberg's "Principle" (more accurately, the indeterminacy relations can be proved from first principles as a theorem, as Robertson showed) concerns relations among the statistical spreads of conjugate variables whose product is *action*, such as position and momentum, angle and angular momentum (energy-time is a more complicated case). The remainder of what you say in this paragraph is unaffected by this objection; you just need to phrase it all more carefully. Likewise "Identities come in monadic or quantum jumps." there are not any jumps from one monad to another, even if they have in common a kind of unity with an indivisible quantum event, which is what I think you are getting at.

5. "Another issue is if, or how, we can 'divide' time. Leibniz (1714, §14) describes monads as moving from one 'passing state' to another. He also appears to see dynamic relations as fundamentally rational, implying that going from state to state is analogous to his automata performing logical tasks. These sound like temporal parts. Does an individual dynamic unit have one eternal interaction with world or is it divided into a series, each with a profile with tails reaching back and forth? Or is there a third solution?"

As I see it, Leibniz's position is this. Time is an abstract concept dealing with possibilities; it is continuous, since any duration can (in the abstract) be divided in innumerable different ways. Concretely, however, things have states which are discrete. These states he equates with perceptions, i.e. representations of the rest of the universe. Every perception is vague, in that (i) its boundaries are not precise, and (ii) the changes happening in it are not discernible below a certain threshold. Had Bohr known about this, he would no doubt have enlisted it as a precursor of the observer-dependence of variables he held to be the case. But it enabled Leibniz to claim that every perception, though perceived as a state within which nothing was happening, in fact was divided by insensible changes within it into further perceptions or states without end. So although he represents states as contiguous with one another, they are in fact separated by arbitrarily small gaps within which other things are changing. So there are no changes of states between which other things are not changing. So when you say "It seems either there are boundaries between each 'pearl' of perception or not, and Leibniz wants both", I think this is fair criticism. He does indeed want the changes to be discrete, but also such that there is no time within which there is no change, making for a "physical continuity". I do not see the "hitch-hiking" difficulty, though. I think that would apply to Whitehead's occasions, but Leibniz assumes a continuous transition through changes in the sense just described: there is no time so small that there is nothing changing in it.

6. “The key temporal problem posed by Leibniz’s idea of a dynamically indivisible unit associated with a living body is that if it is indivisible in the uncompromising way a photon is, it is hard to see why it does not just have one experience reflecting its entire spacetime domain. What would divide the relation of the dynamic unit to the world into discrete percepts, and what would determine their temporal width?”

Here I think one must take into account Leibniz’s relativization to the perceiver. The human brain and sensory apparatus would not perceive changes below a certain threshold that would be perfectly obvious to a housefly, which has a different temporal scaling due to its sensory apparatus. Perceptions for Leibniz are not discrete blobs following one another in such a way that one wholly ends before the other begins; rather they merge into one another continuously. But I admit, that still leaves a problem of how it is that a perception is perceived as one perception. This is, I think (following Dennett), something the brain does after the experience. Leibniz talks about the faculty of the imagination performing the function of smoothing out the irregularities of the real world to present a picture of smooth transition; but I take it you are saying we need it also to go the other way, so that we perceive chunks of continuous perception as discrete?

7. You speak of “Leibniz’s quest for immortality”. I think that is unfair; he did not think all monads were strictly immortal, just everlasting (from the beginning of the world to the end); immortality is only something that rational souls have, since only they are capable of reflection, and thus morality, and so only they are candidates for resurrection. His argument for the interminability of monads is metaphysical rather than strictly theological (although it is theologically convenient!). It is that there must be beings capable of action at the foundation of things; and (roughly) that anything that once acts must keep on acting, since there is no way to explain how something can begin to act if it had ceased to act and is not already acting.

8. You say “The term mode is associated by philosophers with Spinoza, who denied the existence of true individuals, claiming all phenomena were different aspects or modes of a unitary whole. Collective modes fit with this idea in being ‘ways of acting’ rather than indivisible individuals. Yet they are also have features that Leibniz claimed for monads.” It does indeed seem to me that your analysis is more Spinozan than Leibnizian. Monads or substances *have* modifications, modes, whereas for Spinoza things just are the modes of the only substance, God. On occasion Leibniz suggests that each of his monads is analogous to Spinoza’s one substance. But note that phonons and photons are bosons, and so do not have a principle of individuation that would make them one diachronic thing, since they are not definitively either one or many. Also, for Leibniz the conservation of force (=energy), as a measure of activity in the world, is true of every isolated body, and also of every substance, since a substance does not actually exchange force with any other substance. Spinoza was content to have activity measured by quantity of motion (mv), which Leibniz had ingenious arguments to disprove. But I do not see why Leibniz’s perceptions should not be modelled by modes of excitation in just the way you suggest; I think that is largely independent of his account of substance and its individuality and incessancy.

9. “Modern biology indicates that Locke’s (1689) idea of self, based on a narrative from memory, is closer to reality.” You should read Terence Deacon’s *Incomplete Nature: How Mind Emerged from Matter*(Norton 2012). Although it is in many respects a bit overblown, and Deacon knows nothing whatsoever about Leibniz, he ends up giving many of the same

arguments as Leibniz had for the essentiality of the “self”. Without it, there is no “self-organization” necessary to autogenesis, no satisfactory ontological basis for end-directedness, no “self-reproduction” necessary to biological evolution (nor even, a wag might say, no self for Deacon’s self-importance, but let’s pass over that): cf. “Even the simplest bacterium is organized as a self, with emergence of ententional [his neologism] properties and possibly a primitive form of agency in the ability to propel itself…” (469). *. At any rate, Leibniz agreed with Locke about memory as the key to *personal* identity; but argued, rightly, I think, that this is still parasitic on physical identity, and this requires an enduring, self-identical thing.