

THE LOGIC OF THE BODY IN BERGSON'S MOTOR SCHEMES AND MERLEAU-PONTY'S BODY SCHEMA

David Morris

Contemporary philosophy, above all Merleau-Ponty's, sets us the task of conceiving our being, doing, and thinking as bodily. Kant's critical philosophy specifies the conditions through which alone we cognise a world by reflecting thought onto itself; in contrast, Merleau-Ponty's radical reflection goes back to the phenomena of bodily existence, tracing the body from within as the structured opening through which alone we exist toward a world. The body is an "a priori," but a living, contingent "a priori" that unfolds through its history and its pre-personal past.¹ This body is also the root of our thinking.² The body would thus impose its logic on our thinking. But what is this logic? It is one thing to overcome dualism by showing *that* thinking is bodily, it is another to say *how* the body informs the logic of thinking—and reducing this to a problem of how the brain works as a thinking engine will not do, since it is we who think, not the brain.³ Showing how the body informs the logic of thinking is necessary if we are to adequately respond to traditional problems of the philosophy of mind without falling to the criticisms of phenomenology.⁴ What we need is a logic of bodily thinking.

In this essay I make some steps toward such a logic by analysing motor schemes in Bergson and the body schema in Merleau-Ponty. In *Matter and Memory*, Bergson, like Merleau-Ponty, argues that it is incoherent to conceive of perception and thinking as taking place apart from circular relations between the body and the world, even if perception also requires a memory that is different in kind from body. Motor schemes are crucial to describing how the circular relation between body and world structures itself so as to allow in the first place for the recollection of memories, and thence perception and thinking.⁵ The body schema has a cognate role for Merleau-Ponty.

Both sorts of schemes indicate something about how the body structures itself, about a logic of the body that might inform thinking. But Bergson ends up with quite a different claim about the logic of the body than Merleau-Ponty, especially when it comes to temporality, and this difference helps elucidate a program for exploring a logic of embodied thinking through Merleau-Ponty.

In the first section I give a detailed analysis of motor schemes in Bergson, and thereby introduce the logic of the body. In the second section I develop a programmatic contrast between Bergson and Merleau-Ponty. The crucial difference is that in Merleau-Ponty's account the body, and thence its logic, is *expressive*.

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Bergson's discussion of motor schemes (inappropriately translated as "motor diagrams") arises in his argument that memory is not an image stored in the brain. Rather, the role of the brain is in structuring the body-world circuit such that memory can insert itself into the perception that attracts it, thus becoming actual—pure memory is merely virtual.⁶ But the insertion of memory-images is also crucial to perception itself—Bergson argues that the afterimages that we sometimes see after we turn away from something exist "*already* while we were looking," they are always overlaid on things. Perception is not an immediate circuit between body and world, but "truly involves a *reflection*, in the etymological sense of the word"—discerning things within perception is a matter of adding images to what is given to the body.⁷ To account for actual memory and perception it is therefore necessary to show how we recognize the present as recollecting the past, since this is what lets us add the right

images, and Bergson, like Merleau-Ponty, finds the traditional accounts of recollection incoherent—on the hypothesis of the tradition, the present stimulus is first given as having nothing to do with the past, and then provokes recollection, but Bergson argues that the present would already need to be recognised in light of the past if it is ever to trigger the appropriate recollection. (Moreover, the traditional hypothesis could not, on Bergson's argument, explain the data of psychic blindness and aphasia.) Bergson therefore concludes that the present is not first immediately given, subsequently recollecting the past, rather, the present is mediated in an interdependent circuit between subject and object, and is thus already recognised. Recollection just deepens this circuit, making the already implicit recognition into an explicit recollection through the insertion of memory.

Consider the case of language. Recollection seems to modify perception to the extent that we hear an unknown language as inarticulate sound, and hear a known language as speech, even if it is garbled. But the garbled speech would already have to be recognized in the right way if it is to recollect the linguistic knowledge that would clarify it, and certain phenomena of word-deafness show that linguistic knowledge may be intact whilst hearing of the language is impossible, etc. "The difficulty would be insuperable if we really had only auditory impressions on the one hand, and auditory memories on the other hand."⁸ We need a medium between the two, and Bergson argues that "a phenomenon of motor order" is at "the basis of recognition,"⁹ that "attention is an adaptation of the body rather than of the mind,"¹⁰ and finally he invokes motor schemes as a way of conceiving this recognition in the body.

Broadly, when we have a motor scheme, sensory impressions organize nascent movements such that they are capable of a schematic articulation of impressions; muscular sensations in us 'sketch' a scheme of what we perceive.¹¹ Bergson compresses a quite rich and nuanced account of motor schemes into a very

short discussion; what I would like to do is discern what seem to be three principles of motor schemes, which lead to points about the logic of the body.

1) The principle of corporeal repetition: According to Bergson, schemes develop through repetition in which automatic movements that initially accompany impressions, and are at first confused (that is, literally fused into a mass), become more precise.¹² But note a misconception invited by this claim about repetition: if the body's initial encounter only became recognition upon repetition, then bodily recognition would never get off the ground, and the problem it is meant to solve would be re-instituted. To put it in Bergsonian terms, repetition could only yield a difference in degree, not kind, so the initial encounter must already be a recognition, but a confused one. Repetition does not transform non-recognition to recognition, rather it transforms confused recognition into articulate recognition, and only because the initial confusion has its own, muddled articulacy. (That the muddle is articulate is implied in Bergson's claim that the confused movement bears within itself its own analysis).¹³ The body already recognizes things, and the instances of repetition, as differences in degree, are not self-contained units each outside one another, but already are internally related instances within the unfolding of bodily recognition. That is, there is a contractile-memory in the body, only it is different in kind from a memory that would recall the past as past.

2) The inter-zonal corporeal principle: The articulation that unfolds through repetition is played out through a difference across the body. In Bergson's examples, I come to recognize the speech because I follow the impressions of the ear with the movements of my vocal apparatus, and I come to learn a physical exercise because I follow visual impressions with bodily movements. This translation from one zone¹⁴ to another in Bergson's examples is not, I think, happenstance. If it is ever to recognize, the body already needs to be recognizing, yet it first recognizes in a manner that is con-

fused. The body is therefore impressed with continuous wholes that it cannot yet articulate, for example, the physical exercise as seen from without. We could not explain the articulation of such a whole by the insertion of memory, since we are trying to explain how such wholes are recognised so as to recollect a memory in the first place. But if the immediate whole could somehow articulate itself within its zone, then we would have a hard time explaining why this does not happen spontaneously, and why learning and repetition are required. A whole cannot articulate itself within its own zone, but finds its articulation in another zone. That a translation is required for articulation is logically necessary: a zone receives an immediate whole that is continuous; the very issue of continuity and wholeness here implies a wholeness proper to the receiving zone, and this wholeness, as proper to the receiving zone, therefore cannot be found in another zone; another zone's imitation of what is received would therefore require a translation and decomposition of the continuous whole into terms that differ from those in the receiving zone, and this is the opening for articulation. This brings us to a twofold principle of parts and wholes.

3) The part-whole corporeal principle: It is necessary that different zones be implicated in one another, since the decomposition that opens articulation arises in imitative translation across zones. This means that zones are both different than one another, yet are already interrelated in a part-whole structure. More important, confused wholes have an implicit part-whole structure that is first explicated in the translation from one zone to another, and then made more explicit through repetition:

whereas our visual perception was of a *continuous* whole, the movement by which we seek to reconstitute the image is composed of a multitude of muscular transactions and tensions. . . . The confused movement which imitates the image is, then, already, its virtual decomposition; it bears within itself, so to speak, its own analysis. . . . The true effect of repetition is to *decom-*

pose and then to *recompose*, and thus appeal to the intelligence of the body. (MM 122/ 111)

In this decomposition-recomposition, movements confusedly wrapped up in one another are unfolded, what is *enveloppé* is *developpé*, and in this way a continuous whole that could not be articulated in its original zone is articulated through its differential translation into another zone that already imitates it. The part-whole structure of a continuous perceptual whole develops, allowing for its recognition, only because the body already is a part-whole structure of diverse zones. Bergson sees this as pointing to an "intelligence of the body"—a movement is learned (*appris*) when the body has understood (*compris*) it. Received wholes play out through zonal translations across the body's differential part-whole structure, are replayed across repetitions, and are thereby analyzed and re-synthesized in a more articulate form. Everywhere we look there are part-whole structures in play, we never find an element that is outside of some whole; as Bergson otherwise puts it "analysis is effected by a series of attempts at a synthesis,"¹⁵ but what we have noticed above is that synthesis and analysis are also parts of a whole, and the series that differentiates the two and thereby effects the analysis only emerges in the twofold differential play across zones and repetitions.

Bergson sees a "logic of the body" in this twofold differential play. But the analysis-synthesis achieved by this logic only unfolds in the play and replay of motion in the body, it is an entirely explicit logic (it is only there in the motion of the body, and all the steps must be spelled out), whereas the logic of the mind is implicit, allowing us to leap from something to its implication without making the intervening terms explicit.¹⁶ Nonetheless, Bergson shows that the body has its own logic and intelligence, that the body can achieve a synthesis. He has already argued that the body is not a funnel channeling impulses to the brain where they terminate and receive value, rather the body is a self-reconfiguring switchboard in a circle of

motions that proceed into the body but acquire their significance only on the way back out toward things. The motor scheme precisely puts the body itself back into the circle that the body configures: the body can only learn to recognize because there is a differential play across repetitions and across zones of the body, in which the body circles back on itself through its part-whole structure, and thus contracts refined habits of circling back on the world; and recognition itself is an activity in which the inward sensory processes are scanned by outward activity from another zone. My analysis suggests how the three principles of motor schemes are implicated in one another: e.g., that repetition is already underway (and that recognition does not occur spontaneously within a zone) requires that immediately given continuous wholes are articulated only through their translation from one zone to another, which implies the part-whole principle, and also that repetition is necessary.¹⁷ (I leave it to the reader to trace these implications in full.) Thus the logic that the body makes explicit in its analysis-synthesis is informed by a *logic of the body itself*, by strictures implicit within a body that has a role in a body-world circle only, e.g., by having zones that imitate one another as parts within a whole. There is a “logic of the body” in a twofold sense, then: 1) a logic made explicit in the activity of bodily recognition, which logic is informed by 2) the implicit logical demands of being a body. This is what I would mean by a logic of bodily thinking.

But this logic of the body would not, for Bergson, give a logic of embodied thinking. Bergson insists that the body is an instrument of action only, and that nowhere in the body do we find anything different in kind from motion. Whereas memory gives us a dated past distinct from the present, the body merely contracts the past into the present.¹⁸ But if memory and perception are to be actual, and precisely if memory is to be different in kind, the body must have an intelligence that sparks recollection, drawing memory from virtuality into actuality. And this bodily intelligence must be sparked by the very sort of event that is remem-

bered, so the temporality of the body must parallel the temporality of memory, even if they are different in kind. More, the body must have its own temporality, for we have seen that recognition and repetition must already be underway if they are ever to occur, and there is a contractile-memory in the body. If these temporalities and their logics echo one another, then perhaps the implicit logic of mind, while leaping over the explicit steps of the logic of the body, is nonetheless informed by it.

But Bergson insists that the pastness of the body is wholly contracted into present habit, and thus its temporality is entirely different in kind from that of memory proper. This is the core of his dualism. Bergson advances the deeply insightful charge that the idealist and materialist traditions are not dualistic enough, since they turn the physical and mental into mere duplicates of each other—duplicates that are supposed to capture exactly the same content in very different sorts of being, which leads to all the traditional problems.¹⁹ Bergson’s dialectical insight therefore drives him to inflate dualism in order to resolve it, dividing body and soul by an “impassable abyss” which in truth indicates “the only possible means of bringing them together.”²⁰ This abyss is one of time—if Descartes’ mind is elsewhere than the body, Bergson’s is elsewhere. Even if Bergson’s study reveals a logic of the body, this logic is only implicitly reflective, it is the logic of a kind of intelligence, perhaps, but it cannot be the sort of logic we find in thinking. Indeed, if the body’s logic is only a matter of processes translating across zones and repetitions, then it would be difficult to see how this is a logic that informs thinking.

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To show Bergson how the body could develop a logic that would inform thinking, it would be necessary to challenge his claim that the temporality of bodily schemes and memory are different in kind. To suggest this I turn to Merleau-Ponty.

There is no doubt that the body schema is crucial to Merleau-Ponty's phenomenology of perception (although as Gallagher shows, the importance is obscured in the translation by confusing "body schema" and "body image").²¹ In the section that introduces part II of the *Phenomenology of Perception*, entitled "The Theory of the Body is Already a Theory of Perception," Merleau-Ponty further specifies that it is the theory of the *body schema* (not just the body) that already "is, implicitly, a theory of perception." In virtue of the body schema, the body is an expressive unity; this expressive unity communicates itself to the world in the dialogue of perception; and in virtue of this, we perceive things as having a *sens* that corresponds with the expressive unity and *sens* of the body. To touch one marble with two fingers, or to see one thing with two eyes, is to have a body that expresses its unity through a dialogue with a world that it anticipates as unified. The confirmation of this anticipation gives *sens* to the body as a (presumptively)²² unified whole, and to things as (presumptively) unified wholes, where the part-whole logic of things corresponds with the part-whole logic of the body: "The thing and the world, are given to me along with the parts of my body, not by any 'natural geometry,' but in a living connection comparable, or rather identical with that existing between the parts of my body itself."²³ Bergson's motor schemes account for the body's recognition of things, because their scanning, played through the differential system of the body, is already prepared to articulate what is immediately given to the body. Likewise with the body schema in Merleau-Ponty—if there were not a "prelogical unity of the body schema,"²⁴ that presumptively expresses a unification of two moving eyes toward a world of unified things, then binocular vision would never perceive a (presumptively) unified world, and so on with other aspects of perception.

But there is a subtle yet crucial difference. In the case of Bergson, motor habits contracted from the past into the present scan sensuous

givens. In the case of Merleau-Ponty, the body only perceives through its anticipatory motor explorations—the sensuous is not first given and then scanned, what is given is already a perceptual whole in virtue of the body's presumptive and schematic explorations. While Bergson argues that perception and recollection must take place in an overall circle in which sensory input always leads to motor output, and thereby acquires its significance, he distinguishes sensory and motor processes as separate stages of recognition. (This would appear to contradict the earlier point about recollection and its temporality, but we mustn't conflate recollection and recognition, or their kinds of temporality. Nonetheless there is a complication here, dependent on what we make of Bergson's "resolution" of his dualism.)²⁵ Merleau-Ponty, influenced by the results of Gestalt psychology concerning perceptual wholes, reflex arcs, and above all the fusion of perception and action, does not allow this distinction between the motor and the perceptual, e.g., color vision is indistinguishably motor and perceptual. Motor schemes and the body schema both allow the body to bring the past into the present, and thus articulate the present in a way that would otherwise be impossible. But Bergson's distinctions between the motor and the perceptual allow him to contract the past into the present via a series of stages of repetitions and translations across the body, so that at each moment we never have a body that stretches across past and present, we only have a moving image system: the stretch across past and present is dissipated into the moments of the circular action between body and world, which moments contract into themselves, so the series character of the attempted syntheses is crucial to that series amounting to an analysis.²⁶ For Merleau-Ponty, perception is precisely always at every point simultaneously motor and perceptual, so if motor-perceptual exploration is ever to have a *sens*, it is necessary to have a body schema that in each moment stretches from the past toward the future in the present. This important and nuanced dif-

ference in the temporality of the body is implied in Merleau-Ponty's claim that the body is expressive—a being that constitutes itself expressively in relation to the world can at no point be immediately given in the present, whereas in Bergson's body as moving image system the past only figures as contracted and vanishing into that present, in contrast to the past of memory proper. Expression entails a different part-whole structure of time than does the Bergsonian series and repetition.

Related points about temporality emerge in Merleau-Ponty's discussion of perceptual learning and habit. The body schema is central to perceptual learning—to learn to distinguish between blue and red, for example, is to “enrich and reorganize the body schema,” it is to incorporate a new organ of perception by acquiring a new style of motor-perceptual dialogue with the world.²⁷ And we would have to understand this organization in terms of habit as “our power of dilating our being in the world, [of] changing our existence by appropriating new instruments.” The body is a being in the world,²⁸ not a mechanism in the present, which becomes clear in the phantom limb as “organic complex,” or in the institution of new levels of orientation, which phenomena compel us to distinguish the body at this moment from a habit-body stretched into the past or a virtual-body stretched into the future, and yet acknowledge the interrelation of these senses of body, thus grasping the body as stretching across past, present, and future.

This leads to my conclusion. According to Bergson, motor schemes are necessary for the body's recognition of things. The bodily logic made explicit in such schemes is informed by the logic of the body as a differential moving image system; the logic of the body can therefore never be the logic with the implicit leaps that we find in thinking. According to Merleau-Ponty, the body schema is central to perception. If we were to trace the logic made explicit in the body schema, we would find that it is informed by the expressive logic of the body as being in the world. The expressive body does not build itself up stage by stage in

the present, rather it constitutes itself through an expression that gives “interiority” sense via “exteriority” and vice versa. Such a body is always already cultural-historical, precisely because it expresses itself in an already cultural-historical world. The logic of the body in Merleau-Ponty would have to be a cultural-historical logic, a logic of a body already infected with “exterior” meaning, not just a logic of internal translations, repetitions, parts and wholes. And it is precisely this “exterior” meaning, that would never be found in the body on its own, that could give a *sens* to the implicit leaps of logic.

If we follow Merleau-Ponty on the body schema and the temporality of the body, then the logic made explicit in the body is informed by a cultural-historical logic of an expressive body, and in this way the logic of the body (in the twofold sense noted above) could be a logic of thinking. But such a logic would therefore blur thinking across the body and the cultural-historical world. Bergson's brilliant charge is that the tradition is not dualistic enough, and he therefore drives the abyss of the past and *durée* between the body and its memory, and thereby drives an abyss between the logic of the body and the logic of its thinking. It seems to me that Bergson's charge is right, but that his solution is not the only one. If mind is ever to be distinguished from anything else, then indeed it could not be a mere duplicate of what it knows. But we distinguish mind from something else when we say that mind is not in the world around us, but is local to our body. So paradoxically, if mind is local to our body, then (according to Bergson) it must be entirely different in kind from our body. But what if mind is in all things that it knows, if it is not local to the body? This is what Merleau-Ponty's expressive body would lead us toward: if the body is ever to have a schema, or develop habits (and if we are to make sense of this within Merleau-Ponty's expressive framework), then the world must already amount to a mindful body outside our own that solicits such habits in us, and in a large part this is because our world is a cultural-historical one

that already speaks to our bodies, via the bodies of others. This, more or less, is implied in Merleau-Ponty's later concept of "flesh," and by his earlier thought that the philosophy of mind is an insoluble problem if it is not also a philosophy of intercorporeity. If the point of overcoming dualism is to say how thinking takes place in the flesh, and to trace the logic that would inform such a fleshy thinking, then we cannot end up with the logic of a brain that thinks by symbolically duplicating an outside in an inside, or the logic of a mind that only becomes actual by being drawn into a body that is different in kind. I mentioned before that there

is a complication in my claims about Bergson, in light of his claimed resolution of his dualism—but this resolution, I think, would also amount to putting mind into things, so far as matter would be known by participating in a duration that we share with it.²⁹ In this case too we might find a logic of thinking within the very being of the body. In the case of Merleau-Ponty this logic would involve a cultural-historical world that thinks in us, in Bergson it might instead be a logic of rhythms of matter; in both cases the logic would have to cross the body with its past, present and future.³⁰

ENDNOTES

- References to Maurice Merleau-Ponty, *Phénoménologie de la perception* (Paris: Gallimard, 1945), and Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith, (London: Routledge & Kegan Paul, 1962), will be given in the form: PP [page # in the French]/ [page # in the English]. For this point about the a priori, cf., e.g., the important discussion of radical reflection vs. intellectualist reflection and the a priori, PP, pp. 251–57/217–22; the point that reflection depends on the unreflective fund of a past which has never been present, PP, p. 280/242; the claim that learning a color amounts to the unfurling of an a priori, PP, p. 38/30, and the subsequent interpretation of learning color in terms of reorganizing the body schema to acquire a new style of seeing, PP, p. 179/153; and PP, pp. 103–04/87–88. Also see David Morris, "The Fold and the Body Schema in Merleau-Ponty and Dynamic Systems Theory," *Chiasmi International* 1 (1999): 275–86, and M. C. Dillon, "Apriority In Kant and Merleau-Ponty," *Kant-Studien* 78 (1987): 403–23.
- Cf. the comment that the recognition of perceptual phenomena implies a theory of reflection and a new *cogito*, PP, pp. 62/50, and the attempt to develop that new *cogito* in the chapter on the "Tacit Cogito," which argues that explicit cogitative reflection would never arise unless the body was already a tacit reflection upon itself.
- This would follow from Merleau-Ponty's phenomenology, and also from Heidegger's hermeneutical ontology in *Being and Time* (cf. Frederick A. Olafson, *Heidegger and the Philosophy of Mind* [New Haven: Yale University Press, 1987]), and Aristotle's and Hegel's philosophies, to mention a few others. But it is notable that much of current science and philosophy of mind claims that it is the brain that thinks, even in the context of trying to overcome body-mind dualism, and this claim points to a brain-body dualism. On this point cf., e.g., Maxine Sheets-Johnstone, *The Primacy of Movement* (Amsterdam: John Benjamins Publishing, 1999), and also Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge: The MIT Press, 1991), and George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought* (New York: Basic Books, 1999), although there are reasons to think that the latter falls back into a cognate empiricism.
- There are already efforts in this direction. Freud's psychoanalysis shows how a meaningful body informs thinking, but then seems to reduce the body to drives or mechanisms, rather than a locus of existence (although it is not clear that this reduction to bodily drives is what he is really getting at); on the other hand, the Lacanian move perhaps loses the body as motivation within the symbolic. Likewise, the efforts

- following Foucault, etc., perhaps lose the body as “natural” motivation to its construction (witness all the discussion in the current literature). John Russon, via a study of Hegel’s philosophy in *The Self and its Body in Hegel’s Phenomenology of Spirit* (Toronto: University of Toronto Press, 1997) shows that the body is to be understood as the institution of a self-developing, self-expressive logic of relations, but this effort does not specify how this logic has its roots in the natural processes of the body. Maxine Sheets-Johnstone tries to find *The Roots of Thinking* (Philadelphia: Temple University Press, 1990) in the history of the body. Sheet-Johnstone’s book is in part the inspiration of Lakoff and Johnson’s recent study (see note above) which tries to trace thinking to its roots in the body (and in a manner that is avowedly respectful of phenomenology); but, I would argue, Lakoff and Johnson repeatedly lapse into an empiricism that removes the *sens* of thinking and falls to Husserl’s criticism of psychologism.
5. References to Henri Bergson, *Matière et mémoire* (Paris: Quadrige, 1939) and Henri Bergson, *Matter and Memory*, trans. N. M. Paul and W. S. Palmer (New York: Zone Books, 1991) will be given in the form MM [page # in the French]/ [page # in the English]. For the point about perception arising in a circle between body and world, see MM chapter 1; the complementary point about memory is developed in chapter 2.
 6. Cf. MM, pp. 139–46 (esp. 142)/125–31 (esp. 127).
 7. *Ibid.* pp. 112–13/102–03
 8. *Ibid.*, p. 121/110.
 9. *Ibid.*, p. 101/93.
 10. *Ibid.*, pp. 109–10/100.
 11. *Ibid.*, pp. 120–22/110–11.
 12. *Ibid.*
 13. *Ibid.*, p. 122/111, discussed below.
 14. I use the term “zone” here to avoid the suggestion that motor-perceptual capacities be identified in terms of organs. E.g., it would be imprecise to say that the hand is the organ of touch, since touch requires the complicity of the arm, shoulder and postural system that allow the hand to be mobile; the term “zone” has the conceptual flexibility that would allow us to think of the hand as central to a more diffuse zone that is responsible for touch.
 15. *Ibid.*, pp. 111–12/102.
 16. Cf. Bergson’s remarks about analysis and synthesis, *ibid.*, pp. 122–23/112–13.
 17. We could imagine that this sort of spontaneous recollection that does not need to translate across different zones is what occurs in robotic systems constructed on the model of perception as a process that terminates in a receptor whose output encodes a representation of the world. But this lack of difference is probably what prevents something like learning and habit acquisition in the robotic system (or at least turns ‘learning’ into a matter of knowledge acquisition that requires a prespecified framework for representing the knowledge to be acquired, rather than something that develops through more flexible reconfigurations of the circular meeting of body and world). It also leads to the more profound point that a robotic system would lack a sense of the past, because the termination of the process in a receptor entails an act of representation or symbolization in which there could be no difference in kind between what is received in the present and what has happened in the past, except for a time stamp, and this time stamp itself can give no sense of the past as past, it is just a numerical ordering (you would have to program in a function to give a certain ordinal weighting to the time stamp, and that would not explain the *sense* of the past).
 18. Cf. Section I of the “Summary and Conclusion” of MM for a relevant review of this position; the position itself is developed in the beginning of chapter two.
 19. Indeed the dialectic exposed in this charge anticipates the current tradition’s shift from a mind-body dualism to a brain-body dualism, which I mentioned above. The brain is the only place in which science, appealing to the model of information processing systems, can plausibly locate a physical duplicate of the mental, so thinking ends up being all and only in the head, and the brain’s inseparable embeddedness in a body and world seemingly dissolves into a vat of simulation.
 20. MM, p. 254/226.
 21. Cf. Shaun Gallagher, “Body Image and Body Schema: A Conceptual Clarification,” *Journal of Mind and Behaviour* 7 (1986): 541–54. For discussions of the body schema in relation to Merleau-Ponty, also see D. Tiemersma, “‘Body-Image’ and ‘Body-Schema’ in the Existential Phenom-

- enology of Merleau-Ponty,” *Journal of the British Society of Phenomenology* 13 (1982): 246–55; Shaun Gallagher, “Body Schema and Intentionality,” in *The Body and the Self*, ed. by José Luis Bermúdez, Anthony Marcel, and Naomi Eilan (Cambridge: MIT Press, 1995), 225–244; David Morris, “The Fold and the Body Schema in Merleau-Ponty and Dynamic Systems Theory,” *Chiasmi International* 1 (1999): 275–86; Shaun Gallagher and Andrew Meltzoff, “The Earliest Sense of Self and Others: Merleau-Ponty and Recent Developmental Studies,” *Philosophical Psychology* 9 (1996): 211–33; Shaun Gallagher and Jonathan Cole, “Body Image and Body Schema in a Deafferented Subject,” *Journal of Mind and Behavior* 16 (1995): 369–90; also see Alphonso Lingis’s discussion of the body schema, esp. “The Body Postured and Dissolute,” in *Sensation: Intelligibility in Sensibility* (New Jersey: Humanities Press International, 1996).
22. I used this qualifier to indicate that unity is never a static, achieved result, but arises in an open-ended process of unification; if this were not open-ended, we would not be able to make the shift from illusion to reality, and perceptual ambiguity would be impossible.
 23. PP, pp. 237/205.
 24. *Ibid.*, p. 269/233. The discussion on these pages should be compared to his point about the disparity between the retinal images not being given in advance as a cause of binocular vision, but being tacitly known by a “wordless logic” (*ibid.*, p. 60/49).
 25. The point here is quite subtle, and might seem to contradict the claims made about recollection at the beginning of the paper. It also puts aside Bergson’s attempt to bring body and mind, matter and memory back together *via* his dualism, an attempt which I am not yet clear about (see the remarks at the end of the paper, where I try to bring this resolution back in). Let me clarify my point. For Bergson *recollection* would be impossible if the given had nothing to do with the past, and then provoked recollection. An impression has to be served up as an already recognized whole if it is ever to trigger recollection. Recognition must therefore take place in the body, but in bodily recognition the past can never figure as past, else the difference in kind between matter and memory would be obliterated. In *recognition*, then, impressions must first be present and then have a ‘pastness’ of a sort be developed in them so far as they are scanned and developed by a body that contracts its past into its present *via* habit. But at no point in the body do we have the past be present as a distinct past—the pastness of the impression only becomes explicit when memory inserts itself. In sum: *recollection* and thence perception are impossible unless impressions are already recognized within an overall motor perceptual circuit between body and world, and so recognition must take place in the body; but if we are to give an account of *recognition* that does not appeal to the past as past, then recognition must be conceived as a (very quick) series of exchanges across the body, in which we gather impressions and launch motor reactions toward them, as separate stages. Support for this point is suggested in Bergson’s claim that “perception is really comparable to a closed circle, in which the perception-image, going toward the mind, and the memory-image, launched into space, careen [*courraient*] the one behind the other” (MM, p. 113/103). The overlapping directions, while necessarily implicated in one another if perception is ever to happen, nonetheless arise as distinct stages in a closed circle—the images careen one behind the other, they are not intertwined or contemporary; Merleau-Ponty, so to speak, closes this circle into a point—sensation and motion, past and present are one in perception. A similar point about Bergson’s separation of sensation and movement in relation to time is made in PP, p. 93 n. 2/78 n. 2, where Merleau-Ponty is arguing that the body is to be understood as being in the world.
 26. Some of the characteristics that attract Deleuze to Bergson would seem to emerge at this point, and perhaps the tension that this observation suggests within Bergson’s concept of repetition is precisely what enables the creative aspect that is of such concern to Bergson.
 27. PP, p. 179/153.
 28. PP, p. 168/143. I leave the term “being in the world” unhyphenated, since the term appears in hyphenated form only twice in the published text, once in the chapter on temporality, in a direct reference to Heidegger’s *Being and Time*, and once in the table of contents, in the title of part three, although the hyphens do not appear in the heading of part three as

given in the body of the text. This pattern suggests that Merleau-Ponty is not quite operating with Heidegger's concept in mind, and thus the hyphens, which mark Heidegger's claim that it is a unified phenomenon, are inappropriate. This is supported by Merleau-Ponty's usage of personal possessive pronouns such as *mon* (PP, pp. 210, 243, 434, 504) and *notre* (PP, pp. 168, 220, 501, 512) before *être au monde*, which is not a usage afforded by Heidegger's conceptual terminology—Heidegger very rarely refers to being-in-the-world as singular or individuated, since it is a way of being, and when he does, it looks like a slip. Also cf. Geraets's remark that Merleau-Ponty appears to have studied Heidegger in relation to his chapter on time, and late in the drafting of PP. Theodore F. Geraets, *Vers un nouvelle philosophie transcendentale: la genèse de la philosophie de M. Merleau-Ponty jusqu'à la*

Phénoménologie de la perception (The Hague: Martinus Nijhoff, 1971), p. 133, n. 314.

29. On this issue and the methodological factors behind it, see Gilles Deleuze's *Bergsonism*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Zone Books, 1991), esp. chapter IV; on the claim that the resolution (which Deleuze works out in terms of the analyses of color perception in MM) would involve putting mind back into things, cf. Deleuze's claim that "Everything happens as if the universe were a tremendous Memory" (p. 77).
30. I would like to thank Len Lawlor, John Mullarkey and Renaud Barbaras, and especially Valentine Moura and Gregory Recco, for provoking this paper via lectures and discussions at the *Collegium Phaenomenologicum* 1999; Patrick Burke for his very thoughtful commentary on this paper at the SPEP 2000 meetings; and Emilia Angelova for her comments on the various versions of this essay.

Trent University, Peterborough, Ontario, Canada K9J 7B8